

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B01 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	38.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	1.917	235.5	235.5	35.000	0.0
1	P	5.417	0.0	0.0	0.000	7.6
1	P	12.417	0.0	0.0	0.000	6.2
1	P	19.417	0.0	0.0	0.000	6.9
1	P	26.417	0.0	0.0	0.000	6.9
1	P	33.420	0.0	0.0	0.000	7.6

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B01
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.68	16.60	16.60	1.57	3.83
				16.68	16.60	16.60	1.57	3.83

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
81.60	81.60	18.25	18.25	18647.9	18647.9
n= 8 234.51	234.51	1.63	34.87	54663.2	18647.9
3n= 24 132.57	132.57	8.45	28.05	39520.9	18647.9

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
	Positive Top	Bending Bott.	Negative Top	Bending Bott.	
n= 8	1021.8	1021.8	1021.8	1021.8	3180.57
3n= 24	33608.1	1567.5	1021.8	1021.8	
	4677.3	1408.9	1021.8	1021.8	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B01
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.86	1.57	10.570	0.01	0.00	37.69	18.85
bott	7.86	1.57	10.570	84.00	21.92		18.85

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	598.47	598.47	50.535	0.000	1150.822

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3180.57	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5501.69

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B01
Check Point I. D. 1.474

Dead Load Moment 389.1
Superimposed Dead Load Moment 229.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3301.0C	-1686.0	2586.3	-1908.3C	2168.3	-1667.8	1618.6	-1838.9
OPER	5501.7C	-2810.0	4310.5	-3180.6C	3613.9	-2779.7	2697.6	-3064.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	866.70 R	666.69	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	669.59 R	515.07	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.50	999.00	1.87	999.00	HS 37.35	67.2
5C1T	5.40	999.00	4.03	999.00	0.00	322.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B01
Check Point I. D. 1.474

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B01
Check Point I. D. 1.474Dead Load Moment 389.1
Superimposed Dead Load Moment 229.1

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 972.6	44633.2	-1354.4	2564.2	-1354.4	44015.0	-1972.6	1946.0	-1
OPER 287.6	73976.5	-2669.5	3861.5	-2669.5	73358.3	-3287.6	3243.3	-3

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	866.70 R	666.69	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	669.59 R	515.07	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber		Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	50.78	999.00	2.24	999.00	HS 44.91	80.8
5C1T	109.56	999.00	4.84	999.00	0.00	387.5

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B02 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	2.750	121.2	121.2	33.330	0.0
1	P	5.417	0.0	0.0	0.000	21.6
1	P	12.417	0.0	0.0	0.000	17.5
1	P	19.417	0.0	0.0	0.000	19.5
1	P	26.417	0.0	0.0	0.000	19.5
1	P	33.420	0.0	0.0	0.000	21.6

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B02
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.7	33.34	0.940	bott	16.45	16.70	16.70	1.68	3.89
				16.89	16.70	16.70	1.68	3.89

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
86.40	86.40	18.13	18.57	19812.3	19812.3
n= 8 239.31	239.31	1.91	34.79	56774.6	19812.3
3n= 24 137.37	137.37	8.71	27.99	40926.4	19812.3

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
Positive Top	Bending Bott.	Negative Top	Bending Bott.		
1093.0	1066.7	1093.0	1066.7	3458.80	
n= 8 29663.6	1632.1	1093.0	1066.7		
3n= 24 4697.3	1462.3	1093.0	1066.7		

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B02
 Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.88	1.68	9.940	0.01	0.00	35.28	17.40
bott	8.35	1.68	9.940	84.00	21.61		17.88

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	652.04	652.04	62.169	0.000	1210.073

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3458.80	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2891.40	3794.29	7.46	0.00	0.00	0.000	5818.55

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	603.0

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B02
Check Point I. D. 1.474

Dead Load Moment 613.1
Superimposed Dead Load Moment 548.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3491.1C	-1803.5	2693.0	-2075.3C	1988.5	-2084.3	1374.5	-2293.3
OPER	5818.6C	-3005.8	4488.3	-3458.8C	3314.2	-3473.8	2290.9	-3822.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	999.00	1.47	999.00	HS 29.47	53.0
5C1T	4.70	999.00	3.25	999.00	0.00	259.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B02
Check Point I. D. 1.474

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	361.8	-278.3	278.3
OPER	603.0	-463.9	463.9

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B02
Check Point I. D. 1.474Dead Load Moment 613.1
Superimposed Dead Load Moment 548.6

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
	+bend	-bend	+bend	-bend
INV. 369.0	35598.1	-1248.7	2789.8	-1207.3
OPER 948.3	58555.8	-2855.6	3875.2	-2786.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber	bottom fiber	top fiber	bottom fiber
	+bend	-bend	+bend	-bend
HS20	36.91	999.00	1.75	999.00
5C1T	81.33	999.00	3.85	999.00

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B03 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)		Length	Concentrated Load (kips)
1	W	2.750	131.7	131.7	33.330	0.0
1	P	5.417	0.0	0.0	0.000	18.6
1	P	12.417	0.0	0.0	0.000	15.0
1	P	19.417	0.0	0.0	0.000	16.8
1	P	26.417	0.0	0.0	0.000	16.8
1	P	33.420	0.0	0.0	0.000	18.6

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B03
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.50	16.60	16.60	1.57	3.86
				16.86	16.60	16.60	1.57	3.86

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
80.60	80.60	18.07	18.43	18428.4	18428.4
n= 8 233.51	233.51	1.49	35.01	53677.7	18428.4
3n= 24 131.57	131.57	8.26	28.24	38915.8	18428.4

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
	Positive Top	Bending Bott.	Negative Top	Bending Bott.	
n= 8	1019.9	999.8	1019.9	999.8	3206.75
3n= 24	35966.1	1533.3	1019.9	999.8	
	4709.3	1378.2	1019.9	999.8	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B03
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.86	1.57	10.570	0.01	0.00	37.69	18.64
bott	8.30	1.57	10.570	84.00	21.79		19.05

ASD - Moment Values

Cb	Iy	J	fb
top	bott		top
1.75	598.47	598.47	50.535
			0.000
			1176.145

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3206.75	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5499.29

Mu (pier)	TOP Ms (pier)	A_FAC	Mu (pier)	BOTTOM Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B03
 Check Point I. D. 1.474

Dead Load Moment Superimposed Dead Load Moment
 610.5 476.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3299.6C	-1682.9	2530.0	-1924.0C	1885.8	-1946.9	1293.8	-2132.4
OPER	5499.3C	-2804.9	4216.6	-3206.7C	3143.0	-3244.8	2156.3	-3553.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	999.00	1.39	999.00	HS 27.74	49.9
5C1T	4.45	999.00	3.06	999.00	0.00	244.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B03
Check Point I. D. 1.474

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B03
Check Point I. D. 1.474Dead Load Moment 610.5
Superimposed Dead Load Moment 476.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 219.5	42363.0	-1163.9	2610.7	-1132.3	41275.8	-2251.1	1523.5	-2
OPER 699.2	69880.2	-2664.6	3626.4	-2612.0	68793.0	-3751.8	2539.2	-3

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	44.24	999.00	1.63	999.00	HS 32.66	58.8
5C1T	97.48	999.00	3.60	999.00	0.00	287.8

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B04 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	38.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	2.750	131.7	131.7	33.330	0.0
1	P	5.417	0.0	0.0	0.000	19.3
1	P	12.417	0.0	0.0	0.000	15.6
1	P	19.417	0.0	0.0	0.000	17.5
1	P	26.417	0.0	0.0	0.000	17.5
1	P	33.420	0.0	0.0	0.000	19.3

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B04
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.68	16.60	16.60	1.57	3.83
				16.68	16.60	16.60	1.57	3.83

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
81.60	81.60	18.25	18.25	18647.9	18647.9
n= 8 234.51	234.51	1.63	34.87	54663.2	18647.9
3n= 24 132.57	132.57	8.45	28.05	39520.9	18647.9

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
Positive Top	Bending Bott.	Negative Top	Bending Bott.		
1021.8	1021.8	1021.8	1021.8	3180.57	
n= 8 33608.1	1567.5	1021.8	1021.8		
3n= 24 4677.3	1408.9	1021.8	1021.8		

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B04
 Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.86	1.57	10.570	0.01	0.00	37.69	18.85
bott	7.86	1.57	10.570	84.00	21.92		18.85

ASD - Moment Values

Cb	Iy	J	fb
top	bott		top
1.75	598.47	598.47	50.535
			0.000
			1150.822

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3180.57	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5501.69

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B04
Check Point I. D. 1.474

Dead Load Moment 697.5
Superimposed Dead Load Moment 494.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3301.0C	-1686.0	2586.3	-1908.3C	1823.9	-2012.3	1274.1	-2183.3
OPER	5501.7C	-2810.0	4310.5	-3180.6C	3039.8	-3353.8	2123.5	-3638.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.96	999.00	1.37	999.00	HS 27.32	49.2
5C1T	4.31	999.00	3.01	999.00	0.00	240.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B04
Check Point I. D. 1.474

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B04
Check Point I. D. 1.474Dead Load Moment 697.5
Superimposed Dead Load Moment 494.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 317.0	37975.0	-1124.8	2677.0	-1124.8	36782.7	-2317.0	1484.8	-2
OPER 861.7	62496.8	-2669.5	3666.9	-2669.5	61304.6	-3861.7	2474.6	-3

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	39.43	999.00	1.59	999.00	HS 31.83	57.3
5C1T	86.87	999.00	3.51	999.00	0.00	280.5

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B05 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)		Length	Concentrated Load (kips)
			Left	Right		
1	W	2.750	131.7	131.7	33.330	0.0
1	P	5.417	0.0	0.0	0.000	19.1
1	P	12.417	0.0	0.0	0.000	15.5
1	P	19.417	0.0	0.0	0.000	17.3
1	P	26.417	0.0	0.0	0.000	17.3
1	P	33.420	0.0	0.0	0.000	19.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B05
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.77	16.60	16.60	1.57	3.84
				16.59	16.60	16.60	1.57	3.84

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
81.10	81.10	18.34	18.16	18538.9	18538.9
n= 8 234.01	234.01	1.62	34.88	54660.6	18538.9
3n= 24 132.07	132.07	8.47	28.03	39508.3	18538.9

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
	Positive Top	Bending Bott.	Negative Top	Bending Bott.	
n= 8	1010.8	1020.9	1010.8	1020.9	3167.63
3n= 24	33692.6	1567.2	1010.8	1020.9	
	4665.6	1409.4	1010.8	1020.9	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B05
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	8.30	1.57	10.570	0.01	0.00	37.69	18.95
bott	7.86	1.57	10.570	84.00	21.85		18.75

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	598.47	598.47	50.535	0.000	1151.856

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3167.63	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5501.67

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B05
Check Point I. D. 1.474

Dead Load Moment 609.7
Superimposed Dead Load Moment 490.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3301.0C	-1667.8	2585.9	-1900.6C	1879.4	-1942.8	1329.3	-2121.8
OPER	5501.7C	-2779.7	4309.8	-3167.6C	3132.4	-3238.0	2215.5	-3536.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	999.00	1.42	999.00	HS 28.50	51.3
5C1T	4.44	999.00	3.14	999.00	0.00	251.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B05
Check Point I. D. 1.474

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B05
Check Point I. D. 1.474Dead Load Moment 609.7
Superimposed Dead Load Moment 490.0

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend
INV. 260.1	39595.8	-1144.6	2667.8	-1160.4
OPER 766.8	65259.8	-2640.8	3713.2	-2667.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber	Factor bottom fiber	Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend
HS20	41.26	999.00	1.68	999.00
5C1T	90.92	999.00	3.70	999.00

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B06 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)		Length	Concentrated Load (kips)
			Left	Right		
1	W	2.750	131.7	131.7	33.330	0.0
1	P	5.417	0.0	0.0	0.000	19.2
1	P	12.417	0.0	0.0	0.000	15.5
1	P	19.417	0.0	0.0	0.000	17.4
1	P	26.417	0.0	0.0	0.000	17.4
1	P	33.420	0.0	0.0	0.000	19.2

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B06
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.82	16.60	16.60	1.57	3.85
				16.54	16.60	16.60	1.57	3.85

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
80.80	80.80	18.39	18.11	18490.7	18490.7
n= 8 233.71	233.71	1.61	34.89	54649.2	18490.7
3n= 24 131.77	131.77	8.47	28.03	39507.3	18490.7

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
	Positive Top	Bending Bott.	Negative Top	Bending Bott.	
n= 8	1005.3	1021.2	1005.3	1021.2	3160.16
3n= 24	33868.0	1566.5	1005.3	1021.2	
	4663.3	1409.6	1005.3	1021.2	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B06
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	8.30	1.57	10.570	0.01	0.00	37.69	19.01
bott	7.86	1.57	10.570	84.00	21.80		18.69

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	598.47	598.47	50.535	0.000	1151.527

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3160.16	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5501.62

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B06
Check Point I. D. 1.474

Dead Load Moment 609.7
Superimposed Dead Load Moment 491.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3301.0C	-1658.8	2584.7	-1896.1C	1878.5	-1936.7	1327.5	-2119.3
OPER	5501.6C	-2764.6	4307.8	-3160.2C	3130.8	-3227.9	2212.5	-3532.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating Value	Load Capacity (tons)
HS20	2.01	999.00	1.42	HS 28.46	51.2
5C1T	4.44	999.00	3.13	0.00	250.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B06
Check Point I. D. 1.474

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.0	0.0
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B06
Check Point I. D. 1.474Dead Load Moment 609.7
Superimposed Dead Load Moment 491.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 261.5	39723.0	-1135.3	2667.8	-1160.2	38621.7	-2236.6	1566.5	-2
OPER 769.1	65470.7	-2626.4	3712.1	-2667.8	64369.5	-3727.7	2610.9	-3

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	41.40	999.00	1.68	999.00	HS 33.58	60.5
5C1T	91.21	999.00	3.70	999.00	0.00	296.0

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B07 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)		Length	Concentrated Load (kips)
			Left	Right		
1	W	2.750	131.7	131.7	33.330	0.0
1	P	5.417	0.0	0.0	0.000	19.1
1	P	12.417	0.0	0.0	0.000	15.5
1	P	19.417	0.0	0.0	0.000	17.3
1	P	26.417	0.0	0.0	0.000	17.3
1	P	33.420	0.0	0.0	0.000	19.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B07
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.85	16.60	16.60	1.57	3.86
				16.51	16.60	16.60	1.57	3.86

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
80.50	80.50	18.42	18.08	18471.1	18471.1
n= 8 233.41	233.41	1.61	34.89	54633.2	18471.1
3n= 24 131.47	131.47	8.47	28.03	39506.9	18471.1

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
Positive Top	Bending Bott.	Negative Top	Bending Bott.		
1002.8	1021.6	1002.8	1021.6	3156.25	
n= 8 34037.9	1565.7	1002.8	1021.6		
3n= 24 4664.4	1409.4	1002.8	1021.6		

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B07
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	8.30	1.57	10.570	0.01	0.00	37.69	19.04
bott	7.86	1.57	10.570	84.00	21.77		18.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	598.47	598.47	50.535	0.000	1151.005

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3156.25	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5501.56

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B07
 Check Point I. D. 1.474

Dead Load Moment 609.7
 Superimposed Dead Load Moment 490.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3300.9C	-1654.6	2583.3	-1893.8C	1879.4	-1932.6	1327.4	-2116.6
OPER	5501.6C	-2757.6	4305.5	-3156.3C	3132.3	-3220.9	2212.3	-3527.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	999.00	1.42	999.00	HS 28.46	51.2
5C1T	4.44	999.00	3.13	999.00	0.00	250.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B07
Check Point I. D. 1.474

Dead Load	Superimposed Dead Load
Shear (-) Shear	(+) Shear
0.0	0.0
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B07
Check Point I. D. 1.474Dead Load Moment 609.7
Superimposed Dead Load Moment 490.0

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
	+bend	-bend	+bend	-bend
INV. 261.2	39890.8	-1132.0	2666.7	-1161.5
OPER 768.7	65751.5	-2619.7	3711.3	-2669.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber	bottom fiber	top fiber	bottom fiber
	+bend	-bend	+bend	-bend
HS20	41.58	999.00	1.68	999.00
5C1T	91.61	999.00	3.70	999.00

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B08 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)		Length	Concentrated Load (kips)
			Left	Right		
1	W	2.750	131.7	131.7	33.330	0.0
1	P	5.417	0.0	0.0	0.000	19.3
1	P	12.417	0.0	0.0	0.000	15.6
1	P	19.417	0.0	0.0	0.000	17.5
1	P	26.417	0.0	0.0	0.000	17.5
1	P	33.420	0.0	0.0	0.000	19.3

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B08
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.85	16.60	16.60	1.57	3.86
				16.51	16.60	16.60	1.57	3.86

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Dy	Reinf. Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
n= 8	80.50	80.50	18.42	18.08	18471.1	18471.1
3n= 24	233.41	233.41	1.61	34.89	54633.2	18471.1
	131.47	131.47	8.47	28.03	39506.9	18471.1

	Section Modulus Positive Bending Top	Section Modulus Negative Bending Bott.	Section Modulus Positive Bending Top	Section Modulus Negative Bending Bott.	Plastic Section Modulus - Z (Fy * Z)
n= 8	1002.8	1021.6	1002.8	1021.6	3156.25
3n= 24	34037.9	1565.7	1002.8	1021.6	
	4664.4	1409.4	1002.8	1021.6	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B08
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	8.30	1.57	10.570	0.01	0.00	37.69	19.04
bott	7.86	1.57	10.570	84.00	21.77		18.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	598.47	598.47	50.535	0.000	1151.005

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3156.25	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5501.56

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B08
 Check Point I. D. 1.474

Dead Load Moment Superimposed Dead Load Moment
 609.7 494.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3300.9C	-1654.6	2583.3	-1893.8C	1876.5	-1935.4	1324.5	-2119.4
OPER	5501.6C	-2757.6	4305.5	-3156.3C	3127.5	-3225.7	2207.5	-3532.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.01	999.00	1.42	999.00	HS 28.39	51.1
5C1T	4.43	999.00	3.13	999.00	0.00	250.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B08
Check Point I. D. 1.474

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B08
Check Point I. D. 1.474Dead Load Moment 609.7
Superimposed Dead Load Moment 494.8

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 264.1	39874.6	-1130.0	2668.3	-1159.6	38770.1	-2234.5	1563.8	-2
OPER 773.5	65721.4	-2619.7	3710.8	-2669.0	64616.9	-3724.2	2606.3	-3

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber		Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	41.56	999.00	1.68	999.00	HS 33.52	60.3
5C1T	91.56	999.00	3.69	999.00	0.00	295.5

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B09 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	2.750	131.7	131.7	33.330	0.0
1	P	5.417	0.0	0.0	0.000	18.6
1	P	12.417	0.0	0.0	0.000	15.0
1	P	19.417	0.0	0.0	0.000	16.8
1	P	26.417	0.0	0.0	0.000	16.8
1	P	33.420	0.0	0.0	0.000	18.6

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B09
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.33	16.60	16.60	1.57	3.87
				17.03	16.60	16.60	1.57	3.87

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
79.90	79.90	17.90	18.60	18159.9	18159.9
n= 8 232.81	232.81	1.38	35.12	52758.9	18159.9
3n= 24 130.87	130.87	8.11	28.39	38311.2	18159.9

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
	Positive Top	Bending Bott.	Negative Top	Bending Bott.	
n= 8	1014.5	976.3	1014.5	976.3	3231.07
3n= 24	38180.4	1502.3	1014.5	976.3	
	4726.8	1349.2	1014.5	976.3	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B09
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.86	1.57	10.570	0.01	0.00	37.69	18.45
bott	8.30	1.57	10.570	84.00	21.69		19.24

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	598.47	598.47	50.535	0.000	1204.428

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3231.07	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5497.10

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B09
 Check Point I. D. 1.474

Dead Load Moment 609.7
 Superimposed Dead Load Moment 476.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3298.3C	-1674.0	2478.8	-1938.6C	1885.3	-1939.5	1254.9	-2143.1
OPER	5497.1C	-2790.0	4131.4	-3231.1C	3142.1	-3232.6	2091.5	-3571.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	999.00	1.35	999.00	HS 26.90	48.4
5C1T	4.45	999.00	2.96	999.00	0.00	237.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B09
Check Point I. D. 1.474

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B09
Check Point I. D. 1.474Dead Load Moment 609.7
Superimposed Dead Load Moment 476.7

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
	+bend	-bend	+bend	-bend
INV. 182.3	44856.1	-1155.7	2559.9	-1095.8
OPER 637.1	74035.8	-2650.5	3542.2	-2550.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber	Factor bottom fiber	Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend
HS20	46.92	999.00	1.58	999.00
5C1T	103.37	999.00	3.48	999.00

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B10 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	38.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	2.750	121.2	121.2	33.330	0.0
1	P	5.417	0.0	0.0	0.000	21.6
1	P	12.417	0.0	0.0	0.000	17.5
1	P	19.417	0.0	0.0	0.000	19.5
1	P	26.417	0.0	0.0	0.000	19.5
1	P	33.420	0.0	0.0	0.000	21.6

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B10
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.7	33.34	0.940	bott	16.67	16.70	16.70	1.68	3.86
				16.67	16.70	16.70	1.68	3.86

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
87.60	87.60	18.35	18.35	20135.6	20135.6
n= 8 240.51	240.51	2.08	34.62	58044.4	20135.6
3n= 24 138.57	138.57	8.93	27.77	41722.0	20135.6

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
	Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	
n= 8	1097.3	1097.3	1097.3	1097.3	3424.10
	27965.5	1676.4	1097.3	1097.3	
3n= 24	4669.5	1502.7	1097.3	1097.3	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B10
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.88	1.68	9.940	0.01	0.00	35.28	17.64
bott	7.88	1.68	9.940	84.00	21.75		17.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	652.04	652.04	62.169
			0.000
			1176.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3424.10	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2891.40	3794.29	7.46	0.00	0.00	0.000	5824.37

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	603.0

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B10
 Check Point I. D. 1.474

Dead Load Moment 702.2
 Superimposed Dead Load Moment 548.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3494.6C	-1810.6	2766.1	-2054.5C	1937.7	-2143.2	1377.3	-2330.8
OPER	5824.4C	-3017.6	4610.1	-3424.1C	3229.5	-3572.0	2295.5	-3884.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.08	999.00	1.48	999.00	HS 29.53	53.1
5C1T	4.58	999.00	3.25	999.00	0.00	260.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B10
Check Point I. D. 1.474

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	361.8	-278.3	278.3
OPER	603.0	-463.9	463.9

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B10
Check Point I. D. 1.474Dead Load Moment 702.2
Superimposed Dead Load Moment 548.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 470.5	32378.0	-1219.7	2867.7	-1219.7	31127.2	-2470.5	1616.9	-2
OPER 117.5	53129.4	-2866.7	3945.6	-2866.7	51878.7	-4117.5	2694.8	-4

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	932.91 R	717.62	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	705.70 R	542.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	33.37	999.00	1.73	999.00	HS 34.66	62.4
5C1T	73.51	999.00	3.82	999.00	0.00	305.5

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 25.00

Comments:

Member I. D. B11 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	38.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	1.917	235.5	235.5	35.000	0.0
1	P	5.417	0.0	0.0	0.000	7.6
1	P	12.417	0.0	0.0	0.000	6.2
1	P	19.417	0.0	0.0	0.000	6.9
1	P	26.417	0.0	0.0	0.000	6.9
1	P	33.420	0.0	0.0	0.000	7.6

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B11
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.5	33.36	0.880	bott	16.68	16.60	16.60	1.57	3.83
				16.68	16.60	16.60	1.57	3.83

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
81.60	81.60	18.25	18.25	18647.9	18647.9
n= 8 234.51	234.51	1.63	34.87	54663.2	18647.9
3n= 24 132.57	132.57	8.45	28.05	39520.9	18647.9

Section Modulus					Plastic Section Modulus - Z (Fy * Z)
	Positive Top	Bending Bott.	Negative Top	Bending Bott.	
n= 8	1021.8	1021.8	1021.8	1021.8	3180.57
3n= 24	33608.1	1567.5	1021.8	1021.8	
	4677.3	1408.9	1021.8	1021.8	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B11
 Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.86	1.57	10.570	0.01	0.00	37.69	18.85
bott	7.86	1.57	10.570	84.00	21.92		18.85

ASD - Moment Values

Cb	Iy	J	fb
top	bott		top
1.75	598.47	598.47	50.535
			0.000
			1150.822

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3180.57	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5501.69

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B11
 Check Point I. D. 1.474

Dead Load Moment 389.1
 Superimposed Dead Load Moment 229.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	3301.0C	-1686.0	2586.3	-1908.3C	2168.3	-1667.8	1618.6	-1838.9
OPER	5501.7C	-2810.0	4310.5	-3180.6C	3613.9	-2779.7	2697.6	-3064.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	866.70 R	666.69	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	669.59 R	515.07	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.50	999.00	1.87	999.00	HS 37.35	67.2
5C1T	5.40	999.00	4.03	999.00	0.00	322.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B11
Check Point I. D. 1.474

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B11
Check Point I. D. 1.474Dead Load Moment 389.1
Superimposed Dead Load Moment 229.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 972.6	44633.2	-1354.4	2564.2	-1354.4	44015.0	-1972.6	1946.0	-1
OPER 287.6	73976.5	-2669.5	3861.5	-2669.5	73358.3	-3287.6	3243.3	-3

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	866.70 R	666.69	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	669.59 R	515.07	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	50.78	999.00	2.24	999.00	HS 44.91	80.8
5C1T	109.56	999.00	4.84	999.00	0.00	387.5

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 10

Live Load Distribution Factor 1.143

Second Live Load Dist. Factor 1.143

Comments:

Member I. D. S01 Symmetry:

Span Length:	Span 1 25.000	Span 2 25.000	Span 3 25.000	Span 4 25.000	Span 5 25.000
	Span 6 25.000	Span 7 25.000	Span 8 25.000	Span 9 25.000	Span 10 25.000

Range Length -- Non-Composite:		Section		Section	Hinge Location	
Span No.	Range No.	Range Length	Left	Right	Variation	No. 1 No. 2
1	1	25.000	1	0		0.0 0.0
2	1	25.000	2	0		0.0 0.0
3	1	25.000	2	0		0.0 0.0
4	1	25.000	2	0		0.0 0.0
5	1	25.000	2	0		0.0 0.0
6	1	25.000	2	0		0.0 0.0
7	1	25.000	2	0		0.0 0.0
8	1	25.000	2	0		0.0 0.0
9	1	25.000	2	0		0.0 0.0
10	1	25.000	1	0		0.0 0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)		Length	Concentrated Load (kips)
			Left	Right		
1	W	0.000	765.0	765.0	25.000	0.0
1	P	12.500	0.0	0.0	0.000	0.1
2	W	0.000	765.0	765.0	25.000	0.0
2	P	12.500	0.0	0.0	0.000	0.1
3	W	0.000	765.0	765.0	25.000	0.0
3	P	12.500	0.0	0.0	0.000	0.1
4	W	0.000	765.0	765.0	25.000	0.0
4	P	12.500	0.0	0.0	0.000	0.1
5	W	0.000	765.0	765.0	25.000	0.0
5	P	12.500	0.0	0.0	0.000	0.1
6	W	0.000	765.0	765.0	25.000	0.0
6	P	12.500	0.0	0.0	0.000	0.1
7	W	0.000	765.0	765.0	25.000	0.0
7	P	12.500	0.0	0.0	0.000	0.1
8	W	0.000	765.0	765.0	25.000	0.0
8	P	12.500	0.0	0.0	0.000	0.1

9	W	0.000	765.0	765.0	25.000	0.0
9	P	12.500	0.0	0.0	0.000	0.1
10	W	0.000	765.0	765.0	25.000	0.0
10	P	12.500	0.0	0.0	0.000	0.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 1.000

Dead Load Moment Superimposed Dead Load Moment
 0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	215.8	-191.7	191.7	-215.8
OPER	359.7C	-319.4	319.4	-359.7C	359.7	-319.4	319.4	-359.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.000

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	7.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-84.4	74.4
OPER	172.1	-140.7	124.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.40	32.02	-1.84	24.63	-2.36	24.72	-1.82	19.01
OPER	5C1T	-2.19	25.40	-1.68	19.54	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	35.22	2.32	HS 46.48	83.7
5C1T	64.34	4.88	0.00	390.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 199.3	199.3	-199.3	199.3	-199.3	199.3	-199.3	199.3	-
OPER 332.2	332.2	-332.2	332.2	-332.2	332.2	-332.2	332.2	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z (Fy * Z)
Positive Top	Bending Bott.	Negative Top	Bending Bott.	
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.100

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	204.8	-202.6	180.7	-226.8
OPER	359.7C	-319.4	319.4	-359.7C	341.4	-337.7	301.2	-378.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	66.91 L	51.47	-11.50	0.0	41.79	32.15	2.50			
		-6.25 R	-4.81	58.00	0.0	-4.62	-3.55	35.00	0.00		
OPER	5C1T	54.18 R	41.68	105.50	0.0	0.00	0.00	0.00			
		-5.89 R	-4.53	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.06	32.39	2.70	36.26	HS 54.01	97.2
5C1T	6.30	57.37	5.56	64.21	0.00	444.6

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S01
 Check Point I. D. 1.100
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.6 0.0 5.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-83.2	75.7
OPER	172.1	-138.6	126.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.95	26.76	-2.27	20.59	-3.16	21.20	-2.43	16.31
OPER	5C1T	-3.83	21.67	-2.94	16.67	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	26.29	2.83	HS 56.55	101.8
5C1T	36.22	5.82	0.00	465.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.100Dead Load Moment 1.6
Superimposed Dead Load Moment 16.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 210.3	206.6	-192.0	206.6	-192.0	188.4	-210.3	188.4	-
OPER 350.5	332.2	-332.2	332.2	-332.2	313.9	-350.5	313.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.91 L	51.47	-11.50	0.0	41.79	32.15	2.50	
		-6.25 R	-4.81	58.00	0.0	-4.62	-3.55	35.00	0.00
OPER	5C1T	54.18 R	41.68	105.50	0.0	0.00	0.00	0.00	
		-5.89 R	-4.53	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.82	33.62	2.82	33.62	HS 56.30	101.3
5C1T	5.79	59.54	5.79	59.54	0.00	463.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.200

Dead Load Moment Superimposed Dead Load Moment
2.8 28.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	197.0	-210.4	172.9	-234.6
OPER	359.7C	-319.4	319.4	-359.7C	328.4	-350.7	288.1	-391.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	108.85 L	83.73	-9.00	0.0	71.41	54.93	5.00			
		-12.51 R	-9.62	58.00	0.0	-9.24	-7.11	35.00	0.00		
OPER	5C1T	90.16 R	69.35	108.00	0.0	0.00	0.00	0.00			
		-11.77 R	-9.06	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.81	16.82	1.59	18.75	HS 31.76
5C1T	3.64	29.79	3.20	33.21	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-81.9	76.9
OPER	172.1	-136.5	128.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.87	21.77	-4.52	16.75	-5.76	17.86	-4.43	13.74
OPER	5C1T	-5.81	18.03	-4.47	13.87	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.95	3.53	HS 70.67	127.2
5C1T	23.50	7.11	0.00	568.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.200Dead Load Moment 2.8
Superimposed Dead Load Moment 28.5

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 218.1	211.8	-186.8	211.8	-186.8	180.5	-218.1	180.5	-
OPER 363.5	332.2	-332.2	332.2	-332.2	300.9	-363.5	300.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	108.85 L	83.73	-9.00	0.0	71.41	54.93	5.00	
		-12.51 R	-9.62	58.00	0.0	-9.24	-7.11	35.00	0.00
OPER	5C1T	90.16 R	69.35	108.00	0.0	0.00	0.00	0.00	
		-11.77 R	-9.06	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	1.66	17.43	1.66	17.43	HS 33.17	59.7
5C1T	3.34	30.88	3.34	30.88	0.00	267.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.300

Dead Load Moment 3.5
Superimposed Dead Load Moment 35.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	192.4	-215.1	168.2	-239.3
OPER	359.7C	-319.4	319.4	-359.7C	320.6	-358.5	280.3	-398.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.35 L	98.73	-6.50	0.0	91.13	70.10	7.50			
		-18.76 R	-14.43	58.00	0.0	-13.86	-10.66	35.00	0.00		
OPER	5C1T	109.03 R	83.87	110.50	0.0	0.00	0.00	0.00			
		-17.66 R	-13.58	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.50	11.46	1.31	12.75	HS 26.21	47.2
5C1T	2.94	20.30	2.57	22.58	0.00	205.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.300Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.2 0.0 1.9

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 103.3 -80.7 78.2
OPER 172.1 -134.4 130.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.72	17.11	-6.71	13.16	-8.44	14.73	-6.49	11.33
OPER	5C1T	-8.57	14.54	-6.60	11.18	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.25	4.57	HS 91.37	164.5
5C1T	15.68	8.96	0.00	717.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.300

Dead Load Moment	Superimposed Dead Load Moment
3.5	35.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 222.8	215.0	-183.7	215.0	-183.7	175.9	-222.8	175.9	-
OPER 371.3	332.2	-332.2	332.2	-332.2	293.1	-371.3	293.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.35 L	98.73	-6.50	0.0	91.13	70.10	7.50	
		-18.76 R	-14.43	58.00	0.0	-13.86	-10.66	35.00	0.00
OPER	5C1T	109.03 R	83.87	110.50	0.0	0.00	0.00	0.00	
		-17.66 R	-13.58	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.37	11.87	1.37	11.87	HS 27.40	49.3
5C1T	2.69	21.03	2.69	21.03	0.00	215.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 1.400

Dead Load Moment 3.7
 Superimposed Dead Load Moment 38.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	190.8	-216.6	166.7	-240.8
OPER	359.7C	-319.4	319.4	-359.7C	318.0	-361.1	277.8	-401.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.61 L	98.93	-4.00	0.0	99.47	76.51	10.00			
		-25.02 R	-19.25	58.00	0.0	-18.49	-14.22	35.00	0.00		
OPER	5C1T	115.53 R	88.87	109.00	0.0	0.00	0.00	0.00			
		-23.55 R	-18.11	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.48	8.66	1.30	9.62	HS 25.92	46.6
5C1T	2.75	15.34	2.40	17.05	0.00	192.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-79.4	79.4
OPER	172.1	-132.3	132.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-11.47	12.86	-8.82	9.89	-11.17	11.81	-8.59	9.09
OPER	5C1T	-11.15	11.39	-8.57	8.76	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.93	6.18	HS 123.53	222.4
5C1T	11.87	11.62	0.00	929.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.400Dead Load Moment 3.7
Superimposed Dead Load Moment 38.0

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 224.3	216.0	-182.7	216.0	-182.7	174.3	-224.3	174.3	-
OPER 373.9	332.2	-332.2	332.2	-332.2	290.5	-373.9	290.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.61 L	98.93	-4.00	0.0	99.47
		-25.02 R	-19.25	58.00	0.0	-18.49
OPER	5C1T	115.53 R	88.87	109.00	0.0	0.00
		-23.55 R	-18.11	134.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	1.36	8.97	1.36	8.97	HS 27.11	48.8
5C1T	2.52	15.88	2.52	15.88	0.00	201.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.69	35.20	35.20	2.861	999999.000	91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.500

Dead Load Moment 3.5
Superimposed Dead Load Moment 35.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	192.4	-215.0	168.3	-239.2
OPER	359.7C	-319.4	319.4	-359.7C	320.7	-358.4	280.4	-398.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	121.30 L	93.31	-15.50	0.0	99.09	76.22	12.50			
		-31.27 R	-24.06	58.00	0.0	-23.11	-17.77	35.00	0.00		
OPER	5C1T	114.31 R	87.93	111.50	0.0	0.00	0.00	0.00			
		-29.43 R	-22.64	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.59	6.88	1.39	7.65	HS 27.74	49.9
5C1T	2.81	12.18	2.45	13.55	0.00	196.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-78.2	80.7
OPER	172.1	-130.3	134.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-15.07	9.70	-11.59	7.46	-13.93	9.15	-10.71	7.04
OPER	5C1T	-13.55	8.82	-10.42	6.78	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.19	8.32	HS 103.74	186.7
5C1T	9.61	15.26	0.00	769.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.500

Dead Load Moment 3.5
Superimposed Dead Load Moment 35.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 222.7	214.9	-183.7	214.9	-183.7	175.9	-222.7	175.9	-
OPER 371.2	332.2	-332.2	332.2	-332.2	293.2	-371.2	293.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	121.30 L	93.31	-15.50	0.0	99.09	76.22	12.50	
		-31.27 R	-24.06	58.00	0.0	-23.11	-17.77	35.00	0.00
OPER	5C1T	114.31 R	87.93	111.50	0.0	0.00	0.00	0.00	
		-29.43 R	-22.64	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.45	7.12	1.45	7.12	HS 29.01	52.2
5C1T	2.57	12.61	2.57	12.61	0.00	205.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.69	35.20	35.20	2.861
			999999.000
			91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.600

Dead Load Moment Superimposed Dead Load Moment
2.8 28.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	197.3	-210.2	173.1	-234.4
OPER	359.7C	-319.4	319.4	-359.7C	328.8	-350.3	288.5	-390.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	115.16 L	88.59	-13.00	0.0	88.90	68.38	15.00			
		-37.53 R	-28.87	58.00	0.0	-27.73	-21.33	35.00	0.00		
OPER	5C1T	104.59 L	80.45	-36.00	0.0	0.00	0.00	0.00			
		-35.32 R	-27.17	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.71	5.60	1.50	6.24	HS 30.06	54.1
5C1T	3.14	9.92	2.76	11.06	0.00	220.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-76.9	82.0
OPER	172.1	-128.1	136.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-18.19	6.09	-14.00	4.69	-16.67	6.75	-12.82	5.19
OPER	5C1T	-15.81	6.39	-12.16	4.92	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.22	12.15	HS 84.48	152.1	
5C1T	8.10	21.38	0.00	648.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	28.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	211.7	-187.0	211.7	-187.0	180.8	-217.9	180.8	-
217.9								
OPER	332.2	-332.2	332.2	-332.2	301.3	-363.1	301.3	-
363.1								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	115.16 L	88.59	-13.00	0.0	88.90	68.38	15.00	
		-37.53 R	-28.87	58.00	0.0	-27.73	-21.33	35.00	0.00
OPER	5C1T	104.59 L	80.45	-36.00	0.0	0.00	0.00	0.00	
		-35.32 R	-27.17	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
bend	+bend	-bend	+bend	-bend		
HS20	1.57	5.80	1.57	5.80	HS 31.40	56.5
5C1T	2.88	10.28	2.88	10.28	0.00	230.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.700

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.69	35.20	35.20	2.861	999999.000	91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.700

Dead Load Moment 1.7
Superimposed Dead Load Moment 15.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	205.3	-202.2	181.1	-226.4
OPER	359.7C	-319.4	319.4	-359.7C	342.1	-337.0	301.8	-377.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	99.53 L	76.56	-10.50	0.0	71.95	55.35	17.50			
		-43.78 R	-33.68	58.00	0.0	-33.80	-26.00	35.00	85.00		
OPER	5C1T	86.28 L	66.37	-33.50	0.0	0.00	0.00	0.00			
		-41.20 R	-31.70	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.06	4.62	1.82	36.39	65.5
5C1T	3.96	8.18	3.50	0.00	279.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-75.6	83.2
OPER	172.1	-126.0	138.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-23.31	3.02	-17.93	2.32	-19.35	4.64	-14.88	3.57
OPER	5C1T	-18.62	4.32	-14.32	3.33	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.24	17.95	HS 64.87	116.8	
5C1T	6.77	32.09	0.00	541.4	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.700

Dead Load Moment 1.7
Superimposed Dead Load Moment 15.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 209.9	206.4	-192.3	206.4	-192.3	188.8	-209.9	188.8	-
OPER 349.8	332.2	-332.2	332.2	-332.2	314.6	-349.8	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	99.53 L	76.56	-10.50	0.0	71.95	55.35	17.50	
		-43.78 R	-33.68	58.00	0.0	-33.80	-26.00	35.00	85.00
OPER	5C1T	86.28 L	66.37	-33.50	0.0	0.00	0.00	0.00	
		-41.20 R	-31.70	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.90	4.79	1.90	4.79	HS 37.93	68.3
5C1T	3.65	8.49	3.65	8.49	0.00	291.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.69	35.20	35.20	2.861
			999999.000
			91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.800

Dead Load Moment 0.1
Superimposed Dead Load Moment -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	216.4	-191.1	192.2	-215.2
OPER	359.7C	-319.4	319.4	-359.7C	360.7	-318.4	320.4	-358.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	63.96 L	49.20	-8.00	0.0	47.55	36.58	20.00			
		-50.04 R	-38.49	58.00	0.0	-38.63	-29.72	35.00	85.00		
OPER	5C1T	59.03 R	45.40	154.00	0.0	0.00	0.00	0.00			
		-47.09 R	-36.22	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	3.38	3.82	3.01	4.30	HS 60.11	108.2
5C1T	6.11	6.76	5.43	7.62	0.00	434.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-74.3	84.5
OPER	172.1	-123.9	140.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-28.22	0.97	-21.70	0.75	-21.94	2.83	-16.88	2.18
OPER	5C1T	-21.72	2.55	-16.71	1.96	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.63	29.87	HS 52.69	94.8	
5C1T	5.70	55.16	0.00	456.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.800

Dead Load Moment Superimposed Dead Load Moment
0.1 -1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 198.7	198.9	-199.7	198.9	-199.7	199.9	-198.7	199.9	-
OPER 331.2	332.2	-332.2	332.2	-332.2	333.2	-331.2	333.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	63.96 L	49.20	-8.00	0.0	47.55	36.58	20.00	
		-50.04 R	-38.49	58.00	0.0	-38.63	-29.72	35.00	85.00
OPER	5C1T	59.03 R	45.40	154.00	0.0	0.00	0.00	0.00	
		-47.09 R	-36.22	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	3.12	3.97	3.12	3.97	HS 62.51	112.5
5C1T	5.64	7.03	5.64	7.03	0.00	451.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.69	35.20	35.20	2.861
			999999.000
			91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.900

Dead Load Moment Superimposed Dead Load Moment
-2.0 -22.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	230.7	-176.8	206.5	-200.9
OPER	359.7C	-319.4	319.4	-359.7C	384.5	-294.6	344.2	-334.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	12.56 R	9.66	88.00	0.0	23.61	18.16	22.50			
		-62.02 L	-47.71	16.00	0.0	-57.83	-44.49	35.00		10.00	
OPER	5C1T	30.15 R	23.19	156.50	0.0	0.00	0.00	0.00			
		-55.00 L	-42.31	-9.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.77	2.85	8.75	3.24	HS 57.01	102.6
5C1T	12.75	5.36	11.42	6.09	0.00	428.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.9	-9.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-73.1	85.8
OPER	172.1	-121.8	142.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-32.71	0.64	-25.16	0.49	-24.40	1.34	-18.77	1.03
OPER	5C1T	-24.64	1.04	-18.95	0.80	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.23	63.91	HS 44.69	80.4
5C1T	4.94	137.91	0.00	395.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.900

Dead Load Moment Superimposed Dead Load Moment
-2.0 -22.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 184.5	189.4	-209.2	189.4	-209.2	214.2	-184.5	214.2	-
OPER 307.4	332.2	-332.2	332.2	-332.2	357.0	-307.4	357.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	12.56 R	9.66	88.00	0.0	23.61	18.16	22.50	
		-62.02 L	-47.71	16.00	0.0	-57.83	-44.49	35.00	10.00
OPER	5C1T	30.15 R	23.19	156.50	0.0	0.00	0.00	0.00	
		-55.00 L	-42.31	-9.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	9.07	2.97	9.07	2.97	HS 59.48	107.1
5C1T	11.84	5.59	11.84	5.59	0.00	447.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.69	35.20	35.20	2.861
			999999.000
			91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -49.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	212.7	-128.9	193.5	-148.1
OPER	300.6C	-268.7	268.7	-300.6C	354.5	-214.8	322.5	-246.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00			
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00		35.00	
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.69	1.24	11.54	1.42	HS 24.80	44.6
5C1T	27.35	2.80	24.89	3.22	0.00	224.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	-1.1	-9.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-71.8	63.3
OPER	151.3	-119.7	105.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-32.71	34.96	-25.16	26.89	-24.40	26.43	-18.77	20.33
OPER	5C1T	-24.64	27.13	-18.95	20.87	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.96	1.81	HS 36.20	65.2
5C1T	4.38	3.89	0.00	310.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -49.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 135.3	146.1	-189.2	146.1	-189.2	199.9	-135.3	199.9	-
OPER 225.6	279.4	-279.4	279.4	-279.4	333.2	-225.6	333.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00	
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00	35.00
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.93	1.30	11.93	1.30	HS 26.04	46.9
5C1T	25.72	2.94	25.72	2.94	0.00	235.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.69	28.67	28.67	1.699
			999999.000
			84.566

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -49.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	212.7	-128.9	193.5	-148.1
OPER	300.6C	-268.7	268.7	-300.6C	354.5	-214.8	322.5	-246.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00			
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00		35.00	
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.69	1.24	11.54	1.42	HS 24.80	44.6
5C1T	27.35	2.80	24.89	3.22	0.00	224.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-1.1	0.8	-11.6	10.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.8	63.3
OPER	151.3	-119.7	105.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-36.72	34.96	-28.25	26.89	-26.68	26.43	-20.52	20.33
OPER	5C1T	-27.33	27.13	-21.02	20.87	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.96	1.81	HS 36.20	65.2
5C1T	4.38	3.89	0.00	310.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-49.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 135.3	146.1	-189.2	146.1	-189.2	199.9	-135.3	199.9	-
OPER 225.6	279.4	-279.4	279.4	-279.4	333.2	-225.6	333.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00	
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00	35.00
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.93	1.30	11.93	1.30	HS 26.04	46.9
5C1T	25.72	2.94	25.72	2.94	0.00	235.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-26.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	197.8	-143.7	178.6	-162.9
OPER	300.6C	-268.7	268.7	-300.6C	329.7	-239.6	297.7	-271.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.19 R	11.69	55.50	0.0	21.49	16.53	27.50			
		-67.93 R	-52.25	34.00	0.0	-58.59	-45.07	15.00		37.50	
OPER	5C1T	21.91 R	16.85	165.50	0.0	0.00	0.00	0.00			
		-56.28 L	-43.29	-3.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	9.20	2.12	8.31	2.40	HS 42.32	76.2
5C1T	15.05	4.26	13.59	4.82	0.00	340.6

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S01
 Check Point I. D. 2.100
 HS20 5C1T

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-75.1	64.5
OPER	151.3	-125.2	107.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.99	30.26	-2.30	23.28	-3.00	23.88	-2.30	18.37
OPER	5C1T	-3.34	24.05	-2.57	18.50	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	25.09	2.13	HS 42.63	76.7
5C1T	37.55	4.47	0.00	357.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.100

Dead Load Moment Superimposed Dead Load Moment
-2.6 -26.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 150.2	156.0	-179.3	156.0	-179.3	185.1	-150.2	185.1	-
OPER 250.3	279.4	-279.4	279.4	-279.4	308.5	-250.3	308.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.19 R	11.69	55.50	0.0	21.49	16.53	27.50	
		-67.93 R	-52.25	34.00	0.0	-58.59	-45.07	15.00	37.50
OPER	5C1T	21.91 R	16.85	165.50	0.0	0.00	0.00	0.00	
		-56.28 L	-43.29	-3.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	8.61	2.21	8.61	2.21	HS 44.22	79.6
5C1T	14.08	4.45	14.08	4.45	0.00	355.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-1.0	-8.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	186.1	-155.5	166.9	-174.7
OPER	300.6C	-268.7	268.7	-300.6C	310.2	-259.1	278.2	-291.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	58.49 R	45.00	58.00	0.0	40.87	31.44	30.00			
		-55.67 L	-42.82	-8.00	0.0	-37.45	-28.81	15.00		47.50	
OPER	5C1T	46.46 R	35.74	168.00	0.0	0.00	0.00	0.00			
		-44.88 L	-34.52	3.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.18	2.79	2.85	3.14	HS 55.86	100.6
5C1T	6.68	5.77	5.99	6.49	0.00	461.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	6.3

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-73.9 65.7
OPER	151.3		-123.2 109.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.99	25.52	-2.30	19.63	-4.19	21.08	-3.22	16.22
OPER	5C1T	-4.89	20.74	-3.76	15.96	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating	Factor	Rating	Load
	(-)	(+)	Value	Capacity
				(tons)
HS20	17.63	2.58	HS 51.52	92.7
5C1T	25.17	5.28	0.00	422.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.200

Dead Load Moment Superimposed Dead Load Moment
-1.0 -8.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 161.9	163.8	-171.4	163.8	-171.4	173.4	-161.9	173.4	-
OPER 269.9	279.4	-279.4	279.4	-279.4	288.9	-269.9	288.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	58.49 R	45.00	58.00	0.0	40.87	31.44	30.00	
		-55.67 L	-42.82	-8.00	0.0	-37.45	-28.81	15.00	47.50
OPER	5C1T	46.46 R	35.74	168.00	0.0	0.00	0.00	0.00	
		-44.88 L	-34.52	3.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.96	2.91	2.96	2.91	HS 58.18	104.7
5C1T	6.22	6.01	6.22	6.01	0.00	481.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.300

Dead Load Moment 0.1
Superimposed Dead Load Moment 4.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	177.5	-164.1	158.3	-183.3
OPER	300.6C	-268.7	268.7	-300.6C	295.8	-273.5	263.8	-305.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	85.73 R	65.95	60.50	0.0	61.84	47.57	32.50			
		-46.21 L	-35.55	-8.00	0.0	-32.60	-25.07	15.00	0.00		
OPER	5C1T	68.20 R	52.46	135.50	0.0	0.00	0.00	0.00			
		-40.61 L	-31.24	-34.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.07	3.55	1.85	3.97	HS 36.92	66.5
5C1T	4.34	6.74	3.87	7.52	0.00	309.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	4.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.7	67.0
OPER	151.3	-121.1	111.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.35	20.66	-3.35	15.90	-6.46	18.14	-4.97	13.95
OPER	5C1T	-6.71	17.47	-5.16	13.44	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	11.25	3.24	HS 64.84	116.7
5C1T	18.06	6.39	0.00	511.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.300Dead Load Moment 0.1
Superimposed Dead Load Moment 4.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 170.6	169.6	-165.7	169.6	-165.7	164.7	-170.6	164.7	-
OPER 284.3	279.4	-279.4	279.4	-279.4	274.5	-284.3	274.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	85.73 R	65.95	60.50	0.0	61.84	47.57	32.50	
		-46.21 L	-35.55	-8.00	0.0	-32.60	-25.07	15.00	0.00
OPER	5C1T	68.20 R	52.46	135.50	0.0	0.00	0.00	0.00	
		-40.61 L	-31.24	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.92	3.69	1.92	3.69	HS 38.43	69.2
5C1T	4.03	7.00	4.03	7.00	0.00	322.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.400

Dead Load Moment 0.8
Superimposed Dead Load Moment 13.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.9	-169.6	152.7	-188.8
OPER	300.6C	-268.7	268.7	-300.6C	286.5	-282.7	254.6	-314.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.49 R	74.22	63.00	0.0	74.80	57.54	35.00			
		-36.75 L	-28.27	-8.00	0.0	-28.46	-21.89	15.00	0.00		
OPER	5C1T	84.02 R	64.63	134.00	0.0	0.00	0.00	0.00			
		-39.21 L	-30.16	-34.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	4.62	1.58	5.14	HS 31.66	57.0
5C1T	3.41	7.21	3.03	8.03	0.00	242.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.4

Rat.	Shear Capacity	Available Capacity for LL+I
Veh.	VU	(-) (+)
INV.	90.8	-71.4 68.2
OPER	151.3	-119.0 113.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.92	16.99	-6.86	13.07	-9.03	15.15	-6.94	11.65
OPER	5C1T	-8.75	14.86	-6.73	11.43	0.00	0.00	0.00	0.00

Rating		Shear	
Veh.	Rating	Factor	Rating
	(-)	(+)	Value
			Load Capacity (tons)
HS20	7.91	4.02	HS 80.32 144.6
5C1T	13.60	7.65	0.00 612.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.400

Dead Load Moment 0.8
Superimposed Dead Load Moment 13.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.1	173.3	-162.0	173.3	-162.0	159.2	-176.1	159.2	-
OPER 293.5	279.4	-279.4	279.4	-279.4	265.3	-293.5	265.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	96.49 R	74.22	63.00	0.0	74.80	57.54
		-36.75 L	-28.27	-8.00	0.0	-28.46	-21.89
OPER	5C1T	84.02 R	64.63	134.00	0.0	0.00	0.00
		-39.21 L	-30.16	-34.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.65	4.79	1.65	4.79
5C1T	3.16	7.49	3.16	7.49

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.112

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 17.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.5	-172.1	150.3	-191.3
OPER	300.6C	-268.7	268.7	-300.6C	282.5	-286.8	250.5	-318.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.36 L	72.58	23.50	0.0	80.36	61.82	37.50			
		-27.30 L	-21.00	-8.00	0.0	-24.32	-18.71	15.00		0.00	
OPER	5C1T	87.72 R	67.48	136.50	0.0	0.00	0.00	0.00			
		-37.81 L	-29.08	-34.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.80	6.30	1.59	7.01	HS 31.86	57.3
5C1T	3.22	7.59	2.86	8.43	0.00	228.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.500Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 0.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.2 69.5
OPER 151.3 -117.0 115.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.08	13.29	-10.06	10.22	-11.82	12.21	-9.09	9.39
OPER	5C1T	-10.98	12.29	-8.45	9.46	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.36	5.23	HS 104.54	188.2
5C1T	10.65	9.42	0.00	753.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 17.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.5	174.9	-160.4	174.9	-160.4	156.8	-178.5	156.8	-
OPER 297.5	279.4	-279.4	279.4	-279.4	261.3	-297.5	261.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	94.36 L	72.58	23.50	0.0	80.36	61.82	37.50	
		-27.30 L	-21.00	-8.00	0.0	-24.32	-18.71	15.00	0.00
OPER	5C1T	87.72 R	67.48	136.50	0.0	0.00	0.00	0.00	
		-37.81 L	-29.08	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.66	6.54	1.66	6.54	HS 33.23	59.8
5C1T	2.98	7.87	2.98	7.87	0.00	238.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.112

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.600

Dead Load Moment 1.1
Superimposed Dead Load Moment 15.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.3	-171.3	151.1	-190.5
OPER	300.6C	-268.7	268.7	-300.6C	283.8	-285.5	251.8	-317.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.30 L	74.08	12.00	0.0	76.22	58.63	40.00			
		-30.13 R	-23.17	83.00	0.0	-26.61	-20.47	60.00	0.00		
OPER	5C1T	84.08 L	64.68	-11.00	0.0	0.00	0.00	0.00			
		-36.44 R	-28.03	109.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.77	5.69	1.57	31.38	56.5
5C1T	3.38	7.84	2.99	0.00	239.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.9	70.8
OPER	151.3	-114.8	117.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.75	9.12	-12.88	7.02	-14.76	9.40	-11.35	7.23
OPER	5C1T	-13.49	10.04	-10.38	7.72	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.11	7.52	HS 82.27	148.1	
5C1T	8.51	11.75	0.00	681.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.600Dead Load Moment 1.1
Superimposed Dead Load Moment 15.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.8	174.4	-160.9	174.4	-160.9	157.5	-177.8	157.5	-
OPER 296.3	279.4	-279.4	279.4	-279.4	262.5	-296.3	262.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.30 L	74.08	12.00	0.0	76.22	58.63	40.00	
		-30.13 R	-23.17	83.00	0.0	-26.61	-20.47	60.00	0.00
OPER	5C1T	84.08 L	64.68	-11.00	0.0	0.00	0.00	0.00	
		-36.44 R	-28.03	109.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.64	5.90	1.64	5.90	HS 32.72	58.9
5C1T	3.12	8.13	3.12	8.13	0.00	249.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			92.112

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.700

Dead Load Moment 0.7
Superimposed Dead Load Moment 9.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.1	-167.4	154.9	-186.6
OPER	300.6C	-268.7	268.7	-300.6C	290.2	-279.1	258.2	-311.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.17 L	66.29	14.50	0.0	64.63	49.71	42.50			
		-37.94 R	-29.19	83.00	0.0	-30.08	-23.14	60.00	0.00		
OPER	5C1T	73.27 L	56.36	-8.50	0.0	0.00	0.00	0.00			
		-38.42 R	-29.55	158.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.02	4.41	1.80	35.96	64.7
5C1T	3.96	7.26	3.53	0.00	282.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-3.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.7	72.0
OPER	151.3	-112.8	120.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.51	4.55	-15.77	3.50	-17.75	6.82	-13.66	5.25
OPER	5C1T	-16.51	7.79	-12.70	5.99	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.30	10.55	HS 65.98	118.8	
5C1T	6.83	15.40	0.00	546.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.700Dead Load Moment 0.7
Superimposed Dead Load Moment 9.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.9	171.8	-163.5	171.8	-163.5	161.4	-173.9	161.4	-
OPER 289.8	279.4	-279.4	279.4	-279.4	269.0	-289.8	269.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.17 L	66.29	14.50	0.0	64.63	49.71	42.50	
		-37.94 R	-29.19	83.00	0.0	-30.08	-23.14	60.00	0.00
OPER	5C1T	73.27 L	56.36	-8.50	0.0	0.00	0.00	0.00	
		-38.42 R	-29.55	158.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.58	1.87	4.58	HS 37.46	67.4
5C1T	3.67	7.54	3.67	7.54	0.00	293.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.112

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.46 L	45.74	17.00	0.0	45.30	34.84	45.00			
		-45.76 R	-35.20	83.00	0.0	-35.35	-27.19	60.00	110.00		
OPER	5C1T	55.30 L	42.54	-6.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	159.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	54.46
5C1T	5.46	6.25	4.88	7.00	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-5.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.4	73.2
OPER	151.3	-110.7	122.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.34	3.64	-19.49	2.80	-20.71	4.54	-15.93	3.49
OPER	5C1T	-19.67	5.65	-15.13	4.34	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.62	16.14	HS 52.43	94.4	
5C1T	5.63	21.61	0.00	450.1	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.46 L	45.74	17.00	0.0	45.30	34.84	45.00	
		-45.76 R	-35.20	83.00	0.0	-35.35	-27.19	60.00	110.00
OPER	5C1T	55.30 L	42.54	-6.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	159.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.63	101.9
5C1T	5.07	6.50	5.07	6.50	0.00	405.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			92.112

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.2	-150.4	172.0	-169.6
OPER	300.6C	-268.7	268.7	-300.6C	318.6	-250.6	286.7	-282.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43	L	12.64	19.50	0.0	25.46	19.58	47.50		
		-59.00	L	-45.39	41.00	0.0	-53.33	-41.03	60.00	37.50	
OPER	5C1T	31.30	L	24.08	-3.50	0.0	0.00	0.00	0.00		
		-49.71	R	-38.24	161.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.51	2.55	6.76	2.87	HS 50.98	91.8
5C1T	10.18	5.04	9.16	5.68	0.00	403.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.2	74.5
OPER	151.3	-108.6	124.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.06	3.78	-23.12	2.91	-23.53	3.50	-18.10	2.69
OPER	5C1T	-22.87	3.74	-17.59	2.88	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.17	19.69	HS 43.36	78.1
5C1T	4.75	33.16	0.00	380.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.8	160.4	-174.8	160.4	-174.8	178.4	-156.8	178.4	-
OPER 261.4	279.4	-279.4	279.4	-279.4	297.4	-261.4	297.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.43 L	12.64	19.50	0.0	25.46	19.58	47.50	
		-59.00 L	-45.39	41.00	0.0	-53.33	-41.03	60.00	37.50
OPER	5C1T	31.30 L	24.08	-3.50	0.0	0.00	0.00	0.00	
		-49.71 R	-38.24	161.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.01	2.66	7.01	2.66	HS 53.16	95.7
5C1T	9.50	5.26	9.50	5.26	0.00	420.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.112

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-37.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.2	185.2	-156.4
OPER	300.6C	-268.7	268.7	-300.6C	340.6	-228.7	308.6	-260.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00			
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00		40.00	
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00			
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.23	1.39	9.27	1.59	HS 27.88	50.2
5C1T	22.13	3.72	20.05	4.24	0.00	297.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-7.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.9	63.7
OPER	151.3	-106.6	106.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.06	34.53	-23.12	26.56	-23.53	26.28	-18.10	20.22
OPER	5C1T	-22.87	26.22	-17.59	20.17	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.85	1.85	HS 36.89	66.4
5C1T	4.11	4.05	0.00	323.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-37.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.7	151.7	-183.6	151.7	-183.6	191.6	-143.7	191.6	-
OPER 239.4	279.4	-279.4	279.4	-279.4	319.4	-239.4	319.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00	
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	9.59	1.46	9.59	1.46	HS 29.19	52.5
5C1T	20.75	3.89	20.75	3.89	0.00	311.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-37.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.2	185.2	-156.4
OPER	300.6C	-268.7	268.7	-300.6C	340.6	-228.7	308.6	-260.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00			
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00		40.00	
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00			
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.23	1.39	9.27	1.59	HS 27.88	50.2
5C1T	22.13	3.72	20.05	4.24	0.00	297.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-9.1	9.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.9	63.7
OPER	151.3	-106.6	106.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.48	34.53	-26.52	26.56	-26.11	26.28	-20.08	20.22
OPER	5C1T	-25.93	26.22	-19.95	20.17	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.85	1.85	HS 36.89	66.4
5C1T	4.11	4.05	0.00	323.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-37.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.7	151.7	-183.6	151.7	-183.6	191.6	-143.7	191.6	-
OPER 239.4	279.4	-279.4	279.4	-279.4	319.4	-239.4	319.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00	
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	9.59	1.46	9.59	1.46	HS 29.19	52.5
5C1T	20.75	3.89	20.75	3.89	0.00	311.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.100

Dead Load Moment Superimposed Dead Load Moment
-1.2 -15.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.6	-151.0	171.4	-170.2
OPER	300.6C	-268.7	268.7	-300.6C	317.6	-251.7	285.6	-283.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.13 R	12.41	80.50	0.0	25.97	19.97	52.50			
		-58.69 R	-45.15	59.00	0.0	-52.89	-40.68	40.00		62.50	
OPER	5C1T	30.14 R	23.19	103.50	0.0	0.00	0.00	0.00			
		-47.23 L	-36.33	25.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	7.34	2.57	6.60	51.46	92.6
5C1T	10.54	5.33	9.48	0.00	426.3

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S01
 Check Point I. D. 3.100
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.6 0.0 7.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.7	64.9
OPER	151.3	-124.5	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.23	23.71	-2.48	18.24
OPER	5C1T	-3.46	23.40	-2.66	18.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.15	2.16	HS 43.12	77.6
5C1T	35.95	4.62	0.00	370.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.100

Dead Load Moment Superimposed Dead Load Moment
-1.2 -15.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.4	160.8	-174.4	160.8	-174.4	177.8	-157.4	177.8	-
OPER 262.4	279.4	-279.4	279.4	-279.4	296.4	-262.4	296.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.13 R	12.41	80.50	0.0	25.97	19.97	52.50	
		-58.69 R	-45.15	59.00	0.0	-52.89	-40.68	40.00	62.50
OPER	5C1T	30.14 R	23.19	103.50	0.0	0.00	0.00	0.00	
		-47.23 L	-36.33	25.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.85	2.68	6.85	2.68	HS 53.65	96.6
5C1T	9.83	5.56	9.83	5.56	0.00	444.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 3.200

Dead Load Moment 0.1
 Superimposed Dead Load Moment 0.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.7	160.7	-180.9
OPER	300.6C	-268.7	268.7	-300.6C	299.8	-269.5	267.8	-301.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.37 R	45.67	83.00	0.0	44.98	34.60	55.00			
		-45.31 L	-34.85	17.00	0.0	-33.04	-25.42	40.00	72.50		
OPER	5C1T	56.23 R	43.25	106.00	0.0	0.00	0.00	0.00			
		-40.11 L	-30.86	28.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	3.03	3.57	2.71	3.99	HS 54.14	97.5
5C1T	5.33	6.72	4.76	7.51	0.00	381.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.5	66.2
OPER	151.3	-122.5	110.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.47	20.91	-3.44	16.08
OPER	5C1T	-5.16	20.31	-3.97	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.44	2.61	HS 52.10	93.8
5C1T	23.73	5.43	0.00	434.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.200Dead Load Moment 0.1
Superimposed Dead Load Moment 0.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 168.1	168.0	-167.3	168.0	-167.3	167.2	-168.1	167.2	-
OPER 280.2	279.4	-279.4	279.4	-279.4	278.6	-280.2	278.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.37 R	45.67	83.00	0.0	44.98	34.60	55.00	
		-45.31 L	-34.85	17.00	0.0	-33.04	-25.42	40.00	72.50
OPER	5C1T	56.23 R	43.25	106.00	0.0	0.00	0.00	0.00	
		-40.11 L	-30.86	28.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	2.82	3.71	2.82	3.71	HS 56.31	101.4
5C1T	4.95	6.99	4.95	6.99	0.00	396.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.300

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.300

Dead Load Moment 1.0
Superimposed Dead Load Moment 12.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	172.3	-169.3	153.1	-188.5
OPER	300.6C	-268.7	268.7	-300.6C	287.2	-282.1	255.2	-314.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.43 R	66.48	85.50	0.0	65.39	50.30	57.50			
		-37.61 L	-28.93	17.00	0.0	-29.08	-22.37	40.00	0.00		
OPER	5C1T	76.13 R	58.56	108.50	0.0	0.00	0.00	0.00			
		-36.19 L	-27.84	-58.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.99	4.50	1.77	5.01	HS 35.43	63.8
5C1T	3.77	7.79	3.35	8.68	0.00	268.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.2	67.4
OPER	151.3	-120.4	112.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.39	15.82	-6.74	17.96	-5.19	13.81
OPER	5C1T	-7.16	17.15	-5.51	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.71	3.28	HS 65.54	118.0
5C1T	16.82	6.55	0.00	524.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.300

Dead Load Moment 1.0
Superimposed Dead Load Moment 12.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 175.7	173.0	-162.3	173.0	-162.3	159.6	-175.7	159.6	-
OPER 292.9	279.4	-279.4	279.4	-279.4	265.9	-292.9	265.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.43 R	66.48	85.50	0.0	65.39	50.30	57.50	
		-37.61 L	-28.93	17.00	0.0	-29.08	-22.37	40.00	0.00
OPER	5C1T	76.13 R	58.56	108.50	0.0	0.00	0.00	0.00	
		-36.19 L	-27.84	-58.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.85	4.67	1.85	4.67	HS 36.93	66.5
5C1T	3.49	8.09	3.49	8.09	0.00	279.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.400

Dead Load Moment 1.6
Superimposed Dead Load Moment 19.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	167.8	-173.7	148.6	-192.9
OPER	300.6C	-268.7	268.7	-300.6C	279.7	-289.6	247.7	-321.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.97 R	74.59	88.00	0.0	77.63	59.72	60.00			
		-29.91 L	-23.01	17.00	0.0	-25.66	-19.74	40.00	0.00		
OPER	5C1T	88.02 R	67.71	111.00	0.0	0.00	0.00	0.00			
		-33.75 L	-25.96	-56.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.73	5.81	1.53	6.45	HS 30.66	55.2
5C1T	3.18	8.58	2.81	9.53	0.00	225.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 1.8

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -71.0 68.7
OPER 151.3 -118.3 114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.90	-9.31	14.97	-7.17	11.51
OPER	5C1T	-9.38	14.06	-7.21	10.81	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.62	4.09	HS 81.85	147.3
5C1T	12.62	8.14	0.00	651.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.400

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 180.2	176.0	-159.3	176.0	-159.3	155.1	-180.2	155.1	-
OPER 300.3	279.4	-279.4	279.4	-279.4	258.5	-300.3	258.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	96.97 R	74.59	88.00	0.0	77.63	59.72	60.00	
		-29.91 L	-23.01	17.00	0.0	-25.66	-19.74	40.00	0.00
OPER	5C1T	88.02 R	67.71	111.00	0.0	0.00	0.00	0.00	
		-33.75 L	-25.96	-56.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.60	6.02	1.60	6.02	HS 31.99	57.6
5C1T	2.94	8.90	2.94	8.90	0.00	234.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 21.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	166.5	-175.1	147.3	-194.3
OPER	300.6C	-268.7	268.7	-300.6C	277.4	-291.9	245.4	-323.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.67 R	72.82	76.50	0.0	82.45	63.42	62.50			
		-22.43 R	-17.25	108.00	0.0	-22.28	-17.14	85.00	0.00		
OPER	5C1T	90.81 L	69.86	-36.50	0.0	0.00	0.00	0.00			
		-33.70 R	-25.92	180.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	7.81	1.56	8.66	HS 31.11	56.0
5C1T	3.06	8.66	2.70	9.61	0.00	216.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	-0.1	0.0

Rat.	Shear Capacity	Available Capacity for LL+I
Veh.	VU	(-) (+)
INV.	90.8	-69.8 69.9
OPER	151.3	-116.3 116.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.09	10.09	-12.11	12.03	-9.32	9.26
OPER	5C1T	-11.72	11.58	-9.02	8.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.33	HS 106.32	191.4
5C1T	9.92	10.06	0.00	793.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 21.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 181.6	176.9	-158.4	176.9	-158.4	153.7	-181.6	153.7	-
OPER 302.6	279.4	-279.4	279.4	-279.4	256.2	-302.6	256.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	94.67 R	72.82	76.50	0.0	82.45	62.50
		-22.43 R	-17.25	108.00	0.0	-22.28	85.00
OPER	5C1T	90.81 L	69.86	-36.50	0.0	0.00	0.00
		-33.70 R	-25.92	180.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.62	8.10	1.62	8.10
5C1T	2.82	8.98	2.82	8.98

HS 32.47 58.5
0.00 225.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.600

Dead Load Moment 1.5
Superimposed Dead Load Moment 18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.3	-173.3	149.1	-192.5
OPER	300.6C	-268.7	268.7	-300.6C	280.5	-288.8	248.5	-320.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 L	74.62	37.00	0.0	77.56	59.66	65.00			
		-30.20 R	-23.23	108.00	0.0	-26.05	-20.04	85.00	0.00		
OPER	5C1T	87.63 L	67.41	-34.00	0.0	0.00	0.00	0.00			
		-35.31 R	-27.16	181.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.74	1.54	6.37	HS 30.74	55.3
5C1T	3.20	8.18	2.84	9.09	0.00	226.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.5	71.2
OPER	151.3	-114.1	118.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.05	9.24	-11.57	7.11
OPER	5C1T	-14.17	9.27	-10.90	7.13	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.08	7.70	HS 81.63	146.9
5C1T	8.05	12.80	0.00	644.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.600Dead Load Moment 1.5
Superimposed Dead Load Moment 18.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.7	175.7	-159.6	175.7	-159.6	155.5	-179.7	155.5	-
OPER 299.6	279.4	-279.4	279.4	-279.4	259.2	-299.6	259.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.00 L	74.62	37.00	0.0	77.56	59.66	65.00
		-30.20 R	-23.23	108.00	0.0	-26.05	-20.04	85.00
OPER	5C1T	87.63 L	67.41	-34.00	0.0	0.00	0.00	0.00
		-35.31 R	-27.16	181.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.60	5.95	1.60	5.95	HS 32.07	57.7
5C1T	2.96	8.48	2.96	8.48	0.00	236.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 3.700

Dead Load Moment 0.9
 Superimposed Dead Load Moment 11.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.2	-168.4	154.0	-187.6
OPER	300.6C	-268.7	268.7	-300.6C	288.7	-280.6	256.7	-312.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 L	66.52	39.50	0.0	65.25	50.19	67.50			
		-37.98 R	-29.21	108.00	0.0	-29.81	-22.93	85.00	0.00		
OPER	5C1T	74.93 L	57.64	16.50	0.0	0.00	0.00	0.00			
		-38.36 R	-29.51	183.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.00	4.43	1.78	4.94	HS 35.62	64.1
5C1T	3.85	7.32	3.43	8.15	0.00	274.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-4.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.2	72.4
OPER	151.3	-112.1	120.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.56	4.42	-15.82	3.40	-18.03	6.66	-13.87	5.13
OPER	5C1T	-17.27	7.09	-13.29	5.45	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.27	10.86	HS 65.39	117.7	
5C1T	6.49	17.03	0.00	519.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.700Dead Load Moment 0.9
Superimposed Dead Load Moment 11.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.8	172.4	-162.9	172.4	-162.9	160.5	-174.8	160.5	-
OPER 291.4	279.4	-279.4	279.4	-279.4	267.4	-291.4	267.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.47 L	66.52	39.50	0.0	65.25	50.19	67.50
		-37.98 R	-29.21	108.00	0.0	-29.81	-22.93	85.00
OPER	5C1T	74.93 L	57.64	16.50	0.0	0.00	0.00	0.00
		-38.36 R	-29.51	183.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.86	4.60	1.86	4.60	HS 37.11	66.8
5C1T	3.57	7.59	3.57	7.59	0.00	285.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 3.800

Dead Load Moment Superimposed Dead Load Moment
 -0.1 -1.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.3	162.0	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.1	-267.2	270.1	-299.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	42.00	0.0	45.25	34.81	70.00			
		-45.75 R	-35.19	108.00	0.0	-35.42	-27.25	85.00	135.00		
OPER	5C1T	55.09 L	42.38	19.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	184.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	54.53
5C1T	5.48	6.24	4.90	6.99	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.0	73.7
OPER	151.3	-110.0	122.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.	(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.
INV.	HS20	-25.39	2.94	-19.53	2.26	-20.98	4.39	-16.14	3.38
OPER	5C1T	-20.46	5.11	-15.74	3.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.60	16.78	HS 51.98	93.6
5C1T	5.38	24.02	0.00	430.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.8	167.1	-168.2	167.1	-168.2	168.5	-166.8	168.5	-
OPER 278.0	279.4	-279.4	279.4	-279.4	280.8	-278.0	280.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	42.00	0.0	45.25	34.81	70.00	
		-45.75 R	-35.19	108.00	0.0	-35.42	-27.25	85.00	135.00
OPER	5C1T	55.09 L	42.38	19.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	184.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.84	3.65	2.84	3.65	HS 56.70	102.1
5C1T	5.10	6.50	5.10	6.50	0.00	407.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-18.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.4	-149.2	173.2	-168.4
OPER	300.6C	-268.7	268.7	-300.6C	320.6	-248.7	288.6	-280.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.21 L	12.47	44.50	0.0	25.07	19.29	72.50			
		-58.98 L	-45.37	66.00	0.0	-54.10	-41.62	85.00		62.50	
OPER	5C1T	29.51 L	22.70	21.50	0.0	0.00	0.00	0.00			
		-49.72 R	-38.24	186.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.67	2.53	6.91	2.86	HS 50.60	91.1
5C1T	10.86	5.00	9.78	5.64	0.00	400.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.8	74.9
OPER	151.3	-107.9	124.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	3.08	-23.16	2.37	-23.79	3.13	-18.30	2.41
OPER	5C1T	-23.57	3.39	-18.13	2.61	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.15	23.89	HS 43.01	77.4
5C1T	4.58	36.78	0.00	366.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-18.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 155.7	159.7	-175.6	159.7	-175.6	179.6	-155.7	179.6	-
OPER 259.4	279.4	-279.4	279.4	-279.4	299.4	-259.4	299.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.21 L	12.47	44.50	0.0	25.07	19.29	72.50	
		-58.98 L	-45.37	66.00	0.0	-54.10	-41.62	85.00	62.50
OPER	5C1T	29.51 L	22.70	21.50	0.0	0.00	0.00	0.00	
		-49.72 R	-38.24	186.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.16	2.64	7.16	2.64	HS 52.78	95.0
5C1T	10.14	5.22	10.14	5.22	0.00	417.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.6	-135.0	187.4	-154.2
OPER	300.6C	-268.7	268.7	-300.6C	344.3	-225.0	312.3	-257.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00			
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00		
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00			
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.58	1.37	11.41	1.56	HS 27.39 49.3
5C1T	27.12	3.60	24.60	4.11	0.00 287.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.5	63.6
OPER	151.3	-105.8	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	34.53	-23.16	26.56	-23.79	26.35	-18.30	20.27
OPER	5C1T	-23.57	26.27	-18.13	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.79	66.2
5C1T	4.00	4.03	0.00	320.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.4	150.2	-185.1	150.2	-185.1	193.9	-141.4	193.9	-
OPER 235.7	279.4	-279.4	279.4	-279.4	323.1	-235.7	323.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00	
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00	
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.80	1.43	11.80	1.43	HS 28.70	51.7
5C1T	25.45	3.77	25.45	3.77	0.00	301.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.6	-135.0	187.4	-154.2
OPER	300.6C	-268.7	268.7	-300.6C	344.3	-225.0	312.3	-257.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00			
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00		
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00			
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.58	1.37	11.41	1.56	HS 27.39 49.3
5C1T	27.12	3.60	24.60	4.11	0.00 287.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.7	9.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.5	63.6
OPER	151.3	-105.8	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.52	34.53	-26.56	26.56	-26.36	26.35	-20.28	20.27
OPER	5C1T	-26.44	26.27	-20.34	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.79	66.2
5C1T	4.00	4.03	0.00	320.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-40.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.4	150.2	-185.1	150.2	-185.1	193.9	-141.4	193.9	-
OPER 235.7	279.4	-279.4	279.4	-279.4	323.1	-235.7	323.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00	
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00	
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.80	1.43	11.80	1.43	HS 28.70	51.7
5C1T	25.45	3.77	25.45	3.77	0.00	301.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.5	-149.1	173.3	-168.2
OPER	300.6C	-268.7	268.7	-300.6C	320.9	-248.4	288.9	-280.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.19 R	12.46	105.50	0.0	25.38	19.52	77.50			
		-58.96 R	-45.35	84.00	0.0	-54.15	-41.66	65.00		87.50	
OPER	5C1T	28.68 R	22.06	128.50	0.0	0.00	0.00	0.00			
		-50.27 L	-38.67	-36.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.59	2.53	6.83	2.85	HS 50.56	91.0
5C1T	11.19	4.94	10.07	5.58	0.00	395.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.8	64.8
OPER	151.3	-124.7	108.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.19	23.78	-2.46	18.29
OPER	5C1T	-3.35	23.42	-2.58	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.44	2.15	HS 43.04	77.5
5C1T	37.18	4.61	0.00	369.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-18.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	159.5	-175.7	159.5	-175.7	179.8	-155.5	179.8	-
155.5								
OPER	279.4	-279.4	279.4	-279.4	299.6	-259.2	299.6	-
259.2								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.19 R	12.46	105.50	0.0	25.38	19.52	77.50	
		-58.96 R	-45.35	84.00	0.0	-54.15	-41.66	65.00	87.50
OPER	5C1T	28.68 R	22.06	128.50	0.0	0.00	0.00	0.00	
		-50.27 L	-38.67	-36.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	7.08	2.64	7.08	2.64	HS 52.75	94.9
5C1T	10.45	5.16	10.45	5.16	0.00	412.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 4.200

Dead Load Moment Superimposed Dead Load Moment
 -0.2 -1.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.6	-160.0	162.4	-179.2
OPER	300.6C	-268.7	268.7	-300.6C	302.6	-266.7	270.6	-298.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.71	108.00	0.0	44.49	34.23	80.00			
		-45.74 L	-35.19	42.00	0.0	-35.63	-27.41	65.00	15.00		
OPER	5C1T	54.47 R	41.90	131.00	0.0	0.00	0.00	0.00			
		-43.32 L	-33.32	-34.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.06	3.50	2.73	3.92	54.64
5C1T	5.56	6.16	4.97	6.89	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.6	66.1
OPER	151.3	-122.6	110.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.44	20.97	-3.41	16.13
OPER	5C1T	-5.07	20.32	-3.90	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.59	2.60	HS 52.02	93.6
5C1T	24.19	5.42	0.00	433.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	166.9	-168.4	166.9	-168.4	168.8	-166.5	168.8	-
166.5								
OPER	279.4	-279.4	279.4	-279.4	281.4	-277.4	281.4	-
277.4								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.71	108.00	0.0	44.49	34.23	80.00	
		-45.74 L	-35.19	42.00	0.0	-35.63	-27.41	65.00	15.00
OPER	5C1T	54.47 R	41.90	131.00	0.0	0.00	0.00	0.00	
		-43.32 L	-33.32	-34.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
bend	+bend	-bend	+bend	-bend		
HS20	2.84	3.64	2.84	3.64	HS 56.81	102.3
5C1T	5.17	6.41	5.17	6.41	0.00	413.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.7	-167.9	154.5	-187.1
OPER	300.6C	-268.7	268.7	-300.6C	289.5	-279.8	257.5	-311.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 R	66.52	110.50	0.0	65.00	50.00	82.50			
		-37.97 L	-29.21	42.00	0.0	-30.01	-23.08	65.00	0.00		
OPER	5C1T	74.55 R	57.34	133.50	0.0	0.00	0.00	0.00			
		-38.82 L	-29.86	-33.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.42	1.79	35.73	64.3
5C1T	3.88	7.21	3.45	0.00	276.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	3.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.3	67.3
OPER	151.3	-120.6	112.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.71	18.02	-5.16	13.86
OPER	5C1T	-7.06	17.15	-5.43	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.78	3.27	HS 65.44	117.8
5C1T	17.09	6.54	0.00	523.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.300Dead Load Moment 0.8
Superimposed Dead Load Moment 10.4

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 174.3	172.1	-163.2	172.1	-163.2	160.9	-174.3	160.9	-
OPER 290.6	279.4	-279.4	279.4	-279.4	268.2	-290.6	268.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	86.47 R	66.52	110.50	0.0	65.00	50.00
		-37.97 L	-29.21	42.00	0.0	-30.01	-23.08
OPER	5C1T	74.55 R	57.34	133.50	0.0	0.00	0.00
		-38.82 L	-29.86	-33.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.86	4.59	1.86	37.22	67.0
5C1T	3.60	7.48	3.60	0.00	287.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 17.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.9	-172.6	149.7	-191.8
OPER	300.6C	-268.7	268.7	-300.6C	281.5	-287.7	249.6	-319.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 R	74.62	113.00	0.0	77.32	59.48	85.00			
		-30.20 L	-23.23	42.00	0.0	-26.40	-20.31	65.00	0.00		
OPER	5C1T	87.00 R	66.92	184.00	0.0	0.00	0.00	0.00			
		-35.71 L	-27.47	-31.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.74	5.72	1.54	6.35	HS 30.87	55.6
5C1T	3.24	8.06	2.87	8.95	0.00	229.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.400

Dead Load	Superimposed Dead Load
Shear (-) Shear	(+) Shear
0.2	0.0
	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.1	68.5
OPER	151.3	-118.5	114.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.28	15.04	-7.14	11.57
OPER	5C1T	-9.25	14.06	-7.12	10.81	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.66	4.09	HS 81.70	147.1	
5C1T	12.81	8.12	0.00	650.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.400Dead Load Moment 1.4
Superimposed Dead Load Moment 17.7

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 179.1	175.3	-160.0	175.3	-160.0	156.2	-179.1	156.2	-
OPER 298.5	279.4	-279.4	279.4	-279.4	260.3	-298.5	260.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.00 R	74.62	113.00	0.0	77.32	59.48	85.00	
		-30.20 L	-23.23	42.00	0.0	-26.40	-20.31	65.00	0.00
OPER	5C1T	87.00 R	66.92	184.00	0.0	0.00	0.00	0.00	
		-35.71 L	-27.47	-31.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	1.61	5.93	1.61	5.93	HS 32.20	58.0
5C1T	2.99	8.36	2.99	8.36	0.00	239.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.221

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 20.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	167.3	-174.3	148.1	-193.5
OPER	300.6C	-268.7	268.7	-300.6C	278.8	-290.5	246.8	-322.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 R	72.83	101.50	0.0	82.22	63.25	87.50			
		-22.43 R	-17.26	133.00	0.0	-22.80	-17.53	110.00	0.00		
OPER	5C1T	89.94 R	69.18	186.50	0.0	0.00	0.00	0.00			
		-34.36 L	-26.43	15.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.77	7.65	1.56	HS 31.28	56.3
5C1T	3.10	8.45	2.74	0.00	219.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.08	12.10	-9.29	9.31
OPER	5C1T	-11.59	11.61	-8.91	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.34	191.4
5C1T	10.05	10.02	0.00	801.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 180.8	176.4	-158.9	176.4	-158.9	154.5	-180.8	154.5	-
OPER 301.3	279.4	-279.4	279.4	-279.4	257.5	-301.3	257.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.68 R	72.83	101.50	0.0	82.22	63.25	87.50	
		-22.43 R	-17.26	133.00	0.0	-22.80	-17.53	110.00	0.00
OPER	5C1T	89.94 R	69.18	186.50	0.0	0.00	0.00	0.00	
		-34.36 L	-26.43	15.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.63	7.93	1.63	7.93	HS 32.64	58.8
5C1T	2.86	8.77	2.86	8.77	0.00	229.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.221

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 17.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.8	-172.8	149.6	-192.0
OPER	300.6C	-268.7	268.7	-300.6C	281.3	-287.9	249.4	-319.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	62.00	0.0	77.41	59.55	90.00			
		-30.21 R	-23.24	133.00	0.0	-26.38	-20.29	110.00	0.00		
OPER	5C1T	86.82 L	66.79	39.00	0.0	0.00	0.00	0.00			
		-35.33 R	-27.18	206.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.72	1.54	6.36	HS 30.85	55.5
5C1T	3.24	8.15	2.87	9.05	0.00	229.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.3	-114.3	118.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.01	9.31	-11.55	7.16
OPER	5C1T	-14.02	9.29	-10.79	7.15	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.64	HS 81.75	147.2	
5C1T	8.15	12.75	0.00	652.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.600Dead Load Moment 1.4
Superimposed Dead Load Moment 17.9

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 179.2	175.4	-159.9	175.4	-159.9	156.1	-179.2	156.1	-
OPER 298.7	279.4	-279.4	279.4	-279.4	260.1	-298.7	260.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2	
INV.	HS20	97.01 L	74.62	62.00	0.0	77.41	59.55	90.00
		-30.21 R	-23.24	133.00	0.0	-26.38	-20.29	110.00
OPER	5C1T	86.82 L	66.79	39.00	0.0	0.00	0.00	0.00
		-35.33 R	-27.18	206.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber	Rating bottom fiber	Factor bottom fiber	Rating Value	Load Capacity (tons)
HS20	1.61	5.93	1.61	5.93	57.9
5C1T	3.00	8.45	3.00	8.45	239.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.221

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.1	154.3	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.1	-280.2	257.1	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	64.50	0.0	65.18	50.14	92.50			
		-37.98 R	-29.21	133.00	0.0	-29.97	-23.05	110.00		0.00	
OPER	5C1T	74.87 L	57.59	41.50	0.0	0.00	0.00	0.00			
		-38.37 R	-29.52	208.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.43	1.78	35.68	64.2
5C1T	3.86	7.30	3.43	0.00	274.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.3	72.3
OPER	151.3	-112.2	120.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.00	6.73	-13.85	5.18
OPER	5C1T	-17.10	7.10	-13.16	5.46	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.27	10.74	HS 65.49	117.9	
5C1T	6.56	16.96	0.00	525.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.7

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-
174.6								
OPER	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-
291.0								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.48 L	66.52	64.50	0.0	65.18	50.14	92.50	
		-37.98 R	-29.21	133.00	0.0	-29.97	-23.05	110.00	0.00
OPER	5C1T	74.87 L	57.59	41.50	0.0	0.00	0.00	0.00	
		-38.37 R	-29.52	208.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	1.86	4.60	1.86	4.60	HS 37.17	66.9
5C1T	3.58	7.58	3.58	7.58	0.00	286.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.221

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	67.00	0.0	45.27	34.83	95.00			
		-45.75 R	-35.19	133.00	0.0	-35.40	-27.23	110.00	160.00		
OPER	5C1T	55.09 L	42.38	44.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	209.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	54.52
5C1T	5.48	6.25	4.90	6.99	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.1	73.5
OPER	151.3	-110.2	122.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.95	4.46	-16.12	3.43
OPER	5C1T	-20.27	5.12	-15.59	3.94	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.60	16.49	HS 52.06	93.7
5C1T	5.44	23.93	0.00	434.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.8	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-
OPER 278.1	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	67.00	0.0	45.27	34.83	95.00	
		-45.75 R	-35.19	133.00	0.0	-35.40	-27.23	110.00	160.00
OPER	5C1T	55.09 L	42.38	44.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	209.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.69	102.0
5C1T	5.10	6.50	5.10	6.50	0.00	407.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.221

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -17.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.0	-149.5	172.8	-168.7
OPER	300.6C	-268.7	268.7	-300.6C	320.1	-249.2	288.1	-281.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	69.50	0.0	25.27	19.44	97.50			
		-58.98 L	-45.37	91.00	0.0	-54.00	-41.54	110.00		87.50	
OPER	5C1T	29.55 L	22.73	46.50	0.0	0.00	0.00	0.00			
		-49.71 R	-38.24	211.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.60	2.54	6.84	2.86	HS 50.71 91.3
5C1T	10.83	5.01	9.75	5.66	0.00 401.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.9	74.8
OPER	151.3	-108.1	124.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	3.11	-23.17	2.39	-23.76	3.21	-18.28	2.47
OPER	5C1T	-23.37	3.41	-17.98	2.62	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.15	23.27	HS 43.08	77.5
5C1T	4.63	36.60	0.00	370.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-17.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.0	159.9	-175.4	159.9	-175.4	179.3	-156.0	179.3	-
OPER 260.0	279.4	-279.4	279.4	-279.4	298.8	-260.0	298.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 L	12.46	69.50	0.0	25.27	19.44	97.50	
		-58.98 L	-45.37	91.00	0.0	-54.00	-41.54	110.00	87.50
OPER	5C1T	29.55 L	22.73	46.50	0.0	0.00	0.00	0.00	
		-49.71 R	-38.24	211.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.10	2.64	7.10	2.64	HS 52.90	95.2
5C1T	10.11	5.23	10.11	5.23	0.00	418.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.221

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.0	-135.6	186.8	-154.8
OPER	300.6C	-268.7	268.7	-300.6C	343.3	-226.0	311.3	-258.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00			
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00		90.00	
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00			
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.34	1.38	11.19	1.57	HS 27.52	49.5
5C1T	26.99	3.64	24.48	4.16	0.00	291.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.3	-106.0	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	34.53	-23.17	26.56	-23.76	26.34	-18.28	20.26
OPER	5C1T	-23.37	26.27	-17.98	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.84	66.3
5C1T	4.04	4.03	0.00	322.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 142.0	150.6	-184.7	150.6	-184.7	193.2	-142.0	193.2	-
OPER 236.7	279.4	-279.4	279.4	-279.4	322.1	-236.7	322.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00	
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00	90.00
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00	
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.58	1.44	11.58	1.44	HS 28.82	51.9
5C1T	25.32	3.82	25.32	3.82	0.00	305.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.206

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.0	-135.6	186.8	-154.8
OPER	300.6C	-268.7	268.7	-300.6C	343.3	-226.0	311.3	-258.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live w/imp.	Load Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane Live w/imp.	Load Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00	
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00	90.00
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00	
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.34	1.38	11.19	1.57	HS 27.52	49.5
5C1T	26.99	3.64	24.48	4.16	0.00	291.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.6	9.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.3	-106.0	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.33	26.34	-20.25	20.26
OPER	5C1T	-26.23	26.27	-20.18	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.84	66.3
5C1T	4.04	4.03	0.00	322.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 142.0	150.6	-184.7	150.6	-184.7	193.2	-142.0	193.2	-
OPER 236.7	279.4	-279.4	279.4	-279.4	322.1	-236.7	322.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00	
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00	90.00
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00	
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.58	1.44	11.58	1.44	HS 28.82	51.9
5C1T	25.32	3.82	25.32	3.82	0.00	305.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.206

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -17.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.0	-149.6	172.8	-168.8
OPER	300.6C	-268.7	268.7	-300.6C	320.0	-249.3	288.0	-281.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	130.50	0.0	25.71	19.77	102.50			
		-58.98 R	-45.37	109.00	0.0	-54.00	-41.54	90.00	112.50		
OPER	5C1T	29.61 R	22.78	153.50	0.0	0.00	0.00	0.00			
		-49.54 L	-38.11	-11.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.47	2.54	6.72	2.86	HS 50.72
5C1T	10.81	5.03	9.73	5.68	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 7.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.8	64.8
OPER	151.3	-124.7	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.21	23.77	-2.47	18.29
OPER	5C1T	-3.41	23.42	-2.63	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.29	2.15	HS 43.07	77.5
5C1T	36.53	4.61	0.00	369.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-17.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.0	159.9	-175.4	159.9	-175.4	179.3	-156.0	179.3	-
OPER 260.0	279.4	-279.4	279.4	-279.4	298.8	-260.0	298.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 R	12.46	130.50	0.0	25.71	19.77	102.50	
		-58.98 R	-45.37	109.00	0.0	-54.00	-41.54	90.00	112.50
OPER	5C1T	29.61 R	22.78	153.50	0.0	0.00	0.00	0.00	
		-49.54 L	-38.11	-11.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	6.97	2.65	6.97	2.65	HS 52.91	95.2
5C1T	10.09	5.25	10.09	5.25	0.00	420.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.206

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	133.00	0.0	44.77	34.44	105.00			
		-45.75 L	-35.19	67.00	0.0	-35.33	-27.18	90.00		40.00	
OPER	5C1T	55.11 R	42.40	156.00	0.0	0.00	0.00	0.00			
		-42.59 L	-32.76	-9.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	3.05	3.51	2.72	3.93	HS 54.49	98.1
5C1T	5.48	6.28	4.90	7.03	0.00	391.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.6	66.1
OPER	151.3	-122.6	110.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.46	20.96	-3.43	16.12
OPER	5C1T	-5.13	20.32	-3.94	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.51	2.60	HS 52.04	93.7
5C1T	23.91	5.42	0.00	433.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.72	133.00	0.0	44.77	34.44	105.00	
		-45.75 L	-35.19	67.00	0.0	-35.33	-27.18	90.00	40.00
OPER	5C1T	55.11 R	42.40	156.00	0.0	0.00	0.00	0.00	
		-42.59 L	-32.76	-9.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.66	102.0
5C1T	5.09	6.53	5.09	6.53	0.00	407.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.206

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.300

Dead Load Moment Superimposed Dead Load Moment
0.9 10.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.3	-168.2	154.1	-187.4
OPER	300.6C	-268.7	268.7	-300.6C	288.9	-280.4	256.9	-312.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	135.50	0.0	65.23	50.17	107.50			
		-37.98 L	-29.21	67.00	0.0	-29.90	-23.00	90.00	0.00		
OPER	5C1T	74.87 R	57.59	158.50	0.0	0.00	0.00	0.00			
		-38.20 L	-29.39	-8.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.00	4.43	1.78	4.93	HS 35.65	64.2
5C1T	3.86	7.34	3.43	8.18	0.00	274.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.3	67.3
OPER	151.3	-120.5	112.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.73	18.01	-5.18	13.86
OPER	5C1T	-7.11	17.15	-5.47	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.74	3.27	HS 65.47	117.8
5C1T	16.96	6.54	0.00	523.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.9

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	172.3	-162.9	172.3	-162.9	160.6	-174.7	160.6	-
174.7								
OPER	279.4	-279.4	279.4	-279.4	267.6	-291.2	267.6	-
291.2								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.48 R	66.52	135.50	0.0	65.23	50.17	107.50	
		-37.98 L	-29.21	67.00	0.0	-29.90	-23.00	90.00	0.00
OPER	5C1T	74.87 R	57.59	158.50	0.0	0.00	0.00	0.00	
		-38.20 L	-29.39	-8.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	1.86	4.60	1.86	4.60	HS 37.14	66.8
5C1T	3.58	7.62	3.58	7.62	0.00	286.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.206

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.86		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 18.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.6	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	138.00	0.0	77.50	59.62	110.00			
		-30.21 L	-23.24	67.00	0.0	-26.32	-20.25	90.00	0.00		
OPER	5C1T	87.01 R	66.93	209.00	0.0	0.00	0.00	0.00			
		-35.20 L	-27.08	-6.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.72	1.54	6.36	HS 30.81	55.5
5C1T	3.23	8.19	2.86	9.10	0.00	229.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.400

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.2	0.0 1.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.6
OPER	151.3	-118.5	114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.30	15.03	-7.16	11.56
OPER	5C1T	-9.29	14.06	-7.15	10.81	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.64	4.09	HS 81.73	147.1	
5C1T	12.75	8.13	0.00	650.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.400Dead Load Moment 1.4
Superimposed Dead Load Moment 18.1

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 179.4	175.5	-159.8	175.5	-159.8	155.9	-179.4	155.9	-
OPER 299.0	279.4	-279.4	279.4	-279.4	259.8	-299.0	259.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 R	74.62	138.00	0.0	77.50	59.62	110.00
		-30.21 L	-23.24	67.00	0.0	-26.32	-20.25	90.00
OPER	5C1T	87.01 R	66.93	209.00	0.0	0.00	0.00	0.00
		-35.20 L	-27.08	-6.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.61	5.94	1.61	5.94	HS 32.14	57.9
5C1T	2.99	8.49	2.99	8.49	0.00	238.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.206

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 20.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	167.1	-174.5	147.9	-193.7
OPER	300.6C	-268.7	268.7	-300.6C	278.4	-290.9	246.5	-322.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	98.50	0.0	82.35	63.34	112.50			
		-22.43 R	-17.26	158.00	0.0	-22.73	-17.49	135.00	0.00		
OPER	5C1T	89.96 L	69.20	13.50	0.0	0.00	0.00	0.00			
		-34.30 L	-26.38	40.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	7.68	1.56	8.52	HS 31.24	56.2
5C1T	3.10	8.48	2.74	9.41	0.00	219.2

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S01
 Check Point I. D. 5.500
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.0 0.0 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.10	12.09	-9.31	9.30
OPER	5C1T	-11.61	11.61	-8.93	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.38	191.5
5C1T	10.03	10.02	0.00	801.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	20.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 181.0	176.5	-158.8	176.5	-158.8	154.3	-181.0	154.3	-
OPER 301.6	279.4	-279.4	279.4	-279.4	257.2	-301.6	257.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.68 L	72.83	98.50	0.0	82.35	63.34	112.50	
		-22.43 R	-17.26	158.00	0.0	-22.73	-17.49	135.00	0.00
OPER	5C1T	89.96 L	69.20	13.50	0.0	0.00	0.00	0.00	
		-34.30 L	-26.38	40.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.63	7.96	1.63	7.96	HS 32.60	58.7
5C1T	2.86	8.79	2.86	8.79	0.00	228.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 18.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.2	-320.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	87.00	0.0	77.49	59.61	115.00			
		-30.21 R	-23.24	158.00	0.0	-26.34	-20.27	135.00		0.00	
OPER	5C1T	87.02 L	66.94	16.00	0.0	0.00	0.00	0.00			
		-35.34 R	-27.19	231.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.72	1.54	6.36	HS 30.82	55.5
5C1T	3.23	8.15	2.86	9.06	0.00	229.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-2.0
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.3	-114.3	118.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.03	9.29	-11.56	7.15
OPER	5C1T	-14.06	9.29	-10.82	7.15	0.00	0.00	0.00	0.00

Rating		Shear	
Veh.	Rating (-)	Factor (+)	Rating Value
HS20	4.09	7.65	81.71
5C1T	8.13	12.75	0.00
			Load Capacity (tons)
			147.1
			650.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	18.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.3	175.4	-159.8	175.4	-159.8	155.9	-179.3	155.9	-
OPER 298.9	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	97.01 L	74.62	87.00	0.0	77.49	59.61	115.00	
		-30.21 R	-23.24	158.00	0.0	-26.34	-20.27	135.00	0.00
OPER	5C1T	87.02 L	66.94	16.00	0.0	0.00	0.00	0.00	
		-35.34 R	-27.19	231.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.61	5.94	1.61	5.94	HS 32.15	57.9
5C1T	2.99	8.46	2.99	8.46	0.00	238.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.700

Dead Load Moment Superimposed Dead Load Moment
0.8 10.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.2	154.2	-187.4
OPER	300.6C	-268.7	268.7	-300.6C	289.0	-280.3	257.0	-312.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	89.50	0.0	65.20	50.15	117.50			
		-37.98 R	-29.21	158.00	0.0	-29.95	-23.04	135.00		0.00	
OPER	5C1T	74.87 L	57.59	66.50	0.0	0.00	0.00	0.00			
		-38.38 R	-29.52	233.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.01	4.43	1.78	4.93	HS 35.67	64.2
5C1T	3.86	7.30	3.43	8.14	0.00	274.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.3	72.3
OPER	151.3	-112.2	120.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.02	6.72	-13.86	5.17
OPER	5C1T	-17.15	7.10	-13.19	5.46	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.27	10.76	HS 65.46	117.8	
5C1T	6.54	16.97	0.00	523.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.8

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-
174.6								
OPER	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-
291.0								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.48 L	66.52	89.50	0.0	65.20	50.15	117.50	
		-37.98 R	-29.21	158.00	0.0	-29.95	-23.04	135.00	0.00
OPER	5C1T	74.87 L	57.59	66.50	0.0	0.00	0.00	0.00	
		-38.38 R	-29.52	233.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	1.86	4.60	1.86	4.60	HS 37.16	66.9
5C1T	3.58	7.58	3.58	7.58	0.00	286.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.3	162.0	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.1	-267.2	270.1	-299.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	92.00	0.0	45.25	34.81	120.00			
		-45.75 R	-35.19	158.00	0.0	-35.42	-27.24	135.00	185.00		
OPER	5C1T	55.09 L	42.38	69.00	0.0	0.00	0.00	0.00			
		-42.80 R	-32.92	234.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	HS 54.53	98.2
5C1T	5.48	6.24	4.90	6.99	0.00	392.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.800

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.5	-5.8
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.1	73.6
OPER	151.3	-110.1	122.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.97	4.45	-16.13	3.42
OPER	5C1T	-20.32	5.12	-15.63	3.94	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.60	16.54	HS 52.03	93.7
5C1T	5.42	23.94	0.00	433.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.8	167.1	-168.2	167.1	-168.2	168.5	-166.8	168.5	-
OPER 278.0	279.4	-279.4	279.4	-279.4	280.8	-278.0	280.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	92.00	0.0	45.25	34.81	120.00	
		-45.75 R	-35.19	158.00	0.0	-35.42	-27.24	135.00	185.00
OPER	5C1T	55.09 L	42.38	69.00	0.0	0.00	0.00	0.00	
		-42.80 R	-32.92	234.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.84	3.65	2.84	3.65	HS 56.70	102.1
5C1T	5.10	6.49	5.10	6.49	0.00	407.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-18.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.2	-149.4	173.0	-168.6
OPER	300.6C	-268.7	268.7	-300.6C	320.3	-249.0	288.3	-281.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	94.50	0.0	25.22	19.40	122.50			
		-58.98 L	-45.37	116.00	0.0	-54.07	-41.59	135.00	112.50		
OPER	5C1T	29.55 L	22.73	71.50	0.0	0.00	0.00	0.00			
		-49.73 R	-38.25	236.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.62	2.53	6.86	2.86	HS 50.67	91.2
5C1T	10.84	5.01	9.76	5.65	0.00	400.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.6	-7.7
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.8	74.8
OPER	151.3	-108.1	124.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.78	3.20	-18.29	2.46
OPER	5C1T	-23.42	3.41	-18.02	2.62	0.00	0.00	0.00	0.00

Rating		Shear	
Veh.	Rating (-)	Factor (+)	Rating Value
HS20	2.15	23.35	HS 43.06
5C1T	4.61	36.61	0.00
			Load Capacity (tons)
			77.5
			369.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-18.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 155.9	159.8	-175.5	159.8	-175.5	179.4	-155.9	179.4	-
OPER 259.8	279.4	-279.4	279.4	-279.4	299.0	-259.8	299.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 L	12.46	94.50	0.0	25.22	19.40	122.50	
		-58.98 L	-45.37	116.00	0.0	-54.07	-41.59	135.00	112.50
OPER	5C1T	29.55 L	22.73	71.50	0.0	0.00	0.00	0.00	
		-49.73 R	-38.25	236.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.11	2.64	7.11	2.64	HS 52.86	95.1
5C1T	10.12	5.22	10.12	5.22	0.00	417.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-39.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.2	-135.4	187.0	-154.6
OPER	300.6C	-268.7	268.7	-300.6C	343.6	-225.6	311.7	-257.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00			
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00		
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00			
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.41	1.37	11.25	1.57	HS 27.47	49.5
5C1T	27.07	3.63	24.55	4.14	0.00	290.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.3	-106.0	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.53	-23.17	26.56	-23.78	26.35	-18.29	20.27
OPER	5C1T	-23.42	26.27	-18.02	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.83	66.3
5C1T	4.03	4.03	0.00	322.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-39.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	150.4	-184.8	150.4	-184.8	193.4	-141.8	193.4	-
141.8								
OPER	279.4	-279.4	279.4	-279.4	322.4	-236.4	322.4	-
236.4								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00	
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00	
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	11.64	1.44	11.64	1.44	HS 28.78	51.8
5C1T	25.40	3.80	25.40	3.80	0.00	304.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -39.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.2	-135.4	187.0	-154.6
OPER	300.6C	-268.7	268.7	-300.6C	343.6	-225.6	311.7	-257.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00			
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00		
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00			
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.41	1.37	11.25	1.57	HS 27.47	49.5
5C1T	27.07	3.63	24.55	4.14	0.00	290.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.6	9.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.3	-106.0	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.35	26.35	-20.27	20.27
OPER	5C1T	-26.27	26.27	-20.21	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.83	66.3
5C1T	4.03	4.03	0.00	322.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -39.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.8	150.4	-184.8	150.4	-184.8	193.4	-141.8	193.4	-
OPER 236.4	279.4	-279.4	279.4	-279.4	322.4	-236.4	322.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00	
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00	
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.64	1.44	11.64	1.44	HS 28.78	51.8
5C1T	25.40	3.80	25.40	3.80	0.00	304.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-18.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.2	-149.4	173.0	-168.6
OPER	300.6C	-268.7	268.7	-300.6C	320.3	-249.0	288.3	-281.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	155.50	0.0	25.65	19.73	127.50			
		-58.98 R	-45.37	134.00	0.0	-54.09	-41.61	115.00	137.50		
OPER	5C1T	29.55 R	22.73	178.50	0.0	0.00	0.00	0.00			
		-49.73 L	-38.25	13.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.49	2.53	6.74	2.86	HS 50.67	91.2
5C1T	10.84	5.01	9.76	5.65	0.00	400.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.6	0.0
	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.8	64.8
OPER	151.3	-124.7	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.20	23.78	-2.46	18.29
OPER	5C1T	-3.41	23.42	-2.62	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.35	2.15	HS 43.06	77.5
5C1T	36.61	4.61	0.00	369.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.100Dead Load Moment -1.5
Superimposed Dead Load Moment -18.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 155.9	159.8	-175.5	159.8	-175.5	179.4	-155.9	179.4	-
OPER 259.8	279.4	-279.4	279.4	-279.4	299.0	-259.8	299.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 R	12.46	155.50	0.0	25.65	19.73	127.50	
		-58.98 R	-45.37	134.00	0.0	-54.09	-41.61	115.00	137.50
OPER	5C1T	29.55 R	22.73	178.50	0.0	0.00	0.00	0.00	
		-49.73 L	-38.25	13.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.99	2.64	6.99	2.64	HS 52.85	95.1
5C1T	10.12	5.22	10.12	5.22	0.00	417.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.3	162.0	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.1	-267.2	270.1	-299.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	158.00	0.0	44.74	34.41	130.00			
		-45.75 L	-35.19	92.00	0.0	-35.41	-27.24	115.00	65.00		
OPER	5C1T	55.09 R	42.38	181.00	0.0	0.00	0.00	0.00			
		-42.80 L	-32.92	16.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	54.53
5C1T	5.48	6.24	4.90	6.99	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.200

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.5	0.0
	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.6	66.1
OPER	151.3	-122.6	110.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.45	20.97	-3.42	16.13
OPER	5C1T	-5.12	20.32	-3.94	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.54	2.60	HS 52.03	93.7
5C1T	23.94	5.42	0.00	433.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.8	167.1	-168.2	167.1	-168.2	168.5	-166.8	168.5	-
OPER 278.0	279.4	-279.4	279.4	-279.4	280.8	-278.0	280.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 R	45.72	158.00	0.0	44.74	34.41	130.00	
		-45.75 L	-35.19	92.00	0.0	-35.41	-27.24	115.00	65.00
OPER	5C1T	55.09 R	42.38	181.00	0.0	0.00	0.00	0.00	
		-42.80 L	-32.92	16.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.84	3.65	2.84	3.65	HS 56.70	102.1
5C1T	5.10	6.49	5.10	6.49	0.00	407.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.300

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.2	154.2	-187.4
OPER	300.6C	-268.7	268.7	-300.6C	289.0	-280.3	257.0	-312.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	160.50	0.0	65.20	50.15	132.50			
		-37.98 L	-29.21	92.00	0.0	-29.96	-23.04	115.00	0.00		
OPER	5C1T	74.87 R	57.59	183.50	0.0	0.00	0.00	0.00			
		-38.38 L	-29.52	17.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.43	1.78	35.67	64.2
5C1T	3.86	7.30	3.43	0.00	274.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.3	67.3
OPER	151.3	-120.6	112.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.72	18.02	-5.17	13.86
OPER	5C1T	-7.10	17.15	-5.46	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.76	3.27	HS 65.46	117.8
5C1T	16.97	6.54	0.00	523.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.6	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-
OPER 291.0	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.48 R	66.52	160.50	0.0	65.20	50.15	132.50	
		-37.98 L	-29.21	92.00	0.0	-29.96	-23.04	115.00	0.00
OPER	5C1T	74.87 R	57.59	183.50	0.0	0.00	0.00	0.00	
		-38.38 L	-29.52	17.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.86	4.60	1.86	4.60	HS 37.16	66.9
5C1T	3.58	7.58	3.58	7.58	0.00	286.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.330

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		28.35		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 18.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.2	-320.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	163.00	0.0	77.49	59.61	135.00			
		-30.21 L	-23.24	92.00	0.0	-26.35	-20.27	115.00	0.00		
OPER	5C1T	87.02 R	66.94	234.00	0.0	0.00	0.00	0.00			
		-35.34 L	-27.19	18.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.74	5.72	1.54	6.36	HS 30.82	55.5
5C1T	3.23	8.15	2.86	9.06	0.00	229.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.400

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.1	68.6
OPER	151.3	-118.5	114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.29	15.03	-7.15	11.56
OPER	5C1T	-9.29	14.06	-7.15	10.82	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.65	4.09	HS 81.71	147.1	
5C1T	12.75	8.13	0.00	650.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.400Dead Load Moment 1.4
Superimposed Dead Load Moment 18.1

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 179.3	175.4	-159.8	175.4	-159.8	155.9	-179.3	155.9	-
OPER 298.9	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	97.01 R	74.62	163.00	0.0	77.49	59.61
		-30.21 L	-23.24	92.00	0.0	-26.35	-20.27
OPER	5C1T	87.02 R	66.94	234.00	0.0	0.00	0.00
		-35.34 L	-27.19	18.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.61	5.94	1.61	5.94	HS 32.15	57.9
5C1T	2.99	8.46	2.99	8.46	0.00	238.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.162

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 20.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	167.1	-174.5	147.9	-193.7
OPER	300.6C	-268.7	268.7	-300.6C	278.4	-290.9	246.5	-322.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	123.50	0.0	82.35	63.34	137.50			
		-22.44 L	-17.26	92.00	0.0	-22.73	-17.49	115.00		0.00	
OPER	5C1T	89.96 R	69.20	236.50	0.0	0.00	0.00	0.00			
		-34.30 R	-26.38	209.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.76	7.68	1.56	HS 31.24	56.2
5C1T	3.10	8.48	2.74	0.00	219.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.09	12.10	-9.30	9.31
OPER	5C1T	-11.61	11.61	-8.93	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.36	191.4
5C1T	10.03	10.02	0.00	801.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	20.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 181.0	176.5	-158.8	176.5	-158.8	154.3	-181.0	154.3	-
OPER 301.6	279.4	-279.4	279.4	-279.4	257.2	-301.6	257.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	94.68 L	72.83	123.50	0.0	82.35	63.34	137.50	
		-22.44 L	-17.26	92.00	0.0	-22.73	-17.49	115.00	0.00
OPER	5C1T	89.96 R	69.20	236.50	0.0	0.00	0.00	0.00	
		-34.30 R	-26.38	209.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.63	7.96	1.63	7.96	HS 32.60	58.7
5C1T	2.86	8.79	2.86	8.79	0.00	228.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.162

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 18.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.6	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	112.00	0.0	77.50	59.62	140.00			
		-30.21 R	-23.24	183.00	0.0	-26.32	-20.25	160.00	0.00		
OPER	5C1T	87.01 L	66.93	41.00	0.0	0.00	0.00	0.00			
		-35.20 R	-27.08	256.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.74	5.72	1.54	30.81	55.5
5C1T	3.23	8.19	2.86	0.00	229.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.3	-114.3	118.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.03	9.30	-11.56	7.16
OPER	5C1T	-14.06	9.29	-10.81	7.15	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.64	HS 81.73	147.1	
5C1T	8.13	12.75	0.00	650.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.600Dead Load Moment 1.4
Superimposed Dead Load Moment 18.1

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 179.4	175.5	-159.8	175.5	-159.8	155.9	-179.4	155.9	-
OPER 299.0	279.4	-279.4	279.4	-279.4	259.8	-299.0	259.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 L	74.62	112.00	0.0	77.50	59.62	140.00
		-30.21 R	-23.24	183.00	0.0	-26.32	-20.25	160.00
OPER	5C1T	87.01 L	66.93	41.00	0.0	0.00	0.00	0.00
		-35.20 R	-27.08	256.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.61	5.94	1.61	5.94	HS 32.14	57.9
5C1T	2.99	8.49	2.99	8.49	0.00	238.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.162

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.700

Dead Load Moment 0.9
Superimposed Dead Load Moment 10.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.3	-168.2	154.1	-187.4
OPER	300.6C	-268.7	268.7	-300.6C	288.9	-280.4	256.9	-312.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	114.50	0.0	65.23	50.17	142.50			
		-37.98 R	-29.21	183.00	0.0	-29.90	-23.00	160.00		0.00	
OPER	5C1T	74.87 L	57.59	91.50	0.0	0.00	0.00	0.00			
		-38.20 R	-29.39	258.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.00	4.43	1.78	35.65	64.2
5C1T	3.86	7.34	3.43	0.00	274.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.3	72.3
OPER	151.3	-112.2	120.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.01	6.73	-13.86	5.18
OPER	5C1T	-17.15	7.11	-13.19	5.47	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.27	10.74	HS 65.47	117.8	
5C1T	6.54	16.96	0.00	523.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.700Dead Load Moment 0.9
Superimposed Dead Load Moment 10.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.7	172.3	-162.9	172.3	-162.9	160.6	-174.7	160.6	-
OPER 291.2	279.4	-279.4	279.4	-279.4	267.6	-291.2	267.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	86.48 L	66.52	114.50	0.0	65.23	50.17
		-37.98 R	-29.21	183.00	0.0	-29.90	-23.00
OPER	5C1T	74.87 L	57.59	91.50	0.0	0.00	0.00
		-38.20 R	-29.39	258.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.86	4.60	1.86	4.60
5C1T	3.58	7.62	3.58	7.62

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.162

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live w/imp.	Load Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane Live w/imp.	Load Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	117.00	0.0	45.29	34.84	145.00	
		-45.75 R	-35.19	183.00	0.0	-35.34	-27.18	160.00	210.00
OPER	5C1T	55.11 L	42.40	94.00	0.0	0.00	0.00	0.00	
		-42.59 R	-32.76	259.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	HS 54.49	98.1
5C1T	5.48	6.28	4.90	7.03	0.00	391.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.800

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.5	-5.8
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.1	73.6
OPER	151.3	-110.1	122.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.96	4.46	-16.12	3.43
OPER	5C1T	-20.32	5.13	-15.63	3.94	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.60	16.51	HS 52.04	93.7
5C1T	5.42	23.91	0.00	433.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I		top fiber		bottom fi	
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
166.9								
OPER	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-
278.2								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	117.00	0.0	45.29	34.84	145.00	
		-45.75 R	-35.19	183.00	0.0	-35.34	-27.18	160.00	210.00
OPER	5C1T	55.11 L	42.40	94.00	0.0	0.00	0.00	0.00	
		-42.59 R	-32.76	259.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	2.83	3.65	2.83	3.65	HS 56.66	102.0
5C1T	5.09	6.53	5.09	6.53	0.00	407.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.162

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -17.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.0	-149.6	172.8	-168.8
OPER	300.6C	-268.7	268.7	-300.6C	320.0	-249.3	288.0	-281.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	119.50	0.0	25.28	19.44	147.50			
		-58.98 L	-45.37	141.00	0.0	-53.97	-41.52	160.00	137.50		
OPER	5C1T	29.61 L	22.78	96.50	0.0	0.00	0.00	0.00			
		-49.54 R	-38.11	261.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.60	2.54	6.84	2.86	HS 50.72 91.3
5C1T	10.81	5.03	9.73	5.68	0.00 402.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.8	74.8
OPER	151.3	-108.1	124.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.77	3.21	-18.29	2.47
OPER	5C1T	-23.42	3.41	-18.02	2.63	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.15	23.29	HS 43.07	77.5	
5C1T	4.61	36.53	0.00	369.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-17.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.0	159.9	-175.4	159.9	-175.4	179.3	-156.0	179.3	-
OPER 260.0	279.4	-279.4	279.4	-279.4	298.8	-260.0	298.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 L	12.46	119.50	0.0	25.28	19.44	147.50	
		-58.98 L	-45.37	141.00	0.0	-53.97	-41.52	160.00	137.50
OPER	5C1T	29.61 L	22.78	96.50	0.0	0.00	0.00	0.00	
		-49.54 R	-38.11	261.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.09	2.65	7.09	2.65	HS 52.91	95.2
5C1T	10.09	5.25	10.09	5.25	0.00	420.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.162

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.0	-135.6	186.8	-154.8
OPER	300.6C	-268.7	268.7	-300.6C	343.3	-226.0	311.3	-258.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live w/imp.	Load Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane Live w/imp.	Load Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00	
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00	
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.34	1.38	11.19	1.57	HS 27.52	49.5
5C1T	26.82	3.63	24.32	4.15	0.00	290.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.3	-106.0	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.53	-23.17	26.56	-23.77	26.33	-18.29	20.25
OPER	5C1T	-23.42	26.23	-18.02	20.18	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.84	66.3
5C1T	4.03	4.04	0.00	322.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	150.6	-184.7	150.6	-184.7	193.2	-142.0	193.2	-
142.0								
OPER	279.4	-279.4	279.4	-279.4	322.1	-236.7	322.1	-
236.7								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00	
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00	
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	11.58	1.44	11.58	1.44	HS 28.82	51.9
5C1T	25.16	3.81	25.16	3.81	0.00	304.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.162

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.0	-135.6	186.8	-154.8
OPER	300.6C	-268.7	268.7	-300.6C	343.3	-226.0	311.3	-258.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00			
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00		
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00			
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.34	1.38	11.19	1.57	HS 27.52	49.5
5C1T	26.82	3.63	24.32	4.15	0.00	290.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.6	9.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.3	-106.0	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.34	26.33	-20.26	20.25
OPER	5C1T	-26.27	26.23	-20.21	20.18	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.84	66.3
5C1T	4.03	4.04	0.00	322.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 142.0	150.6	-184.7	150.6	-184.7	193.2	-142.0	193.2	-
OPER 236.7	279.4	-279.4	279.4	-279.4	322.1	-236.7	322.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00	
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00	
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.58	1.44	11.58	1.44	HS 28.82	51.9
5C1T	25.16	3.81	25.16	3.81	0.00	304.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.177

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -17.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.0	-149.5	172.8	-168.7
OPER	300.6C	-268.7	268.7	-300.6C	320.1	-249.2	288.1	-281.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	180.50	0.0	25.70	19.77	152.50			
		-58.98 R	-45.37	159.00	0.0	-54.03	-41.56	140.00		162.50	
OPER	5C1T	29.55 R	22.73	203.50	0.0	0.00	0.00	0.00			
		-49.71 L	-38.24	38.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.47	2.54	6.73	2.86	HS 50.71 91.3
5C1T	10.83	5.01	9.75	5.66	0.00 401.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.8	64.9
OPER	151.3	-124.6	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.11	-2.29	23.17	-3.21	23.76	-2.47	18.28
OPER	5C1T	-3.41	23.37	-2.62	17.98	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.27	2.15	HS 43.08	77.5
5C1T	36.60	4.63	0.00	370.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-17.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.0	159.9	-175.4	159.9	-175.4	179.3	-156.0	179.3	-
OPER 260.0	279.4	-279.4	279.4	-279.4	298.8	-260.0	298.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 R	12.46	180.50	0.0	25.70	19.77	152.50	
		-58.98 R	-45.37	159.00	0.0	-54.03	-41.56	140.00	162.50
OPER	5C1T	29.55 R	22.73	203.50	0.0	0.00	0.00	0.00	
		-49.71 L	-38.24	38.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	6.98	2.64	6.98	2.64	HS 52.90	95.2
5C1T	10.11	5.23	10.11	5.23	0.00	418.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.88	28.67	28.67	1.699
			999999.000
			94.177

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	183.00	0.0	44.76	34.43	155.00			
		-45.75 L	-35.19	117.00	0.0	-35.40	-27.23	140.00		90.00	
OPER	5C1T	55.09 R	42.38	206.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	41.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	HS 54.52	98.1
5C1T	5.48	6.25	4.90	6.99	0.00	392.1

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S01
 Check Point I. D. 7.200
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.5 0.0 5.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-73.5	66.1
OPER	151.3	-122.6	110.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.46	20.95	-3.43	16.12
OPER	5C1T	-5.12	20.27	-3.94	15.59	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.49	2.60	HS 52.06	93.7
5C1T	23.93	5.44	0.00	434.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.8	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-
OPER 278.1	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.72	183.00	0.0	44.76	34.43	155.00	
		-45.75 L	-35.19	117.00	0.0	-35.40	-27.23	140.00	90.00
OPER	5C1T	55.09 R	42.38	206.00	0.0	0.00	0.00	0.00	
		-42.79 L	-32.92	41.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.69	102.0
5C1T	5.10	6.50	5.10	6.50	0.00	407.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.300

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.177

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.1	154.3	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.1	-280.2	257.1	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	185.50	0.0	65.18	50.14	157.50			
		-37.98 L	-29.21	117.00	0.0	-29.97	-23.05	140.00	0.00		
OPER	5C1T	74.87 R	57.59	208.50	0.0	0.00	0.00	0.00			
		-38.37 L	-29.52	42.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.43	1.78	35.68	64.2
5C1T	3.86	7.30	3.43	0.00	274.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.300

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.3	0.0
	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.3	67.3
OPER	151.3	-120.5	112.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.73	18.00	-5.18	13.85
OPER	5C1T	-7.10	17.10	-5.46	13.16	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.74	3.27	HS 65.49	117.9
5C1T	16.96	6.56	0.00	525.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.6	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-
OPER 291.0	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.48 R	66.52	185.50	0.0	65.18	50.14	157.50	
		-37.98 L	-29.21	117.00	0.0	-29.97	-23.05	140.00	0.00
OPER	5C1T	74.87 R	57.59	208.50	0.0	0.00	0.00	0.00	
		-38.37 L	-29.52	42.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.86	4.60	1.86	4.60	HS 37.17	66.9
5C1T	3.58	7.58	3.58	7.58	0.00	286.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.177

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		27.68		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.400

Dead Load Moment Superimposed Dead Load Moment
1.4 17.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.8	-172.8	149.6	-192.0
OPER	300.6C	-268.7	268.7	-300.6C	281.3	-287.9	249.4	-319.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	188.00	0.0	77.41	59.55	160.00			
		-30.21 L	-23.24	117.00	0.0	-26.38	-20.29	140.00		0.00	
OPER	5C1T	86.82 R	66.79	211.00	0.0	0.00	0.00	0.00			
		-35.33 L	-27.18	43.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.72	1.54	6.36	HS 30.85	55.5
5C1T	3.24	8.15	2.87	9.05	0.00	229.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.400

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	1.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.1	68.6
OPER	151.3	-118.4	114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.31	15.01	-7.16	11.55
OPER	5C1T	-9.29	14.02	-7.15	10.79	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.64	4.09	HS 81.75	147.2	
5C1T	12.75	8.15	0.00	652.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.400Dead Load Moment 1.4
Superimposed Dead Load Moment 17.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.2	175.4	-159.9	175.4	-159.9	156.1	-179.2	156.1	-
OPER 298.7	279.4	-279.4	279.4	-279.4	260.1	-298.7	260.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 R	74.62	188.00	0.0	77.41	59.55	160.00
		-30.21 L	-23.24	117.00	0.0	-26.38	-20.29	140.00
OPER	5C1T	86.82 R	66.79	211.00	0.0	0.00	0.00	0.00
		-35.33 L	-27.18	43.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.61	5.93	1.61	5.93	HS 32.18	57.9
5C1T	3.00	8.45	3.00	8.45	0.00	239.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	94.177

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 20.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	167.3	-174.3	148.1	-193.5
OPER	300.6C	-268.7	268.7	-300.6C	278.8	-290.5	246.8	-322.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	148.50	0.0	82.22	63.25	162.50			
		-22.43 L	-17.26	117.00	0.0	-22.80	-17.54	140.00		0.00	
OPER	5C1T	89.94 L	69.18	63.50	0.0	0.00	0.00	0.00			
		-34.36 R	-26.43	234.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.77	7.65	1.56	HS 31.28	56.3
5C1T	3.10	8.45	2.74	0.00	219.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.10	12.08	-9.31	9.29
OPER	5C1T	-11.61	11.59	-8.93	8.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.40	191.5
5C1T	10.02	10.04	0.00	801.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 180.8	176.4	-158.9	176.4	-158.9	154.5	-180.8	154.5	-
OPER 301.3	279.4	-279.4	279.4	-279.4	257.5	-301.3	257.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.68 L	72.83	148.50	0.0	82.22	63.25	162.50	
		-22.43 L	-17.26	117.00	0.0	-22.80	-17.54	140.00	0.00
OPER	5C1T	89.94 L	69.18	63.50	0.0	0.00	0.00	0.00	
		-34.36 R	-26.43	234.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.63	7.93	1.63	7.93	HS 32.64	58.8
5C1T	2.86	8.77	2.86	8.77	0.00	229.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 17.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.9	-172.6	149.7	-191.8
OPER	300.6C	-268.7	268.7	-300.6C	281.5	-287.7	249.6	-319.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 L	74.62	137.00	0.0	77.32	59.48	165.00			
		-30.20 R	-23.23	208.00	0.0	-26.40	-20.31	185.00	0.00		
OPER	5C1T	87.00 L	66.92	66.00	0.0	0.00	0.00	0.00			
		-35.71 R	-27.47	281.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor		Load Capacity (tons)		Rating Value
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	1.74	5.72	1.54	6.35	HS 30.87
5C1T	3.24	8.06	2.87	8.95	0.00 229.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.5	71.1
OPER	151.3	-114.2	118.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.04	9.28	-11.57	7.14
OPER	5C1T	-14.06	9.25	-10.81	7.12	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.66	HS 81.70	147.1	
5C1T	8.12	12.81	0.00	650.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.600

Dead Load Moment Superimposed Dead Load Moment
1.4 17.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.1	175.3	-160.0	175.3	-160.0	156.2	-179.1	156.2	-
OPER 298.5	279.4	-279.4	279.4	-279.4	260.3	-298.5	260.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.00 L	74.62	137.00	0.0	77.32	59.48	165.00	
		-30.20 R	-23.23	208.00	0.0	-26.40	-20.31	185.00	0.00
OPER	5C1T	87.00 L	66.92	66.00	0.0	0.00	0.00	0.00	
		-35.71 R	-27.47	281.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.61	5.93	1.61	5.93	HS 32.20	58.0
5C1T	2.99	8.36	2.99	8.36	0.00	239.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 7.700

Dead Load Moment Superimposed Dead Load Moment
 0.8 10.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.7	-167.9	154.5	-187.1
OPER	300.6C	-268.7	268.7	-300.6C	289.5	-279.8	257.5	-311.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 L	66.52	139.50	0.0	65.00	50.00	167.50			
		-37.97 R	-29.21	208.00	0.0	-30.01	-23.08	185.00		0.00	
OPER	5C1T	74.55 L	57.34	116.50	0.0	0.00	0.00	0.00			
		-38.82 R	-29.86	283.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	2.01	4.42	1.79	4.93	HS 35.73
5C1T	3.88	7.21	3.45	8.03	0.00 276.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.3	72.3
OPER	151.3	-112.2	120.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.	(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.02	6.71	-13.86	5.16
OPER	5C1T	-17.15	7.06	-13.19	5.43	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.27	10.78	HS 65.44	117.8	
5C1T	6.54	17.09	0.00	523.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.700Dead Load Moment 0.8
Superimposed Dead Load Moment 10.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.3	172.1	-163.2	172.1	-163.2	160.9	-174.3	160.9	-
OPER 290.6	279.4	-279.4	279.4	-279.4	268.2	-290.6	268.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.47 L	66.52	139.50	0.0	65.00	50.00	167.50
		-37.97 R	-29.21	208.00	0.0	-30.01	-23.08	185.00
OPER	5C1T	74.55 L	57.34	116.50	0.0	0.00	0.00	0.00
		-38.82 R	-29.86	283.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.86	4.59	1.86	4.59	HS 37.22	67.0
5C1T	3.60	7.48	3.60	7.48	0.00	287.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 7.800

Dead Load Moment Superimposed Dead Load Moment
 -0.2 -1.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.6	-160.0	162.4	-179.2
OPER	300.6C	-268.7	268.7	-300.6C	302.6	-266.7	270.6	-298.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.71	142.00	0.0	45.01	34.62	170.00			
		-45.74 R	-35.19	208.00	0.0	-35.64	-27.41	185.00	235.00		
OPER	5C1T	54.46 L	41.90	119.00	0.0	0.00	0.00	0.00			
		-43.32 R	-33.32	284.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	3.06	3.50	2.73	3.92	HS 54.64	98.4
5C1T	5.56	6.16	4.97	6.90	0.00	397.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.1	73.6
OPER	151.3	-110.1	122.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.97	4.44	-16.13	3.41
OPER	5C1T	-20.32	5.07	-15.63	3.90	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.60	16.59	HS 52.02	93.6	
5C1T	5.42	24.19	0.00	433.4	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.800

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.5	166.9	-168.4	166.9	-168.4	168.8	-166.5	168.8	-
OPER 277.4	279.4	-279.4	279.4	-279.4	281.4	-277.4	281.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 L	45.71	142.00	0.0	45.01	34.62	170.00	
		-45.74 R	-35.19	208.00	0.0	-35.64	-27.41	185.00	235.00
OPER	5C1T	54.46 L	41.90	119.00	0.0	0.00	0.00	0.00	
		-43.32 R	-33.32	284.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.84	3.64	2.84	3.64	HS 56.81	102.3
5C1T	5.17	6.41	5.17	6.41	0.00	413.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.900

Dead Load Moment Superimposed Dead Load Moment
-1.6 -18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.5	-149.1	173.3	-168.2
OPER	300.6C	-268.7	268.7	-300.6C	320.9	-248.4	288.9	-280.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.19 L	12.46	144.50	0.0	24.95	19.19	172.50			
		-58.96 L	-45.35	166.00	0.0	-54.13	-41.64	185.00		162.50	
OPER	5C1T	28.68 L	22.06	121.50	0.0	0.00	0.00	0.00			
		-50.27 R	-38.67	286.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.72	2.53	6.95	2.85	HS 50.56
5C1T	11.19	4.94	10.07	5.58	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.8	74.8
OPER	151.3	-108.0	124.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.78	3.19	-18.29	2.46
OPER	5C1T	-23.42	3.35	-18.02	2.58	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.15	23.44	HS 43.04	77.5	
5C1T	4.61	37.18	0.00	369.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-18.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 155.5	159.5	-175.7	159.5	-175.7	179.8	-155.5	179.8	-
OPER 259.2	279.4	-279.4	279.4	-279.4	299.6	-259.2	299.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.19 L	12.46	144.50	0.0	24.95	19.19	172.50	
		-58.96 L	-45.35	166.00	0.0	-54.13	-41.64	185.00	162.50
OPER	5C1T	28.68 L	22.06	121.50	0.0	0.00	0.00	0.00	
		-50.27 R	-38.67	286.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.21	2.64	7.21	2.64	HS 52.75	94.9
5C1T	10.45	5.16	10.45	5.16	0.00	412.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.564

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.6	-135.0	187.4	-154.2
OPER	300.6C	-268.7	268.7	-300.6C	344.3	-225.0	312.3	-257.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00			
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00		185.00	
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00			
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.58	1.37	11.41	1.56	HS 27.39 49.3
5C1T	27.12	3.60	24.60	4.11	0.00 287.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.5
OPER	151.3	-106.0	105.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.52	-23.17	26.56	-23.78	26.36	-18.29	20.28
OPER	5C1T	-23.42	26.44	-18.02	20.34	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.79	66.2
5C1T	4.03	4.00	0.00	320.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.4	150.2	-185.1	150.2	-185.1	193.9	-141.4	193.9	-
OPER 235.7	279.4	-279.4	279.4	-279.4	323.1	-235.7	323.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00	
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00	
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.80	1.43	11.80	1.43	HS 28.70	51.7
5C1T	25.45	3.77	25.45	3.77	0.00	301.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	206.6	-135.0	187.4	-154.2
OPER	300.6C	-268.7	268.7	-300.6C	344.3	-225.0	312.3	-257.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00			
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00		
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00			
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.58	1.37	11.41	1.56	HS 27.39 49.3
5C1T	27.12	3.60	24.60	4.11	0.00 287.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.6	9.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.6	63.5
OPER	151.3	-106.0	105.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.52	-26.56	26.56	-26.35	26.36	-20.27	20.28
OPER	5C1T	-26.27	26.44	-20.21	20.34	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.79	66.2
5C1T	4.03	4.00	0.00	320.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-40.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.4	150.2	-185.1	150.2	-185.1	193.9	-141.4	193.9	-
OPER 235.7	279.4	-279.4	279.4	-279.4	323.1	-235.7	323.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00	
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00	
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.80	1.43	11.80	1.43	HS 28.70	51.7
5C1T	25.45	3.77	25.45	3.77	0.00	301.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -18.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.4	-149.2	173.2	-168.4
OPER	300.6C	-268.7	268.7	-300.6C	320.6	-248.7	288.6	-280.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.21 R	12.47	205.50	0.0	25.50	19.62	177.50			
		-58.98 R	-45.37	184.00	0.0	-54.13	-41.64	165.00		187.50	
OPER	5C1T	29.51 R	22.70	228.50	0.0	0.00	0.00	0.00			
		-49.72 L	-38.24	63.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.54	2.53	6.79	2.86	91.1
5C1T	10.86	5.00	9.78	5.64	400.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.6	0.0
	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.9	64.8
OPER	151.3	-124.8	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.94	30.11	-2.26	23.16	-3.13	23.79	-2.41	18.30
OPER	5C1T	-3.39	23.57	-2.61	18.13	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.89	2.15	HS 43.01	77.4
5C1T	36.78	4.58	0.00	366.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -18.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 155.7	159.7	-175.6	159.7	-175.6	179.6	-155.7	179.6	-
OPER 259.4	279.4	-279.4	279.4	-279.4	299.4	-259.4	299.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.21 R	12.47	205.50	0.0	25.50	19.62	177.50	
		-58.98 R	-45.37	184.00	0.0	-54.13	-41.64	165.00	187.50
OPER	5C1T	29.51 R	22.70	228.50	0.0	0.00	0.00	0.00	
		-49.72 L	-38.24	63.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.04	2.64	7.04	2.64	HS 52.78	95.0
5C1T	10.14	5.22	10.14	5.22	0.00	417.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.3	162.0	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.1	-267.2	270.1	-299.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	208.00	0.0	44.74	34.41	180.00			
		-45.75 L	-35.19	142.00	0.0	-35.41	-27.24	165.00	115.00		
OPER	5C1T	55.09 R	42.38	231.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	66.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	HS 54.53	98.2
5C1T	5.48	6.24	4.90	6.99	0.00	392.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.7	66.0
OPER	151.3	-122.8	110.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.94	25.39	-2.26	19.53	-4.39	20.98	-3.38	16.14
OPER	5C1T	-5.11	20.46	-3.93	15.74	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.78	2.60	HS 51.98	93.6
5C1T	24.02	5.38	0.00	430.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.3

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	167.1	-168.2	167.1	-168.2	168.5	-166.8	168.5	-
166.8								
OPER	279.4	-279.4	279.4	-279.4	280.8	-278.0	280.8	-
278.0								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.72	208.00	0.0	44.74	34.41	180.00	
		-45.75 L	-35.19	142.00	0.0	-35.41	-27.24	165.00	115.00
OPER	5C1T	55.09 R	42.38	231.00	0.0	0.00	0.00	0.00	
		-42.79 L	-32.92	66.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	2.84	3.65	2.84	3.65	HS 56.70	102.1
5C1T	5.10	6.50	5.10	6.50	0.00	407.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.300

Dead Load Moment 0.9
Superimposed Dead Load Moment 11.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.2	-168.4	154.0	-187.6
OPER	300.6C	-268.7	268.7	-300.6C	288.7	-280.6	256.7	-312.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 R	66.52	210.50	0.0	65.25	50.19	182.50			
		-37.98 L	-29.21	142.00	0.0	-29.81	-22.93	165.00	0.00		
OPER	5C1T	74.93 R	57.64	233.50	0.0	0.00	0.00	0.00			
		-38.36 L	-29.51	67.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	2.00	4.43	1.78	4.94	HS 35.62	64.1
5C1T	3.85	7.31	3.43	8.15	0.00	274.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	4.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.4	67.2
OPER	151.3	-120.7	112.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.42	20.56	-3.40	15.82	-6.66	18.03	-5.13	13.87
OPER	5C1T	-7.09	17.27	-5.45	13.29	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.86	3.27	HS 65.39	117.7
5C1T	17.03	6.49	0.00	519.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.300Dead Load Moment 0.9
Superimposed Dead Load Moment 11.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.8	172.4	-162.9	172.4	-162.9	160.5	-174.8	160.5	-
OPER 291.4	279.4	-279.4	279.4	-279.4	267.4	-291.4	267.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.47 R	66.52	210.50	0.0	65.25	50.19	182.50	
		-37.98 L	-29.21	142.00	0.0	-29.81	-22.93	165.00	0.00
OPER	5C1T	74.93 R	57.64	233.50	0.0	0.00	0.00	0.00	
		-38.36 L	-29.51	67.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.86	4.60	1.86	4.60	HS 37.11	66.8
5C1T	3.57	7.59	3.57	7.59	0.00	285.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.89	28.67	28.67	1.699
			999999.000
			94.446

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.22		104.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.400

Dead Load Moment 1.5
Superimposed Dead Load Moment 18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.3	-173.3	149.1	-192.5
OPER	300.6C	-268.7	268.7	-300.6C	280.5	-288.8	248.5	-320.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	213.00	0.0	77.56	59.66	185.00			
		-30.20 L	-23.23	142.00	0.0	-26.05	-20.04	165.00	0.00		
OPER	5C1T	87.63 R	67.41	284.00	0.0	0.00	0.00	0.00			
		-35.31 L	-27.16	68.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.74	1.54	6.37	HS 30.74	55.3
5C1T	3.20	8.18	2.84	9.09	0.00	226.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.400

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	2.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.2	68.5
OPER	151.3	-118.6	114.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.24	15.05	-7.11	11.57
OPER	5C1T	-9.27	14.17	-7.13	10.90	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.70	4.08	HS 81.63	146.9	
5C1T	12.80	8.05	0.00	644.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.400Dead Load Moment 1.5
Superimposed Dead Load Moment 18.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.7	175.7	-159.6	175.7	-159.6	155.5	-179.7	155.5	-
OPER 299.6	279.4	-279.4	279.4	-279.4	259.2	-299.6	259.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 R	74.62	213.00	0.0	77.56	59.66	185.00
		-30.20 L	-23.23	142.00	0.0	-26.05	-20.04	165.00
OPER	5C1T	87.63 R	67.41	284.00	0.0	0.00	0.00	0.00
		-35.31 L	-27.16	68.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.60	5.95	1.60	5.95
5C1T	2.96	8.48	2.96	8.48

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 21.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	166.5	-175.1	147.3	-194.3
OPER	300.6C	-268.7	268.7	-300.6C	277.4	-291.9	245.4	-323.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.67 L	72.82	173.50	0.0	82.45	63.42	187.50			
		-22.43 L	-17.25	142.00	0.0	-22.28	-17.14	165.00		0.00	
OPER	5C1T	90.81 R	69.86	286.50	0.0	0.00	0.00	0.00			
		-33.70 L	-25.92	69.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.76	7.81	1.56	HS 31.11	56.0
5C1T	3.06	8.66	2.70	0.00	216.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.500

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.0	0.0
	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.12	13.12	-10.09	10.09	-12.03	12.11	-9.26	9.32
OPER	5C1T	-11.58	11.72	-8.91	9.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.33	5.31	HS 106.26	191.3
5C1T	10.07	9.91	0.00	793.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.500

Dead Load Moment	Superimposed Dead Load Moment
1.7	21.5

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	176.9	-158.4	176.9	-158.4	153.7	-181.6	153.7	-
181.6								
OPER	279.4	-279.4	279.4	-279.4	256.2	-302.6	256.2	-
302.6								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.67 L	72.82	173.50	0.0	82.45	63.42	187.50	
		-22.43 L	-17.25	142.00	0.0	-22.28	-17.14	165.00	0.00
OPER	5C1T	90.81 R	69.86	286.50	0.0	0.00	0.00	0.00	
		-33.70 L	-25.92	69.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	1.62	8.10	1.62	8.10	HS 32.47	58.5
5C1T	2.82	8.98	2.82	8.98	0.00	225.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 8.600

Dead Load Moment Superimposed Dead Load Moment
 1.6 19.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	167.8	-173.7	148.6	-192.9
OPER	300.6C	-268.7	268.7	-300.6C	279.7	-289.6	247.7	-321.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.97 L	74.59	162.00	0.0	77.63	59.72	190.00			
		-29.91 R	-23.01	233.00	0.0	-25.66	-19.74	210.00		0.00	
OPER	5C1T	88.02 L	67.71	139.00	0.0	0.00	0.00	0.00			
		-33.75 R	-25.96	306.50	0.0	0.00	0.00	0.00		0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.73	5.81	1.53	6.45	HS 30.66
5C1T	3.18	8.58	2.81	9.53	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.4	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.90	6.90	-14.97	9.31	-11.51	7.16
OPER	5C1T	-14.06	9.38	-10.81	7.21	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.62	HS 81.85	147.3	
5C1T	8.14	12.62	0.00	651.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.600Dead Load Moment 1.6
Superimposed Dead Load Moment 19.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 180.2	176.0	-159.3	176.0	-159.3	155.1	-180.2	155.1	-
OPER 300.3	279.4	-279.4	279.4	-279.4	258.5	-300.3	258.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.97 L	74.59	162.00	0.0	77.63	59.72	190.00	
		-29.91 R	-23.01	233.00	0.0	-25.66	-19.74	210.00	0.00
OPER	5C1T	88.02 L	67.71	139.00	0.0	0.00	0.00	0.00	
		-33.75 R	-25.96	306.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.60	6.02	1.60	6.02	HS 31.99	57.6
5C1T	2.94	8.90	2.94	8.90	0.00	234.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.700

Dead Load Moment 1.0
Superimposed Dead Load Moment 12.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.3	-169.3	153.1	-188.5
OPER	300.6C	-268.7	268.7	-300.6C	287.2	-282.1	255.2	-314.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.43 L	66.48	164.50	0.0	65.39	50.30	192.50			
		-37.61 R	-28.93	233.00	0.0	-29.08	-22.37	210.00		0.00	
OPER	5C1T	76.13 L	58.56	141.50	0.0	0.00	0.00	0.00			
		-36.19 R	-27.84	308.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.99	4.50	1.77	5.01	HS 35.43 63.8
5C1T	3.77	7.79	3.35	8.68	0.00 268.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.4	72.2
OPER	151.3	-112.4	120.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.39	-17.96	6.74	-13.81	5.19
OPER	5C1T	-17.15	7.16	-13.19	5.51	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.28	10.71	HS 65.54	118.0	
5C1T	6.55	16.82	0.00	524.1	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.700Dead Load Moment 1.0
Superimposed Dead Load Moment 12.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 175.7	173.0	-162.3	173.0	-162.3	159.6	-175.7	159.6	-
OPER 292.9	279.4	-279.4	279.4	-279.4	265.9	-292.9	265.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.43 L	66.48	164.50	0.0	65.39	50.30	192.50	
		-37.61 R	-28.93	233.00	0.0	-29.08	-22.37	210.00	0.00
OPER	5C1T	76.13 L	58.56	141.50	0.0	0.00	0.00	0.00	
		-36.19 R	-27.84	308.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.85	4.67	1.85	4.67	HS 36.93	66.5
5C1T	3.49	8.09	3.49	8.09	0.00	279.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.800

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.7	160.7	-180.9
OPER	300.6C	-268.7	268.7	-300.6C	299.8	-269.5	267.8	-301.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.36 L	45.67	167.00	0.0	45.49	34.99	195.00			
		-45.31 R	-34.85	233.00	0.0	-33.05	-25.42	210.00	177.50		
OPER	5C1T	56.23 L	43.25	144.00	0.0	0.00	0.00	0.00			
		-40.11 R	-30.86	222.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	3.03	3.57	2.71	3.99	HS 54.14	97.5
5C1T	5.33	6.72	4.76	7.51	0.00	381.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.2	73.5
OPER	151.3	-110.3	122.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.91	4.47	-16.08	3.44
OPER	5C1T	-20.31	5.16	-15.63	3.97	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.61	16.44	HS 52.10	93.8	
5C1T	5.43	23.73	0.00	434.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.800Dead Load Moment 0.1
Superimposed Dead Load Moment 0.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 168.1	168.0	-167.3	168.0	-167.3	167.2	-168.1	167.2	-
OPER 280.2	279.4	-279.4	279.4	-279.4	278.6	-280.2	278.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.36 L	45.67	167.00	0.0	45.49	34.99	195.00	
		-45.31 R	-34.85	233.00	0.0	-33.05	-25.42	210.00	177.50
OPER	5C1T	56.23 L	43.25	144.00	0.0	0.00	0.00	0.00	
		-40.11 R	-30.86	222.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.82	3.71	2.82	3.71	HS 56.31	101.4
5C1T	4.95	6.99	4.95	6.99	0.00	396.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.900

Dead Load Moment Superimposed Dead Load Moment
-1.2 -15.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.6	-151.0	171.4	-170.2
OPER	300.6C	-268.7	268.7	-300.6C	317.6	-251.7	285.6	-283.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.13 L	12.41	169.50	0.0	25.54	19.64	197.50			
		-58.69 L	-45.15	191.00	0.0	-52.86	-40.66	210.00	187.50		
OPER	5C1T	30.14 L	23.19	146.50	0.0	0.00	0.00	0.00			
		-47.23 R	-36.33	224.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.46	2.57	6.71	2.90	92.6
5C1T	10.54	5.33	9.48	6.01	426.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.9	74.7
OPER	151.3	-108.2	124.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.71	3.23	-18.24	2.48
OPER	5C1T	-23.40	3.46	-18.00	2.66	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.16	23.15	HS 43.12	77.6	
5C1T	4.62	35.95	0.00	370.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.900

Dead Load Moment Superimposed Dead Load Moment
-1.2 -15.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.4	160.8	-174.4	160.8	-174.4	177.8	-157.4	177.8	-
OPER 262.4	279.4	-279.4	279.4	-279.4	296.4	-262.4	296.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.13 L	12.41	169.50	0.0	25.54	19.64	197.50	
		-58.69 L	-45.15	191.00	0.0	-52.86	-40.66	210.00	187.50
OPER	5C1T	30.14 L	23.19	146.50	0.0	0.00	0.00	0.00	
		-47.23 R	-36.33	224.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.96	2.68	6.96	2.68	HS 53.65	96.6
5C1T	9.83	5.56	9.83	5.56	0.00	444.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-37.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.2	185.2	-156.4
OPER	300.6C	-268.7	268.7	-300.6C	340.6	-228.7	308.6	-260.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00			
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00		210.00	
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00			
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	10.23	1.39	9.27	1.59	HS 27.88	50.2
5C1T	22.13	3.70	20.05	4.22	0.00	296.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.7	63.9
OPER	151.3	-106.1	106.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.48	-23.17	26.52	-23.71	26.11	-18.24	20.08
OPER	5C1T	-23.40	25.93	-18.00	19.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.85	1.85	HS 36.89	66.4
5C1T	4.05	4.11	0.00	323.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-37.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	151.7	-183.6	151.7	-183.6	191.6	-143.7	191.6	-
143.7								
OPER	279.4	-279.4	279.4	-279.4	319.4	-239.4	319.4	-
239.4								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00	
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00	210.00
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	9.59	1.46	9.59	1.46	HS 29.19	52.5
5C1T	20.75	3.88	20.75	3.88	0.00	310.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-37.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.2	185.2	-156.4
OPER	300.6C	-268.7	268.7	-300.6C	340.6	-228.7	308.6	-260.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00			
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00		210.00	
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00			
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	10.23	1.39	9.27	1.59	HS 27.88	50.2
5C1T	22.13	3.70	20.05	4.22	0.00	296.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-9.5	9.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.7	63.9
OPER	151.3	-106.1	106.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.48	-26.56	26.52	-26.28	26.11	-20.22	20.08
OPER	5C1T	-26.22	25.93	-20.17	19.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.85	1.85	HS 36.89	66.4
5C1T	4.05	4.11	0.00	323.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-37.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	151.7	-183.6	151.7	-183.6	191.6	-143.7	191.6	-
143.7								
OPER	279.4	-279.4	279.4	-279.4	319.4	-239.4	319.4	-
239.4								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00	
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00	210.00
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	9.59	1.46	9.59	1.46	HS 29.19	52.5
5C1T	20.75	3.88	20.75	3.88	0.00	310.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			92.113

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.2	-150.4	172.0	-169.6
OPER	300.6C	-268.7	268.7	-300.6C	318.6	-250.6	286.7	-282.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.64	230.50	0.0	25.89	19.91	202.50			
		-59.00 R	-45.39	209.00	0.0	-53.36	-41.05	190.00	212.50		
OPER	5C1T	31.30 R	24.08	253.50	0.0	0.00	0.00	0.00			
		-49.71 L	-38.24	88.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.39	2.55	6.64	2.87	HS 50.98	91.8
5C1T	10.18	5.04	9.16	5.68	0.00	403.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.5	65.2
OPER	151.3	-124.1	108.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.64	30.06	-2.80	23.12	-3.50	23.53	-2.69	18.10
OPER	5C1T	-3.74	22.87	-2.88	17.59	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	20.46	2.17	HS 43.36	78.1
5C1T	33.16	4.75	0.00	380.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.8	160.4	-174.8	160.4	-174.8	178.4	-156.8	178.4	-
OPER 261.4	279.4	-279.4	279.4	-279.4	297.4	-261.4	297.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.43 R	12.64	230.50	0.0	25.89	19.91	202.50	
		-59.00 R	-45.39	209.00	0.0	-53.36	-41.05	190.00	212.50
OPER	5C1T	31.30 R	24.08	253.50	0.0	0.00	0.00	0.00	
		-49.71 L	-38.24	88.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	6.89	2.66	6.89	2.66	HS 53.16	95.7
5C1T	9.50	5.26	9.50	5.26	0.00	420.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			92.113

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.46 R	45.74	233.00	0.0	44.78	34.45	205.00			
		-45.76 L	-35.20	167.00	0.0	-35.35	-27.19	190.00		140.00	
OPER	5C1T	55.30 R	42.54	256.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	91.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	3.05	3.51	2.72	3.93	HS 54.46	98.0
5C1T	5.46	6.25	4.88	7.00	0.00	390.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	5.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.2	66.4
OPER	151.3	-122.1	110.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.64	25.34	-2.80	19.49	-4.54	20.71	-3.49	15.93
OPER	5C1T	-5.65	19.67	-4.34	15.13	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.14	2.62	HS 52.43	94.4
5C1T	21.61	5.63	0.00	450.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.46 R	45.74	233.00	0.0	44.78	34.45	205.00	
		-45.76 L	-35.20	167.00	0.0	-35.35	-27.19	190.00	140.00
OPER	5C1T	55.30 R	42.54	256.00	0.0	0.00	0.00	0.00	
		-42.79 L	-32.92	91.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.63	101.9
5C1T	5.07	6.50	5.07	6.50	0.00	405.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.113

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.300

Dead Load Moment 0.7
Superimposed Dead Load Moment 9.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.1	-167.4	154.9	-186.6
OPER	300.6C	-268.7	268.7	-300.6C	290.2	-279.1	258.2	-311.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.17 R	66.29	235.50	0.0	64.63	49.71	207.50			
		-37.94 L	-29.19	167.00	0.0	-30.08	-23.14	190.00		0.00	
OPER	5C1T	73.27 R	56.36	258.50	0.0	0.00	0.00	0.00			
		-38.42 L	-29.56	92.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.02	4.41	1.80	35.96	64.7
5C1T	3.96	7.26	3.53	0.00	282.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.300

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	3.4

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.0	67.7
OPER	151.3	-120.0	112.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.55	20.51	-3.50	15.77	-6.82	17.75	-5.25	13.66
OPER	5C1T	-7.79	16.51	-5.99	12.70	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.55	3.30	HS 65.98	118.8
5C1T	15.40	6.83	0.00	546.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.300Dead Load Moment 0.7
Superimposed Dead Load Moment 9.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.9	171.8	-163.5	171.8	-163.5	161.4	-173.9	161.4	-
OPER 289.8	279.4	-279.4	279.4	-279.4	269.0	-289.8	269.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.17 R	66.29	235.50	0.0	64.63	49.71	207.50	
		-37.94 L	-29.19	167.00	0.0	-30.08	-23.14	190.00	0.00
OPER	5C1T	73.27 R	56.36	258.50	0.0	0.00	0.00	0.00	
		-38.42 L	-29.56	92.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.58	1.87	4.58	HS 37.46	67.4
5C1T	3.67	7.54	3.67	7.54	0.00	293.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.113

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.55		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.400

Dead Load Moment 1.1
Superimposed Dead Load Moment 15.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.3	-171.3	151.1	-190.5
OPER	300.6C	-268.7	268.7	-300.6C	283.8	-285.5	251.8	-317.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.30 R	74.08	238.00	0.0	76.22	58.63	210.00			
		-30.13 L	-23.17	167.00	0.0	-26.61	-20.47	190.00	0.00		
OPER	5C1T	84.08 R	64.68	261.00	0.0	0.00	0.00	0.00			
		-36.44 L	-28.03	140.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.77	5.69	1.57	6.32	HS 31.38	56.5
5C1T	3.38	7.84	2.99	8.71	0.00	239.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 1.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.8 68.9
OPER 151.3 -117.9 114.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-9.12	16.75	-7.02	12.88	-9.40	14.76	-7.23	11.35
OPER	5C1T	-10.04	13.49	-7.72	10.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.52	4.11	HS 82.27	148.1
5C1T	11.75	8.51	0.00	681.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.400Dead Load Moment 1.1
Superimposed Dead Load Moment 15.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.8	174.4	-160.9	174.4	-160.9	157.5	-177.8	157.5	-
OPER 296.3	279.4	-279.4	279.4	-279.4	262.5	-296.3	262.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.30 R	74.08	238.00	0.0	76.22	58.63	210.00
		-30.13 L	-23.17	167.00	0.0	-26.61	-20.47	190.00
OPER	5C1T	84.08 R	64.68	261.00	0.0	0.00	0.00	0.00
		-36.44 L	-28.03	140.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.64	5.90	1.64	5.90	HS 32.72	58.9
5C1T	3.12	8.13	3.12	8.13	0.00	249.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.113

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 17.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.5	-172.1	150.3	-191.3
OPER	300.6C	-268.7	268.7	-300.6C	282.5	-286.8	250.5	-318.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.36 R	72.58	226.50	0.0	80.36	61.82	212.50			
		-27.30 R	-21.00	258.00	0.0	-24.32	-18.71	235.00	0.00		
OPER	5C1T	87.72 L	67.48	113.50	0.0	0.00	0.00	0.00			
		-37.81 R	-29.08	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.80	6.30	1.59	7.01	HS 31.86	57.3
5C1T	3.22	7.59	2.86	8.43	0.00	228.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-0.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.5	70.1
OPER	151.3	-115.8	116.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.29	13.08	-10.22	10.06	-12.21	11.82	-9.39	9.09
OPER	5C1T	-12.29	10.98	-9.46	8.45	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.23	5.36	HS 104.60	188.3
5C1T	9.42	10.64	0.00	753.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.500Dead Load Moment 1.2
Superimposed Dead Load Moment 17.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.5	174.9	-160.4	174.9	-160.4	156.8	-178.5	156.8	-
OPER 297.5	279.4	-279.4	279.4	-279.4	261.3	-297.5	261.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.36 R	72.58	226.50	0.0	80.36	61.82	212.50	
		-27.30 R	-21.00	258.00	0.0	-24.32	-18.71	235.00	0.00
OPER	5C1T	87.72 L	67.48	113.50	0.0	0.00	0.00	0.00	
		-37.81 R	-29.08	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.66	6.54	1.66	6.54	HS 33.23	59.8
5C1T	2.98	7.87	2.98	7.87	0.00	238.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.600

Dead Load Moment 0.8
Superimposed Dead Load Moment 13.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	171.9	-169.6	152.7	-188.8
OPER	300.6C	-268.7	268.7	-300.6C	286.5	-282.7	254.6	-314.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.49 L	74.22	187.00	0.0	74.80	57.54	215.00			
		-36.75 R	-28.27	258.00	0.0	-28.46	-21.89	235.00	0.00		
OPER	5C1T	84.02 L	64.63	116.00	0.0	0.00	0.00	0.00			
		-39.21 R	-30.16	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.78	4.62	1.58	HS 31.66	57.0
5C1T	3.41	7.21	3.03	0.00	242.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.2	71.4
OPER	151.3	-113.7	119.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.99	8.92	-13.07	6.86	-15.15	9.03	-11.65	6.94
OPER	5C1T	-14.48	8.75	-11.13	6.73	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.02	7.91	HS 80.32	144.6	
5C1T	7.86	13.60	0.00	628.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.600Dead Load Moment 0.8
Superimposed Dead Load Moment 13.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.1	173.3	-162.0	173.3	-162.0	159.2	-176.1	159.2	-
OPER 293.5	279.4	-279.4	279.4	-279.4	265.3	-293.5	265.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.49 L	74.22	187.00	0.0	74.80	57.54	215.00
		-36.75 R	-28.27	258.00	0.0	-28.46	-21.89	235.00
OPER	5C1T	84.02 L	64.63	116.00	0.0	0.00	0.00	0.00
		-39.21 R	-30.16	284.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.65	4.79	1.65	4.79
5C1T	3.16	7.49	3.16	7.49

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.700

Dead Load Moment 0.1
Superimposed Dead Load Moment 4.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	177.5	-164.1	158.3	-183.3
OPER	300.6C	-268.7	268.7	-300.6C	295.8	-273.5	263.8	-305.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	85.73 L	65.95	189.50	0.0	61.84	47.57	217.50			
		-46.21 R	-35.55	258.00	0.0	-32.60	-25.07	235.00	0.00		
OPER	5C1T	68.20 L	52.46	114.50	0.0	0.00	0.00	0.00			
		-40.61 R	-31.24	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.07	3.55	1.85	3.97	HS 36.92	66.5
5C1T	4.34	6.74	3.87	7.52	0.00	309.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-4.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.0	72.7
OPER	151.3	-111.6	121.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.66	4.35	-15.90	3.35	-18.14	6.46	-13.95	4.97
OPER	5C1T	-17.47	6.71	-13.44	5.16	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.24	11.25	HS 64.84	116.7	
5C1T	6.39	18.06	0.00	511.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.700Dead Load Moment 0.1
Superimposed Dead Load Moment 4.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 170.6	169.6	-165.7	169.6	-165.7	164.7	-170.6	164.7	-
OPER 284.3	279.4	-279.4	279.4	-279.4	274.5	-284.3	274.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	85.73 L	65.95	189.50	0.0	61.84	47.57	217.50	
		-46.21 R	-35.55	258.00	0.0	-32.60	-25.07	235.00	0.00
OPER	5C1T	68.20 L	52.46	114.50	0.0	0.00	0.00	0.00	
		-40.61 R	-31.24	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.92	3.69	1.92	3.69	HS 38.43	69.2
5C1T	4.03	7.00	4.03	7.00	0.00	322.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.800

Dead Load Moment Superimposed Dead Load Moment
-1.0 -8.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	186.1	-155.5	166.9	-174.7
OPER	300.6C	-268.7	268.7	-300.6C	310.2	-259.1	278.2	-291.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	58.49 L	45.00	192.00	0.0	41.39	31.84	220.00			
		-55.67 R	-42.82	258.00	0.0	-37.46	-28.81	235.00	202.50		
OPER	5C1T	46.46 L	35.74	82.00	0.0	0.00	0.00	0.00			
		-44.90 R	-34.54	247.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.18	2.79	2.85	3.14	55.86
5C1T	6.68	5.77	5.99	6.48	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.800

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.5	-6.3
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.6	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-25.52	2.99	-19.63	2.30	-21.08	4.19	-16.22	3.22
OPER	5C1T	-20.74	4.89	-15.96	3.76	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.58	17.63	HS 51.52	92.7
5C1T	5.28	25.17	0.00	422.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.800

Dead Load Moment Superimposed Dead Load Moment
-1.0 -8.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 161.9	163.8	-171.4	163.8	-171.4	173.4	-161.9	173.4	-
OPER 269.9	279.4	-279.4	279.4	-279.4	288.9	-269.9	288.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	58.49 L	45.00	192.00	0.0	41.39	31.84	220.00	
		-55.67 R	-42.82	258.00	0.0	-37.46	-28.81	235.00	202.50
OPER	5C1T	46.46 L	35.74	82.00	0.0	0.00	0.00	0.00	
		-44.90 R	-34.54	247.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	2.96	2.91	2.96	2.91	HS 58.18	104.7
5C1T	6.22	6.01	6.22	6.01	0.00	480.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.900

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-26.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	197.8	-143.7	178.6	-162.9
OPER	300.6C	-268.7	268.7	-300.6C	329.7	-239.6	297.7	-271.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.19 L	11.69	194.50	0.0	21.07	16.20	222.50			
		-67.93 L	-52.25	216.00	0.0	-58.56	-45.05	235.00		212.50	
OPER	5C1T	21.91 L	16.85	84.50	0.0	0.00	0.00	0.00			
		-56.28 R	-43.29	253.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.39	2.12	8.48	2.40	HS 42.32	76.2
5C1T	15.05	4.26	13.59	4.82	0.00	340.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-8.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.5	75.1
OPER	151.3	-107.5	125.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.26	3.13	-23.28	2.40	-23.88	3.00	-18.37	2.30
OPER	5C1T	-24.05	3.34	-18.50	2.57	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.13	24.04	HS 42.63	76.7
5C1T	4.47	37.55	0.00	357.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.900

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-26.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 150.2	156.0	-179.3	156.0	-179.3	185.1	-150.2	185.1	-
OPER 250.3	279.4	-279.4	279.4	-279.4	308.5	-250.3	308.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.19 L	11.69	194.50	0.0	21.07	16.20	222.50	
		-67.93 L	-52.25	216.00	0.0	-58.56	-45.05	235.00	212.50
OPER	5C1T	21.91 L	16.85	84.50	0.0	0.00	0.00	0.00	
		-56.28 R	-43.29	253.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	8.79	2.21	8.79	2.21	HS 44.22	79.6
5C1T	14.08	4.45	14.08	4.45	0.00	355.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.97	28.67	28.67	1.699
			999999.000
			98.280

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		41.83		102.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -49.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-161.2	161.2	-215.8C	248.1	-128.9	193.5	-183.5
OPER	359.7C	-268.7	268.7	-359.7C	413.5	-214.8	322.5	-305.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00			
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00		215.00	
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00			
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	14.80	1.25	11.54	1.78	HS 24.96 44.9
5C1T	31.91	2.80	24.89	3.99	0.00 224.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	-0.8	-8.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-63.3	71.8
OPER	172.1	-105.4	119.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.26	36.72	-23.28	28.25	-23.88	26.68	-18.37	20.52
OPER	5C1T	-24.05	27.33	-18.50	21.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.82	1.96	HS 36.49	65.7
5C1T	3.91	4.38	0.00	312.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-49.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	146.1	-189.2	146.1	-189.2	199.9	-135.3	199.9	-
135.3								
OPER	279.4	-279.4	279.4	-279.4	333.2	-225.6	333.2	-
225.6								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00	
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00	215.00
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	11.93	1.31	11.93	1.31	HS 26.20	47.2
5C1T	25.72	2.94	25.72	2.94	0.00	235.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.69	35.20	35.20	2.861	999999.000	108.402

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 10.000

Dead Load Moment Superimposed Dead Load Moment
 -4.5 -49.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-161.2	161.2	-215.8C	248.1	-128.9	193.5	-183.5
OPER	359.7C	-268.7	268.7	-359.7C	413.5	-214.8	322.5	-305.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00			
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00		215.00	
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00			
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	14.80	1.25	11.54	1.78	44.9
5C1T	31.91	2.80	24.89	3.99	224.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	1.1	-10.1	11.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	103.3	-63.3	71.8
OPER	172.1	-105.4	119.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.68	36.72	-26.68	28.25	-26.43	26.68	-20.33	20.52
OPER	5C1T	-26.99	27.33	-20.76	21.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.82	1.96	HS 36.49	65.7
5C1T	3.91	4.38	0.00	312.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-49.4

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	146.1	-189.2	146.1	-189.2	199.9	-135.3	199.9	-
135.3								
OPER	279.4	-279.4	279.4	-279.4	333.2	-225.6	333.2	-
225.6								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00	
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00	215.00
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	11.93	1.31	11.93	1.31	HS 26.20	47.2
5C1T	25.72	2.94	25.72	2.94	0.00	235.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.69	35.20	35.20	2.861	999999.000	91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.100

Dead Load Moment	Superimposed Dead Load Moment
-2.0	-22.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	230.7	-176.8	206.5	-200.9
OPER	359.7C	-319.4	319.4	-359.7C	384.5	-294.6	344.2	-334.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live w/imp.	Load Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane Live w/imp.	Load Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	12.56 L	9.66	162.00	0.0	24.05	18.50	227.50	
		-62.02 R	-47.71	234.00	0.0	-57.85	-44.50	215.00	240.00
OPER	5C1T	30.15 L	23.19	93.50	0.0	0.00	0.00	0.00	
		-55.00 R	-42.31	259.50	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.59	2.85	8.59	3.24	HS 57.01	102.6
5C1T	12.75	5.36	11.42	6.09	0.00	428.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.9	0.0	9.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-85.8	73.1
OPER	172.1	-142.9	121.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.64	32.71	-0.49	25.16	-1.34	24.40	-1.03	18.77
OPER	5C1T	-1.04	24.64	-0.80	18.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	63.91	2.23	HS 44.69	80.4
5C1T	137.91	4.94	0.00	395.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.100

Dead Load Moment	Superimposed Dead Load Moment
-2.0	-22.8

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	189.4	-209.2	189.4	-209.2	214.2	-184.5	214.2	-
184.5								
OPER	332.2	-332.2	332.2	-332.2	357.0	-307.4	357.0	-
307.4								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	12.56 L	9.66	162.00	0.0	24.05	18.50	227.50	
		-62.02 R	-47.71	234.00	0.0	-57.85	-44.50	215.00	240.00
OPER	5C1T	30.15 L	23.19	93.50	0.0	0.00	0.00	0.00	
		-55.00 R	-42.31	259.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	8.91	2.97	8.91	2.97	HS 59.48	107.1
5C1T	11.84	5.59	11.84	5.59	0.00	447.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z (Fy * Z)
Positive Top	Bending Bott.	Negative Top	Bending Bott.	
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.69	35.20	35.20	2.861	999999.000	91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.200

Dead Load Moment Superimposed Dead Load Moment
0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	216.4	-191.1	192.2	-215.2
OPER	359.7C	-319.4	319.4	-359.7C	360.7	-318.4	320.4	-358.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	63.97 R	49.20	258.00	0.0	47.55	36.58	230.00			
		-50.04 L	-38.49	192.00	0.0	-38.63	-29.72	215.00		165.00	
OPER	5C1T	59.03 L	45.40	96.00	0.0	0.00	0.00	0.00			
		-47.09 L	-36.22	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	3.38	3.82	3.01	60.11	108.2
5C1T	6.11	6.76	5.43	0.00	434.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-84.5	74.3
OPER	172.1	-140.8	123.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.97	28.22	-0.75	21.70	-2.83	21.94	-2.18	16.88
OPER	5C1T	-2.55	21.72	-1.96	16.71	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	29.87	2.63	HS 52.69	94.8
5C1T	55.16	5.70	0.00	456.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.200

Dead Load Moment Superimposed Dead Load Moment
0.1 -1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 198.7	198.9	-199.7	198.9	-199.7	199.9	-198.7	199.9	-
OPER 331.2	332.2	-332.2	332.2	-332.2	333.2	-331.2	333.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.97 R	49.20	258.00	0.0	47.55	36.58	230.00	
		-50.04 L	-38.49	192.00	0.0	-38.63	-29.72	215.00	165.00
OPER	5C1T	59.03 L	45.40	96.00	0.0	0.00	0.00	0.00	
		-47.09 L	-36.22	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	3.12	3.97	3.12	3.97	HS 62.51	112.5
5C1T	5.64	7.03	5.64	7.03	0.00	451.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z (Fy * Z)
Positive Top	Bending Bott.	Negative Top	Bending Bott.	
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.69	35.20	35.20	2.861
			999999.000
			91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.300

Dead Load Moment 1.7
Superimposed Dead Load Moment 15.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	205.3	-202.2	181.1	-226.4
OPER	359.7C	-319.4	319.4	-359.7C	342.1	-337.0	301.8	-377.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	99.53 R	76.56	260.50	0.0	71.95	55.35	232.50			
		-43.78 L	-33.68	192.00	0.0	-33.81	-26.00	215.00	165.00		
OPER	5C1T	86.28 R	66.37	283.50	0.0	0.00	0.00	0.00			
		-41.20 L	-31.70	116.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	2.06	4.62	1.82	5.17
5C1T	3.96	8.18	3.50	9.16

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.300

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.5	0.0
	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-83.2	75.6
OPER	172.1	-138.7	126.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.02	23.31	-2.32	17.93	-4.64	19.35	-3.57	14.88
OPER	5C1T	-4.32	18.62	-3.33	14.32	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	17.95	3.24	HS 64.87	116.8	
5C1T	32.09	6.77	0.00	541.4	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.300Dead Load Moment 1.7
Superimposed Dead Load Moment 15.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 209.9	206.4	-192.3	206.4	-192.3	188.8	-209.9	188.8	-
OPER 349.8	332.2	-332.2	332.2	-332.2	314.6	-349.8	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	99.53 R	76.56	260.50	0.0	71.95	55.35	232.50	
		-43.78 L	-33.68	192.00	0.0	-33.81	-26.00	215.00	165.00
OPER	5C1T	86.28 R	66.37	283.50	0.0	0.00	0.00	0.00	
		-41.20 L	-31.70	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.90	4.79	1.90	4.79	HS 37.93	68.3
5C1T	3.65	8.49	3.65	8.49	0.00	291.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.69	35.20	35.20	2.861
			999999.000
			91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		13.22		107.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.400

Dead Load Moment Superimposed Dead Load Moment
2.8 28.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	197.3	-210.2	173.1	-234.4
OPER	359.7C	-319.4	319.4	-359.7C	328.8	-350.3	288.5	-390.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	115.16 R	88.59	263.00	0.0	88.90	68.38	235.00			
		-37.53 L	-28.87	192.00	0.0	-27.73	-21.33	215.00	0.00		
OPER	5C1T	104.59 R	80.45	286.00	0.0	0.00	0.00	0.00			
		-35.32 L	-27.17	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.71	5.60	1.50	6.24	HS 30.06
5C1T	3.14	9.92	2.76	11.06	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-82.0	76.9
OPER	172.1	-136.7	128.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.09	18.19	-4.69	14.00	-6.75	16.67	-5.19	12.82
OPER	5C1T	-6.39	15.81	-4.92	12.16	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	12.15	4.22	HS 84.48	152.1	
5C1T	21.38	8.10	0.00	648.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.400Dead Load Moment 2.8
Superimposed Dead Load Moment 28.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 217.9	211.7	-187.0	211.7	-187.0	180.8	-217.9	180.8	-
OPER 363.1	332.2	-332.2	332.2	-332.2	301.3	-363.1	301.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.16 R	88.59	263.00	0.0	88.90	68.38	235.00	
		-37.53 L	-28.87	192.00	0.0	-27.73	-21.33	215.00	0.00
OPER	5C1T	104.59 R	80.45	286.00	0.0	0.00	0.00	0.00	
		-35.32 L	-27.17	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.57	5.80	1.57	5.80	HS 31.40	56.5
5C1T	2.88	10.28	2.88	10.28	0.00	230.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.69	35.20	35.20	2.861
			999999.000
			91.173

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.500

Dead Load Superimposed Dead Load
Moment Moment
3.5 35.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	192.4	-215.0	168.3	-239.2
OPER	359.7C	-319.4	319.4	-359.7C	320.7	-358.4	280.4	-398.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	121.30 R	93.31	265.50	0.0	99.09	76.22	237.50			
		-31.27 L	-24.06	192.00	0.0	-23.11	-17.77	215.00		0.00	
OPER	5C1T	114.31 L	87.93	138.50	0.0	0.00	0.00	0.00			
		-29.43 L	-22.64	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.59	6.88	1.39	7.65	HS 27.74	49.9
5C1T	2.81	12.18	2.45	13.55	0.00	196.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-80.7	78.1
OPER	172.1	-134.6	130.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-9.70	15.07	-7.46	11.59	-9.15	13.93	-7.04	10.71
OPER	5C1T	-8.82	13.55	-6.78	10.42	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.32	5.18	HS 103.69	186.6
5C1T	15.26	9.61	0.00	768.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.500Dead Load Moment 3.5
Superimposed Dead Load Moment 35.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 222.7	214.9	-183.7	214.9	-183.7	175.9	-222.7	175.9	-
OPER 371.2	332.2	-332.2	332.2	-332.2	293.2	-371.2	293.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	121.30 R	93.31	265.50	0.0	99.09	76.22	237.50	
		-31.27 L	-24.06	192.00	0.0	-23.11	-17.77	215.00	0.00
OPER	5C1T	114.31 L	87.93	138.50	0.0	0.00	0.00	0.00	
		-29.43 L	-22.64	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.45	7.12	1.45	7.12	HS 29.01	52.2
5C1T	2.57	12.61	2.57	12.61	0.00	205.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.600

Dead Load Moment 3.7
Superimposed Dead Load Moment 38.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	190.8	-216.6	166.7	-240.8
OPER	359.7C	-319.4	319.4	-359.7C	318.0	-361.1	277.8	-401.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.61 R	98.93	254.00	0.0	99.47	76.52	240.00			
		-25.02 L	-19.25	192.00	0.0	-18.49	-14.22	215.00	0.00		
OPER	5C1T	115.53 L	88.87	141.00	0.0	0.00	0.00	0.00			
		-23.55 L	-18.11	116.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.48	8.66	1.30	9.62	HS 25.92	46.6
5C1T	2.75	15.34	2.40	17.05	0.00	192.3

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S01
 Check Point I. D. 10.600
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.0 0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-79.4	79.4
OPER	172.1	-132.4	132.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-12.86	11.47	-9.89	8.82	-11.81	11.17	-9.09	8.59
OPER	5C1T	-11.39	11.15	-8.76	8.57	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.18	6.93	HS 123.53	222.4
5C1T	11.62	11.87	0.00	929.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.600

Dead Load Moment Superimposed Dead Load Moment
3.7 38.0

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend
INV. 224.3	216.0	-182.7	216.0	-182.7
OPER 373.9	332.2	-332.2	332.2	-332.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.61 R	98.93	254.00	0.0	99.47	76.52
		-25.02 L	-19.25	192.00	0.0	-18.49	-14.22
OPER	5C1T	115.53 L	88.87	141.00	0.0	0.00	0.00
		-23.55 L	-18.11	116.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.36	8.97	1.36	8.97	HS 27.11	48.8
5C1T	2.52	15.88	2.52	15.88	0.00	201.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 10.700

Dead Load Superimposed Dead Load
 Moment Moment
 3.5 35.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	192.4	-215.1	168.2	-239.3
OPER	359.7C	-319.4	319.4	-359.7C	320.6	-358.5	280.3	-398.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.35 R	98.73	256.50	0.0	91.13	70.10	242.50			
		-18.76 L	-14.43	192.00	0.0	-13.86	-10.66	215.00	0.00		
OPER	5C1T	109.03 L	83.87	139.50	0.0	0.00	0.00	0.00			
		-17.66 L	-13.58	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.50	11.46	1.31	12.75	47.2
5C1T	2.94	20.30	2.57	22.58	205.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-78.2	80.7
OPER	172.1	-130.3	134.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-17.11	8.72	-13.16	6.71	-14.73	8.44	-11.33	6.49
OPER	5C1T	-14.54	8.57	-11.18	6.60	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.57	9.25	HS 91.37	164.5
5C1T	8.96	15.68	0.00	717.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.700

Dead Load Moment	Superimposed Dead Load Moment
3.5	35.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 222.8	215.0	-183.7	215.0	-183.7	175.9	-222.8	175.9	-
OPER 371.3	332.2	-332.2	332.2	-332.2	293.1	-371.3	293.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	128.35 R	98.73	256.50	0.0	91.13	70.10	242.50	
		-18.76 L	-14.43	192.00	0.0	-13.86	-10.66	215.00	0.00
OPER	5C1T	109.03 L	83.87	139.50	0.0	0.00	0.00	0.00	
		-17.66 L	-13.58	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.37	11.87	1.37	11.87	HS 27.40	49.3
5C1T	2.69	21.03	2.69	21.03	0.00	215.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.800

Dead Load Moment 2.8
Superimposed Dead Load Moment 28.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	197.0	-210.4	172.9	-234.6
OPER	359.7C	-319.4	319.4	-359.7C	328.4	-350.7	288.1	-391.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	108.85 R	83.73	259.00	0.0	71.41	54.93	245.00			
		-12.51 L	-9.62	192.00	0.0	-9.24	-7.11	215.00	0.00		
OPER	5C1T	90.16 L	69.35	142.00	0.0	0.00	0.00	0.00			
		-11.77 L	-9.06	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.81	16.82	1.59	18.75	HS 31.76	57.2
5C1T	3.64	29.79	3.20	33.21	0.00	255.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-76.9	81.9
OPER	172.1	-128.2	136.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-21.77	5.87	-16.75	4.52	-17.86	5.76	-13.74	4.43
OPER	5C1T	-18.03	5.81	-13.87	4.47	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.53	13.95	HS 70.67	127.2
5C1T	7.11	23.50	0.00	568.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.800Dead Load Moment 2.8
Superimposed Dead Load Moment 28.5

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 218.1	211.8	-186.8	211.8	-186.8	180.5	-218.1	180.5	-
OPER 363.5	332.2	-332.2	332.2	-332.2	300.9	-363.5	300.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	108.85 R	83.73	259.00	0.0	71.41	54.93	245.00	
		-12.51 L	-9.62	192.00	0.0	-9.24	-7.11	215.00	0.00
OPER	5C1T	90.16 L	69.35	142.00	0.0	0.00	0.00	0.00	
		-11.77 L	-9.06	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	1.66	17.43	1.66	17.43	HS 33.17	59.7
5C1T	3.34	30.88	3.34	30.88	0.00	267.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 10.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.900

Dead Load Moment Superimposed Dead Load Moment
1.6 16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	204.8	-202.6	180.7	-226.8
OPER	359.7C	-319.4	319.4	-359.7C	341.4	-337.7	301.2	-378.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	66.91 R	51.47	261.50	0.0	41.79	32.15	247.50			
		-6.25 L	-4.81	192.00	0.0	-4.62	-3.55	215.00	0.00		
OPER	5C1T	54.18 L	41.68	144.50	0.0	0.00	0.00	0.00			
		-5.89 L	-4.53	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.06	32.39	2.70	36.26	HS 54.01 97.2
5C1T	6.30	57.37	5.56	64.21	0.00 444.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-5.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-75.7	83.2
OPER	172.1	-126.1	138.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-26.76	2.95	-20.59	2.27	-21.20	3.16	-16.31	2.43
OPER	5C1T	-21.67	3.83	-16.67	2.94	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.83	26.29	HS 56.55	101.8	
5C1T	5.82	36.22	0.00	465.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 10.900

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 210.3	206.6	-192.0	206.6	-192.0	188.4	-210.3	188.4	-
OPER 350.5	332.2	-332.2	332.2	-332.2	313.9	-350.5	313.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.91 R	51.47	261.50	0.0	41.79	32.15	247.50	
		-6.25 L	-4.81	192.00	0.0	-4.62	-3.55	215.00	0.00
OPER	5C1T	54.18 L	41.68	144.50	0.0	0.00	0.00	0.00	
		-5.89 L	-4.53	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.82	33.62	2.82	33.62	HS 56.30	101.3
5C1T	5.79	59.54	5.79	59.54	0.00	463.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 11.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 11.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
 Check Point I. D. 11.000

Dead Load Moment 0.0
 Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	215.8	-191.7	191.7	-215.8
OPER	359.7C	-319.4	319.4	-359.7C	359.7	-319.4	319.4	-359.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 11.000

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-7.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-74.4	79.9
OPER	172.1	-124.0	133.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-32.02	0.00	-24.63	0.00	-24.72	2.36	-19.01	1.82
OPER	5C1T	-25.40	0.00	-19.54	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.32	33.80	HS 46.48	83.7
5C1T	4.88	999.00	0.00	390.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 11.000

Dead Load Moment Superimposed Dead Load Moment
0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 199.3	199.3	-199.3	199.3	-199.3	199.3	-199.3	199.3	-
OPER 332.2	332.2	-332.2	332.2	-332.2	332.2	-332.2	332.2	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 10

Live Load Distribution Factor 1.143

Second Live Load Dist. Factor 1.143

Comments:

Member I. D. S02 Symmetry:

Span Length:	Span 1 25.000	Span 2 25.000	Span 3 25.000	Span 4 25.000	Span 5 25.000
	Span 6 25.000	Span 7 25.000	Span 8 25.000	Span 9 25.000	Span 10 25.000

Range Length -- Non-Composite:		Section		Section	Hinge Location	
Span No.	Range No.	Range Length	Left	Right	Variation	No. 1 No. 2
1	1	25.000	1	0		0.0 0.0
2	1	25.000	2	0		0.0 0.0
3	1	25.000	2	0		0.0 0.0
4	1	25.000	2	0		0.0 0.0
5	1	25.000	2	0		0.0 0.0
6	1	25.000	2	0		0.0 0.0
7	1	25.000	2	0		0.0 0.0
8	1	25.000	2	0		0.0 0.0
9	1	25.000	2	0		0.0 0.0
10	1	25.000	1	0		0.0 0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)		Length	Concentrated Load (kips)
			Left	Right		
1	W	0.000	615.0	615.0	25.000	0.0
1	P	12.500	0.0	0.0	0.000	0.1
2	W	0.000	615.0	615.0	25.000	0.0
2	P	12.500	0.0	0.0	0.000	0.1
3	W	0.000	615.0	615.0	25.000	0.0
3	P	12.500	0.0	0.0	0.000	0.1
4	W	0.000	615.0	615.0	25.000	0.0
4	P	12.500	0.0	0.0	0.000	0.1
5	W	0.000	615.0	615.0	25.000	0.0
5	P	12.500	0.0	0.0	0.000	0.1
6	W	0.000	615.0	615.0	25.000	0.0
6	P	12.500	0.0	0.0	0.000	0.1
7	W	0.000	615.0	615.0	25.000	0.0
7	P	12.500	0.0	0.0	0.000	0.1
8	W	0.000	615.0	615.0	25.000	0.0
8	P	12.500	0.0	0.0	0.000	0.1

9	W	0.000	615.0	615.0	25.000	0.0
9	P	12.500	0.0	0.0	0.000	0.1
10	W	0.000	615.0	615.0	25.000	0.0
10	P	12.500	0.0	0.0	0.000	0.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
 Check Point I. D. 1.000

Dead Load Moment Superimposed Dead Load Moment
 0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	215.8	-191.7	191.7	-215.8
OPER	359.7C	-319.4	319.4	-359.7C	359.7	-319.4	319.4	-359.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.000

Dead Load	Superimposed Dead Load
Shear (-) Shear	(+) Shear
0.7	0.0
	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-83.6	75.3
OPER	172.1	-139.3	125.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-2.40	32.02	-1.84	24.63	-2.36	24.72	-1.82	19.01
OPER	5C1T	-2.19	25.40	-1.68	19.54	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	34.86	2.35	HS 47.03	84.6
5C1T	63.67	4.94	0.00	395.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 199.3	199.3	-199.3	199.3	-199.3	199.3	-199.3	199.3	-
OPER 332.2	332.2	-332.2	332.2	-332.2	332.2	-332.2	332.2	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.100

Dead Load Moment 1.6
Superimposed Dead Load Moment 13.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	206.8	-200.7	182.6	-224.9
OPER	359.7C	-319.4	319.4	-359.7C	344.6	-334.5	304.4	-374.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	66.91 L	51.47	-11.50	0.0	41.79	32.15	2.50			
		-6.25 R	-4.81	58.00	0.0	-4.62	-3.55	35.00	0.00		
OPER	5C1T	54.18 R	41.68	105.50	0.0	0.00	0.00	0.00			
		-5.89 R	-4.53	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.09	32.09	2.73	35.95	HS 54.59	98.3
5C1T	6.36	56.83	5.62	63.67	0.00	449.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	4.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-82.5	76.3
OPER	172.1	-137.5	127.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.95	26.76	-2.27	20.59	-3.16	21.20	-2.43	16.31
OPER	5C1T	-3.83	21.67	-2.94	16.67	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	26.08	2.85	HS 57.04	102.7
5C1T	35.94	5.87	0.00	469.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.100Dead Load Moment 1.6
Superimposed Dead Load Moment 13.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.4	205.3	-193.3	205.3	-193.3	190.3	-208.4	190.3	-
OPER 347.3	332.2	-332.2	332.2	-332.2	317.1	-347.3	317.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.91 L	51.47	-11.50	0.0	41.79	32.15	2.50	
		-6.25 R	-4.81	58.00	0.0	-4.62	-3.55	35.00	0.00
OPER	5C1T	54.18 R	41.68	105.50	0.0	0.00	0.00	0.00	
		-5.89 R	-4.53	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	2.84	33.31	2.84	33.31	HS 56.88	102.4
5C1T	5.85	59.00	5.85	59.00	0.00	468.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.200

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.200

Dead Load Moment Superimposed Dead Load Moment
2.8 23.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	200.3	-207.2	176.1	-231.3
OPER	359.7C	-319.4	319.4	-359.7C	333.8	-345.3	293.6	-385.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	108.85 L	83.73	-9.00	0.0	71.41	54.93	5.00			
		-12.51 R	-9.62	58.00	0.0	-9.24	-7.11	35.00	0.00		
OPER	5C1T	90.16 R	69.35	108.00	0.0	0.00	0.00	0.00			
		-11.77 R	-9.06	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.84	16.56	1.62	18.49	HS 32.36	58.3
5C1T	3.70	29.33	3.26	32.75	0.00	260.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-81.5	77.4
OPER	172.1	-135.8	128.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.87	21.77	-4.52	16.75	-5.76	17.86	-4.43	13.74
OPER	5C1T	-5.81	18.03	-4.47	13.87	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.88	3.55	HS 71.06	127.9
5C1T	23.37	7.15	0.00	572.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.8	23.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.8	209.7	-189.0	209.7	-189.0	183.8	-214.8	183.8	-
OPER 358.0	332.2	-332.2	332.2	-332.2	306.4	-358.0	306.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	108.85 L	83.73	-9.00	0.0	71.41	54.93	5.00	
		-12.51 R	-9.62	58.00	0.0	-9.24	-7.11	35.00	0.00
OPER	5C1T	90.16 R	69.35	108.00	0.0	0.00	0.00	0.00	
		-11.77 R	-9.06	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.69	17.17	1.69	17.17	HS 33.77	60.8
5C1T	3.40	30.41	3.40	30.41	0.00	271.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.300

Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	196.4	-211.0	172.3	-235.2
OPER	359.7C	-319.4	319.4	-359.7C	327.4	-351.7	287.1	-392.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.35 L	98.73	-6.50	0.0	91.13	70.10	7.50			
		-18.76 R	-14.43	58.00	0.0	-13.86	-10.66	35.00	0.00		
OPER	5C1T	109.03 R	83.87	110.50	0.0	0.00	0.00	0.00			
		-17.66 R	-13.58	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.53	11.25	1.34	12.53	HS 26.84	48.3
5C1T	3.00	19.92	2.63	22.20	0.00	210.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.300Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.2 0.0 1.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 103.3 -80.5 78.4
OPER 172.1 -134.1 130.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.72	17.11	-6.71	13.16	-8.44	14.73	-6.49	11.33
OPER	5C1T	-8.57	14.54	-6.60	11.18	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.23	4.58	HS 91.61	164.9
5C1T	15.64	8.99	0.00	719.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.300Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 218.7	212.2	-186.4	212.2	-186.4	179.9	-218.7	179.9	-
OPER 364.5	332.2	-332.2	332.2	-332.2	299.9	-364.5	299.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.35 L	98.73	-6.50	0.0	91.13	70.10	7.50	
		-18.76 R	-14.43	58.00	0.0	-13.86	-10.66	35.00	0.00
OPER	5C1T	109.03 R	83.87	110.50	0.0	0.00	0.00	0.00	
		-17.66 R	-13.58	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.40	11.65	1.40	11.65	HS 28.04	50.5
5C1T	2.75	20.64	2.75	20.64	0.00	220.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.400

Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	195.1	-212.3	171.0	-236.5
OPER	359.7C	-319.4	319.4	-359.7C	325.2	-353.9	284.9	-394.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.61 L	98.93	-4.00	0.0	99.47	76.51	10.00			
		-25.02 R	-19.25	58.00	0.0	-18.49	-14.22	35.00	0.00		
OPER	5C1T	115.53 R	88.87	109.00	0.0	0.00	0.00	0.00			
		-23.55 R	-18.11	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.52	8.49	1.33	9.45	HS 26.59	47.9
5C1T	2.82	15.03	2.47	16.74	0.00	197.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.400

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-79.4	79.4
OPER	172.1	-132.4	132.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-11.47	12.86	-8.82	9.89	-11.17	11.81	-8.59	9.09
OPER	5C1T	-11.15	11.39	-8.57	8.76	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.93	6.18	HS 123.50	222.3
5C1T	11.88	11.62	0.00	929.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.400Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 220.0	213.1	-185.5	213.1	-185.5	178.6	-220.0	178.6	-
OPER 366.7	332.2	-332.2	332.2	-332.2	297.7	-366.7	297.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	128.61 L	98.93	-4.00	0.0	99.47	76.51
		-25.02 R	-19.25	58.00	0.0	-18.49	-14.22
OPER	5C1T	115.53 R	88.87	109.00	0.0	0.00	0.00
		-23.55 R	-18.11	134.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber	Rating bottom fiber	Factor top fiber	Factor bottom fiber	Rating Value	Load Capacity (tons)
HS20	1.39	8.79	1.39	8.79	HS 27.78	50.0
5C1T	2.58	15.57	2.58	15.57	0.00	206.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.65	35.20	35.20	2.861	999999.000	88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.500

Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	196.4	-211.1	172.2	-235.2
OPER	359.7C	-319.4	319.4	-359.7C	327.3	-351.8	287.1	-392.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	121.30 L	93.31	-15.50	0.0	99.09	76.22	12.50			
		-31.27 R	-24.06	58.00	0.0	-23.11	-17.77	35.00	0.00		
OPER	5C1T	114.31 R	87.93	111.50	0.0	0.00	0.00	0.00			
		-29.43 R	-22.64	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.62	6.75	1.42	7.52	51.1
5C1T	2.86	11.95	2.51	13.32	200.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-78.4	80.5
OPER	172.1	-130.7	134.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-15.07	9.70	-11.59	7.46	-13.93	9.15	-10.71	7.04
OPER	5C1T	-13.55	8.82	-10.42	6.78	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.20	8.29	HS 104.07	187.3
5C1T	9.64	15.21	0.00	771.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.500Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 218.7	212.3	-186.4	212.3	-186.4	179.9	-218.7	179.9	-
OPER 364.6	332.2	-332.2	332.2	-332.2	299.8	-364.6	299.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	121.30 L	93.31	-15.50	0.0	99.09	76.22	12.50	
		-31.27 R	-24.06	58.00	0.0	-23.11	-17.77	35.00	0.00
OPER	5C1T	114.31 R	87.93	111.50	0.0	0.00	0.00	0.00	
		-29.43 R	-22.64	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.48	6.99	1.48	6.99	HS 29.66	53.4
5C1T	2.62	12.39	2.62	12.39	0.00	209.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.65	35.20	35.20	2.861	999999.000	88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.600

Dead Load Moment Superimposed Dead Load Moment
2.8 22.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	200.5	-207.0	176.3	-231.2
OPER	359.7C	-319.4	319.4	-359.7C	334.1	-345.0	293.8	-385.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	115.16 L	88.59	-13.00	0.0	88.90	68.38	15.00			
		-37.53 R	-28.87	58.00	0.0	-27.73	-21.33	35.00	0.00		
OPER	5C1T	104.59 L	80.45	-36.00	0.0	0.00	0.00	0.00			
		-35.32 R	-27.17	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.52	1.53	6.16	HS 30.62	55.1
5C1T	3.19	9.77	2.81	10.91	0.00	224.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-77.3	81.6
OPER	172.1	-128.8	135.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-18.19	6.09	-14.00	4.69	-16.67	6.75	-12.82	5.19
OPER	5C1T	-15.81	6.39	-12.16	4.92	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.25	12.09	HS 84.96	152.9	
5C1T	8.15	21.27	0.00	651.6	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	22.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.7	209.6	-189.1	209.6	-189.1	184.0	-214.7	184.0	-
OPER 357.8	332.2	-332.2	332.2	-332.2	306.6	-357.8	306.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	115.16 L	88.59	-13.00	0.0	88.90	68.38	15.00	
		-37.53 R	-28.87	58.00	0.0	-27.73	-21.33	35.00	0.00
OPER	5C1T	104.59 L	80.45	-36.00	0.0	0.00	0.00	0.00	
		-35.32 R	-27.17	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.60	5.72	1.60	5.72	HS 31.95	57.5
5C1T	2.93	10.13	2.93	10.13	0.00	234.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.65	35.20	35.20	2.861
			999999.000
			88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.700

Dead Load Moment 1.7
Superimposed Dead Load Moment 12.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	207.1	-200.4	182.9	-224.5
OPER	359.7C	-319.4	319.4	-359.7C	345.1	-334.0	304.9	-374.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	99.53 L	76.56	-10.50	0.0	71.95	55.35	17.50			
		-43.78 R	-33.68	58.00	0.0	-33.80	-26.00	35.00		85.00	
OPER	5C1T	86.28 L	66.37	-33.50	0.0	0.00	0.00	0.00			
		-41.20 R	-31.70	134.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.08	4.58	1.84	5.13	HS 36.76	66.2
5C1T	4.00	8.10	3.53	9.08	0.00	282.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-76.3	82.6
OPER	172.1	-127.1	137.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-23.31	3.02	-17.93	2.32	-19.35	4.64	-14.88	3.57
OPER	5C1T	-18.62	4.32	-14.32	3.33	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.27	17.81	HS 65.44	117.8	
5C1T	6.83	31.84	0.00	546.1	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.700Dead Load Moment 1.7
Superimposed Dead Load Moment 12.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.0	205.1	-193.5	205.1	-193.5	190.6	-208.0	190.6	-
OPER 346.7	332.2	-332.2	332.2	-332.2	317.7	-346.7	317.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	99.53 L	76.56	-10.50	0.0	71.95	55.35	17.50	
		-43.78 R	-33.68	58.00	0.0	-33.80	-26.00	35.00	85.00
OPER	5C1T	86.28 L	66.37	-33.50	0.0	0.00	0.00	0.00	
		-41.20 R	-31.70	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.91	4.75	1.91	4.75	HS 38.30	68.9
5C1T	3.68	8.41	3.68	8.41	0.00	294.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.65	35.20	35.20	2.861	999999.000	88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.800

Dead Load Moment Superimposed Dead Load Moment
0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	216.3	-191.2	192.1	-215.3
OPER	359.7C	-319.4	319.4	-359.7C	360.5	-318.6	320.2	-358.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	63.96 L	49.20	-8.00	0.0	47.55	36.58	20.00			
		-50.04 R	-38.49	58.00	0.0	-38.63	-29.72	35.00		85.00	
OPER	5C1T	59.03 R	45.40	154.00	0.0	0.00	0.00	0.00			
		-47.09 R	-36.22	134.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.38	3.82	3.00 4.30	HS 60.08	108.1
5C1T	6.11	6.77	5.43 7.62	0.00	434.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-6.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-75.2	83.6
OPER	172.1	-125.4	139.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-28.22	0.97	-21.70	0.75	-21.94	2.83	-16.88	2.18
OPER	5C1T	-21.72	2.55	-16.71	1.96	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.67	29.56	HS 53.32	96.0	
5C1T	5.77	54.58	0.00	461.7	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.800Dead Load Moment 0.1
Superimposed Dead Load Moment -0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 198.8	199.0	-199.6	199.0	-199.6	199.8	-198.8	199.8	-
OPER 331.4	332.2	-332.2	332.2	-332.2	333.0	-331.4	333.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.96 L	49.20	-8.00	0.0	47.55	36.58	20.00	
		-50.04 R	-38.49	58.00	0.0	-38.63	-29.72	35.00	85.00
OPER	5C1T	59.03 R	45.40	154.00	0.0	0.00	0.00	0.00	
		-47.09 R	-36.22	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	3.12	3.97	3.12	3.97	HS 62.48	112.5
5C1T	5.64	7.04	5.64	7.04	0.00	451.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.65	35.20	35.20	2.861
			999999.000
			88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.900

Dead Load Superimposed Dead Load
Moment Moment
-2.0 -18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	228.1	-179.4	203.9	-203.5
OPER	359.7C	-319.4	319.4	-359.7C	380.2	-298.9	339.9	-339.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	12.56 R	9.66	88.00	0.0	23.61	18.16	22.50			
		-62.02 L	-47.71	16.00	0.0	-57.83	-44.49	35.00	10.00		
OPER	5C1T	30.15 R	23.19	156.50	0.0	0.00	0.00	0.00			
		-55.00 L	-42.31	-9.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	9.66	2.89	8.64	3.28	HS 57.84
5C1T	12.61	5.43	11.27	6.17	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.9	-7.8
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-74.2	84.7
OPER	172.1	-123.6	141.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.71	0.64	-25.16	0.49	-24.40	1.34	-18.77	1.03
OPER	5C1T	-24.64	1.04	-18.95	0.80	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.27	63.09	HS 45.37	81.7	
5C1T	5.02	136.13	0.00	401.4	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-2.0	-18.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	191.1	-207.5	191.1	-207.5	211.6	-187.0	211.6	-
187.0								
OPER	332.2	-332.2	332.2	-332.2	352.7	-311.7	352.7	-
311.7								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	12.56 R	9.66	88.00	0.0	23.61	18.16	22.50	
		-62.02 L	-47.71	16.00	0.0	-57.83	-44.49	35.00	10.00
OPER	5C1T	30.15 R	23.19	156.50	0.0	0.00	0.00	0.00	
		-55.00 L	-42.31	-9.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	8.96	3.02	8.96	3.02	HS 60.31	108.6
5C1T	11.70	5.67	11.70	5.67	0.00	453.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.65	35.20	35.20	2.861	999999.000	88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.0	-134.5	187.9	-153.7
OPER	300.6C	-268.7	268.7	-300.6C	345.1	-224.2	313.1	-256.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00			
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00		35.00	
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.35	1.29	11.21	1.48	HS 25.88 46.6
5C1T	26.63	2.92	24.16	3.34	0.00 233.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	-1.1	-7.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-73.2	64.4
OPER	151.3	-121.9	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-32.71	34.96	-25.16	26.89	-24.40	26.43	-18.77	20.33
OPER	5C1T	-24.64	27.13	-18.95	20.87	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.99	1.84	HS 36.86	66.4
5C1T	4.46	3.96	0.00	316.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-40.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.0	149.9	-185.4	149.9	-185.4	194.3	-141.0	194.3	-
OPER 235.0	279.4	-279.4	279.4	-279.4	323.8	-235.0	323.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00	
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00	35.00
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.59	1.36	11.59	1.36	HS 27.12	48.8
5C1T	24.99	3.06	24.99	3.06	0.00	245.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.65	28.67	28.67	1.699
			999999.000
			82.487

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.0	-134.5	187.9	-153.7
OPER	300.6C	-268.7	268.7	-300.6C	345.1	-224.2	313.1	-256.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00			
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00		35.00	
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.35	1.29	11.21	1.48	HS 25.88	46.6
5C1T	26.63	2.92	24.16	3.34	0.00	233.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-1.1	0.8	-9.4	8.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-73.2	64.4
OPER	151.3	-121.9	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-36.72	34.96	-28.25	26.89	-26.68	26.43	-20.52	20.33
OPER	5C1T	-27.33	27.13	-21.02	20.87	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.99	1.84	HS 36.86	66.4
5C1T	4.46	3.96	0.00	316.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-40.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.0	149.9	-185.4	149.9	-185.4	194.3	-141.0	194.3	-
OPER 235.0	279.4	-279.4	279.4	-279.4	323.8	-235.0	323.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00	
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00	35.00
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.59	1.36	11.59	1.36	HS 27.12	48.8
5C1T	24.99	3.06	24.99	3.06	0.00	245.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-21.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	194.8	-146.7	175.6	-165.9
OPER	300.6C	-268.7	268.7	-300.6C	324.7	-244.6	292.7	-276.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.19 R	11.69	55.50	0.0	21.49	16.53	27.50			
		-67.93 R	-52.25	34.00	0.0	-58.59	-45.07	15.00		37.50	
OPER	5C1T	21.91 R	16.85	165.50	0.0	0.00	0.00	0.00			
		-56.28 L	-43.29	-3.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	9.06	2.16	8.17	2.44	HS 43.20	77.8
5C1T	14.82	4.35	13.36	4.91	0.00	347.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.7	0.0
	6.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.2	65.4
OPER	151.3	-123.7	109.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.99	30.26	-2.30	23.28	-3.00	23.88	-2.30	18.37
OPER	5C1T	-3.34	24.05	-2.57	18.50	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	24.77	2.16	HS 43.25	77.9
5C1T	37.08	4.54	0.00	362.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-21.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	158.0	-177.3	158.0	-177.3	182.1	-153.2	182.1	-
153.2								
OPER	279.4	-279.4	279.4	-279.4	303.5	-255.3	303.5	-
255.3								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	15.19 R	11.69	55.50	0.0	21.49	16.53	27.50	
		-67.93 R	-52.25	34.00	0.0	-58.59	-45.07	15.00	37.50
OPER	5C1T	21.91 R	16.85	165.50	0.0	0.00	0.00	0.00	
		-56.28 L	-43.29	-3.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
bend	+bend	-bend	+bend	-bend		
HS20	8.47	2.26	8.47	2.26	HS 45.10	81.2
5C1T	13.85	4.54	13.85	4.54	0.00	362.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.90	28.67	28.67	1.699
			999999.000
			95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-1.0	-6.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.2	-156.4	166.0	-175.6
OPER	300.6C	-268.7	268.7	-300.6C	308.6	-260.7	276.6	-292.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live w/imp.	Load Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane Live w/imp.	Load Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	58.49 R	45.00	58.00	0.0	40.87	31.44	30.00	
		-55.67 L	-42.82	-8.00	0.0	-37.45	-28.81	15.00	47.50
OPER	5C1T	46.46 R	35.74	168.00	0.0	0.00	0.00	0.00	
		-44.88 L	-34.52	3.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.16	2.81	2.84	3.15	HS 56.20	101.2
5C1T	6.64	5.81	5.95	6.52	0.00	464.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.2	66.5
OPER	151.3	-122.0	110.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.99	25.52	-2.30	19.63	-4.19	21.08	-3.22	16.22
OPER	5C1T	-4.89	20.74	-3.76	15.96	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	17.46	2.60	HS 52.08	93.7
5C1T	24.93	5.34	0.00	427.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-1.0	-6.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 162.9	164.5	-170.8	164.5	-170.8	172.4	-162.9	172.4	-
OPER 271.4	279.4	-279.4	279.4	-279.4	287.4	-271.4	287.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	58.49 R	45.00	58.00	0.0	40.87	31.44	30.00	
		-55.67 L	-42.82	-8.00	0.0	-37.45	-28.81	15.00	47.50
OPER	5C1T	46.46 R	35.74	168.00	0.0	0.00	0.00	0.00	
		-44.88 L	-34.52	3.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.95	2.93	2.95	2.93	HS 58.52	105.3
5C1T	6.18	6.05	6.18	6.05	0.00	483.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.90	28.67	28.67	1.699
			999999.000
			95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.300

Dead Load Moment 0.1
Superimposed Dead Load Moment 3.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	178.0	-163.6	158.8	-182.7
OPER	300.6C	-268.7	268.7	-300.6C	296.7	-272.6	264.7	-304.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	85.73 R	65.95	60.50	0.0	61.84	47.57	32.50			
		-46.21 L	-35.55	-8.00	0.0	-32.60	-25.07	15.00		0.00	
OPER	5C1T	68.20 R	52.46	135.50	0.0	0.00	0.00	0.00			
		-40.61 L	-31.24	-34.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.08	3.54	1.85	3.95	HS 37.05	66.7
5C1T	4.35	6.71	3.88	7.50	0.00	310.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.2	67.5
OPER	151.3	-120.3	112.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.35	20.66	-3.35	15.90	-6.46	18.14	-4.97	13.95
OPER	5C1T	-6.71	17.47	-5.16	13.44	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	11.18	3.27	HS 65.31	117.6
5C1T	17.94	6.44	0.00	514.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.300Dead Load Moment 0.1
Superimposed Dead Load Moment 3.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 170.0	169.2	-166.1	169.2	-166.1	165.3	-170.0	165.3	-
OPER 283.3	279.4	-279.4	279.4	-279.4	275.5	-283.3	275.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	85.73 R	65.95	60.50	0.0	61.84	47.57	32.50	
		-46.21 L	-35.55	-8.00	0.0	-32.60	-25.07	15.00	0.00
OPER	5C1T	68.20 R	52.46	135.50	0.0	0.00	0.00	0.00	
		-40.61 L	-31.24	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.93	3.68	1.93	3.68	HS 38.56	69.4
5C1T	4.04	6.98	4.04	6.98	0.00	323.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.90	28.67	28.67	1.699
			999999.000
			95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.400

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.2	154.2	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.0	-280.3	257.0	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.49 R	74.22	63.00	0.0	74.80	57.54	35.00			
		-36.75 L	-28.27	-8.00	0.0	-28.46	-21.89	15.00		0.00	
OPER	5C1T	84.02 R	64.63	134.00	0.0	0.00	0.00	0.00			
		-39.21 L	-30.16	-34.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.80	4.57	1.60	5.10	HS 31.97	57.5
5C1T	3.44	7.15	3.06	7.96	0.00	244.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.2	68.5
OPER	151.3	-118.6	114.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.92	16.99	-6.86	13.07	-9.03	15.15	-6.94	11.65
OPER	5C1T	-8.75	14.86	-6.73	11.43	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.88	4.03	HS 80.63	145.1
5C1T	13.55	7.68	0.00	614.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.400Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.6	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-
OPER 291.0	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.49 R	74.22	63.00	0.0	74.80	57.54	35.00
		-36.75 L	-28.27	-8.00	0.0	-28.46	-21.89	15.00
OPER	5C1T	84.02 R	64.63	134.00	0.0	0.00	0.00	0.00
		-39.21 L	-30.16	-34.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.66	4.75	1.66	4.75	HS 33.30	59.9
5C1T	3.19	7.42	3.19	7.42	0.00	255.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.80	28.67	28.67	1.699
			999999.000
			89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	171.4	-170.2	152.2	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.36 L	72.58	23.50	0.0	80.36	61.82	37.50			
		-27.30 L	-21.00	-8.00	0.0	-24.32	-18.71	15.00		0.00	
OPER	5C1T	87.72 R	67.48	136.50	0.0	0.00	0.00	0.00			
		-37.81 L	-29.08	-34.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.82	6.24	1.61	32.25	58.1
5C1T	3.26	7.50	2.89	0.00	231.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.500Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 0.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.1	69.5
OPER	151.3	-116.9	115.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.08	13.29	-10.06	10.22	-11.82	12.21	-9.09	9.39
OPER	5C1T	-10.98	12.29	-8.45	9.46	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.36	5.23	HS 104.60	188.3
5C1T	10.64	9.42	0.00	753.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.7	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-
OPER 294.4	279.4	-279.4	279.4	-279.4	264.4	-294.4	264.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.36 L	72.58	23.50	0.0	80.36	61.82	37.50	
		-27.30 L	-21.00	-8.00	0.0	-24.32	-18.71	15.00	0.00
OPER	5C1T	87.72 R	67.48	136.50	0.0	0.00	0.00	0.00	
		-37.81 L	-29.08	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.68	6.47	1.68	6.47	HS 33.62	60.5
5C1T	3.01	7.79	3.01	7.79	0.00	241.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
 Check Point I. D. 2.600

Dead Load Moment 1.1
 Superimposed Dead Load Moment 12.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	172.0	-169.5	152.8	-188.7
OPER	300.6C	-268.7	268.7	-300.6C	286.7	-282.6	254.7	-314.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.30 L	74.08	12.00	0.0	76.22	58.63	40.00			
		-30.13 R	-23.17	83.00	0.0	-26.61	-20.47	60.00	0.00		
OPER	5C1T	84.08 L	64.68	-11.00	0.0	0.00	0.00	0.00			
		-36.44 R	-28.03	109.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.79	5.63	1.59	6.26	HS 31.74	57.1
5C1T	3.41	7.76	3.03	8.63	0.00	242.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.600

Dead Load	Superimposed Dead Load
Shear (-) Shear	(+) Shear
-0.1	-1.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.0	70.6
OPER	151.3	-115.1	117.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.75	9.12	-12.88	7.02	-14.76	9.40	-11.35	7.23
OPER	5C1T	-13.49	10.04	-10.38	7.72	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.12	7.51	HS 82.45	148.4	
5C1T	8.53	11.73	0.00	682.4	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.600Dead Load Moment 1.1
Superimposed Dead Load Moment 12.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.0	173.2	-162.1	173.2	-162.1	159.3	-176.0	159.3	-
OPER 293.3	279.4	-279.4	279.4	-279.4	265.5	-293.3	265.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.30 L	74.08	12.00	0.0	76.22	58.63	40.00	
		-30.13 R	-23.17	83.00	0.0	-26.61	-20.47	60.00	0.00
OPER	5C1T	84.08 L	64.68	-11.00	0.0	0.00	0.00	0.00	
		-36.44 R	-28.03	109.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.65	5.84	1.65	5.84	HS 33.08	59.6
5C1T	3.16	8.05	3.16	8.05	0.00	252.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.700

Dead Load Moment 0.7
Superimposed Dead Load Moment 7.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	175.3	-166.3	156.1	-185.5
OPER	300.6C	-268.7	268.7	-300.6C	292.1	-277.2	260.1	-309.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.17 L	66.29	14.50	0.0	64.63	49.71	42.50			
		-37.94 R	-29.19	83.00	0.0	-30.08	-23.14	60.00	0.00		
OPER	5C1T	73.27 L	56.36	-8.50	0.0	0.00	0.00	0.00			
		-38.42 R	-29.55	158.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.03	4.38	1.81	4.89	HS 36.22	65.2
5C1T	3.99	7.22	3.55	8.05	0.00	284.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-2.7
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.0	71.6
OPER	151.3	-113.4	119.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.51	4.55	-15.77	3.50	-17.75	6.82	-13.66	5.25
OPER	5C1T	-16.51	7.79	-12.70	5.99	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.32	10.50	HS 66.35	119.4	
5C1T	6.87	15.32	0.00	549.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.700Dead Load Moment 0.7
Superimposed Dead Load Moment 7.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 172.8	171.1	-164.2	171.1	-164.2	162.5	-172.8	162.5	-
OPER 287.9	279.4	-279.4	279.4	-279.4	270.9	-287.9	270.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.17 L	66.29	14.50	0.0	64.63	49.71	42.50
		-37.94 R	-29.19	83.00	0.0	-30.08	-23.14	60.00
OPER	5C1T	73.27 L	56.36	-8.50	0.0	0.00	0.00	0.00
		-38.42 R	-29.55	158.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.89	4.55	1.89	4.55	HS 37.72	67.9
5C1T	3.70	7.49	3.70	7.49	0.00	295.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.46 L	45.74	17.00	0.0	45.30	34.84	45.00			
		-45.76 R	-35.20	83.00	0.0	-35.35	-27.19	60.00	110.00		
OPER	5C1T	55.30 L	42.54	-6.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	159.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.04	3.51	2.72	3.93	HS 54.43	98.0
5C1T	5.45	6.25	4.88	7.00	0.00	390.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-4.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.0	72.6
OPER	151.3	-111.7	121.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.34	3.64	-19.49	2.80	-20.71	4.54	-15.93	3.49
OPER	5C1T	-19.67	5.65	-15.13	4.34	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.64	16.01	HS 52.90	95.2	
5C1T	5.68	21.43	0.00	454.1	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.4	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.46 L	45.74	17.00	0.0	45.30	34.84	45.00	
		-45.76 R	-35.20	83.00	0.0	-35.35	-27.19	60.00	110.00
OPER	5C1T	55.30 L	42.54	-6.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	159.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.59	101.9
5C1T	5.07	6.51	5.07	6.51	0.00	405.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.80	28.67	28.67	1.699
			999999.000
			89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.3	-152.3	170.1	-171.5
OPER	300.6C	-268.7	268.7	-300.6C	315.5	-253.8	283.5	-285.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 L	12.64	19.50	0.0	25.46	19.58	47.50			
		-59.00 L	-45.39	41.00	0.0	-53.33	-41.03	60.00	37.50		
OPER	5C1T	31.30 L	24.08	-3.50	0.0	0.00	0.00	0.00			
		-49.71 R	-38.24	161.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	7.44	2.58	6.68	2.91	HS 51.62	92.9
5C1T	10.08	5.11	9.06	5.75	0.00	408.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.6	-5.8
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.0	73.6
OPER	151.3	-110.0	122.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.06	3.78	-23.12	2.91	-23.53	3.50	-18.10	2.69
OPER	5C1T	-22.87	3.74	-17.59	2.88	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.20	19.47	HS 43.91	79.0
5C1T	4.81	32.79	0.00	384.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.7	161.7	-173.6	161.7	-173.6	176.6	-158.7	176.6	-
OPER 264.5	279.4	-279.4	279.4	-279.4	294.3	-264.5	294.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 L	12.64	19.50	0.0	25.46	19.58	47.50	
		-59.00 L	-45.39	41.00	0.0	-53.33	-41.03	60.00	37.50
OPER	5C1T	31.30 L	24.08	-3.50	0.0	0.00	0.00	0.00	
		-49.71 R	-38.24	161.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	6.93	2.69	6.93	2.69	HS 53.80	96.8
5C1T	9.40	5.32	9.40	5.32	0.00	425.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.1	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.6	-235.7	301.6	-267.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00			
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00		40.00	
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00			
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.02	1.44	9.06	1.63	HS 28.74	51.7
5C1T	21.67	3.83	19.60	4.35	0.00	306.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-65.0	64.8
OPER	151.3	-108.3	108.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.06	34.53	-23.12	26.56	-23.53	26.28	-18.10	20.22
OPER	5C1T	-22.87	26.22	-17.59	20.17	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.88	HS 37.52	67.5
5C1T	4.18	4.12	0.00	329.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.9	154.5	-180.8	154.5	-180.8	187.4	-147.9	187.4	-
OPER 246.5	279.4	-279.4	279.4	-279.4	312.3	-246.5	312.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00	
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	9.38	1.50	9.38	1.50	HS 30.05	54.1
5C1T	20.30	4.01	20.30	4.01	0.00	320.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.1	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.6	-235.7	301.6	-267.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00			
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00		
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00			
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.02	1.44	9.06	1.63	HS 28.74	51.7
5C1T	21.67	3.83	19.60	4.35	0.00	306.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-7.3	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-65.0	64.8
OPER	151.3	-108.3	108.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.48	34.53	-26.52	26.56	-26.11	26.28	-20.08	20.22
OPER	5C1T	-25.93	26.22	-19.95	20.17	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.88	HS 37.52	67.5
5C1T	4.18	4.12	0.00	329.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.9	154.5	-180.8	154.5	-180.8	187.4	-147.9	187.4	-
OPER 246.5	279.4	-279.4	279.4	-279.4	312.3	-246.5	312.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00	
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	9.38	1.50	9.38	1.50	HS 30.05	54.1
5C1T	20.30	4.01	20.30	4.01	0.00	320.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.79	28.67	28.67	1.699	999999.000	89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.8	-152.8	169.6	-172.0
OPER	300.6C	-268.7	268.7	-300.6C	314.7	-254.6	282.7	-286.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.13 R	12.41	80.50	0.0	25.97	19.97	52.50			
		-58.69 R	-45.15	59.00	0.0	-52.89	-40.68	40.00	62.50		
OPER	5C1T	30.14 R	23.19	103.50	0.0	0.00	0.00	0.00			
		-47.23 L	-36.33	25.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	7.27	2.60	6.53	2.93	HS 52.06	93.7
5C1T	10.44	5.39	9.38	6.07	0.00	431.3

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 3.100
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.6 0.0 6.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.9	65.8
OPER	151.3	-123.1	109.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.23	23.71	-2.48	18.24
OPER	5C1T	-3.46	23.40	-2.66	18.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	22.88	2.18	HS 43.69	78.6
5C1T	35.53	4.69	0.00	375.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.100

Dead Load Moment Superimposed Dead Load Moment
-1.2 -12.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 159.2	162.0	-173.3	162.0	-173.3	176.1	-159.2	176.1	-
OPER 265.4	279.4	-279.4	279.4	-279.4	293.4	-265.4	293.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.13 R	12.41	80.50	0.0	25.97	19.97	52.50	
		-58.69 R	-45.15	59.00	0.0	-52.89	-40.68	40.00	62.50
OPER	5C1T	30.14 R	23.19	103.50	0.0	0.00	0.00	0.00	
		-47.23 L	-36.33	25.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.78	2.71	6.78	2.71	HS 54.26	97.7
5C1T	9.73	5.62	9.73	5.62	0.00	449.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.200

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.200

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	300.0	-269.3	268.0	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.37 R	45.67	83.00	0.0	44.98	34.60	55.00			
		-45.31 L	-34.85	17.00	0.0	-33.04	-25.42	40.00	72.50		
OPER	5C1T	56.23 R	43.25	106.00	0.0	0.00	0.00	0.00			
		-40.11 L	-30.86	28.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	3.03	3.57	2.71	3.99	HS 54.18	97.5
5C1T	5.34	6.71	4.77	7.51	0.00	381.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	4.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.8	66.8
OPER	151.3	-121.4	111.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.47	20.91	-3.44	16.08
OPER	5C1T	-5.16	20.31	-3.97	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.30	2.63	HS 52.61	94.7
5C1T	23.52	5.48	0.00	438.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.200Dead Load Moment 0.1
Superimposed Dead Load Moment 0.5

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 168.0	167.9	-167.4	167.9	-167.4	167.3	-168.0	167.3	-
OPER 280.0	279.4	-279.4	279.4	-279.4	278.8	-280.0	278.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.37 R	45.67	83.00	0.0	44.98	34.60	55.00	
		-45.31 L	-34.85	17.00	0.0	-33.04	-25.42	40.00	72.50
OPER	5C1T	56.23 R	43.25	106.00	0.0	0.00	0.00	0.00	
		-40.11 L	-30.86	28.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	2.82	3.71	2.82	3.71	HS 56.35	101.4
5C1T	4.96	6.98	4.96	6.98	0.00	396.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.300

Dead Load Moment Superimposed Dead Load Moment
1.0 10.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.7	-167.8	154.5	-187.0
OPER	300.6C	-268.7	268.7	-300.6C	289.6	-279.7	257.6	-311.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.43 R	66.48	85.50	0.0	65.39	50.30	57.50			
		-37.61 L	-28.93	17.00	0.0	-29.08	-22.37	40.00	0.00		
OPER	5C1T	76.13 R	58.56	108.50	0.0	0.00	0.00	0.00			
		-36.19 L	-27.84	-58.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.01	4.46	1.79	4.97	HS 35.76	64.4
5C1T	3.80	7.73	3.38	8.61	0.00	270.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.8	67.8
OPER	151.3	-119.7	113.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.39	15.82	-6.74	17.96	-5.19	13.81
OPER	5C1T	-7.16	17.15	-5.51	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.65	3.30	HS 65.94	118.7
5C1T	16.73	6.59	0.00	527.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.300Dead Load Moment 1.0
Superimposed Dead Load Moment 10.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.3	172.1	-163.2	172.1	-163.2	161.0	-174.3	161.0	-
OPER 290.5	279.4	-279.4	279.4	-279.4	268.3	-290.5	268.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.43 R	66.48	85.50	0.0	65.39	50.30	57.50	
		-37.61 L	-28.93	17.00	0.0	-29.08	-22.37	40.00	0.00
OPER	5C1T	76.13 R	58.56	108.50	0.0	0.00	0.00	0.00	
		-36.19 L	-27.84	-58.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.86	4.63	1.86	4.63	HS 37.26	67.1
5C1T	3.52	8.02	3.52	8.02	0.00	282.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.400

Dead Load Moment 1.6
Superimposed Dead Load Moment 15.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.0	-171.6	150.8	-190.8
OPER	300.6C	-268.7	268.7	-300.6C	283.4	-285.9	251.4	-317.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.97 R	74.59	88.00	0.0	77.63	59.72	60.00			
		-29.91 L	-23.01	17.00	0.0	-25.66	-19.74	40.00		0.00	
OPER	5C1T	88.02 R	67.71	111.00	0.0	0.00	0.00	0.00			
		-33.75 L	-25.96	-56.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.74	1.55	6.38	HS 31.11	56.0
5C1T	3.22	8.47	2.86	9.42	0.00	228.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 1.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.8 68.8
OPER 151.3 -118.0 114.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.90	-9.31	14.97	-7.17	11.51
OPER	5C1T	-9.38	14.06	-7.21	10.81	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.60	4.10	HS 82.08	147.7
5C1T	12.58	8.16	0.00	653.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.400Dead Load Moment 1.6
Superimposed Dead Load Moment 15.7

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber +bend	top fiber -bend	bottom fi +bend	bottom fi -bend
INV. 178.0	174.6	-160.7	174.6	-160.7	157.3	-178.0	157.3	-
OPER 296.7	279.4	-279.4	279.4	-279.4	262.1	-296.7	262.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	96.97 R	74.59	88.00	0.0	77.63	59.72
		-29.91 L	-23.01	17.00	0.0	-25.66	-19.74
OPER	5C1T	88.02 R	67.71	111.00	0.0	0.00	0.00
		-33.75 L	-25.96	-56.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating top fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.62	5.95	1.62	5.95	HS 32.44	58.4
5C1T	2.98	8.79	2.98	8.79	0.00	238.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.79	28.67	28.67	1.699	999999.000	89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.8	-172.7	149.6	-191.9
OPER	300.6C	-268.7	268.7	-300.6C	281.4	-287.9	249.4	-319.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.67 R	72.82	76.50	0.0	82.45	63.42	62.50			
		-22.43 R	-17.25	108.00	0.0	-22.28	-17.14	85.00	0.00		
OPER	5C1T	90.81 L	69.86	-36.50	0.0	0.00	0.00	0.00			
		-33.70 R	-25.92	180.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	7.70	1.58	8.56	HS 31.61	56.9
5C1T	3.10	8.54	2.75	9.49	0.00	219.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	-0.1	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.09	10.09	-12.11	12.03	-9.32	9.26
OPER	5C1T	-11.72	11.58	-9.02	8.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.37	191.5
5C1T	9.92	10.06	0.00	794.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.500Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.2	175.3	-159.9	175.3	-159.9	156.1	-179.2	156.1	-
OPER 298.6	279.4	-279.4	279.4	-279.4	260.2	-298.6	260.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.67 R	72.82	76.50	0.0	82.45	63.42	62.50	
		-22.43 R	-17.25	108.00	0.0	-22.28	-17.14	85.00	0.00
OPER	5C1T	90.81 L	69.86	-36.50	0.0	0.00	0.00	0.00	
		-33.70 R	-25.92	180.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.65	7.99	1.65	7.99	HS 32.98	59.4
5C1T	2.87	8.86	2.87	8.86	0.00	229.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.600

Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 L	74.62	37.00	0.0	77.56	59.66	65.00			
		-30.20 R	-23.23	108.00	0.0	-26.05	-20.04	85.00	0.00		
OPER	5C1T	87.63 L	67.41	-34.00	0.0	0.00	0.00	0.00			
		-35.31 R	-27.16	181.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	5.67	1.56	6.30	HS 31.17	56.1
5C1T	3.24	8.08	2.88	8.99	0.00	230.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.5	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.05	9.24	-11.57	7.11
OPER	5C1T	-14.17	9.27	-10.90	7.13	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.68	HS 81.89	147.4	
5C1T	8.08	12.76	0.00	646.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.600Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.6	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-
OPER 296.1	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.00 L	74.62	37.00	0.0	77.56	59.66	65.00	
		-30.20 R	-23.23	108.00	0.0	-26.05	-20.04	85.00	0.00
OPER	5C1T	87.63 L	67.41	-34.00	0.0	0.00	0.00	0.00	
		-35.31 R	-27.16	181.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.62	5.88	1.62	5.88	HS 32.50	58.5
5C1T	3.00	8.39	3.00	8.39	0.00	239.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.700

Dead Load Moment 0.9
Superimposed Dead Load Moment 9.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.5	-167.1	155.3	-186.3
OPER	300.6C	-268.7	268.7	-300.6C	290.8	-278.5	258.8	-310.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 L	66.52	39.50	0.0	65.25	50.19	67.50			
		-37.98 R	-29.21	108.00	0.0	-29.81	-22.93	85.00	0.00		
OPER	5C1T	74.93 L	57.64	16.50	0.0	0.00	0.00	0.00			
		-38.36 R	-29.51	183.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	2.02	4.40	1.80	4.91	HS 35.92 64.6
5C1T	3.88	7.26	3.45	8.09	0.00 276.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.7	72.0
OPER	151.3	-112.8	119.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.56	4.42	-15.82	3.40	-18.03	6.66	-13.87	5.13
OPER	5C1T	-17.27	7.09	-13.29	5.45	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.29	10.80	HS 65.82	118.5	
5C1T	6.53	16.93	0.00	522.4	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.700Dead Load Moment 0.9
Superimposed Dead Load Moment 9.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.5	171.6	-163.7	171.6	-163.7	161.7	-173.5	161.7	-
OPER 289.2	279.4	-279.4	279.4	-279.4	269.6	-289.2	269.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.47 L	66.52	39.50	0.0	65.25	50.19	67.50	
		-37.98 R	-29.21	108.00	0.0	-29.81	-22.93	85.00	0.00
OPER	5C1T	74.93 L	57.64	16.50	0.0	0.00	0.00	0.00	
		-38.36 R	-29.51	183.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.87	4.57	1.87	4.57	HS 37.41	67.3
5C1T	3.60	7.54	3.60	7.54	0.00	287.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	42.00	0.0	45.25	34.81	70.00			
		-45.75 R	-35.19	108.00	0.0	-35.42	-27.25	85.00		135.00	
OPER	5C1T	55.09 L	42.38	19.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	184.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	HS 54.49	98.1
5C1T	5.48	6.25	4.90	7.00	0.00	391.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.7	73.0
OPER	151.3	-111.1	121.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.39	2.94	-19.53	2.26	-20.98	4.39	-16.14	3.38
OPER	5C1T	-20.46	5.11	-15.74	3.93	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.62	16.63	HS 52.50	94.5	
5C1T	5.43	23.81	0.00	434.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I		top fiber		bottom fi	
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
166.9								
OPER	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-
278.2								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	42.00	0.0	45.25	34.81	70.00	
		-45.75 R	-35.19	108.00	0.0	-35.42	-27.25	85.00	135.00
OPER	5C1T	55.09 L	42.38	19.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	184.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	2.83	3.65	2.83	3.65	HS 56.66	102.0
5C1T	5.09	6.50	5.09	6.50	0.00	407.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.900

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -15.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.3	-151.3	171.1	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.1	-252.2	285.2	-284.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.21 L	12.47	44.50	0.0	25.07	19.29	72.50			
		-58.98 L	-45.37	66.00	0.0	-54.10	-41.62	85.00		62.50	
OPER	5C1T	29.51 L	22.70	21.50	0.0	0.00	0.00	0.00			
		-49.72 R	-38.24	186.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.59	2.57	6.82	2.89	HS 51.30	92.3
5C1T	10.75	5.07	9.66	5.72	0.00	405.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.6	74.0
OPER	151.3	-109.4	123.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	3.08	-23.16	2.37	-23.79	3.13	-18.30	2.41
OPER	5C1T	-23.57	3.39	-18.13	2.61	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.18	23.61	HS 43.60	78.5
5C1T	4.64	36.34	0.00	371.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-15.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	161.0	-174.2	161.0	-174.2	177.5	-157.7	177.5	-
157.7								
OPER	279.4	-279.4	279.4	-279.4	295.9	-262.9	295.9	-
262.9								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.21 L	12.47	44.50	0.0	25.07	19.29	72.50	
		-58.98 L	-45.37	66.00	0.0	-54.10	-41.62	85.00	62.50
OPER	5C1T	29.51 L	22.70	21.50	0.0	0.00	0.00	0.00	
		-49.72 R	-38.24	186.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	7.08	2.67	7.08	2.67	HS 53.49	96.3
5C1T	10.03	5.29	10.03	5.29	0.00	423.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -32.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.0	-139.6	182.8	-158.8
OPER	300.6C	-268.7	268.7	-300.6C	336.7	-232.6	304.7	-264.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00			
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00		
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00			
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	12.30	1.42	11.13	HS 28.33	51.0
5C1T	26.51	3.72	24.00	0.00	297.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.6	64.7
OPER	151.3	-107.7	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	34.53	-23.16	26.56	-23.79	26.35	-18.30	20.27
OPER	5C1T	-23.57	26.27	-18.13	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.87	HS 37.44	67.4
5C1T	4.07	4.10	0.00	326.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-32.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.0	153.2	-182.0	153.2	-182.0	189.3	-146.0	189.3	-
OPER 243.4	279.4	-279.4	279.4	-279.4	315.4	-243.4	315.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00	
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00	
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.52	1.48	11.52	1.48	HS 29.64	53.3
5C1T	24.84	3.89	24.84	3.89	0.00	311.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.0	-139.6	182.8	-158.8
OPER	300.6C	-268.7	268.7	-300.6C	336.7	-232.6	304.7	-264.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00			
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00		
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00			
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.30	1.42	11.13	1.61	HS 28.33
5C1T	26.51	3.72	24.00	4.23	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.9	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.6	64.7
OPER	151.3	-107.7	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.52	34.53	-26.56	26.56	-26.36	26.35	-20.28	20.27
OPER	5C1T	-26.44	26.27	-20.34	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.87	HS 37.44	67.4
5C1T	4.07	4.10	0.00	326.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-32.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.0	153.2	-182.0	153.2	-182.0	189.3	-146.0	189.3	-
OPER 243.4	279.4	-279.4	279.4	-279.4	315.4	-243.4	315.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00	
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00	
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.52	1.48	11.52	1.48	HS 29.64	53.3
5C1T	24.84	3.89	24.84	3.89	0.00	311.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.85	28.67	28.67	1.699
			999999.000
			92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.100

Dead Load Moment Superimposed Dead Load Moment
-1.6 -15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	190.4	-151.2	171.2	-170.3
OPER	300.6C	-268.7	268.7	-300.6C	317.4	-251.9	285.4	-283.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.19 R	12.46	105.50	0.0	25.38	19.52	77.50			
		-58.96 R	-45.35	84.00	0.0	-54.15	-41.66	65.00	87.50		
OPER	5C1T	28.68 R	22.06	128.50	0.0	0.00	0.00	0.00			
		-50.27 L	-38.67	-36.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.50	2.56	6.75	2.89	HS 51.28	92.3
5C1T	11.06	5.01	9.95	5.65	0.00	400.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.6	0.0
	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-73.9	65.7
OPER	151.3	-123.2	109.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.19	23.78	-2.46	18.29
OPER	5C1T	-3.35	23.42	-2.58	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.17	2.18	HS 43.63	78.5
5C1T	36.74	4.68	0.00	374.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.6	161.0	-174.3	161.0	-174.3	177.7	-157.6	177.7	-
OPER 262.7	279.4	-279.4	279.4	-279.4	296.1	-262.7	296.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.19 R	12.46	105.50	0.0	25.38	19.52	77.50	
		-58.96 R	-45.35	84.00	0.0	-54.15	-41.66	65.00	87.50
OPER	5C1T	28.68 R	22.06	128.50	0.0	0.00	0.00	0.00	
		-50.27 L	-38.67	-36.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.00	2.67	7.00	2.67	HS 53.46	96.2
5C1T	10.32	5.22	10.32	5.22	0.00	418.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.200

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.3	-299.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.71	108.00	0.0	44.49	34.23	80.00			
		-45.74 L	-35.19	42.00	0.0	-35.63	-27.41	65.00	15.00		
OPER	5C1T	54.47 R	41.90	131.00	0.0	0.00	0.00	0.00			
		-43.32 L	-33.32	-34.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.50	2.73	3.92	HS 54.58 98.3
5C1T	5.55	6.16	4.96	6.90	0.00 397.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.200

Dead Load	Superimposed Dead Load
Shear (-) Shear	(+) Shear
0.5	0.0
	4.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.9	66.7
OPER	151.3	-121.5	111.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.44	20.97	-3.41	16.13
OPER	5C1T	-5.07	20.32	-3.90	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.44	2.63	HS 52.54	94.6
5C1T	23.97	5.47	0.00	437.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.200

Dead Load Moment Superimposed Dead Load Moment

-0.2 -1.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
bend								
INV. 166.6	167.0	-168.3	167.0	-168.3	168.6	-166.6	168.6	-
OPER 277.7	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.71	108.00	0.0	44.49	34.23	80.00	
		-45.74 L	-35.19	42.00	0.0	-35.63	-27.41	65.00	15.00
OPER	5C1T	54.47 R	41.90	131.00	0.0	0.00	0.00	0.00	
		-43.32 L	-33.32	-34.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.84	3.64	2.84	3.64	HS 56.75	102.2
5C1T	5.16	6.41	5.16	6.41	0.00	412.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.9	-166.7	155.7	-185.9
OPER	300.6C	-268.7	268.7	-300.6C	291.5	-277.8	259.5	-309.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 R	66.52	110.50	0.0	65.00	50.00	82.50			
		-37.97 L	-29.21	42.00	0.0	-30.01	-23.08	65.00	0.00		
OPER	5C1T	74.55 R	57.34	133.50	0.0	0.00	0.00	0.00			
		-38.82 L	-29.86	-33.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	4.39	1.80	4.89	HS 36.01	64.8
5C1T	3.91	7.16	3.48	7.98	0.00	278.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.300

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.3	0.0
	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.9	67.7
OPER	151.3	-119.9	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.71	18.02	-5.16	13.86
OPER	5C1T	-7.06	17.15	-5.43	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.72	3.29	HS 65.86	118.6
5C1T	16.99	6.58	0.00	526.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.300Dead Load Moment 0.8
Superimposed Dead Load Moment 8.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.1	171.3	-164.0	171.3	-164.0	162.1	-173.1	162.1	-
OPER 288.6	279.4	-279.4	279.4	-279.4	270.2	-288.6	270.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.47 R	66.52	110.50	0.0	65.00	50.00	82.50	
		-37.97 L	-29.21	42.00	0.0	-30.01	-23.08	65.00	0.00
OPER	5C1T	74.55 R	57.34	133.50	0.0	0.00	0.00	0.00	
		-38.82 L	-29.86	-33.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.88	4.56	1.88	4.56	HS 37.50	67.5
5C1T	3.62	7.43	3.62	7.43	0.00	290.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.9	-170.6	151.7	-189.8
OPER	300.6C	-268.7	268.7	-300.6C	284.9	-284.4	252.9	-316.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 R	74.62	113.00	0.0	77.32	59.48	85.00			
		-30.20 L	-23.23	42.00	0.0	-26.40	-20.31	65.00	0.00		
OPER	5C1T	87.00 R	66.92	184.00	0.0	0.00	0.00	0.00			
		-35.71 L	-27.47	-31.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	5.65	1.56	6.29	HS 31.28	56.3
5C1T	3.28	7.96	2.91	8.86	0.00	232.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.400

Dead Load	Superimposed Dead Load
Shear (-) Shear	(+) Shear
0.2	0.0
	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.28	15.04	-7.14	11.57
OPER	5C1T	-9.25	14.06	-7.12	10.81	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.64	4.10	HS 81.95	147.5	
5C1T	12.77	8.15	0.00	652.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.400

Dead Load Moment Superimposed Dead Load Moment
1.4 14.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.1	173.9	-161.3	173.9	-161.3	158.2	-177.1	158.2	-
OPER 295.2	279.4	-279.4	279.4	-279.4	263.6	-295.2	263.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	97.00 R	74.62	113.00	0.0	77.32	59.48	85.00	
		-30.20 L	-23.23	42.00	0.0	-26.40	-20.31	65.00	0.00
OPER	5C1T	87.00 R	66.92	184.00	0.0	0.00	0.00	0.00	
		-35.71 L	-27.47	-31.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.63	5.86	1.63	5.86	HS 32.61	58.7
5C1T	3.03	8.27	3.03	8.27	0.00	242.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.900

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.5	-172.1	150.3	-191.3
OPER	300.6C	-268.7	268.7	-300.6C	282.5	-286.8	250.5	-318.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 R	72.83	101.50	0.0	82.22	63.25	87.50			
		-22.43 R	-17.26	133.00	0.0	-22.80	-17.53	110.00	0.00		
OPER	5C1T	89.94 R	69.18	186.50	0.0	0.00	0.00	0.00			
		-34.36 L	-26.43	15.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.79	7.55	1.59	8.39	HS 31.75	57.2
5C1T	3.14	8.35	2.79	9.28	0.00	222.8

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 4.500
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.0 0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.5	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.08	12.10	-9.29	9.31
OPER	5C1T	-11.59	11.61	-8.91	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.31	191.4
5C1T	10.05	10.02	0.00	801.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.500Dead Load Moment 1.6
Superimposed Dead Load Moment 16.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.5	174.9	-160.4	174.9	-160.4	156.8	-178.5	156.8	-
OPER 297.5	279.4	-279.4	279.4	-279.4	261.3	-297.5	261.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.68 R	72.83	101.50	0.0	82.22	63.25	87.50	
		-22.43 R	-17.26	133.00	0.0	-22.80	-17.53	110.00	0.00
OPER	5C1T	89.94 R	69.18	186.50	0.0	0.00	0.00	0.00	
		-34.36 L	-26.43	15.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.66	7.83	1.66	7.83	HS 33.11	59.6
5C1T	2.90	8.66	2.90	8.66	0.00	232.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.900

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.8	-170.8	151.6	-189.9
OPER	300.6C	-268.7	268.7	-300.6C	284.7	-284.6	252.7	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	62.00	0.0	77.41	59.55	90.00			
		-30.21 R	-23.24	133.00	0.0	-26.38	-20.29	110.00	0.00		
OPER	5C1T	86.82 L	66.79	39.00	0.0	0.00	0.00	0.00			
		-35.33 R	-27.18	206.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	5.65	1.56	6.29	HS 31.26	56.3
5C1T	3.28	8.05	2.91	8.96	0.00	232.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-1.6
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.01	9.31	-11.55	7.16
OPER	5C1T	-14.02	9.29	-10.79	7.15	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.10	7.61	HS 81.99	147.6	
5C1T	8.18	12.71	0.00	654.1	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.600Dead Load Moment 1.4
Superimposed Dead Load Moment 14.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.2	174.0	-161.3	174.0	-161.3	158.1	-177.2	158.1	-
OPER 295.3	279.4	-279.4	279.4	-279.4	263.5	-295.3	263.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 L	74.62	62.00	0.0	77.41	59.55	90.00	
		-30.21 R	-23.24	133.00	0.0	-26.38	-20.29	110.00	0.00
OPER	5C1T	86.82 L	66.79	39.00	0.0	0.00	0.00	0.00	
		-35.33 R	-27.18	206.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.63	5.87	1.63	5.87	HS 32.59	58.7
5C1T	3.04	8.36	3.04	8.36	0.00	242.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.900

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.1	-278.2	259.2	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	64.50	0.0	65.18	50.14	92.50			
		-37.98 R	-29.21	133.00	0.0	-29.97	-23.05	110.00	0.00		
OPER	5C1T	74.87 L	57.59	41.50	0.0	0.00	0.00	0.00			
		-38.37 R	-29.52	208.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.02	4.39	1.80	35.96	64.7
5C1T	3.89	7.25	3.46	0.00	276.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.1
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.8	71.9
OPER	151.3	-113.0	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.00	6.73	-13.85	5.18
OPER	5C1T	-17.10	7.10	-13.16	5.46	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.30	10.67	HS 65.90	118.6	
5C1T	6.60	16.86	0.00	528.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.700Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.3	171.4	-163.8	171.4	-163.8	161.9	-173.3	161.9	-
OPER 288.9	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	86.48 L	66.52	64.50	0.0	65.18	50.14
		-37.98 R	-29.21	133.00	0.0	-29.97	-23.05
OPER	5C1T	74.87 L	57.59	41.50	0.0	0.00	0.00
		-38.37 R	-29.52	208.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.87	4.56	1.87	4.56
5C1T	3.61	7.53	3.61	7.53

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.900

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.800

Dead Load Moment Superimposed Dead Load Moment

-0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	67.00	0.0	45.27	34.83	95.00			
		-45.75 R	-35.19	133.00	0.0	-35.40	-27.23	110.00	160.00		
OPER	5C1T	55.09 L	42.38	44.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	209.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72 3.93	HS 54.48	98.1
5C1T	5.48	6.25	4.90 7.00	0.00	391.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.8	72.9
OPER	151.3	-111.3	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.95	4.46	-16.12	3.43
OPER	5C1T	-20.27	5.12	-15.59	3.94	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.63	16.35	HS 52.57	94.6	
5C1T	5.49	23.72	0.00	439.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.3	-166.9	168.3	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 L	45.72	67.00	0.0	45.27	34.83	95.00	
		-45.75 R	-35.19	133.00	0.0	-35.40	-27.23	110.00	160.00
OPER	5C1T	55.09 L	42.38	44.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	209.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.65	102.0
5C1T	5.09	6.50	5.09	6.50	0.00	407.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.900

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.6	170.8	-170.8
OPER	300.6C	-268.7	268.7	-300.6C	316.7	-252.6	284.7	-284.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	69.50	0.0	25.27	19.44	97.50			
		-58.98 L	-45.37	91.00	0.0	-54.00	-41.54	110.00		87.50	
OPER	5C1T	29.55 L	22.73	46.50	0.0	0.00	0.00	0.00			
		-49.71 R	-38.24	211.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.52	2.57	6.76	2.89	HS 51.40 92.5
5C1T	10.72	5.08	9.63	5.72	0.00 406.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.6	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	3.11	-23.17	2.39	-23.76	3.21	-18.28	2.47
OPER	5C1T	-23.37	3.41	-17.98	2.62	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.18	23.00	HS 43.66	78.6
5C1T	4.69	36.17	0.00	375.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-14.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.0	161.2	-174.1	161.2	-174.1	177.3	-158.0	177.3	-
OPER 263.3	279.4	-279.4	279.4	-279.4	295.5	-263.3	295.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.20 L	12.46	69.50	0.0	25.27	19.44	97.50	
		-58.98 L	-45.37	91.00	0.0	-54.00	-41.54	110.00	87.50
OPER	5C1T	29.55 L	22.73	46.50	0.0	0.00	0.00	0.00	
		-49.71 R	-38.24	211.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.01	2.68	7.01	2.68	HS 53.58	96.4
5C1T	10.00	5.30	10.00	5.30	0.00	423.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.900

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.5	-140.1	182.3	-159.3
OPER	300.6C	-268.7	268.7	-300.6C	335.8	-233.5	303.8	-265.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00			
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00		90.00	
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00			
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.07	1.42	10.92	1.62	HS 28.43	51.2
5C1T	26.40	3.76	23.89	4.28	0.00	301.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.9	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	34.53	-23.17	26.56	-23.76	26.34	-18.28	20.26
OPER	5C1T	-23.37	26.27	-17.98	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.87	HS 37.48	67.5
5C1T	4.11	4.11	0.00	328.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.5	153.6	-181.7	153.6	-181.7	188.7	-146.5	188.7	-
OPER 244.2	279.4	-279.4	279.4	-279.4	314.6	-244.2	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00	
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00	90.00
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00	
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.31	1.49	11.31	1.49	HS 29.74	53.5
5C1T	24.73	3.94	24.73	3.94	0.00	314.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.892

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load Superimposed Dead Load
Moment Moment
-3.2 -32.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.5	-140.1	182.3	-159.3
OPER	300.6C	-268.7	268.7	-300.6C	335.8	-233.5	303.8	-265.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00			
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00	90.00		
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00			
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	12.07	1.42	10.92	1.62	HS 28.43
5C1T	26.40	3.76	23.89	4.28	0.00 301.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.7	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.9	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.33	26.34	-20.25	20.26
OPER	5C1T	-26.23	26.27	-20.18	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.87	HS 37.48	67.5
5C1T	4.11	4.11	0.00	328.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	153.6	-181.7	153.6	-181.7	188.7	-146.5	188.7	-
146.5								
OPER	279.4	-279.4	279.4	-279.4	314.6	-244.2	314.6	-
244.2								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00	
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00	90.00
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00	
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	11.31	1.49	11.31	1.49	HS 29.74	53.5
5C1T	24.73	3.94	24.73	3.94	0.00	314.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.892

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.6	170.8	-170.8
OPER	300.6C	-268.7	268.7	-300.6C	316.6	-252.7	284.6	-284.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	130.50	0.0	25.71	19.77	102.50			
		-58.98 R	-45.37	109.00	0.0	-54.00	-41.54	90.00	112.50		
OPER	5C1T	29.61 R	22.78	153.50	0.0	0.00	0.00	0.00			
		-49.54 L	-38.11	-11.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.39	2.57	6.64	2.90	HS 51.41 92.5
5C1T	10.69	5.10	9.61	5.75	0.00 408.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.9	65.7
OPER	151.3	-123.2	109.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.21	23.77	-2.47	18.29
OPER	5C1T	-3.41	23.42	-2.63	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.02	2.18	HS 43.65	78.6
5C1T	36.10	4.68	0.00	374.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.0	161.2	-174.0	161.2	-174.0	177.2	-158.0	177.2	-
OPER 263.4	279.4	-279.4	279.4	-279.4	295.4	-263.4	295.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.20 R	12.46	130.50	0.0	25.71	19.77	102.50	
		-58.98 R	-45.37	109.00	0.0	-54.00	-41.54	90.00	112.50
OPER	5C1T	29.61 R	22.78	153.50	0.0	0.00	0.00	0.00	
		-49.54 L	-38.11	-11.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.89	2.68	6.89	2.68	HS 53.60	96.5
5C1T	9.98	5.32	9.98	5.32	0.00	425.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.200

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.892

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	133.00	0.0	44.77	34.44	105.00			
		-45.75 L	-35.19	67.00	0.0	-35.33	-27.18	90.00	40.00		
OPER	5C1T	55.11 R	42.40	156.00	0.0	0.00	0.00	0.00			
		-42.59 L	-32.76	-9.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	HS 54.46	98.0
5C1T	5.47	6.28	4.89	7.03	0.00	391.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02
Check Point I. D. 5.200

HS20 5C1T

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	4.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.9	66.7
OPER	151.3	-121.5	111.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.46	20.96	-3.43	16.12
OPER	5C1T	-5.13	20.32	-3.94	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.36	2.63	HS 52.56	94.6
5C1T	23.70	5.47	0.00	438.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.4	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.72	133.00	0.0	44.77	34.44	105.00	
		-45.75 L	-35.19	67.00	0.0	-35.33	-27.18	90.00	40.00
OPER	5C1T	55.11 R	42.40	156.00	0.0	0.00	0.00	0.00	
		-42.59 L	-32.76	-9.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.63	101.9
5C1T	5.09	6.53	5.09	6.53	0.00	407.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.892

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.300

Dead Load Moment 0.9
Superimposed Dead Load Moment 8.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.6	-167.0	155.4	-186.2
OPER	300.6C	-268.7	268.7	-300.6C	291.0	-278.3	259.0	-310.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	135.50	0.0	65.23	50.17	107.50			
		-37.98 L	-29.21	67.00	0.0	-29.90	-23.00	90.00	0.00		
OPER	5C1T	74.87 R	57.59	158.50	0.0	0.00	0.00	0.00			
		-38.20 L	-29.39	-8.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.02	4.40	1.80	35.94	64.7
5C1T	3.89	7.28	3.46	0.00	276.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.73	18.01	-5.18	13.86
OPER	5C1T	-7.11	17.15	-5.47	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.68	3.29	HS 65.89	118.6
5C1T	16.86	6.59	0.00	526.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.300Dead Load Moment 0.9
Superimposed Dead Load Moment 8.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.4	171.5	-163.8	171.5	-163.8	161.8	-173.4	161.8	-
OPER 289.1	279.4	-279.4	279.4	-279.4	269.7	-289.1	269.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.48 R	66.52	135.50	0.0	65.23	50.17	107.50	
		-37.98 L	-29.21	67.00	0.0	-29.90	-23.00	90.00	0.00
OPER	5C1T	74.87 R	57.59	158.50	0.0	0.00	0.00	0.00	
		-38.20 L	-29.39	-8.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.57	1.87	4.57	HS 37.43	67.4
5C1T	3.60	7.57	3.60	7.57	0.00	288.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.892

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.12		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.1
OPER	300.6C	-268.7	268.7	-300.6C	284.5	-284.8	252.5	-316.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	138.00	0.0	77.50	59.62	110.00			
		-30.21 L	-23.24	67.00	0.0	-26.32	-20.25	90.00	0.00		
OPER	5C1T	87.01 R	66.93	209.00	0.0	0.00	0.00	0.00			
		-35.20 L	-27.08	-6.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.76	5.66	1.56	6.29	HS 31.23	56.2
5C1T	3.27	8.09	2.90	9.00	0.00	232.2

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 5.400
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.2 0.0 1.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.30	15.03	-7.16	11.56
OPER	5C1T	-9.29	14.06	-7.15	10.81	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.62	4.10	HS 81.98	147.6
5C1T	12.71	8.15	0.00	652.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.400Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	174.1	-161.2	174.1	-161.2	157.9	-177.3	157.9	-
OPER 295.6	279.4	-279.4	279.4	-279.4	263.2	-295.6	263.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 R	74.62	138.00	0.0	77.50	59.62	110.00
		-30.21 L	-23.24	67.00	0.0	-26.32	-20.25	90.00
OPER	5C1T	87.01 R	66.93	209.00	0.0	0.00	0.00	0.00
		-35.20 L	-27.08	-6.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.63	5.87	1.63	5.87	HS 32.56	58.6
5C1T	3.03	8.40	3.03	8.40	0.00	242.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.892

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.500

Dead Load Moment Superimposed Dead Load Moment
1.6 16.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	98.50	0.0	82.35	63.34	112.50			
		-22.43 R	-17.26	158.00	0.0	-22.73	-17.49	135.00	0.00		
OPER	5C1T	89.96 L	69.20	13.50	0.0	0.00	0.00	0.00			
		-34.30 L	-26.38	40.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	7.58	1.59	8.42	HS 31.72	57.1
5C1T	3.14	8.37	2.78	9.30	0.00	222.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.1

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-69.9 69.8
OPER	151.3		-116.4 116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.10	12.09	-9.31	9.30
OPER	5C1T	-11.61	11.61	-8.93	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.35	191.4
5C1T	10.03	10.02	0.00	801.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.500

Dead Load Moment Superimposed Dead Load Moment
1.6 16.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	94.68 L	72.83	98.50	0.0	82.35	63.34	112.50	
		-22.43 R	-17.26	158.00	0.0	-22.73	-17.49	135.00	0.00
OPER	5C1T	89.96 L	69.20	13.50	0.0	0.00	0.00	0.00	
		-34.30 L	-26.38	40.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.65	7.86	1.65	7.86	HS 33.08	59.5
5C1T	2.90	8.68	2.90	8.68	0.00	232.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.0
OPER	300.6C	-268.7	268.7	-300.6C	284.5	-284.8	252.6	-316.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	87.00	0.0	77.49	59.61	115.00			
		-30.21 R	-23.24	158.00	0.0	-26.34	-20.27	135.00	0.00		
OPER	5C1T	87.02 L	66.94	16.00	0.0	0.00	0.00	0.00			
		-35.34 R	-27.19	231.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.76	5.66	1.56	6.29	HS 31.24	56.2
5C1T	3.27	8.06	2.90	8.96	0.00	232.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-1.6
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.03	9.29	-11.56	7.15
OPER	5C1T	-14.06	9.29	-10.82	7.15	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.10	7.63	HS 81.96	147.5	
5C1T	8.15	12.72	0.00	652.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.600Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	174.1	-161.2	174.1	-161.2	158.0	-177.3	158.0	-
OPER 295.5	279.4	-279.4	279.4	-279.4	263.3	-295.5	263.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 L	74.62	87.00	0.0	77.49	59.61	115.00	
		-30.21 R	-23.24	158.00	0.0	-26.34	-20.27	135.00	0.00
OPER	5C1T	87.02 L	66.94	16.00	0.0	0.00	0.00	0.00	
		-35.34 R	-27.19	231.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.63	5.87	1.63	5.87	HS 32.57	58.6
5C1T	3.03	8.36	3.03	8.36	0.00	242.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.6	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.1	-278.2	259.1	-310.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	89.50	0.0	65.20	50.15	117.50			
		-37.98 R	-29.21	158.00	0.0	-29.95	-23.04	135.00	0.00		
OPER	5C1T	74.87 L	57.59	66.50	0.0	0.00	0.00	0.00			
		-38.38 R	-29.52	233.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	2.02	4.39	1.80	4.90	HS 35.95	64.7
5C1T	3.89	7.25	3.46	8.08	0.00	276.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.7	71.9
OPER	151.3	-112.9	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	(-) w/o imp.	(+) w/o imp.	w/imp. (-)	(+) w/imp.	(-) w/o imp.	(+) w/o imp.
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.02	6.72	-13.86	5.17
OPER	5C1T	-17.15	7.10	-13.19	5.46	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.29	10.69	HS 65.88	118.6	
5C1T	6.58	16.87	0.00	526.7	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.700Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.4	171.5	-163.8	171.5	-163.8	161.9	-173.4	161.9	-
OPER 289.0	279.4	-279.4	279.4	-279.4	269.8	-289.0	269.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.48 L	66.52	89.50	0.0	65.20	50.15	117.50	
		-37.98 R	-29.21	158.00	0.0	-29.95	-23.04	135.00	0.00
OPER	5C1T	74.87 L	57.59	66.50	0.0	0.00	0.00	0.00	
		-38.38 R	-29.52	233.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.57	1.87	4.57	HS 37.44	67.4
5C1T	3.60	7.53	3.60	7.53	0.00	288.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live w/imp.	Load Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane Live w/imp.	Load Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	92.00	0.0	45.25	34.81	120.00	
		-45.75 R	-35.19	158.00	0.0	-35.42	-27.24	135.00	185.00
OPER	5C1T	55.09 L	42.38	69.00	0.0	0.00	0.00	0.00	
		-42.80 R	-32.92	234.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	HS 54.49	98.1
5C1T	5.48	6.25	4.90	7.00	0.00	391.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.7	72.9
OPER	151.3	-111.2	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.97	4.45	-16.13	3.42
OPER	5C1T	-20.32	5.12	-15.63	3.94	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.63	16.39	HS 52.55	94.6	
5C1T	5.47	23.72	0.00	437.8	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	92.00	0.0	45.25	34.81	120.00	
		-45.75 R	-35.19	158.00	0.0	-35.42	-27.24	135.00	185.00
OPER	5C1T	55.09 L	42.38	69.00	0.0	0.00	0.00	0.00	
		-42.80 R	-32.92	234.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.66	102.0
5C1T	5.09	6.50	5.09	6.50	0.00	407.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.1	-151.5	170.9	-170.7
OPER	300.6C	-268.7	268.7	-300.6C	316.9	-252.4	284.9	-284.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	94.50	0.0	25.22	19.40	122.50			
		-58.98 L	-45.37	116.00	0.0	-54.07	-41.59	135.00	112.50		
OPER	5C1T	29.55 L	22.73	71.50	0.0	0.00	0.00	0.00			
		-49.73 R	-38.25	236.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.54	2.57	6.78 2.89	HS 51.36	92.5
5C1T	10.72	5.08	9.64 5.72	0.00	406.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.6	-6.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.5	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.78	3.20	-18.29	2.46
OPER	5C1T	-23.42	3.41	-18.02	2.62	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.18	23.08	HS 43.64	78.6
5C1T	4.68	36.18	0.00	374.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	161.2	-174.1	161.2	-174.1	177.4	-157.9	177.4	-
157.9								
OPER	279.4	-279.4	279.4	-279.4	295.6	-263.2	295.6	-
263.2								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 L	12.46	94.50	0.0	25.22	19.40	122.50	
		-58.98 L	-45.37	116.00	0.0	-54.07	-41.59	135.00	112.50
OPER	5C1T	29.55 L	22.73	71.50	0.0	0.00	0.00	0.00	
		-49.73 R	-38.25	236.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	7.03	2.68	7.03	2.68	HS 53.55	96.4
5C1T	10.00	5.29	10.00	5.29	0.00	423.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00			
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00		
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00			
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.14	1.42	10.98	1.61	HS 28.39
5C1T	26.48	3.75	23.96	4.26	0.00 300.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.8	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.53	-23.17	26.56	-23.78	26.35	-18.29	20.27
OPER	5C1T	-23.42	26.27	-18.02	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.87	HS 37.48	67.5
5C1T	4.10	4.10	0.00	328.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-32.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.4	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-
OPER 243.9	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00	
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00	
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.37	1.49	11.37	1.49	HS 29.70	53.5
5C1T	24.81	3.92	24.81	3.92	0.00	313.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -32.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00			
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00		135.00	
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00			
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.14	1.42	10.98	1.61	HS 28.39
5C1T	26.48	3.75	23.96	4.26	0.00 300.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.8	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.8	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.35	26.35	-20.27	20.27
OPER	5C1T	-26.27	26.27	-20.21	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.87	HS 37.48	67.5
5C1T	4.10	4.10	0.00	328.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.4	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-
OPER 243.9	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00	
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00	
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.37	1.49	11.37	1.49	HS 29.70	53.5
5C1T	24.81	3.92	24.81	3.92	0.00	313.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.1	-151.5	170.9	-170.7
OPER	300.6C	-268.7	268.7	-300.6C	316.9	-252.4	284.9	-284.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	155.50	0.0	25.65	19.73	127.50			
		-58.98 R	-45.37	134.00	0.0	-54.09	-41.61	115.00	137.50		
OPER	5C1T	29.55 R	22.73	178.50	0.0	0.00	0.00	0.00			
		-49.73 L	-38.25	13.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.41	2.57	6.66	2.89	HS 51.36	92.5
5C1T	10.72	5.08	9.64	5.72	0.00	406.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.9	65.7
OPER	151.3	-123.2	109.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.20	23.78	-2.46	18.29
OPER	5C1T	-3.41	23.42	-2.62	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.08	2.18	HS 43.64	78.6
5C1T	36.18	4.68	0.00	374.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.100Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.9	161.2	-174.1	161.2	-174.1	177.4	-157.9	177.4	-
OPER 263.2	279.4	-279.4	279.4	-279.4	295.6	-263.2	295.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.20 R	12.46	155.50	0.0	25.65	19.73	127.50	
		-58.98 R	-45.37	134.00	0.0	-54.09	-41.61	115.00	137.50
OPER	5C1T	29.55 R	22.73	178.50	0.0	0.00	0.00	0.00	
		-49.73 L	-38.25	13.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.91	2.68	6.91	2.68	HS 53.55	96.4
5C1T	10.00	5.29	10.00	5.29	0.00	423.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.200

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	158.00	0.0	44.74	34.41	130.00			
		-45.75 L	-35.19	92.00	0.0	-35.41	-27.24	115.00		65.00	
OPER	5C1T	55.09 R	42.38	181.00	0.0	0.00	0.00	0.00			
		-42.80 L	-32.92	16.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	3.05	3.51	2.72	3.93	HS 54.49	98.1
5C1T	5.48	6.25	4.90	7.00	0.00	391.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.200

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.5	0.0 4.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.9	66.7
OPER	151.3	-121.5	111.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.45	20.97	-3.42	16.13
OPER	5C1T	-5.12	20.32	-3.94	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.39	2.63	HS 52.55	94.6
5C1T	23.72	5.47	0.00	437.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 R	45.72	158.00	0.0	44.74	34.41	130.00	
		-45.75 L	-35.19	92.00	0.0	-35.41	-27.24	115.00	65.00
OPER	5C1T	55.09 R	42.38	181.00	0.0	0.00	0.00	0.00	
		-42.80 L	-32.92	16.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.66	102.0
5C1T	5.09	6.50	5.09	6.50	0.00	407.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.300

Dead Load Moment Superimposed Dead Load Moment
0.8 8.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.6	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.1	-278.2	259.1	-310.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	160.50	0.0	65.20	50.15	132.50			
		-37.98 L	-29.21	92.00	0.0	-29.96	-23.04	115.00		0.00	
OPER	5C1T	74.87 R	57.59	183.50	0.0	0.00	0.00	0.00			
		-38.38 L	-29.52	17.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	4.39	1.80	4.90	HS 35.95	64.7
5C1T	3.89	7.25	3.46	8.08	0.00	276.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.9	67.7
OPER	151.3	-119.8	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.72	18.02	-5.17	13.86
OPER	5C1T	-7.10	17.15	-5.46	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.69	3.29	HS 65.88	118.6
5C1T	16.87	6.58	0.00	526.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.300Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.4	171.5	-163.8	171.5	-163.8	161.9	-173.4	161.9	-
OPER 289.0	279.4	-279.4	279.4	-279.4	269.8	-289.0	269.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.48 R	66.52	160.50	0.0	65.20	50.15	132.50
		-37.98 L	-29.21	92.00	0.0	-29.96	-23.04	115.00
OPER	5C1T	74.87 R	57.59	183.50	0.0	0.00	0.00	0.00
		-38.38 L	-29.52	17.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.57	1.87	4.57	HS 37.44	67.4
5C1T	3.60	7.53	3.60	7.53	0.00	288.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.997

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.54		105.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.0
OPER	300.6C	-268.7	268.7	-300.6C	284.5	-284.8	252.6	-316.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	163.00	0.0	77.49	59.61	135.00			
		-30.21 L	-23.24	92.00	0.0	-26.35	-20.27	115.00		0.00	
OPER	5C1T	87.02 R	66.94	234.00	0.0	0.00	0.00	0.00			
		-35.34 L	-27.19	18.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.76	5.66	1.56	31.24	56.2
5C1T	3.27	8.06	2.90	0.00	232.2

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 6.400
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.2 0.0 1.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.29	15.03	-7.15	11.56
OPER	5C1T	-9.29	14.06	-7.15	10.82	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.63	4.10	HS 81.96	147.5
5C1T	12.72	8.15	0.00	652.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	174.1	-161.2	174.1	-161.2	158.0	-177.3	158.0	-
OPER 295.5	279.4	-279.4	279.4	-279.4	263.3	-295.5	263.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	97.01 R	74.62	163.00	0.0	77.49	59.61
		-30.21 L	-23.24	92.00	0.0	-26.35	-20.27
OPER	5C1T	87.02 R	66.94	234.00	0.0	0.00	0.00
		-35.34 L	-27.19	18.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.63	5.87	1.63	5.87
5C1T	3.03	8.36	3.03	8.36

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.848

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	123.50	0.0	82.35	63.34	137.50			
		-22.44 L	-17.26	92.00	0.0	-22.73	-17.49	115.00		0.00	
OPER	5C1T	89.96 R	69.20	236.50	0.0	0.00	0.00	0.00			
		-34.30 R	-26.38	209.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	7.58	1.59	8.42	HS 31.72	57.1
5C1T	3.14	8.37	2.78	9.30	0.00	222.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.09	12.10	-9.30	9.31
OPER	5C1T	-11.61	11.61	-8.93	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.33	191.4
5C1T	10.03	10.02	0.00	801.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.68 L	72.83	123.50	0.0	82.35	63.34	137.50	
		-22.44 L	-17.26	92.00	0.0	-22.73	-17.49	115.00	0.00
OPER	5C1T	89.96 R	69.20	236.50	0.0	0.00	0.00	0.00	
		-34.30 R	-26.38	209.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.65	7.86	1.65	7.86	HS 33.08	59.5
5C1T	2.90	8.68	2.90	8.68	0.00	232.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.848

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.1
OPER	300.6C	-268.7	268.7	-300.6C	284.5	-284.8	252.5	-316.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	112.00	0.0	77.50	59.62	140.00			
		-30.21 R	-23.24	183.00	0.0	-26.32	-20.25	160.00	0.00		
OPER	5C1T	87.01 L	66.93	41.00	0.0	0.00	0.00	0.00			
		-35.20 R	-27.08	256.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	5.66	1.56	6.29	HS 31.23	56.2
5C1T	3.27	8.09	2.90	9.00	0.00	232.2

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 6.600
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.2 -1.6 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.03	9.30	-11.56	7.16
OPER	5C1T	-14.06	9.29	-10.81	7.15	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.10	7.62	HS 81.98	147.6	
5C1T	8.15	12.71	0.00	652.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.600Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	174.1	-161.2	174.1	-161.2	157.9	-177.3	157.9	-
OPER 295.6	279.4	-279.4	279.4	-279.4	263.2	-295.6	263.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 L	74.62	112.00	0.0	77.50	59.62	140.00
		-30.21 R	-23.24	183.00	0.0	-26.32	-20.25	160.00
OPER	5C1T	87.01 L	66.93	41.00	0.0	0.00	0.00	0.00
		-35.20 R	-27.08	256.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.63	5.87	1.63	5.87	HS 32.56	58.6
5C1T	3.03	8.40	3.03	8.40	0.00	242.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.848

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.700

Dead Load Moment 0.9
Superimposed Dead Load Moment 8.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.6	-167.0	155.4	-186.2
OPER	300.6C	-268.7	268.7	-300.6C	291.0	-278.3	259.0	-310.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	114.50	0.0	65.23	50.17	142.50			
		-37.98 R	-29.21	183.00	0.0	-29.90	-23.00	160.00	0.00		
OPER	5C1T	74.87 L	57.59	91.50	0.0	0.00	0.00	0.00			
		-38.20 R	-29.39	258.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	4.40	1.80	4.90	HS 35.94	64.7
5C1T	3.89	7.28	3.46	8.12	0.00	276.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.1
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-67.8	71.9
OPER	151.3	-112.9	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.01	6.73	-13.86	5.18
OPER	5C1T	-17.15	7.11	-13.19	5.47	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.29	10.68	HS 65.89	118.6	
5C1T	6.59	16.86	0.00	526.9	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.700Dead Load Moment 0.9
Superimposed Dead Load Moment 8.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.4	171.5	-163.8	171.5	-163.8	161.8	-173.4	161.8	-
OPER 289.1	279.4	-279.4	279.4	-279.4	269.7	-289.1	269.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	86.48 L	66.52	114.50	0.0	65.23	50.17
		-37.98 R	-29.21	183.00	0.0	-29.90	-23.00
OPER	5C1T	74.87 L	57.59	91.50	0.0	0.00	0.00
		-38.20 R	-29.39	258.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.87	4.57	1.87	4.57
5C1T	3.60	7.57	3.60	7.57

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.848

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	117.00	0.0	45.29	34.84	145.00			
		-45.75 R	-35.19	183.00	0.0	-35.34	-27.18	160.00		210.00	
OPER	5C1T	55.11 L	42.40	94.00	0.0	0.00	0.00	0.00			
		-42.59 R	-32.76	259.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	54.46
5C1T	5.47	6.28	4.89	7.03	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.7	72.9
OPER	151.3	-111.2	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.96	4.46	-16.12	3.43
OPER	5C1T	-20.32	5.13	-15.63	3.94	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.63	16.36	HS 52.56	94.6	
5C1T	5.47	23.70	0.00	438.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.4	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	117.00	0.0	45.29	34.84	145.00	
		-45.75 R	-35.19	183.00	0.0	-35.34	-27.18	160.00	210.00
OPER	5C1T	55.11 L	42.40	94.00	0.0	0.00	0.00	0.00	
		-42.59 R	-32.76	259.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.63	101.9
5C1T	5.09	6.53	5.09	6.53	0.00	407.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.848

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
 Check Point I. D. 6.900

Dead Load Moment Superimposed Dead Load Moment
 -1.5 -14.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.6	170.8	-170.8
OPER	300.6C	-268.7	268.7	-300.6C	316.6	-252.7	284.6	-284.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	119.50	0.0	25.28	19.44	147.50			
		-58.98 L	-45.37	141.00	0.0	-53.97	-41.52	160.00		137.50	
OPER	5C1T	29.61 L	22.78	96.50	0.0	0.00	0.00	0.00			
		-49.54 R	-38.11	261.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.52	2.57	6.76	2.90	HS 51.41 92.5
5C1T	10.69	5.10	9.61	5.75	0.00 408.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 6.900
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.6 -6.2 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.5	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.77	3.21	-18.29	2.47
OPER	5C1T	-23.42	3.41	-18.02	2.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.18	23.02	HS 43.65	78.6
5C1T	4.68	36.10	0.00	374.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.0	161.2	-174.0	161.2	-174.0	177.2	-158.0	177.2	-
OPER 263.4	279.4	-279.4	279.4	-279.4	295.4	-263.4	295.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.20 L	12.46	119.50	0.0	25.28	19.44	147.50	
		-58.98 L	-45.37	141.00	0.0	-53.97	-41.52	160.00	137.50
OPER	5C1T	29.61 L	22.78	96.50	0.0	0.00	0.00	0.00	
		-49.54 R	-38.11	261.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.01	2.68	7.01	2.68	HS 53.60	96.5
5C1T	9.98	5.32	9.98	5.32	0.00	425.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.848

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.5	-140.1	182.3	-159.3
OPER	300.6C	-268.7	268.7	-300.6C	335.8	-233.5	303.8	-265.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00			
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00		
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00			
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.07	1.42	10.92	1.62	HS 28.43	51.2
5C1T	26.24	3.76	23.74	4.27	0.00	300.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.9	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.53	-23.17	26.56	-23.77	26.33	-18.29	20.25
OPER	5C1T	-23.42	26.23	-18.02	20.18	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.88	HS 37.48	67.5
5C1T	4.11	4.11	0.00	328.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -32.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.5	153.6	-181.7	153.6	-181.7	188.7	-146.5	188.7	-
OPER 244.2	279.4	-279.4	279.4	-279.4	314.6	-244.2	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00	
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00	
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.31	1.49	11.31	1.49	HS 29.74	53.5
5C1T	24.58	3.93	24.58	3.93	0.00	314.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.848

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.5	-140.1	182.3	-159.3
OPER	300.6C	-268.7	268.7	-300.6C	335.8	-233.5	303.8	-265.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live w/imp.	Load Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane Live w/imp.	Load Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00	
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00	
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.07	1.42	10.92	1.62	HS 28.43	51.2
5C1T	26.24	3.76	23.74	4.27	0.00	300.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.7	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.9	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.34	26.33	-20.26	20.25
OPER	5C1T	-26.27	26.23	-20.21	20.18	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.88	HS 37.48	67.5
5C1T	4.11	4.11	0.00	328.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.5	153.6	-181.7	153.6	-181.7	188.7	-146.5	188.7	-
OPER 244.2	279.4	-279.4	279.4	-279.4	314.6	-244.2	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00	
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00	
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.31	1.49	11.31	1.49	HS 29.74	53.5
5C1T	24.58	3.93	24.58	3.93	0.00	314.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.856

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -14.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.6	170.8	-170.8
OPER	300.6C	-268.7	268.7	-300.6C	316.7	-252.6	284.7	-284.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	180.50	0.0	25.70	19.77	152.50			
		-58.98 R	-45.37	159.00	0.0	-54.03	-41.56	140.00		162.50	
OPER	5C1T	29.55 R	22.73	203.50	0.0	0.00	0.00	0.00			
		-49.71 L	-38.24	38.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.39	2.57	6.65	2.89	HS 51.40
5C1T	10.72	5.08	9.63	5.72	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 6.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.9	65.7
OPER	151.3	-123.2	109.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-2.98	30.11	-2.29	23.17	-3.21	23.76	-2.47	18.28
OPER	5C1T	-3.41	23.37	-2.62	17.98	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.00	2.18	HS 43.66	78.6
5C1T	36.17	4.69	0.00	375.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-14.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	161.2	-174.1	161.2	-174.1	177.3	-158.0	177.3	-
158.0								
OPER	279.4	-279.4	279.4	-279.4	295.5	-263.3	295.5	-
263.3								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Truck	Live Load Moment	Loc. of Ax.	Lane Live Load Moment	Loc. of Conc.				
Typ.	Veh.	w/imp.	w/o imp.	Front Wheel	Dis.	w/imp.	w/o imp.	Load 1	Load 2
INV.	HS20	16.20 R	12.46	180.50	0.0	25.70	19.77	152.50	
		-58.98 R	-45.37	159.00	0.0	-54.03	-41.56	140.00	162.50
OPER	5C1T	29.55 R	22.73	203.50	0.0	0.00	0.00	0.00	
		-49.71 L	-38.24	38.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	6.90	2.68	6.90	2.68	HS 53.58	96.4
5C1T	10.00	5.30	10.00	5.30	0.00	423.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.856

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
 Check Point I. D. 7.200

Dead Load Moment Superimposed Dead Load Moment
 -0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	183.00	0.0	44.76	34.43	155.00			
		-45.75 L	-35.19	117.00	0.0	-35.40	-27.23	140.00	90.00		
OPER	5C1T	55.09 R	42.38	206.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	41.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	HS 54.48	98.1
5C1T	5.48	6.25	4.90	7.00	0.00	391.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.200

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.5	0.0 4.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.9	66.8
OPER	151.3	-121.5	111.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.46	20.95	-3.43	16.12
OPER	5C1T	-5.12	20.27	-3.94	15.59	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.35	2.63	HS 52.57	94.6
5C1T	23.72	5.49	0.00	439.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.3	-166.9	168.3	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 R	45.72	183.00	0.0	44.76	34.43	155.00	
		-45.75 L	-35.19	117.00	0.0	-35.40	-27.23	140.00	90.00
OPER	5C1T	55.09 R	42.38	206.00	0.0	0.00	0.00	0.00	
		-42.79 L	-32.92	41.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.65	102.0
5C1T	5.09	6.50	5.09	6.50	0.00	407.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.856

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.1	-278.2	259.2	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	185.50	0.0	65.18	50.14	157.50			
		-37.98 L	-29.21	117.00	0.0	-29.97	-23.05	140.00		0.00	
OPER	5C1T	74.87 R	57.59	208.50	0.0	0.00	0.00	0.00			
		-38.37 L	-29.52	42.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.02	4.39	1.80	35.96	64.7
5C1T	3.89	7.25	3.46	0.00	276.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	113.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.73	18.00	-5.18	13.85
OPER	5C1T	-7.10	17.10	-5.46	13.16	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.67	3.30	HS 65.90	118.6
5C1T	16.86	6.60	0.00	528.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.3	171.4	-163.8	171.4	-163.8	161.9	-173.3	161.9	-
OPER 288.9	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2	
INV.	HS20	86.48 R	66.52	185.50	0.0	65.18	50.14	157.50
		-37.98 L	-29.21	117.00	0.0	-29.97	-23.05	140.00
OPER	5C1T	74.87 R	57.59	208.50	0.0	0.00	0.00	0.00
		-38.37 L	-29.52	42.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.56	1.87	4.56	HS 37.45	67.4
5C1T	3.61	7.53	3.61	7.53	0.00	288.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.856

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.94		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.8	-170.8	151.6	-189.9
OPER	300.6C	-268.7	268.7	-300.6C	284.7	-284.6	252.7	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	188.00	0.0	77.41	59.55	160.00			
		-30.21 L	-23.24	117.00	0.0	-26.38	-20.29	140.00	0.00		
OPER	5C1T	86.82 R	66.79	211.00	0.0	0.00	0.00	0.00			
		-35.33 L	-27.18	43.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	5.65	1.56	6.29	HS 31.26	56.3
5C1T	3.28	8.05	2.91	8.96	0.00	232.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.400

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.31	15.01	-7.16	11.55
OPER	5C1T	-9.29	14.02	-7.15	10.79	0.00	0.00	0.00	0.00

Rating		Shear	
Veh.	Rating (-)	Factor (+)	Rating Value
HS20	7.61	4.10	81.99
5C1T	12.71	8.18	0.00
			Load Capacity (tons)
			147.6
			654.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.2	174.0	-161.3	174.0	-161.3	158.1	-177.2	158.1	-
OPER 295.3	279.4	-279.4	279.4	-279.4	263.5	-295.3	263.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	97.01 R	74.62	188.00	0.0	77.41	59.55
		-30.21 L	-23.24	117.00	0.0	-26.38	-20.29
OPER	5C1T	86.82 R	66.79	211.00	0.0	0.00	0.00
		-35.33 L	-27.18	43.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.63	5.87	1.63	5.87
5C1T	3.04	8.36	3.04	8.36

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.856

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
 Check Point I. D. 7.500

Dead Load Moment 1.6
 Superimposed Dead Load Moment 16.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.5	-172.1	150.3	-191.3
OPER	300.6C	-268.7	268.7	-300.6C	282.5	-286.8	250.5	-318.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	148.50	0.0	82.22	63.25	162.50			
		-22.43 L	-17.26	117.00	0.0	-22.80	-17.54	140.00	0.00		
OPER	5C1T	89.94 L	69.18	63.50	0.0	0.00	0.00	0.00			
		-34.36 R	-26.43	234.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.79	7.55	1.59	8.39	HS 31.75	57.2
5C1T	3.14	8.35	2.79	9.28	0.00	222.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.10	12.08	-9.31	9.29
OPER	5C1T	-11.61	11.59	-8.93	8.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.37	191.5
5C1T	10.03	10.04	0.00	802.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load Moment Superimposed Dead Load Moment
1.6 16.5

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 178.5	174.9	-160.4	174.9	-160.4	156.8	-178.5	156.8	-
OPER 297.5	279.4	-279.4	279.4	-279.4	261.3	-297.5	261.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.68 L	72.83	148.50	0.0	82.22	63.25	162.50	
		-22.43 L	-17.26	117.00	0.0	-22.80	-17.54	140.00	0.00
OPER	5C1T	89.94 L	69.18	63.50	0.0	0.00	0.00	0.00	
		-34.36 R	-26.43	234.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	1.66	7.83	1.66	7.83	HS 33.11	59.6
5C1T	2.90	8.66	2.90	8.66	0.00	232.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.600

Dead Load Moment Superimposed Dead Load Moment
1.4 14.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.9	-170.6	151.7	-189.8
OPER	300.6C	-268.7	268.7	-300.6C	284.9	-284.4	252.9	-316.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 L	74.62	137.00	0.0	77.32	59.48	165.00			
		-30.20 R	-23.23	208.00	0.0	-26.40	-20.31	185.00		0.00	
OPER	5C1T	87.00 L	66.92	66.00	0.0	0.00	0.00	0.00			
		-35.71 R	-27.47	281.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	5.65	1.56	6.29	HS 31.28	56.3
5C1T	3.28	7.96	2.91	8.86	0.00	232.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-1.6
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.04	9.28	-11.57	7.14
OPER	5C1T	-14.06	9.25	-10.81	7.12	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.10	7.64	HS 81.95	147.5	
5C1T	8.15	12.77	0.00	652.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.1	173.9	-161.3	173.9	-161.3	158.2	-177.1	158.2	-
OPER 295.2	279.4	-279.4	279.4	-279.4	263.6	-295.2	263.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	97.00 L	74.62	137.00	0.0	77.32	59.48	165.00	
		-30.20 R	-23.23	208.00	0.0	-26.40	-20.31	185.00	0.00
OPER	5C1T	87.00 L	66.92	66.00	0.0	0.00	0.00	0.00	
		-35.71 R	-27.47	281.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.63	5.86	1.63	5.86	HS 32.61	58.7
5C1T	3.03	8.27	3.03	8.27	0.00	242.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.85	28.67	28.67	1.699
			999999.000
			92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.9	-166.7	155.7	-185.9
OPER	300.6C	-268.7	268.7	-300.6C	291.5	-277.8	259.5	-309.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 L	66.52	139.50	0.0	65.00	50.00	167.50			
		-37.97 R	-29.21	208.00	0.0	-30.01	-23.08	185.00	0.00		
OPER	5C1T	74.55 L	57.34	116.50	0.0	0.00	0.00	0.00			
		-38.82 R	-29.86	283.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.02	4.39	1.80	36.01	64.8
5C1T	3.91	7.16	3.48	0.00	278.5

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 7.700
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.3 -3.2 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-67.7	71.9
OPER	151.3	-112.9	119.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.02	6.71	-13.86	5.16
OPER	5C1T	-17.15	7.06	-13.19	5.43	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.29	10.72	HS 65.86	118.6	
5C1T	6.58	16.99	0.00	526.6	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.700Dead Load Moment 0.8
Superimposed Dead Load Moment 8.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.1	171.3	-164.0	171.3	-164.0	162.1	-173.1	162.1	-
OPER 288.6	279.4	-279.4	279.4	-279.4	270.2	-288.6	270.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.47 L	66.52	139.50	0.0	65.00	50.00	167.50	
		-37.97 R	-29.21	208.00	0.0	-30.01	-23.08	185.00	0.00
OPER	5C1T	74.55 L	57.34	116.50	0.0	0.00	0.00	0.00	
		-38.82 R	-29.86	283.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.88	4.56	1.88	4.56	HS 37.50	67.5
5C1T	3.62	7.43	3.62	7.43	0.00	290.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.800

Dead Load Superimposed Dead Load
Moment Moment
-0.2 -1.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.3	-299.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.71	142.00	0.0	45.01	34.62	170.00			
		-45.74 R	-35.19	208.00	0.0	-35.64	-27.41	185.00		235.00	
OPER	5C1T	54.46 L	41.90	119.00	0.0	0.00	0.00	0.00			
		-43.32 R	-33.32	284.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.50	2.73	3.92	HS 54.58 98.3
5C1T	5.55	6.16	4.96	6.90	0.00 397.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.7	72.9
OPER	151.3	-111.2	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.97	4.44	-16.13	3.41
OPER	5C1T	-20.32	5.07	-15.63	3.90	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.63	16.44	HS 52.54	94.6	
5C1T	5.47	23.97	0.00	437.8	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.800

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.6	167.0	-168.3	167.0	-168.3	168.6	-166.6	168.6	-
OPER 277.7	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 L	45.71	142.00	0.0	45.01	34.62	170.00	
		-45.74 R	-35.19	208.00	0.0	-35.64	-27.41	185.00	235.00
OPER	5C1T	54.46 L	41.90	119.00	0.0	0.00	0.00	0.00	
		-43.32 R	-33.32	284.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.84	3.64	2.84	3.64	HS 56.75	102.2
5C1T	5.16	6.41	5.16	6.41	0.00	412.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.900

Dead Load Moment Superimposed Dead Load Moment
-1.6 -15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.4	-151.2	171.2	-170.3
OPER	300.6C	-268.7	268.7	-300.6C	317.4	-251.9	285.4	-283.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.19 L	12.46	144.50	0.0	24.95	19.19	172.50			
		-58.96 L	-45.35	166.00	0.0	-54.13	-41.64	185.00	162.50		
OPER	5C1T	28.68 L	22.06	121.50	0.0	0.00	0.00	0.00			
		-50.27 R	-38.67	286.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.63	2.56	6.86	2.89	HS 51.28 92.3
5C1T	11.06	5.01	9.95	5.65	0.00 400.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.5	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.78	3.19	-18.29	2.46
OPER	5C1T	-23.42	3.35	-18.02	2.58	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.18	23.17	HS 43.63	78.5
5C1T	4.68	36.74	0.00	374.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	161.0	-174.3	161.0	-174.3	177.7	-157.6	177.7	-
157.6								
OPER	279.4	-279.4	279.4	-279.4	296.1	-262.7	296.1	-
262.7								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.19 L	12.46	144.50	0.0	24.95	19.19	172.50	
		-58.96 L	-45.35	166.00	0.0	-54.13	-41.64	185.00	162.50
OPER	5C1T	28.68 L	22.06	121.50	0.0	0.00	0.00	0.00	
		-50.27 R	-38.67	286.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	7.12	2.67	7.12	2.67	HS 53.46	96.2
5C1T	10.32	5.22	10.32	5.22	0.00	418.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.85	28.67	28.67	1.699
			999999.000
			92.187

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -32.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.0	-139.6	182.8	-158.8
OPER	300.6C	-268.7	268.7	-300.6C	336.7	-232.6	304.7	-264.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00			
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00		185.00	
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00			
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.30	1.42	11.13	1.61	HS 28.33
5C1T	26.51	3.72	24.00	4.23	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	64.6
OPER	151.3	-107.8	107.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.52	-23.17	26.56	-23.78	26.36	-18.29	20.28
OPER	5C1T	-23.42	26.44	-18.02	20.34	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.87	HS 37.44	67.4
5C1T	4.10	4.07	0.00	326.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.0	153.2	-182.0	153.2	-182.0	189.3	-146.0	189.3	-
OPER 243.4	279.4	-279.4	279.4	-279.4	315.4	-243.4	315.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00	
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00	
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.52	1.48	11.52	1.48	HS 29.64	53.3
5C1T	24.84	3.89	24.84	3.89	0.00	311.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.0	-139.6	182.8	-158.8
OPER	300.6C	-268.7	268.7	-300.6C	336.7	-232.6	304.7	-264.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00			
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00		
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00			
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.30	1.42	11.13	1.61	HS 28.33
5C1T	26.51	3.72	24.00	4.23	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.8	7.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.6
OPER	151.3	-107.8	107.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.52	-26.56	26.56	-26.35	26.36	-20.27	20.28
OPER	5C1T	-26.27	26.44	-20.21	20.34	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.87	HS 37.44	67.4
5C1T	4.10	4.07	0.00	326.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.0	153.2	-182.0	153.2	-182.0	189.3	-146.0	189.3	-
OPER 243.4	279.4	-279.4	279.4	-279.4	315.4	-243.4	315.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00	
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00	
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.52	1.48	11.52	1.48	HS 29.64	53.3
5C1T	24.84	3.89	24.84	3.89	0.00	311.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -15.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	190.3	-151.3	171.1	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.1	-252.2	285.2	-284.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.21 R	12.47	205.50	0.0	25.50	19.62	177.50			
		-58.98 R	-45.37	184.00	0.0	-54.13	-41.64	165.00		187.50	
OPER	5C1T	29.51 R	22.70	228.50	0.0	0.00	0.00	0.00			
		-49.72 L	-38.24	63.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.46	2.57	6.71	2.89	HS 51.30	92.3
5C1T	10.75	5.07	9.66	5.72	0.00	405.7

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 8.100
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.6 0.0 6.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.0	65.6
OPER	151.3	-123.3	109.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.94	30.11	-2.26	23.16	-3.13	23.79	-2.41	18.30
OPER	5C1T	-3.39	23.57	-2.61	18.13	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.61	2.18	HS 43.60	78.5
5C1T	36.34	4.64	0.00	371.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -15.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.7	161.0	-174.2	161.0	-174.2	177.5	-157.7	177.5	-
OPER 262.9	279.4	-279.4	279.4	-279.4	295.9	-262.9	295.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.21 R	12.47	205.50	0.0	25.50	19.62	177.50	
		-58.98 R	-45.37	184.00	0.0	-54.13	-41.64	165.00	187.50
OPER	5C1T	29.51 R	22.70	228.50	0.0	0.00	0.00	0.00	
		-49.72 L	-38.24	63.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.96	2.67	6.96	2.67	HS 53.49	96.3
5C1T	10.03	5.29	10.03	5.29	0.00	423.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.200

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	208.00	0.0	44.74	34.41	180.00			
		-45.75 L	-35.19	142.00	0.0	-35.41	-27.24	165.00	115.00		
OPER	5C1T	55.09 R	42.38	231.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	66.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	HS 54.49	98.1
5C1T	5.48	6.25	4.90	7.00	0.00	391.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.200

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.5	0.0 4.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.0	66.7
OPER	151.3	-121.6	111.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.94	25.39	-2.26	19.53	-4.39	20.98	-3.38	16.14
OPER	5C1T	-5.11	20.46	-3.93	15.74	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.63	2.62	HS 52.50	94.5
5C1T	23.81	5.43	0.00	434.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.200

Dead Load Moment Superimposed Dead Load Moment

-0.1 -1.1

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 166.9	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 R	45.72	208.00	0.0	44.74	34.41	180.00	
		-45.75 L	-35.19	142.00	0.0	-35.41	-27.24	165.00	115.00
OPER	5C1T	55.09 R	42.38	231.00	0.0	0.00	0.00	0.00	
		-42.79 L	-32.92	66.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	2.83	3.65	2.83	3.65	HS 56.66	102.0
5C1T	5.09	6.50	5.09	6.50	0.00	407.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.300

Dead Load Moment 0.9
Superimposed Dead Load Moment 9.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.5	-167.1	155.3	-186.3
OPER	300.6C	-268.7	268.7	-300.6C	290.8	-278.5	258.8	-310.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 R	66.52	210.50	0.0	65.25	50.19	182.50			
		-37.98 L	-29.21	142.00	0.0	-29.81	-22.93	165.00	0.00		
OPER	5C1T	74.93 R	57.64	233.50	0.0	0.00	0.00	0.00			
		-38.36 L	-29.51	67.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.02	4.40	1.80	35.92	64.6
5C1T	3.88	7.26	3.45	0.00	276.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.0	67.7
OPER	151.3	-119.9	112.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.42	20.56	-3.40	15.82	-6.66	18.03	-5.13	13.87
OPER	5C1T	-7.09	17.27	-5.45	13.29	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.80	3.29	HS 65.82	118.5
5C1T	16.93	6.53	0.00	522.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.300Dead Load Moment 0.9
Superimposed Dead Load Moment 9.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.5	171.6	-163.7	171.6	-163.7	161.7	-173.5	161.7	-
OPER 289.2	279.4	-279.4	279.4	-279.4	269.6	-289.2	269.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.47 R	66.52	210.50	0.0	65.25	50.19	182.50	
		-37.98 L	-29.21	142.00	0.0	-29.81	-22.93	165.00	0.00
OPER	5C1T	74.93 R	57.64	233.50	0.0	0.00	0.00	0.00	
		-38.36 L	-29.51	67.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.57	1.87	4.57	HS 37.41	67.3
5C1T	3.60	7.54	3.60	7.54	0.00	287.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	92.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.26		105.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.400

Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	213.00	0.0	77.56	59.66	185.00			
		-30.20 L	-23.23	142.00	0.0	-26.05	-20.04	165.00	0.00		
OPER	5C1T	87.63 R	67.41	284.00	0.0	0.00	0.00	0.00			
		-35.31 L	-27.16	68.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.76	5.67	1.56	31.17	56.1
5C1T	3.24	8.08	2.88	0.00	230.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.2 0.0 1.7

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -71.0 68.7
OPER 151.3 -118.3 114.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.24	15.05	-7.11	11.57
OPER	5C1T	-9.27	14.17	-7.13	10.90	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.68	4.09	HS 81.89	147.4
5C1T	12.76	8.08	0.00	646.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.400Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.6	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-
OPER 296.1	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 R	74.62	213.00	0.0	77.56	59.66	185.00
		-30.20 L	-23.23	142.00	0.0	-26.05	-20.04	165.00
OPER	5C1T	87.63 R	67.41	284.00	0.0	0.00	0.00	0.00
		-35.31 L	-27.16	68.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	1.62	5.88	1.62	5.88
5C1T	3.00	8.39	3.00	8.39

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.8	-172.7	149.6	-191.9
OPER	300.6C	-268.7	268.7	-300.6C	281.4	-287.9	249.4	-319.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.67	L	72.82	173.50	0.0	82.45	63.42	187.50		
		-22.43	L	-17.25	142.00	0.0	-22.28	-17.14	165.00	0.00	
OPER	5C1T	90.81	R	69.86	286.50	0.0	0.00	0.00	0.00		
		-33.70	L	-25.92	69.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	7.70	1.58	8.56	HS 31.61	56.9
5C1T	3.10	8.54	2.75	9.49	0.00	219.7

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 8.500

HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear

0.0 0.0 0.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.09	10.09	-12.03	12.11	-9.26	9.32
OPER	5C1T	-11.58	11.72	-8.91	9.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.33	5.31	HS 106.25	191.3
5C1T	10.07	9.91	0.00	793.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.2	175.3	-159.9	175.3	-159.9	156.1	-179.2	156.1	-
OPER 298.6	279.4	-279.4	279.4	-279.4	260.2	-298.6	260.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.67 L	72.82	173.50	0.0	82.45	63.42	187.50	
		-22.43 L	-17.25	142.00	0.0	-22.28	-17.14	165.00	0.00
OPER	5C1T	90.81 R	69.86	286.50	0.0	0.00	0.00	0.00	
		-33.70 L	-25.92	69.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.65	7.99	1.65	7.99	HS 32.98	59.4
5C1T	2.87	8.86	2.87	8.86	0.00	229.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load Moment 1.6
Superimposed Dead Load Moment 15.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.0	-171.6	150.8	-190.8
OPER	300.6C	-268.7	268.7	-300.6C	283.4	-285.9	251.4	-317.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.97 L	74.59	162.00	0.0	77.63	59.72	190.00			
		-29.91 R	-23.01	233.00	0.0	-25.66	-19.74	210.00		0.00	
OPER	5C1T	88.02 L	67.71	139.00	0.0	0.00	0.00	0.00			
		-33.75 R	-25.96	306.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.74	1.55	6.38	HS 31.11	56.0
5C1T	3.22	8.47	2.86	9.42	0.00	228.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.8	70.8
OPER	151.3	-114.7	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.90	6.90	-14.97	9.31	-11.51	7.16
OPER	5C1T	-14.06	9.38	-10.81	7.21	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.10	7.60	HS 82.08	147.7	
5C1T	8.16	12.58	0.00	653.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load Moment 1.6
Superimposed Dead Load Moment 15.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.0	174.6	-160.7	174.6	-160.7	157.3	-178.0	157.3	-
OPER 296.7	279.4	-279.4	279.4	-279.4	262.1	-296.7	262.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2	
INV.	HS20	96.97 L	74.59	162.00	0.0	77.63	59.72	190.00
		-29.91 R	-23.01	233.00	0.0	-25.66	-19.74	210.00
OPER	5C1T	88.02 L	67.71	139.00	0.0	0.00	0.00	0.00
		-33.75 R	-25.96	306.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.62	5.95	1.62	5.95	HS 32.44	58.4
5C1T	2.98	8.79	2.98	8.79	0.00	238.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.79	28.67	28.67	1.699	999999.000	89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.700

Dead Load Moment 1.0
Superimposed Dead Load Moment 10.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.7	-167.8	154.5	-187.0
OPER	300.6C	-268.7	268.7	-300.6C	289.6	-279.7	257.6	-311.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.43 L	66.48	164.50	0.0	65.39	50.30	192.50			
		-37.61 R	-28.93	233.00	0.0	-29.08	-22.37	210.00		0.00	
OPER	5C1T	76.13 L	58.56	141.50	0.0	0.00	0.00	0.00			
		-36.19 R	-27.84	308.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.46	1.79	35.76	64.4
5C1T	3.80	7.73	3.38	0.00	270.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.8	71.8
OPER	151.3	-113.0	119.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.39	-17.96	6.74	-13.81	5.19
OPER	5C1T	-17.15	7.16	-13.19	5.51	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.30	10.65	HS 65.94	118.7
5C1T	6.59	16.73	0.00	527.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.700

Dead Load Moment Superimposed Dead Load Moment
1.0 10.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.3	172.1	-163.2	172.1	-163.2	161.0	-174.3	161.0	-
OPER 290.5	279.4	-279.4	279.4	-279.4	268.3	-290.5	268.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.43 L	66.48	164.50	0.0	65.39	50.30	192.50	
		-37.61 R	-28.93	233.00	0.0	-29.08	-22.37	210.00	0.00
OPER	5C1T	76.13 L	58.56	141.50	0.0	0.00	0.00	0.00	
		-36.19 R	-27.84	308.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.86	4.63	1.86	4.63	HS 37.26	67.1
5C1T	3.52	8.02	3.52	8.02	0.00	282.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.800

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	300.0	-269.3	268.0	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.36 L	45.67	167.00	0.0	45.49	34.99	195.00			
		-45.31 R	-34.85	233.00	0.0	-33.05	-25.42	210.00	177.50		
OPER	5C1T	56.23 L	43.25	144.00	0.0	0.00	0.00	0.00			
		-40.11 R	-30.86	222.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	3.03	3.57	2.71	3.99	HS 54.18	97.5
5C1T	5.34	6.71	4.77	7.51	0.00	381.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.800

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.5	-4.6
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.8	72.8
OPER	151.3	-111.4	121.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.91	4.47	-16.08	3.44
OPER	5C1T	-20.31	5.16	-15.63	3.97	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.63	16.30	HS 52.61	94.7
5C1T	5.48	23.52	0.00	438.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.800Dead Load Moment 0.1
Superimposed Dead Load Moment 0.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 168.0	167.9	-167.4	167.9	-167.4	167.3	-168.0	167.3	-
OPER 280.0	279.4	-279.4	279.4	-279.4	278.8	-280.0	278.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.36 L	45.67	167.00	0.0	45.49	34.99	195.00	
		-45.31 R	-34.85	233.00	0.0	-33.05	-25.42	210.00	177.50
OPER	5C1T	56.23 L	43.25	144.00	0.0	0.00	0.00	0.00	
		-40.11 R	-30.86	222.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.82	3.71	2.82	3.71	HS 56.35	101.4
5C1T	4.96	6.98	4.96	6.98	0.00	396.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.8	-152.8	169.6	-172.0
OPER	300.6C	-268.7	268.7	-300.6C	314.7	-254.6	282.7	-286.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.13 L	12.41	169.50	0.0	25.54	19.64	197.50			
		-58.69 L	-45.15	191.00	0.0	-52.86	-40.66	210.00	187.50		
OPER	5C1T	30.14 L	23.19	146.50	0.0	0.00	0.00	0.00			
		-47.23 R	-36.33	224.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	7.39	2.60	6.64	2.93	HS 52.06	93.7
5C1T	10.44	5.39	9.38	6.07	0.00	431.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.8	73.9
OPER	151.3	-109.7	123.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.71	3.23	-18.24	2.48
OPER	5C1T	-23.40	3.46	-18.00	2.66	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.18	22.88	HS 43.69	78.6
5C1T	4.69	35.53	0.00	375.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 159.2	162.0	-173.3	162.0	-173.3	176.1	-159.2	176.1	-
OPER 265.4	279.4	-279.4	279.4	-279.4	293.4	-265.4	293.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.13 L	12.41	169.50	0.0	25.54	19.64	197.50	
		-58.69 L	-45.15	191.00	0.0	-52.86	-40.66	210.00	187.50
OPER	5C1T	30.14 L	23.19	146.50	0.0	0.00	0.00	0.00	
		-47.23 R	-36.33	224.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	6.89	2.71	6.89	2.71	HS 54.26	97.7
5C1T	9.73	5.62	9.73	5.62	0.00	449.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.1	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.6	-235.7	301.6	-267.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00			
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00	210.00		
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00			
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.02	1.44	9.06	1.63	HS 28.74	51.7
5C1T	21.67	3.82	19.60	4.34	0.00	305.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.8	65.0
OPER	151.3	-108.0	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.48	-23.17	26.52	-23.71	26.11	-18.24	20.08
OPER	5C1T	-23.40	25.93	-18.00	19.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.88	HS 37.52	67.5
5C1T	4.12	4.18	0.00	329.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.9	154.5	-180.8	154.5	-180.8	187.4	-147.9	187.4	-
OPER 246.5	279.4	-279.4	279.4	-279.4	312.3	-246.5	312.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00	
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00	210.00
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	9.38	1.50	9.38	1.50	HS 30.05	54.1
5C1T	20.30	3.99	20.30	3.99	0.00	319.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.79	28.67	28.67	1.699
			999999.000
			89.700

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.1	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.6	-235.7	301.6	-267.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00			
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00		210.00	
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00			
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.02	1.44	9.06	1.63	HS 28.74	51.7
5C1T	21.67	3.82	19.60	4.34	0.00	305.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-7.7	7.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.8	65.0
OPER	151.3	-108.0	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.48	-26.56	26.52	-26.28	26.11	-20.22	20.08
OPER	5C1T	-26.22	25.93	-20.17	19.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.88	HS 37.52	67.5
5C1T	4.12	4.18	0.00	329.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.9	154.5	-180.8	154.5	-180.8	187.4	-147.9	187.4	-
OPER 246.5	279.4	-279.4	279.4	-279.4	312.3	-246.5	312.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00	
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00	210.00
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	9.38	1.50	9.38	1.50	HS 30.05	54.1
5C1T	20.30	3.99	20.30	3.99	0.00	319.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 9.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.3	-152.3	170.1	-171.5
OPER	300.6C	-268.7	268.7	-300.6C	315.5	-253.8	283.5	-285.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.64	230.50	0.0	25.89	19.91	202.50			
		-59.00 R	-45.39	209.00	0.0	-53.36	-41.05	190.00	212.50		
OPER	5C1T	31.30 R	24.08	253.50	0.0	0.00	0.00	0.00			
		-49.71 L	-38.24	88.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	7.31	2.58	6.57	2.91	HS 51.61	92.9
5C1T	10.08	5.11	9.06	5.75	0.00	408.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.6	66.0
OPER	151.3	-122.7	110.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.64	30.06	-2.80	23.12	-3.50	23.53	-2.69	18.10
OPER	5C1T	-3.74	22.87	-2.88	17.59	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	20.23	2.20	HS 43.91	79.0
5C1T	32.79	4.81	0.00	384.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.100

Dead Load Moment Superimposed Dead Load Moment
-1.3 -13.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.7	161.7	-173.6	161.7	-173.6	176.6	-158.7	176.6	-
OPER 264.5	279.4	-279.4	279.4	-279.4	294.3	-264.5	294.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 R	12.64	230.50	0.0	25.89	19.91	202.50	
		-59.00 R	-45.39	209.00	0.0	-53.36	-41.05	190.00	212.50
OPER	5C1T	31.30 R	24.08	253.50	0.0	0.00	0.00	0.00	
		-49.71 L	-38.24	88.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.82	2.69	6.82	2.69	HS 53.80	96.8
5C1T	9.40	5.32	9.40	5.32	0.00	425.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.80	28.67	28.67	1.699
			999999.000
			89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.46 R	45.74	233.00	0.0	44.78	34.45	205.00			
		-45.76 L	-35.20	167.00	0.0	-35.35	-27.19	190.00		140.00	
OPER	5C1T	55.30 R	42.54	256.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	91.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.04	3.51	2.72	3.93	HS 54.43	98.0
5C1T	5.45	6.25	4.88	7.00	0.00	390.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.200

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.4	0.0 4.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.6	67.0
OPER	151.3	-121.1	111.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.64	25.34	-2.80	19.49	-4.54	20.71	-3.49	15.93
OPER	5C1T	-5.65	19.67	-4.34	15.13	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.01	2.64	HS 52.90	95.2
5C1T	21.43	5.68	0.00	454.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.4	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.46 R	45.74	233.00	0.0	44.78	34.45	205.00	
		-45.76 L	-35.20	167.00	0.0	-35.35	-27.19	190.00	140.00
OPER	5C1T	55.30 R	42.54	256.00	0.0	0.00	0.00	0.00	
		-42.79 L	-32.92	91.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.59	101.9
5C1T	5.07	6.51	5.07	6.51	0.00	405.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.300

Dead Load Moment 0.7
Superimposed Dead Load Moment 7.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	175.3	-166.3	156.1	-185.5
OPER	300.6C	-268.7	268.7	-300.6C	292.1	-277.2	260.1	-309.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.17 R	66.29	235.50	0.0	64.63	49.71	207.50			
		-37.94 L	-29.19	167.00	0.0	-30.08	-23.14	190.00		0.00	
OPER	5C1T	73.27 R	56.36	258.50	0.0	0.00	0.00	0.00			
		-38.42 L	-29.56	92.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.03	4.38	1.81	36.22	65.2
5C1T	3.99	7.22	3.55	0.00	284.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-71.6	68.0
OPER	151.3	-119.4	113.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.55	20.51	-3.50	15.77	-6.82	17.75	-5.25	13.66
OPER	5C1T	-7.79	16.51	-5.99	12.70	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.50	3.32	HS 66.35	119.4
5C1T	15.32	6.87	0.00	549.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.300Dead Load Moment 0.7
Superimposed Dead Load Moment 7.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 172.8	171.1	-164.2	171.1	-164.2	162.5	-172.8	162.5	-
OPER 287.9	279.4	-279.4	279.4	-279.4	270.9	-287.9	270.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.17 R	66.29	235.50	0.0	64.63	49.71	207.50	
		-37.94 L	-29.19	167.00	0.0	-30.08	-23.14	190.00	0.00
OPER	5C1T	73.27 R	56.36	258.50	0.0	0.00	0.00	0.00	
		-38.42 L	-29.56	92.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.89	4.55	1.89	4.55	HS 37.72	67.9
5C1T	3.70	7.49	3.70	7.49	0.00	295.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		9.40		107.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.400

Dead Load Moment 1.1
Superimposed Dead Load Moment 12.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	172.0	-169.5	152.8	-188.7
OPER	300.6C	-268.7	268.7	-300.6C	286.7	-282.6	254.7	-314.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.30 R	74.08	238.00	0.0	76.22	58.63	210.00			
		-30.13 L	-23.17	167.00	0.0	-26.61	-20.47	190.00		0.00	
OPER	5C1T	84.08 R	64.68	261.00	0.0	0.00	0.00	0.00			
		-36.44 L	-28.03	140.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	5.63	1.59	6.26	HS 31.74	57.1
5C1T	3.41	7.76	3.03	8.63	0.00	242.4

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 9.400
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.1 0.0 1.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.6	69.0
OPER	151.3	-117.7	115.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.12	16.75	-7.02	12.88	-9.40	14.76	-7.23	11.35
OPER	5C1T	-10.04	13.49	-7.72	10.38	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.51	4.12	HS 82.45	148.4
5C1T	11.73	8.53	0.00	682.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.400Dead Load Moment 1.1
Superimposed Dead Load Moment 12.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.0	173.2	-162.1	173.2	-162.1	159.3	-176.0	159.3	-
OPER 293.3	279.4	-279.4	279.4	-279.4	265.5	-293.3	265.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.30 R	74.08	238.00	0.0	76.22	58.63	210.00	
		-30.13 L	-23.17	167.00	0.0	-26.61	-20.47	190.00	0.00
OPER	5C1T	84.08 R	64.68	261.00	0.0	0.00	0.00	0.00	
		-36.44 L	-28.03	140.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.65	5.84	1.65	5.84	HS 33.08	59.6
5C1T	3.16	8.05	3.16	8.05	0.00	252.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.80	28.67	28.67	1.699
			999999.000
			89.832

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
 Check Point I. D. 9.500

Dead Load Moment 1.2
 Superimposed Dead Load Moment 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	171.4	-170.2	152.2	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.36 R	72.58	226.50	0.0	80.36	61.82	212.50			
		-27.30 R	-21.00	258.00	0.0	-24.32	-18.71	235.00		0.00	
OPER	5C1T	87.72 L	67.48	113.50	0.0	0.00	0.00	0.00			
		-37.81 R	-29.08	284.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.82	6.24	1.61	6.94	HS 32.25	58.1
5C1T	3.26	7.50	2.89	8.35	0.00	231.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-0.4	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.6	70.1
OPER	151.3	-116.0	116.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.29	13.08	-10.22	10.06	-12.21	11.82	-9.39	9.09
OPER	5C1T	-12.29	10.98	-9.46	8.45	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.24	5.36	HS 104.72	188.5
5C1T	9.43	10.63	0.00	754.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.500Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.7	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-
OPER 294.4	279.4	-279.4	279.4	-279.4	264.4	-294.4	264.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.36 R	72.58	226.50	0.0	80.36	61.82	212.50	
		-27.30 R	-21.00	258.00	0.0	-24.32	-18.71	235.00	0.00
OPER	5C1T	87.72 L	67.48	113.50	0.0	0.00	0.00	0.00	
		-37.81 R	-29.08	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.68	6.47	1.68	6.47	HS 33.62	60.5
5C1T	3.01	7.79	3.01	7.79	0.00	241.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.90	28.67	28.67	1.699
			999999.000
			95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.600

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.2	154.2	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.0	-280.3	257.0	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.49 L	74.22	187.00	0.0	74.80	57.54	215.00			
		-36.75 R	-28.27	258.00	0.0	-28.46	-21.89	235.00	0.00		
OPER	5C1T	84.02 L	64.63	116.00	0.0	0.00	0.00	0.00			
		-39.21 R	-30.16	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.80	4.57	1.60	5.10	HS 31.97	57.5
5C1T	3.44	7.15	3.06	7.96	0.00	244.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.5	71.2
OPER	151.3	-114.2	118.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.99	8.92	-13.07	6.86	-15.15	9.03	-11.65	6.94
OPER	5C1T	-14.48	8.75	-11.13	6.73	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.03	7.88	HS 80.63	145.1	
5C1T	7.89	13.55	0.00	630.9	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.600Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.6	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-
OPER 291.0	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.49 L	74.22	187.00	0.0	74.80	57.54	215.00	
		-36.75 R	-28.27	258.00	0.0	-28.46	-21.89	235.00	0.00
OPER	5C1T	84.02 L	64.63	116.00	0.0	0.00	0.00	0.00	
		-39.21 R	-30.16	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.66	4.75	1.66	4.75	HS 33.30	59.9
5C1T	3.19	7.42	3.19	7.42	0.00	255.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.90	28.67	28.67	1.699
			999999.000
			95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.700

Dead Load Moment 0.1
Superimposed Dead Load Moment 3.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	178.0	-163.6	158.8	-182.7
OPER	300.6C	-268.7	268.7	-300.6C	296.7	-272.6	264.7	-304.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	85.73 L	65.95	189.50	0.0	61.84	47.57	217.50			
		-46.21 R	-35.55	258.00	0.0	-32.60	-25.07	235.00	0.00		
OPER	5C1T	68.20 L	52.46	114.50	0.0	0.00	0.00	0.00			
		-40.61 R	-31.24	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	2.08	3.54	1.85	3.95	HS 37.05	66.7
5C1T	4.35	6.71	3.88	7.50	0.00	310.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.5	72.2
OPER	151.3	-112.5	120.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.66	4.35	-15.90	3.35	-18.14	6.46	-13.95	4.97
OPER	5C1T	-17.47	6.71	-13.44	5.16	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.27	11.18	HS 65.31	117.6	
5C1T	6.44	17.94	0.00	514.9	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.700Dead Load Moment 0.1
Superimposed Dead Load Moment 3.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 170.0	169.2	-166.1	169.2	-166.1	165.3	-170.0	165.3	-
OPER 283.3	279.4	-279.4	279.4	-279.4	275.5	-283.3	275.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	85.73 L	65.95	189.50	0.0	61.84	47.57	217.50	
		-46.21 R	-35.55	258.00	0.0	-32.60	-25.07	235.00	0.00
OPER	5C1T	68.20 L	52.46	114.50	0.0	0.00	0.00	0.00	
		-40.61 R	-31.24	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.93	3.68	1.93	3.68	HS 38.56	69.4
5C1T	4.04	6.98	4.04	6.98	0.00	323.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.90	28.67	28.67	1.699
			999999.000
			95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.800

Dead Load Moment Superimposed Dead Load Moment
-1.0 -6.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.2	-156.4	166.0	-175.6
OPER	300.6C	-268.7	268.7	-300.6C	308.6	-260.7	276.6	-292.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	58.49 L	45.00	192.00	0.0	41.39	31.84	220.00			
		-55.67 R	-42.82	258.00	0.0	-37.46	-28.81	235.00	202.50		
OPER	5C1T	46.46 L	35.74	82.00	0.0	0.00	0.00	0.00			
		-44.90 R	-34.54	247.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.16	2.81	2.84	3.15	HS 56.20	101.2
5C1T	6.64	5.81	5.95	6.52	0.00	464.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.5	73.2
OPER	151.3	-110.8	122.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.	(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.
INV.	HS20	-25.52	2.99	-19.63	2.30	-21.08	4.19	-16.22	3.22
OPER	5C1T	-20.74	4.89	-15.96	3.76	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.60	17.46	HS 52.08	93.7
5C1T	5.34	24.93	0.00	427.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.800

Dead Load Moment Superimposed Dead Load Moment
-1.0 -6.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 162.9	164.5	-170.8	164.5	-170.8	172.4	-162.9	172.4	-
OPER 271.4	279.4	-279.4	279.4	-279.4	287.4	-271.4	287.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	58.49 L	45.00	192.00	0.0	41.39	31.84	220.00	
		-55.67 R	-42.82	258.00	0.0	-37.46	-28.81	235.00	202.50
OPER	5C1T	46.46 L	35.74	82.00	0.0	0.00	0.00	0.00	
		-44.90 R	-34.54	247.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.95	2.93	2.95	2.93	HS 58.52	105.3
5C1T	6.18	6.05	6.18	6.05	0.00	483.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.900

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-21.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	194.8	-146.7	175.6	-165.9
OPER	300.6C	-268.7	268.7	-300.6C	324.7	-244.6	292.7	-276.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.19 L	11.69	194.50	0.0	21.07	16.20	222.50			
		-67.93 L	-52.25	216.00	0.0	-58.56	-45.05	235.00		212.50	
OPER	5C1T	21.91 L	16.85	84.50	0.0	0.00	0.00	0.00			
		-56.28 R	-43.29	253.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.25	2.16	8.34	2.44	HS 43.20	77.8
5C1T	14.82	4.35	13.36	4.91	0.00	347.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.4	74.2
OPER	151.3	-109.1	123.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.26	3.13	-23.28	2.40	-23.88	3.00	-18.37	2.30
OPER	5C1T	-24.05	3.34	-18.50	2.57	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.16	23.74	HS 43.25	77.9
5C1T	4.54	37.08	0.00	362.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.900

Dead Load Moment Superimposed Dead Load Moment
-2.6 -21.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.2	158.0	-177.3	158.0	-177.3	182.1	-153.2	182.1	-
OPER 255.3	279.4	-279.4	279.4	-279.4	303.5	-255.3	303.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.19 L	11.69	194.50	0.0	21.07	16.20	222.50	
		-67.93 L	-52.25	216.00	0.0	-58.56	-45.05	235.00	212.50
OPER	5C1T	21.91 L	16.85	84.50	0.0	0.00	0.00	0.00	
		-56.28 R	-43.29	253.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	8.64	2.26	8.64	2.26	HS 45.10	81.2
5C1T	13.85	4.54	13.85	4.54	0.00	362.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.90	28.67	28.67	1.699
			999999.000
			95.158

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		29.64		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-161.2	161.2	-215.8C	242.5	-134.5	187.9	-189.1
OPER	359.7C	-268.7	268.7	-359.7C	404.1	-224.2	313.1	-315.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00			
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00		215.00	
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00			
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	14.47	1.30	11.21	1.83	26.05
5C1T	31.19	2.92	24.16	4.11	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	-0.8	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-64.4	73.2
OPER	172.1	-107.4	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.26	36.72	-23.28	28.25	-23.88	26.68	-18.37	20.52
OPER	5C1T	-24.05	27.33	-18.50	21.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.99	HS 37.16	66.9
5C1T	3.98	4.46	0.00	318.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.0	149.9	-185.4	149.9	-185.4	194.3	-141.0	194.3	-
OPER 235.0	279.4	-279.4	279.4	-279.4	323.8	-235.0	323.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00	
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00	215.00
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.59	1.37	11.59	1.37	HS 27.29	49.1
5C1T	24.99	3.06	24.99	3.06	0.00	245.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.65	35.20	35.20	2.861
			999999.000
			105.738

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-161.2	161.2	-215.8C	242.5	-134.5	187.9	-189.1
OPER	359.7C	-268.7	268.7	-359.7C	404.1	-224.2	313.1	-315.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00			
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00		215.00	
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00			
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	14.47	1.30	11.21	1.83	26.05
5C1T	31.19	2.92	24.16	4.11	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	1.1	-8.1	9.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-64.4	73.2
OPER	172.1	-107.4	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.68	36.72	-26.68	28.25	-26.43	26.68	-20.33	20.52
OPER	5C1T	-26.99	27.33	-20.76	21.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.99	HS 37.16	66.9
5C1T	3.98	4.46	0.00	318.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.0	149.9	-185.4	149.9	-185.4	194.3	-141.0	194.3	-
OPER 235.0	279.4	-279.4	279.4	-279.4	323.8	-235.0	323.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00	
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00	215.00
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.59	1.37	11.59	1.37	HS 27.29	49.1
5C1T	24.99	3.06	24.99	3.06	0.00	245.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.65	35.20	35.20	2.861	999999.000	88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.100

Dead Load Superimposed Dead Load
Moment Moment
-2.0 -18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	228.1	-179.4	203.9	-203.5
OPER	359.7C	-319.4	319.4	-359.7C	380.2	-298.9	339.9	-339.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	12.56 L	9.66	162.00	0.0	24.05	18.50	227.50			
		-62.02 R	-47.71	234.00	0.0	-57.85	-44.50	215.00		240.00	
OPER	5C1T	30.15 L	23.19	93.50	0.0	0.00	0.00	0.00			
		-55.00 R	-42.31	259.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.48	2.89	8.48	3.28	HS 57.84	104.1
5C1T	12.61	5.43	11.27	6.17	0.00	434.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.9	0.0	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-84.7	74.2
OPER	172.1	-141.1	123.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.64	32.71	-0.49	25.16	-1.34	24.40	-1.03	18.77
OPER	5C1T	-1.04	24.64	-0.80	18.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	63.09	2.27	HS 45.37	81.7
5C1T	136.13	5.02	0.00	401.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.100

Dead Load Moment Superimposed Dead Load Moment
-2.0 -18.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 187.0	191.1	-207.5	191.1	-207.5	211.6	-187.0	211.6	-
OPER 311.7	332.2	-332.2	332.2	-332.2	352.7	-311.7	352.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	12.56 L	9.66	162.00	0.0	24.05	18.50	227.50	
		-62.02 R	-47.71	234.00	0.0	-57.85	-44.50	215.00	240.00
OPER	5C1T	30.15 L	23.19	93.50	0.0	0.00	0.00	0.00	
		-55.00 R	-42.31	259.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	8.80	3.02	8.80	3.02	HS 60.31	108.6
5C1T	11.70	5.67	11.70	5.67	0.00	453.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.200

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.65	35.20	35.20	2.861	999999.000	88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.200

Dead Load Moment Superimposed Dead Load Moment
0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	216.3	-191.2	192.1	-215.3
OPER	359.7C	-319.4	319.4	-359.7C	360.5	-318.6	320.2	-358.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	63.97 R	49.20	258.00	0.0	47.55	36.58	230.00			
		-50.04 L	-38.49	192.00	0.0	-38.63	-29.72	215.00		165.00	
OPER	5C1T	59.03 L	45.40	96.00	0.0	0.00	0.00	0.00			
		-47.09 L	-36.22	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.38	3.82	3.00 4.30	HS 60.08	108.1
5C1T	6.11	6.77	5.43 7.62	0.00	434.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02

Check Point I. D. 10.200

HS20 5C1T

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	6.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-83.6	75.2
OPER	172.1	-139.4	125.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.97	28.22	-0.75	21.70	-2.83	21.94	-2.18	16.88
OPER	5C1T	-2.55	21.72	-1.96	16.71	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	29.56	2.67	HS 53.32	96.0
5C1T	54.58	5.77	0.00	461.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.200Dead Load Moment 0.1
Superimposed Dead Load Moment -0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 198.8	199.0	-199.6	199.0	-199.6	199.8	-198.8	199.8	-
OPER 331.4	332.2	-332.2	332.2	-332.2	333.0	-331.4	333.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.97 R	49.20	258.00	0.0	47.55	36.58	230.00	
		-50.04 L	-38.49	192.00	0.0	-38.63	-29.72	215.00	165.00
OPER	5C1T	59.03 L	45.40	96.00	0.0	0.00	0.00	0.00	
		-47.09 L	-36.22	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	3.12	3.97	3.12	3.97	HS 62.48	112.5
5C1T	5.64	7.04	5.64	7.04	0.00	451.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.65	35.20	35.20	2.861	999999.000	88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.300

Dead Load Moment 1.7
Superimposed Dead Load Moment 12.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	207.1	-200.4	182.9	-224.5
OPER	359.7C	-319.4	319.4	-359.7C	345.1	-334.0	304.9	-374.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	99.53 R	76.56	260.50	0.0	71.95	55.35	232.50			
		-43.78 L	-33.68	192.00	0.0	-33.81	-26.00	215.00	165.00		
OPER	5C1T	86.28 R	66.37	283.50	0.0	0.00	0.00	0.00			
		-41.20 L	-31.70	116.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.08	4.58	1.84	36.76	66.2
5C1T	4.00	8.10	3.53	0.00	282.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	4.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-82.6	76.3
OPER	172.1	-137.7	127.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.02	23.31	-2.32	17.93	-4.64	19.35	-3.57	14.88
OPER	5C1T	-4.32	18.62	-3.33	14.32	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	17.81	3.27	HS 65.44	117.8
5C1T	31.84	6.83	0.00	546.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.300

Dead Load Moment Superimposed Dead Load Moment
1.7 12.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.0	205.1	-193.5	205.1	-193.5	190.6	-208.0	190.6	-
OPER 346.7	332.2	-332.2	332.2	-332.2	317.7	-346.7	317.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	99.53 R	76.56	260.50	0.0	71.95	55.35	232.50	
		-43.78 L	-33.68	192.00	0.0	-33.81	-26.00	215.00	165.00
OPER	5C1T	86.28 R	66.37	283.50	0.0	0.00	0.00	0.00	
		-41.20 L	-31.70	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.91	4.75	1.91	4.75	HS 38.30	68.9
5C1T	3.68	8.41	3.68	8.41	0.00	294.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.65	35.20	35.20	2.861	999999.000	88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		21.84		106.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.400

Dead Load Moment Superimposed Dead Load Moment
2.8 22.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	200.5	-207.0	176.3	-231.2
OPER	359.7C	-319.4	319.4	-359.7C	334.1	-345.0	293.8	-385.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	115.16 R	88.59	263.00	0.0	88.90	68.38	235.00			
		-37.53 L	-28.87	192.00	0.0	-27.73	-21.33	215.00	0.00		
OPER	5C1T	104.59 R	80.45	286.00	0.0	0.00	0.00	0.00			
		-35.32 L	-27.17	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.52	1.53	6.16	HS 30.62	55.1
5C1T	3.19	9.77	2.81	10.91	0.00	224.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.2

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	103.3		-81.6 77.3
OPER	172.1		-135.9 128.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.09	18.19	-4.69	14.00	-6.75	16.67	-5.19	12.82
OPER	5C1T	-6.39	15.81	-4.92	12.16	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating	Factor	Rating	Load	
	(-)	(+)	Value	Capacity	
				(tons)	
HS20	12.09	4.25	HS 84.96	152.9	
5C1T	21.27	8.15	0.00	651.6	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.400

Dead Load Moment	Superimposed Dead Load Moment
2.8	22.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.7	209.6	-189.1	209.6	-189.1	184.0	-214.7	184.0	-
OPER 357.8	332.2	-332.2	332.2	-332.2	306.6	-357.8	306.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	115.16 R	88.59	263.00	0.0	88.90	68.38	235.00	
		-37.53 L	-28.87	192.00	0.0	-27.73	-21.33	215.00	0.00
OPER	5C1T	104.59 R	80.45	286.00	0.0	0.00	0.00	0.00	
		-35.32 L	-27.17	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.60	5.72	1.60	5.72	HS 31.95	57.5
5C1T	2.93	10.13	2.93	10.13	0.00	234.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.65	35.20	35.20	2.861
			999999.000
			88.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.500

Dead Load Moment Superimposed Dead Load Moment
3.5 28.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	196.4	-211.1	172.2	-235.2
OPER	359.7C	-319.4	319.4	-359.7C	327.3	-351.8	287.1	-392.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	121.30 R	93.31	265.50	0.0	99.09	76.22	237.50			
		-31.27 L	-24.06	192.00	0.0	-23.11	-17.77	215.00		0.00	
OPER	5C1T	114.31 L	87.93	138.50	0.0	0.00	0.00	0.00			
		-29.43 L	-22.64	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.62	6.75	1.42	7.52	HS 28.40	51.1
5C1T	2.86	11.95	2.51	13.32	0.00	200.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	1.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-80.5	78.3
OPER	172.1	-134.2	130.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-9.70	15.07	-7.46	11.59	-9.15	13.93	-7.04	10.71
OPER	5C1T	-8.82	13.55	-6.78	10.42	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.30	5.20	HS 103.97	187.1
5C1T	15.22	9.63	0.00	770.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.500

Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 218.7	212.3	-186.4	212.3	-186.4	179.9	-218.7	179.9	-
OPER 364.6	332.2	-332.2	332.2	-332.2	299.8	-364.6	299.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	121.30 R	93.31	265.50	0.0	99.09	76.22	237.50	
		-31.27 L	-24.06	192.00	0.0	-23.11	-17.77	215.00	0.00
OPER	5C1T	114.31 L	87.93	138.50	0.0	0.00	0.00	0.00	
		-29.43 L	-22.64	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.48	6.99	1.48	6.99	HS 29.66	53.4
5C1T	2.62	12.39	2.62	12.39	0.00	209.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.600

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.600

Dead Load Moment Superimposed Dead Load Moment
3.7 30.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	195.1	-212.3	171.0	-236.5
OPER	359.7C	-319.4	319.4	-359.7C	325.2	-353.9	284.9	-394.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.61 R	98.93	254.00	0.0	99.47	76.52	240.00			
		-25.02 L	-19.25	192.00	0.0	-18.49	-14.22	215.00		0.00	
OPER	5C1T	115.53 L	88.87	141.00	0.0	0.00	0.00	0.00			
		-23.55 L	-18.11	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.52	8.49	1.33	9.45	HS 26.59	47.9
5C1T	2.82	15.03	2.47	16.74	0.00	197.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-79.4	79.4
OPER	172.1	-132.4	132.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-12.86	11.47	-9.89	8.82	-11.81	11.17	-9.09	8.59
OPER	5C1T	-11.39	11.15	-8.76	8.57	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.18	6.93	HS 123.50	222.3
5C1T	11.62	11.88	0.00	929.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.600

Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 220.0	213.1	-185.5	213.1	-185.5	178.6	-220.0	178.6	-
OPER 366.7	332.2	-332.2	332.2	-332.2	297.7	-366.7	297.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.61 R	98.93	254.00	0.0	99.47	76.52	240.00	
		-25.02 L	-19.25	192.00	0.0	-18.49	-14.22	215.00	0.00
OPER	5C1T	115.53 L	88.87	141.00	0.0	0.00	0.00	0.00	
		-23.55 L	-18.11	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.39	8.79	1.39	8.79	HS 27.78	50.0
5C1T	2.58	15.57	2.58	15.57	0.00	206.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.700

Dead Load Moment Superimposed Dead Load Moment
3.5 28.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	196.4	-211.0	172.3	-235.2
OPER	359.7C	-319.4	319.4	-359.7C	327.4	-351.7	287.1	-392.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.35 R	98.73	256.50	0.0	91.13	70.10	242.50			
		-18.76 L	-14.43	192.00	0.0	-13.86	-10.66	215.00		0.00	
OPER	5C1T	109.03 L	83.87	139.50	0.0	0.00	0.00	0.00			
		-17.66 L	-13.58	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.53	11.25	1.34	26.84	48.3
5C1T	3.00	19.92	2.63	0.00	210.7

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 10.700
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.2 -1.5 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-78.4	80.5
OPER	172.1	-130.6	134.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-17.11	8.72	-13.16	6.71	-14.73	8.44	-11.33	6.49
OPER	5C1T	-14.54	8.57	-11.18	6.60	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.58	9.23	HS 91.61	164.9
5C1T	8.99	15.64	0.00	719.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.700Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 218.7	212.2	-186.4	212.2	-186.4	179.9	-218.7	179.9	-
OPER 364.5	332.2	-332.2	332.2	-332.2	299.9	-364.5	299.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.35 R	98.73	256.50	0.0	91.13	70.10	242.50	
		-18.76 L	-14.43	192.00	0.0	-13.86	-10.66	215.00	0.00
OPER	5C1T	109.03 L	83.87	139.50	0.0	0.00	0.00	0.00	
		-17.66 L	-13.58	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.40	11.65	1.40	11.65	HS 28.04	50.5
5C1T	2.75	20.64	2.75	20.64	0.00	220.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.800

Dead Load Moment Superimposed Dead Load Moment
2.8 23.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	200.3	-207.2	176.1	-231.3
OPER	359.7C	-319.4	319.4	-359.7C	333.8	-345.3	293.6	-385.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	108.85 R	83.73	259.00	0.0	71.41	54.93	245.00			
		-12.51 L	-9.62	192.00	0.0	-9.24	-7.11	215.00			0.00
OPER	5C1T	90.16 L	69.35	142.00	0.0	0.00	0.00	0.00			
		-11.77 L	-9.06	116.00	0.0	0.00	0.00	0.00			0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.84	16.56	1.62	18.49	HS 32.36	58.3
5C1T	3.70	29.33	3.26	32.75	0.00	260.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-77.4	81.5
OPER	172.1	-128.9	135.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-21.77	5.87	-16.75	4.52	-17.86	5.76	-13.74	4.43
OPER	5C1T	-18.03	5.81	-13.87	4.47	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.55	13.88	HS 71.06	127.9	
5C1T	7.15	23.37	0.00	572.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.800

Dead Load Moment	Superimposed Dead Load Moment
2.8	23.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.8	209.7	-189.0	209.7	-189.0	183.8	-214.8	183.8	-
OPER 358.0	332.2	-332.2	332.2	-332.2	306.4	-358.0	306.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	108.85 R	83.73	259.00	0.0	71.41	54.93	245.00	
		-12.51 L	-9.62	192.00	0.0	-9.24	-7.11	215.00	0.00
OPER	5C1T	90.16 L	69.35	142.00	0.0	0.00	0.00	0.00	
		-11.77 L	-9.06	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.69	17.17	1.69	17.17	HS 33.77	60.8
5C1T	3.40	30.41	3.40	30.41	0.00	271.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 10.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.900

Dead Load Moment 1.6
Superimposed Dead Load Moment 13.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	206.8	-200.7	182.6	-224.9
OPER	359.7C	-319.4	319.4	-359.7C	344.6	-334.5	304.4	-374.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	66.91 R	51.47	261.50	0.0	41.79	32.15	247.50			
		-6.25 L	-4.81	192.00	0.0	-4.62	-3.55	215.00		0.00	
OPER	5C1T	54.18 L	41.68	144.50	0.0	0.00	0.00	0.00			
		-5.89 L	-4.53	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.09	32.09	2.73	35.95	HS 54.59	98.3
5C1T	6.36	56.83	5.62	63.67	0.00	449.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-4.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-76.3	82.5
OPER	172.1	-127.2	137.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.	(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.
INV.	HS20	-26.76	2.95	-20.59	2.27	-21.20	3.16	-16.31	2.43
OPER	5C1T	-21.67	3.83	-16.67	2.94	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.85	26.08	HS 57.04	102.7	
5C1T	5.87	35.94	0.00	469.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 10.900

Dead Load Moment Superimposed Dead Load Moment
1.6 13.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.4	205.3	-193.3	205.3	-193.3	190.3	-208.4	190.3	-
OPER 347.3	332.2	-332.2	332.2	-332.2	317.1	-347.3	317.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.91 R	51.47	261.50	0.0	41.79	32.15	247.50	
		-6.25 L	-4.81	192.00	0.0	-4.62	-3.55	215.00	0.00
OPER	5C1T	54.18 L	41.68	144.50	0.0	0.00	0.00	0.00	
		-5.89 L	-4.53	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	2.84	33.31	2.84	33.31	HS 56.88	102.4
5C1T	5.85	59.00	5.85	59.00	0.00	468.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 11.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 11.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 11.000

Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	215.8	-191.7	191.7	-215.8
OPER	359.7C	-319.4	319.4	-359.7C	359.7	-319.4	319.4	-359.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 11.000Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

-0.7 -6.2 0.0

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 103.3 -75.3 79.9
OPER 172.1 -125.5 133.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-32.02	0.00	-24.63	0.00	-24.72	2.36	-19.01	1.82
OPER	5C1T	-25.40	0.00	-19.54	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.35	33.80	HS 47.03	84.6
5C1T	4.94	999.00	0.00	395.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 11.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 199.3	199.3	-199.3	199.3	-199.3	199.3	-199.3	199.3	-
OPER 332.2	332.2	-332.2	332.2	-332.2	332.2	-332.2	332.2	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 10

Live Load Distribution Factor 1.143

Second Live Load Dist. Factor 1.143

Comments:

Member I. D. S03 Symmetry:

Span Length:	Span 1 25.000	Span 2 25.000	Span 3 25.000	Span 4 25.000	Span 5 25.000
	Span 6 25.000	Span 7 25.000	Span 8 25.000	Span 9 25.000	Span 10 25.000

Range Length -- Non-Composite:		Section		Section	Hinge Location	
Span No.	Range No.	Range Length	Left	Right	Variation	No. 1 No. 2
1	1	25.000	1	0		0.0 0.0
2	1	25.000	2	0		0.0 0.0
3	1	25.000	2	0		0.0 0.0
4	1	25.000	2	0		0.0 0.0
5	1	25.000	2	0		0.0 0.0
6	1	25.000	2	0		0.0 0.0
7	1	25.000	2	0		0.0 0.0
8	1	25.000	2	0		0.0 0.0
9	1	25.000	2	0		0.0 0.0
10	1	25.000	1	0		0.0 0.0

Superimposed Dead Load:		Dist. from Left Supp.	Distributed Load (lbs/ft)		Length	Concentrated Load (kips)
Span No.	Load Type		Left	Right		
1	W	0.000	688.0	688.0	25.000	0.0
1	P	12.500	0.0	0.0	0.000	0.1
2	W	0.000	688.0	688.0	25.000	0.0
2	P	12.500	0.0	0.0	0.000	0.1
3	W	0.000	688.0	688.0	25.000	0.0
3	P	12.500	0.0	0.0	0.000	0.1
4	W	0.000	688.0	688.0	25.000	0.0
4	P	12.500	0.0	0.0	0.000	0.1
5	W	0.000	688.0	688.0	25.000	0.0
5	P	12.500	0.0	0.0	0.000	0.1
6	W	0.000	688.0	688.0	25.000	0.0
6	P	12.500	0.0	0.0	0.000	0.1
7	W	0.000	688.0	688.0	25.000	0.0
7	P	12.500	0.0	0.0	0.000	0.1
8	W	0.000	688.0	688.0	25.000	0.0
8	P	12.500	0.0	0.0	0.000	0.1

9	W	0.000	688.0	688.0	25.000	0.0
9	P	12.500	0.0	0.0	0.000	0.1
10	W	0.000	688.0	688.0	25.000	0.0
10	P	12.500	0.0	0.0	0.000	0.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
 Check Point I. D. 1.000

Dead Load Moment 0.0
 Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	215.8	-191.7	191.7	-215.8
OPER	359.7C	-319.4	319.4	-359.7C	359.7	-319.4	319.4	-359.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.000

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	6.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-84.0	74.9
OPER	172.1	-140.0	124.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.40	32.02	-1.84	24.63	-2.36	24.72	-1.82	19.01
OPER	5C1T	-2.19	25.40	-1.68	19.54	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	35.04	2.34	HS 46.75	84.2
5C1T	64.00	4.91	0.00	392.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.000

Dead Load Moment Superimposed Dead Load Moment
0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 199.3	199.3	-199.3	199.3	-199.3	199.3	-199.3	199.3	-
OPER 332.2	332.2	-332.2	332.2	-332.2	332.2	-332.2	332.2	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.100

Dead Load Moment 1.6
Superimposed Dead Load Moment 15.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	205.8	-201.6	181.7	-225.8
OPER	359.7C	-319.4	319.4	-359.7C	343.0	-336.1	302.8	-376.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	66.91 L	51.47	-11.50	0.0	41.79	32.15	2.50			
		-6.25 R	-4.81	58.00	0.0	-4.62	-3.55	35.00	0.00		
OPER	5C1T	54.18 R	41.68	105.50	0.0	0.00	0.00	0.00			
		-5.89 R	-4.53	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.08	32.24	2.71	36.10	HS 54.30	97.7
5C1T	6.33	57.10	5.59	63.94	0.00	447.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	5.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-82.9	76.0
OPER	172.1	-138.1	126.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.95	26.76	-2.27	20.59	-3.16	21.20	-2.43	16.31
OPER	5C1T	-3.83	21.67	-2.94	16.67	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	26.19	2.84	HS 56.79	102.2
5C1T	36.08	5.84	0.00	467.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.100Dead Load Moment 1.6
Superimposed Dead Load Moment 15.0

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 209.3	206.0	-192.7	206.0	-192.7	189.3	-209.3	189.3	-
OPER 348.9	332.2	-332.2	332.2	-332.2	315.5	-348.9	315.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.91 L	51.47	-11.50	0.0	41.79
		-6.25 R	-4.81	58.00	0.0	-4.62
OPER	5C1T	54.18 R	41.68	105.50	0.0	0.00
		-5.89 R	-4.53	134.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	2.83	33.46	2.83	33.46	101.9
5C1T	5.82	59.27	5.82	59.27	465.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.200

Dead Load Moment Superimposed Dead Load Moment
2.8 25.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	198.7	-208.8	174.5	-232.9
OPER	359.7C	-319.4	319.4	-359.7C	331.1	-348.0	290.9	-388.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	108.85 L	83.73	-9.00	0.0	71.41	54.93	5.00			
		-12.51 R	-9.62	58.00	0.0	-9.24	-7.11	35.00	0.00		
OPER	5C1T	90.16 R	69.35	108.00	0.0	0.00	0.00	0.00			
		-11.77 R	-9.06	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.83	16.69	1.60	18.62	HS 32.07	57.7
5C1T	3.67	29.56	3.23	32.98	0.00	258.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.200

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.4	0.0
	3.4

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-81.7	77.1
OPER	172.1	-136.2	128.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.87	21.77	-4.52	16.75	-5.76	17.86	-4.43	13.74
OPER	5C1T	-5.81	18.03	-4.47	13.87	0.00	0.00	0.00	0.00

Rating		Shear	
Veh.	Rating (-)	Factor (+)	Rating Value
HS20	13.91	3.54	70.87
5C1T	23.43	7.13	0.00
			Load Capacity (tons)
			127.6
			570.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.8	25.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 216.5	210.7	-187.9	210.7	-187.9	182.2	-216.5	182.2	-
OPER 360.8	332.2	-332.2	332.2	-332.2	303.6	-360.8	303.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	108.85 L	83.73	-9.00	0.0	71.41	54.93	5.00	
		-12.51 R	-9.62	58.00	0.0	-9.24	-7.11	35.00	0.00
OPER	5C1T	90.16 R	69.35	108.00	0.0	0.00	0.00	0.00	
		-11.77 R	-9.06	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.67	17.30	1.67	17.30	HS 33.47	60.3
5C1T	3.37	30.64	3.37	30.64	0.00	269.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.300

Dead Load Moment 3.5
Superimposed Dead Load Moment 32.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	194.4	-213.1	170.2	-237.2
OPER	359.7C	-319.4	319.4	-359.7C	324.0	-355.1	283.7	-395.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.35 L	98.73	-6.50	0.0	91.13	70.10	7.50			
		-18.76 R	-14.43	58.00	0.0	-13.86	-10.66	35.00	0.00		
OPER	5C1T	109.03 R	83.87	110.50	0.0	0.00	0.00	0.00			
		-17.66 R	-13.58	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.51	11.35	1.33	12.64	HS 26.53	47.7
5C1T	2.97	20.11	2.60	22.39	0.00	208.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.300Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.2 0.0 1.7

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 103.3 -80.6 78.3
OPER 172.1 -134.3 130.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.72	17.11	-6.71	13.16	-8.44	14.73	-6.49	11.33
OPER	5C1T	-8.57	14.54	-6.60	11.18	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.24	4.57	HS 91.49	164.7
5C1T	15.66	8.98	0.00	718.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.300Dead Load Moment 3.5
Superimposed Dead Load Moment 32.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 220.7	213.6	-185.0	213.6	-185.0	177.9	-220.7	177.9	-
OPER 367.9	332.2	-332.2	332.2	-332.2	296.5	-367.9	296.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.35 L	98.73	-6.50	0.0	91.13	70.10	7.50	
		-18.76 R	-14.43	58.00	0.0	-13.86	-10.66	35.00	0.00
OPER	5C1T	109.03 R	83.87	110.50	0.0	0.00	0.00	0.00	
		-17.66 R	-13.58	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.39	11.76	1.39	11.76	HS 27.72	49.9
5C1T	2.72	20.83	2.72	20.83	0.00	217.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	193.0	-214.5	168.8	-238.7
OPER	359.7C	-319.4	319.4	-359.7C	321.6	-357.5	281.3	-397.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.61 L	98.93	-4.00	0.0	99.47	76.51	10.00			
		-25.02 R	-19.25	58.00	0.0	-18.49	-14.22	35.00	0.00		
OPER	5C1T	115.53 R	88.87	109.00	0.0	0.00	0.00	0.00			
		-23.55 R	-18.11	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.50	8.57	1.31	9.54	HS 26.25	47.2
5C1T	2.78	15.18	2.43	16.89	0.00	194.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-79.4	79.4
OPER	172.1	-132.4	132.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-11.47	12.86	-8.82	9.89	-11.17	11.81	-8.59	9.09
OPER	5C1T	-11.15	11.39	-8.57	8.76	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.93	6.18	HS 123.51	222.3
5C1T	11.88	11.62	0.00	929.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 222.2	214.6	-184.1	214.6	-184.1	176.5	-222.2	176.5	-
OPER 370.3	332.2	-332.2	332.2	-332.2	294.1	-370.3	294.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	128.61 L	98.93	-4.00	0.0	99.47	76.51	10.00	
		-25.02 R	-19.25	58.00	0.0	-18.49	-14.22	35.00	0.00
OPER	5C1T	115.53 R	88.87	109.00	0.0	0.00	0.00	0.00	
		-23.55 R	-18.11	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.37	8.88	1.37	8.88	HS 27.44	49.4
5C1T	2.55	15.73	2.55	15.73	0.00	203.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.67	35.20	35.20	2.861
			999999.000
			90.090

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.500

Dead Load Superimposed Dead Load
Moment Moment
3.5 32.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	194.4	-213.1	170.2	-237.2
OPER	359.7C	-319.4	319.4	-359.7C	324.0	-355.1	283.7	-395.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	121.30 L	93.31	-15.50	0.0	99.09	76.22	12.50			
		-31.27 R	-24.06	58.00	0.0	-23.11	-17.77	35.00	0.00		
OPER	5C1T	114.31 R	87.93	111.50	0.0	0.00	0.00	0.00			
		-29.43 R	-22.64	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.60	6.81	1.40	7.59	HS 28.07	50.5
5C1T	2.83	12.07	2.48	13.44	0.00	198.6

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 1.500
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.2 -1.8 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-78.3	80.6
OPER	172.1	-130.5	134.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-15.07	9.70	-11.59	7.46	-13.93	9.15	-10.71	7.04
OPER	5C1T	-13.55	8.82	-10.42	6.78	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.20	8.30	HS 103.92	187.1
5C1T	9.63	15.23	0.00	770.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.500

Dead Load Moment 3.5
Superimposed Dead Load Moment 32.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 220.7	213.6	-185.0	213.6	-185.0	177.9	-220.7	177.9	-
OPER 367.9	332.2	-332.2	332.2	-332.2	296.5	-367.9	296.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	121.30 L	93.31	-15.50	0.0	99.09	76.22	12.50	
		-31.27 R	-24.06	58.00	0.0	-23.11	-17.77	35.00	0.00
OPER	5C1T	114.31 R	87.93	111.50	0.0	0.00	0.00	0.00	
		-29.43 R	-22.64	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.47	7.06	1.47	7.06	HS 29.33	52.8
5C1T	2.59	12.50	2.59	12.50	0.00	207.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.67	35.20	35.20	2.861	999999.000	90.090

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.600

Dead Load Moment Superimposed Dead Load Moment
2.8 25.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	198.9	-208.6	174.7	-232.8
OPER	359.7C	-319.4	319.4	-359.7C	331.4	-347.7	291.2	-387.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	115.16 L	88.59	-13.00	0.0	88.90	68.38	15.00			
		-37.53 R	-28.87	58.00	0.0	-27.73	-21.33	35.00	0.00		
OPER	5C1T	104.59 L	80.45	-36.00	0.0	0.00	0.00	0.00			
		-35.32 R	-27.17	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.73	5.56	1.52	6.20	HS 30.34	54.6
5C1T	3.17	9.84	2.78	10.98	0.00	222.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-77.1	81.8
OPER	172.1	-128.4	136.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-18.19	6.09	-14.00	4.69	-16.67	6.75	-12.82	5.19
OPER	5C1T	-15.81	6.39	-12.16	4.92	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.24	12.12	HS 84.71	152.5	
5C1T	8.12	21.33	0.00	649.8	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.600Dead Load Moment 2.8
Superimposed Dead Load Moment 25.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 216.3	210.6	-188.0	210.6	-188.0	182.4	-216.3	182.4	-
OPER 360.5	332.2	-332.2	332.2	-332.2	303.9	-360.5	303.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.16 L	88.59	-13.00	0.0	88.90	68.38	15.00	
		-37.53 R	-28.87	58.00	0.0	-27.73	-21.33	35.00	0.00
OPER	5C1T	104.59 L	80.45	-36.00	0.0	0.00	0.00	0.00	
		-35.32 R	-27.17	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.58	5.76	1.58	5.76	HS 31.67	57.0
5C1T	2.91	10.21	2.91	10.21	0.00	232.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.67	35.20	35.20	2.861
			999999.000
			90.090

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.700

Dead Load Moment 1.7
Superimposed Dead Load Moment 14.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	206.2	-201.3	182.0	-225.4
OPER	359.7C	-319.4	319.4	-359.7C	343.6	-335.5	303.4	-375.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	99.53 L	76.56	-10.50	0.0	71.95	55.35	17.50			
		-43.78 R	-33.68	58.00	0.0	-33.80	-26.00	35.00	85.00		
OPER	5C1T	86.28 L	66.37	-33.50	0.0	0.00	0.00	0.00			
		-41.20 R	-31.70	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.07	4.60	1.83	5.15	HS 36.58	65.8
5C1T	3.98	8.14	3.52	9.12	0.00	281.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-75.9	82.9
OPER	172.1	-126.5	138.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-23.31	3.02	-17.93	2.32	-19.35	4.64	-14.88	3.57
OPER	5C1T	-18.62	4.32	-14.32	3.33	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.26	17.88	HS 65.15	117.3	
5C1T	6.80	31.97	0.00	543.7	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.700

Dead Load Moment 1.7
Superimposed Dead Load Moment 14.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.9	205.7	-192.9	205.7	-192.9	189.7	-208.9	189.7	-
OPER 348.2	332.2	-332.2	332.2	-332.2	316.2	-348.2	316.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	99.53 L	76.56	-10.50	0.0	71.95	55.35	17.50	
		-43.78 R	-33.68	58.00	0.0	-33.80	-26.00	35.00	85.00
OPER	5C1T	86.28 L	66.37	-33.50	0.0	0.00	0.00	0.00	
		-41.20 R	-31.70	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.91	4.77	1.91	4.77	HS 38.12	68.6
5C1T	3.66	8.45	3.66	8.45	0.00	293.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.67	35.20	35.20	2.861
			999999.000
			90.090

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.800

Dead Load Moment Superimposed Dead Load Moment
0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	216.4	-191.1	192.2	-215.3
OPER	359.7C	-319.4	319.4	-359.7C	360.6	-318.5	320.3	-358.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	63.96 L	49.20	-8.00	0.0	47.55	36.58	20.00			
		-50.04 R	-38.49	58.00	0.0	-38.63	-29.72	35.00		85.00	
OPER	5C1T	59.03 R	45.40	154.00	0.0	0.00	0.00	0.00			
		-47.09 R	-36.22	134.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.38	3.82	3.01	4.30	HS 60.10	108.2
5C1T	6.11	6.76	5.43	7.62	0.00	434.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-7.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-74.8	84.1
OPER	172.1	-124.6	140.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-28.22	0.97	-21.70	0.75	-21.94	2.83	-16.88	2.18
OPER	5C1T	-21.72	2.55	-16.71	1.96	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.65	29.72	HS 53.01	95.4
5C1T	5.74	54.87	0.00	459.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.800

Dead Load Moment 0.1
Superimposed Dead Load Moment -1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 198.8	199.0	-199.7	199.0	-199.7	199.9	-198.8	199.9	-
OPER 331.3	332.2	-332.2	332.2	-332.2	333.1	-331.3	333.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	63.96 L	49.20	-8.00	0.0	47.55	36.58	20.00	
		-50.04 R	-38.49	58.00	0.0	-38.63	-29.72	35.00	85.00
OPER	5C1T	59.03 R	45.40	154.00	0.0	0.00	0.00	0.00	
		-47.09 R	-36.22	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	3.12	3.97	3.12	3.97	HS 62.49	112.5
5C1T	5.64	7.03	5.64	7.03	0.00	451.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.67	35.20	35.20	2.861	999999.000	90.090

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-2.0	-20.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	229.4	-178.1	205.2	-202.2
OPER	359.7C	-319.4	319.4	-359.7C	382.3	-296.8	342.1	-337.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	12.56 R	9.66	88.00	0.0	23.61	18.16	22.50			
		-62.02 L	-47.71	16.00	0.0	-57.83	-44.49	35.00		10.00	
OPER	5C1T	30.15 R	23.19	156.50	0.0	0.00	0.00	0.00			
		-55.00 L	-42.31	-9.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.72	2.87	8.69	3.26	HS 57.42	103.4
5C1T	12.68	5.40	11.35	6.13	0.00	431.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.9	-8.7
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-73.6	85.2
OPER	172.1	-122.7	142.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.71	0.64	-25.16	0.49	-24.40	1.34	-18.77	1.03
OPER	5C1T	-24.64	1.04	-18.95	0.80	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.25	63.50	HS 45.03	81.1	
5C1T	4.98	137.02	0.00	398.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.900

Dead Load Moment Superimposed Dead Load Moment
-2.0 -20.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 185.7	190.3	-208.4	190.3	-208.4	212.9	-185.7	212.9	-
OPER 309.6	332.2	-332.2	332.2	-332.2	354.8	-309.6	354.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	12.56 R	9.66	88.00	0.0	23.61	18.16	22.50	
		-62.02 L	-47.71	16.00	0.0	-57.83	-44.49	35.00	10.00
OPER	5C1T	30.15 R	23.19	156.50	0.0	0.00	0.00	0.00	
		-55.00 L	-42.31	-9.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	9.02	2.99	9.02	2.99	HS 59.89	107.8
5C1T	11.77	5.63	11.77	5.63	0.00	450.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.67	35.20	35.20	2.861	999999.000	90.090

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -44.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	209.9	-131.7	190.7	-150.9
OPER	300.6C	-268.7	268.7	-300.6C	349.8	-219.5	317.8	-251.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00			
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00		35.00	
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.52	1.27	11.38	1.45	HS 25.34	45.6
5C1T	26.99	2.86	24.52	3.28	0.00	228.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	-1.1	-8.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-72.5	63.9
OPER	151.3	-120.8	106.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-32.71	34.96	-25.16	26.89	-24.40	26.43	-18.77	20.33
OPER	5C1T	-24.64	27.13	-18.95	20.87	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.97	1.83	HS 36.53	65.8
5C1T	4.42	3.92	0.00	313.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -44.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 138.2	148.0	-187.3	148.0	-187.3	197.1	-138.2	197.1	-
OPER 230.3	279.4	-279.4	279.4	-279.4	328.5	-230.3	328.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00	
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00	35.00
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.76	1.33	11.76	1.33	HS 26.58	47.8
5C1T	25.35	3.00	25.35	3.00	0.00	240.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.67	28.67	28.67	1.699
			999999.000
			83.561

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -44.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	209.9	-131.7	190.7	-150.9
OPER	300.6C	-268.7	268.7	-300.6C	349.8	-219.5	317.8	-251.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00			
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00		35.00	
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.52	1.27	11.38	1.45	HS 25.34	45.6
5C1T	26.99	2.86	24.52	3.28	0.00	228.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-1.1	0.8	-10.4	9.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-72.5	63.9
OPER	151.3	-120.8	106.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-36.72	34.96	-28.25	26.89	-26.68	26.43	-20.52	20.33
OPER	5C1T	-27.33	27.13	-21.02	20.87	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.97	1.83	HS 36.53	65.8
5C1T	4.42	3.92	0.00	313.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-44.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 138.2	148.0	-187.3	148.0	-187.3	197.1	-138.2	197.1	-
OPER 230.3	279.4	-279.4	279.4	-279.4	328.5	-230.3	328.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 R	12.89	83.00	0.0	12.38	9.53	60.00	
		-103.95 L	-79.96	4.50	0.0	-95.84	-73.73	15.00	35.00
OPER	5C1T	12.96 R	9.97	198.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-7.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.76	1.33	11.76	1.33	HS 26.58	47.8
5C1T	25.35	3.00	25.35	3.00	0.00	240.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.93	28.67	28.67	1.699
			999999.000
			96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-24.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	196.3	-145.2	177.1	-164.4
OPER	300.6C	-268.7	268.7	-300.6C	327.2	-242.1	295.2	-274.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.19 R	11.69	55.50	0.0	21.49	16.53	27.50			
		-67.93 R	-52.25	34.00	0.0	-58.59	-45.07	15.00		37.50	
OPER	5C1T	21.91 R	16.85	165.50	0.0	0.00	0.00	0.00			
		-56.28 L	-43.29	-3.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	9.14	2.14	8.24	2.42	HS 42.76	77.0
5C1T	14.94	4.30	13.48	4.87	0.00	344.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.7	0.0
	7.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.7	65.0
OPER	151.3	-124.4	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-2.99	30.26	-2.30	23.28	-3.00	23.88	-2.30	18.37
OPER	5C1T	-3.34	24.05	-2.57	18.50	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	24.93	2.15	HS 42.94	77.3
5C1T	37.31	4.50	0.00	360.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.100

Dead Load Moment Superimposed Dead Load Moment
-2.6 -24.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 151.7	157.0	-178.3	157.0	-178.3	183.6	-151.7	183.6	-
OPER 252.8	279.4	-279.4	279.4	-279.4	306.0	-252.8	306.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	15.19 R	11.69	55.50	0.0	21.49	16.53	27.50	
		-67.93 R	-52.25	34.00	0.0	-58.59	-45.07	15.00	37.50
OPER	5C1T	21.91 R	16.85	165.50	0.0	0.00	0.00	0.00	
		-56.28 L	-43.29	-3.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	8.54	2.23	8.54	2.23	HS 44.66	80.4
5C1T	13.97	4.49	13.97	4.49	0.00	359.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.93	28.67	28.67	1.699
			999999.000
			96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
 Check Point I. D. 2.200

Dead Load Moment Superimposed Dead Load Moment
 -1.0 -7.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.6	-155.9	166.4	-175.1
OPER	300.6C	-268.7	268.7	-300.6C	309.4	-259.9	277.4	-291.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	58.49 R	45.00	58.00	0.0	40.87	31.44	30.00			
		-55.67 L	-42.82	-8.00	0.0	-37.45	-28.81	15.00	47.50		
OPER	5C1T	46.46 R	35.74	168.00	0.0	0.00	0.00	0.00			
		-44.88 L	-34.52	3.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor		Load Capacity (tons)		Rating Value
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	3.17	2.80	2.85	3.15	HS 56.03
5C1T	6.66	5.79	5.97	6.50	0.00 463.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.200

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.5	0.0 5.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.5	66.1
OPER	151.3	-122.6	110.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.99	25.52	-2.30	19.63	-4.19	21.08	-3.22	16.22
OPER	5C1T	-4.89	20.74	-3.76	15.96	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	17.54	2.59	HS 51.80	93.2
5C1T	25.05	5.31	0.00	424.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.200

Dead Load Moment Superimposed Dead Load Moment
-1.0 -7.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 162.4	164.1	-171.1	164.1	-171.1	172.9	-162.4	172.9	-
OPER 270.6	279.4	-279.4	279.4	-279.4	288.2	-270.6	288.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	58.49 R	45.00	58.00	0.0	40.87	31.44	30.00	
		-55.67 L	-42.82	-8.00	0.0	-37.45	-28.81	15.00	47.50
OPER	5C1T	46.46 R	35.74	168.00	0.0	0.00	0.00	0.00	
		-44.88 L	-34.52	3.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.96	2.92	2.96	2.92	HS 58.34	105.0
5C1T	6.20	6.03	6.20	6.03	0.00	482.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.93	28.67	28.67	1.699	999999.000	96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.300

Dead Load Moment 0.1
Superimposed Dead Load Moment 4.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	177.7	-163.8	158.6	-183.0
OPER	300.6C	-268.7	268.7	-300.6C	296.2	-273.1	264.3	-305.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	85.73 R	65.95	60.50	0.0	61.84	47.57	32.50			
		-46.21 L	-35.55	-8.00	0.0	-32.60	-25.07	15.00	0.00		
OPER	5C1T	68.20 R	52.46	135.50	0.0	0.00	0.00	0.00			
		-40.61 L	-31.24	-34.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	2.07	3.55	1.85	3.96	HS 36.99	66.6
5C1T	4.34	6.72	3.88	7.51	0.00	310.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.4	0.0 4.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.4	67.2
OPER	151.3	-120.7	112.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.35	20.66	-3.35	15.90	-6.46	18.14	-4.97	13.95
OPER	5C1T	-6.71	17.47	-5.16	13.44	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	11.21	3.25	HS 65.07	117.1
5C1T	18.00	6.41	0.00	513.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.300Dead Load Moment 0.1
Superimposed Dead Load Moment 4.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 170.3	169.4	-165.9	169.4	-165.9	165.0	-170.3	165.0	-
OPER 283.8	279.4	-279.4	279.4	-279.4	275.0	-283.8	275.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	85.73 R	65.95	60.50	0.0	61.84	47.57	32.50	
		-46.21 L	-35.55	-8.00	0.0	-32.60	-25.07	15.00	0.00
OPER	5C1T	68.20 R	52.46	135.50	0.0	0.00	0.00	0.00	
		-40.61 L	-31.24	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.92	3.68	1.92	3.68	HS 38.49	69.3
5C1T	4.03	6.99	4.03	6.99	0.00	322.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.93	28.67	28.67	1.699
			999999.000
			96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.400

Dead Load Moment 0.8
Superimposed Dead Load Moment 12.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	172.7	-168.9	153.5	-188.1
OPER	300.6C	-268.7	268.7	-300.6C	287.8	-281.5	255.8	-313.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.49 R	74.22	63.00	0.0	74.80	57.54	35.00			
		-36.75 L	-28.27	-8.00	0.0	-28.46	-21.89	15.00		0.00	
OPER	5C1T	84.02 R	64.63	134.00	0.0	0.00	0.00	0.00			
		-39.21 L	-30.16	-34.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.79	4.60	1.59	5.12	57.3
5C1T	3.42	7.18	3.04	7.99	243.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.400

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	2.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.3	68.4
OPER	151.3	-118.8	113.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-8.92	16.99	-6.86	13.07	-9.03	15.15	-6.94	11.65
OPER	5C1T	-8.75	14.86	-6.73	11.43	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.90	4.02	HS 80.47	144.8	
5C1T	13.58	7.66	0.00	613.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.400

Dead Load Moment 0.8
Superimposed Dead Load Moment 12.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 175.4	172.8	-162.5	172.8	-162.5	159.9	-175.4	159.9	-
OPER 292.3	279.4	-279.4	279.4	-279.4	266.5	-292.3	266.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	96.49 R	74.22	63.00	0.0	74.80	57.54	35.00	0.00
		-36.75 L	-28.27	-8.00	0.0	-28.46	-21.89	15.00	0.00
OPER	5C1T	84.02 R	64.63	134.00	0.0	0.00	0.00	0.00	0.00
		-39.21 L	-30.16	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.66	4.77	1.66	4.77	HS 33.15	59.7
5C1T	3.17	7.45	3.17	7.45	0.00	253.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.36 L	72.58	23.50	0.0	80.36	61.82	37.50			
		-27.30 L	-21.00	-8.00	0.0	-24.32	-18.71	15.00		0.00	
OPER	5C1T	87.72 R	67.48	136.50	0.0	0.00	0.00	0.00			
		-37.81 L	-29.08	-34.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.81	6.27	1.60	32.05	57.7
5C1T	3.24	7.55	2.87	0.00	229.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 0.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.2 69.5
OPER 151.3 -116.9 115.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.08	13.29	-10.06	10.22	-11.82	12.21	-9.09	9.39
OPER	5C1T	-10.98	12.29	-8.45	9.46	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.36	5.23	HS 104.56	188.2
5C1T	10.65	9.42	0.00	753.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.6	174.3	-161.0	174.3	-161.0	157.7	-177.6	157.7	-
OPER 296.0	279.4	-279.4	279.4	-279.4	262.8	-296.0	262.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.36 L	72.58	23.50	0.0	80.36	61.82	37.50	
		-27.30 L	-21.00	-8.00	0.0	-24.32	-18.71	15.00	0.00
OPER	5C1T	87.72 R	67.48	136.50	0.0	0.00	0.00	0.00	
		-37.81 L	-29.08	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.67	6.51	1.67	6.51	HS 33.42	60.2
5C1T	2.99	7.83	2.99	7.83	0.00	239.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.600

Dead Load Moment 1.1
Superimposed Dead Load Moment 14.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	171.1	-170.4	152.0	-189.6
OPER	300.6C	-268.7	268.7	-300.6C	285.2	-284.1	253.3	-316.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.30 L	74.08	12.00	0.0	76.22	58.63	40.00			
		-30.13 R	-23.17	83.00	0.0	-26.61	-20.47	60.00	0.00		
OPER	5C1T	84.08 L	64.68	-11.00	0.0	0.00	0.00	0.00			
		-36.44 R	-28.03	109.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	5.66	1.58	6.29	HS 31.56	56.8
5C1T	3.39	7.80	3.01	8.67	0.00	241.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.0	70.7
OPER	151.3	-114.9	117.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.75	9.12	-12.88	7.02	-14.76	9.40	-11.35	7.23
OPER	5C1T	-13.49	10.04	-10.38	7.72	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.12	7.52	HS 82.35	148.2	
5C1T	8.52	11.74	0.00	681.6	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.600

Dead Load Moment 1.1
Superimposed Dead Load Moment 14.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.9	173.8	-161.5	173.8	-161.5	158.4	-176.9	158.4	-
OPER 294.8	279.4	-279.4	279.4	-279.4	264.0	-294.8	264.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	96.30 L	74.08	12.00	0.0	76.22	58.63	40.00	0.00
		-30.13 R	-23.17	83.00	0.0	-26.61	-20.47	60.00	0.00
OPER	5C1T	84.08 L	64.68	-11.00	0.0	0.00	0.00	0.00	0.00
		-36.44 R	-28.03	109.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.64	5.87	1.64	5.87	HS 32.90	59.2
5C1T	3.14	8.09	3.14	8.09	0.00	251.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.700

Dead Load Moment 0.7
Superimposed Dead Load Moment 8.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.2	-278.1	259.2	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.17 L	66.29	14.50	0.0	64.63	49.71	42.50			
		-37.94 R	-29.19	83.00	0.0	-30.08	-23.14	60.00	0.00		
OPER	5C1T	73.27 L	56.36	-8.50	0.0	0.00	0.00	0.00			
		-38.42 R	-29.55	158.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.03	4.40	1.80	HS 36.09	65.0
5C1T	3.97	7.24	3.54	0.00	283.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-3.1
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.8	71.8
OPER	151.3	-113.1	119.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-20.51	4.55	-15.77	3.50	-17.75	6.82	-13.66	5.25
OPER	5C1T	-16.51	7.79	-12.70	5.99	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.31	10.52	HS 66.16	119.1	
5C1T	6.85	15.36	0.00	548.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.700

Dead Load Moment 0.7
Superimposed Dead Load Moment 8.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.3	171.4	-163.9	171.4	-163.9	162.0	-173.3	162.0	-
OPER 288.9	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	86.17 L	66.29	14.50	0.0	64.63	49.71	42.50	
		-37.94 R	-29.19	83.00	0.0	-30.08	-23.14	60.00	0.00
OPER	5C1T	73.27 L	56.36	-8.50	0.0	0.00	0.00	0.00	
		-38.42 R	-29.55	158.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.88	4.57	1.88	4.57	HS 37.59	67.7
5C1T	3.68	7.52	3.68	7.52	0.00	294.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.46 L	45.74	17.00	0.0	45.30	34.84	45.00			
		-45.76 R	-35.20	83.00	0.0	-35.35	-27.19	60.00	110.00		
OPER	5C1T	55.30 L	42.54	-6.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	159.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	54.45
5C1T	5.46	6.25	4.88	7.00	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-4.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.7	72.9
OPER	151.3	-111.2	121.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.34	3.64	-19.49	2.80	-20.71	4.54	-15.93	3.49
OPER	5C1T	-19.67	5.65	-15.13	4.34	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.63	16.07	HS 52.66	94.8	
5C1T	5.65	21.52	0.00	452.1	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.3	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.46 L	45.74	17.00	0.0	45.30	34.84	45.00	
		-45.76 R	-35.20	83.00	0.0	-35.35	-27.19	60.00	110.00
OPER	5C1T	55.30 L	42.54	-6.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	159.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	2.83	3.65	2.83	3.65	HS 56.61	101.9
5C1T	5.07	6.50	5.07	6.50	0.00	405.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.3	-151.3	171.1	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.1	-252.2	285.1	-284.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43	L	12.64	19.50	0.0	25.46	19.58	47.50		
		-59.00	L	-45.39	41.00	0.0	-53.33	-41.03	60.00	37.50	
OPER	5C1T	31.30	L	24.08	-3.50	0.0	0.00	0.00	0.00		
		-49.71	R	-38.24	161.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.47	2.57	6.72	2.89	HS 51.29	92.3
5C1T	10.13	5.07	9.11	5.72	0.00	405.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.5	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-65.6 74.1
OPER	151.3		-109.3 123.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
Typ.	Veh.	w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.06	3.78	-23.12	2.91	-23.53	3.50	-18.10	2.69
OPER	5C1T	-22.87	3.74	-17.59	2.88	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating	Factor	Rating	Load
	(-)	(+)	Value	Capacity
				(tons)
HS20	2.18	19.58	HS 43.64	78.6
5C1T	4.78	32.97	0.00	382.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.900

Dead Load Moment Superimposed Dead Load Moment
-1.3 -15.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.8	161.1	-174.2	161.1	-174.2	177.5	-157.8	177.5	-
OPER 262.9	279.4	-279.4	279.4	-279.4	295.9	-262.9	295.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 L	12.64	19.50	0.0	25.46	19.58	47.50	
		-59.00 L	-45.39	41.00	0.0	-53.33	-41.03	60.00	37.50
OPER	5C1T	31.30 L	24.08	-3.50	0.0	0.00	0.00	0.00	
		-49.71 R	-38.24	161.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.97	2.67	6.97	2.67	HS 53.48	96.3
5C1T	9.45	5.29	9.45	5.29	0.00	423.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Superimposed Dead Load
Moment Moment
-2.9 -33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.5
OPER	300.6C	-268.7	268.7	-300.6C	337.1	-232.2	305.1	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00			
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00		
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00			
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	10.12	1.41	9.16	HS 28.31	51.0
5C1T	21.90	3.77	19.83	0.00	301.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.5	64.2
OPER	151.3	-107.4	107.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.06	34.53	-23.12	26.56	-23.53	26.28	-18.10	20.22
OPER	5C1T	-22.87	26.22	-17.59	20.17	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.86	HS 37.21	67.0
5C1T	4.14	4.08	0.00	326.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-33.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 145.8	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-
OPER 243.0	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00	
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	9.48	1.48	9.48	1.48	HS 29.62	53.3
5C1T	20.52	3.95	20.52	3.95	0.00	315.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Superimposed Dead Load
Moment Moment
-2.9 -33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.5
OPER	300.6C	-268.7	268.7	-300.6C	337.1	-232.2	305.1	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98	L	15.37	-8.00	0.0	17.84	13.72	15.00		
		-98.43	L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00	
OPER	5C1T	15.39	L	11.84	-121.50	0.0	0.00	0.00	0.00		
		-61.54	L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.12	1.41	9.16	1.61	HS 28.31	51.0
5C1T	21.90	3.77	19.83	4.29	0.00	301.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-8.2	8.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.5	64.2
OPER	151.3	-107.4	107.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.48	34.53	-26.52	26.56	-26.11	26.28	-20.08	20.22
OPER	5C1T	-25.93	26.22	-19.95	20.17	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.86	HS 37.21	67.0
5C1T	4.14	4.08	0.00	326.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-33.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 145.8	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-
OPER 243.0	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.98 L	15.37	-8.00	0.0	17.84	13.72	15.00	
		-98.43 L	-75.72	29.50	0.0	-89.21	-68.63	60.00	40.00
OPER	5C1T	15.39 L	11.84	-121.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	18.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	9.48	1.48	9.48	1.48	HS 29.62	53.3
5C1T	20.52	3.95	20.52	3.95	0.00	315.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.100

Dead Load Superimposed Dead Load
Moment Moment
-1.2 -14.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.7	-151.9	170.5	-171.1
OPER	300.6C	-268.7	268.7	-300.6C	316.2	-253.1	284.2	-285.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.13 R	12.41	80.50	0.0	25.97	19.97	52.50			
		-58.69 R	-45.15	59.00	0.0	-52.89	-40.68	40.00		62.50	
OPER	5C1T	30.14 R	23.19	103.50	0.0	0.00	0.00	0.00			
		-47.23 L	-36.33	25.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	7.30	2.59	6.57	2.91	93.2
5C1T	10.49	5.36	9.43	6.04	428.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	6.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.3	65.4
OPER	151.3	-123.8	108.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.23	23.71	-2.48	18.24
OPER	5C1T	-3.46	23.40	-2.66	18.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.01	2.17	HS 43.41	78.1
5C1T	35.74	4.66	0.00	372.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.100

Dead Load Moment Superimposed Dead Load Moment
-1.2 -14.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.3	161.4	-173.8	161.4	-173.8	177.0	-158.3	177.0	-
OPER 263.9	279.4	-279.4	279.4	-279.4	294.9	-263.9	294.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.13 R	12.41	80.50	0.0	25.97	19.97	52.50	
		-58.69 R	-45.15	59.00	0.0	-52.89	-40.68	40.00	62.50
OPER	5C1T	30.14 R	23.19	103.50	0.0	0.00	0.00	0.00	
		-47.23 L	-36.33	25.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.82	2.70	6.82	2.70	HS 53.95	97.1
5C1T	9.78	5.59	9.78	5.59	0.00	447.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.200

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	299.9	-269.4	267.9	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.37 R	45.67	83.00	0.0	44.98	34.60	55.00			
		-45.31 L	-34.85	17.00	0.0	-33.04	-25.42	40.00	72.50		
OPER	5C1T	56.23 R	43.25	106.00	0.0	0.00	0.00	0.00			
		-40.11 L	-30.86	28.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	3.03	3.57	2.71	54.16	97.5
5C1T	5.33	6.72	4.76	0.00	381.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.2	66.5
OPER	151.3	-121.9	110.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.47	20.91	-3.44	16.08
OPER	5C1T	-5.16	20.31	-3.97	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.37	2.62	HS 52.35	94.2
5C1T	23.62	5.45	0.00	436.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.200

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 168.1	167.9	-167.4	167.9	-167.4	167.2	-168.1	167.2	-
OPER 280.1	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.37 R	45.67	83.00	0.0	44.98	34.60	55.00	
		-45.31 L	-34.85	17.00	0.0	-33.04	-25.42	40.00	72.50
OPER	5C1T	56.23 R	43.25	106.00	0.0	0.00	0.00	0.00	
		-40.11 L	-30.86	28.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.82	3.71	2.82	3.71	HS 56.33	101.4
5C1T	4.96	6.98	4.96	6.98	0.00	396.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.300

Dead Load Moment 1.0
Superimposed Dead Load Moment 11.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.0	-168.5	153.8	-187.7
OPER	300.6C	-268.7	268.7	-300.6C	288.4	-280.9	256.4	-312.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.43 R	66.48	85.50	0.0	65.39	50.30	57.50			
		-37.61 L	-28.93	17.00	0.0	-29.08	-22.37	40.00	0.00		
OPER	5C1T	76.13 R	58.56	108.50	0.0	0.00	0.00	0.00			
		-36.19 L	-27.84	-58.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.00	4.48	1.78	4.99	HS 35.60	64.1
5C1T	3.79	7.76	3.37	8.65	0.00	269.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.4

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.0	67.6
OPER	151.3	-120.1	112.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.39	15.82	-6.74	17.96	-5.19	13.81
OPER	5C1T	-7.16	17.15	-5.51	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.68	3.29	HS 65.74	118.3
5C1T	16.77	6.57	0.00	525.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.300

Dead Load Moment Superimposed Dead Load Moment
1.0 11.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 175.0	172.5	-162.7	172.5	-162.7	160.3	-175.0	160.3	-
OPER 291.7	279.4	-279.4	279.4	-279.4	267.1	-291.7	267.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.43 R	66.48	85.50	0.0	65.39	50.30	57.50	
		-37.61 L	-28.93	17.00	0.0	-29.08	-22.37	40.00	0.00
OPER	5C1T	76.13 R	58.56	108.50	0.0	0.00	0.00	0.00	
		-36.19 L	-27.84	-58.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.86	4.65	1.86	4.65	HS 37.09	66.8
5C1T	3.51	8.06	3.51	8.06	0.00	280.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.400

Dead Load Moment 1.6
Superimposed Dead Load Moment 17.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.9	-172.7	149.7	-191.8
OPER	300.6C	-268.7	268.7	-300.6C	281.5	-287.8	249.5	-319.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.97 R	74.59	88.00	0.0	77.63	59.72	60.00			
		-29.91 L	-23.01	17.00	0.0	-25.66	-19.74	40.00	0.00		
OPER	5C1T	88.02 R	67.71	111.00	0.0	0.00	0.00	0.00			
		-33.75 L	-25.96	-56.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.77	1.54	6.41	HS 30.88	55.6
5C1T	3.20	8.53	2.84	9.48	0.00	226.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.400

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.1	0.0 1.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.90	-9.31	14.97	-7.17	11.51
OPER	5C1T	-9.38	14.06	-7.21	10.81	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.61	4.10	HS 81.95	147.5
5C1T	12.60	8.15	0.00	652.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.400Dead Load Moment 1.6
Superimposed Dead Load Moment 17.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.1	175.3	-160.0	175.3	-160.0	156.2	-179.1	156.2	-
OPER 298.5	279.4	-279.4	279.4	-279.4	260.3	-298.5	260.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.97 R	74.59	88.00	0.0	77.63	59.72	60.00	
		-29.91 L	-23.01	17.00	0.0	-25.66	-19.74	40.00	0.00
OPER	5C1T	88.02 R	67.71	111.00	0.0	0.00	0.00	0.00	
		-33.75 L	-25.96	-56.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.61	5.99	1.61	5.99	HS 32.21	58.0
5C1T	2.96	8.85	2.96	8.85	0.00	236.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 19.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	167.6	-174.0	148.4	-193.1
OPER	300.6C	-268.7	268.7	-300.6C	279.4	-289.9	247.4	-321.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.67 R	72.82	76.50	0.0	82.45	63.42	62.50			
		-22.43 R	-17.25	108.00	0.0	-22.28	-17.14	85.00	0.00		
OPER	5C1T	90.81 L	69.86	-36.50	0.0	0.00	0.00	0.00			
		-33.70 R	-25.92	180.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.77	7.76	1.57	8.61	HS 31.36	56.4
5C1T	3.08	8.60	2.72	9.55	0.00	217.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	-0.1 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.09	10.09	-12.11	12.03	-9.32	9.26
OPER	5C1T	-11.72	11.58	-9.02	8.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.36	191.4
5C1T	9.92	10.06	0.00	793.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 19.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 180.4	176.2	-159.1	176.2	-159.1	154.9	-180.4	154.9	-
OPER 300.7	279.4	-279.4	279.4	-279.4	258.1	-300.7	258.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.67 R	72.82	76.50	0.0	82.45	63.42	62.50	
		-22.43 R	-17.25	108.00	0.0	-22.28	-17.14	85.00	0.00
OPER	5C1T	90.81 L	69.86	-36.50	0.0	0.00	0.00	0.00	
		-33.70 R	-25.92	180.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.64	8.04	1.64	8.04	HS 32.72	58.9
5C1T	2.84	8.92	2.84	8.92	0.00	227.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.600

Dead Load Moment 1.5
Superimposed Dead Load Moment 16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.3	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 L	74.62	37.00	0.0	77.56	59.66	65.00			
		-30.20 R	-23.23	108.00	0.0	-26.05	-20.04	85.00	0.00		
OPER	5C1T	87.63 L	67.41	-34.00	0.0	0.00	0.00	0.00			
		-35.31 R	-27.16	181.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.70	1.55	6.34	HS 30.95	55.7
5C1T	3.22	8.13	2.86	9.04	0.00	228.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.3	-114.3	118.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.05	9.24	-11.57	7.11
OPER	5C1T	-14.17	9.27	-10.90	7.13	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.69	HS 81.75	147.2	
5C1T	8.06	12.78	0.00	645.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.600Dead Load Moment 1.5
Superimposed Dead Load Moment 16.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.00 L	74.62	37.00	0.0	77.56	59.66	65.00	
		-30.20 R	-23.23	108.00	0.0	-26.05	-20.04	85.00	0.00
OPER	5C1T	87.63 L	67.41	-34.00	0.0	0.00	0.00	0.00	
		-35.31 R	-27.16	181.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.61	5.92	1.61	5.92	HS 32.28	58.1
5C1T	2.98	8.44	2.98	8.44	0.00	238.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.700

Dead Load Moment 0.9
Superimposed Dead Load Moment 10.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.8	-167.7	154.7	-186.9
OPER	300.6C	-268.7	268.7	-300.6C	289.7	-279.5	257.8	-311.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 L	66.52	39.50	0.0	65.25	50.19	67.50			
		-37.98 R	-29.21	108.00	0.0	-29.81	-22.93	85.00	0.00		
OPER	5C1T	74.93 L	57.64	16.50	0.0	0.00	0.00	0.00			
		-38.36 R	-29.51	183.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.01	4.42	1.79	4.92	HS 35.77	64.4
5C1T	3.87	7.29	3.44	8.12	0.00	275.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.6
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.5	72.2
OPER	151.3	-112.4	120.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.56	4.42	-15.82	3.40	-18.03	6.66	-13.87	5.13
OPER	5C1T	-17.27	7.09	-13.29	5.45	0.00	0.00	0.00	0.00

Rating		Shear	
Veh.	Rating (-)	Factor (+)	Rating Value
HS20	3.28	10.83	HS 65.60
5C1T	6.51	16.98	0.00
			Load Capacity (tons)
			118.1
			520.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.700Dead Load Moment 0.9
Superimposed Dead Load Moment 10.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.2	172.0	-163.3	172.0	-163.3	161.1	-174.2	161.1	-
OPER 290.3	279.4	-279.4	279.4	-279.4	268.5	-290.3	268.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.47 L	66.52	39.50	0.0	65.25	50.19	67.50	
		-37.98 R	-29.21	108.00	0.0	-29.81	-22.93	85.00	0.00
OPER	5C1T	74.93 L	57.64	16.50	0.0	0.00	0.00	0.00	
		-38.36 R	-29.51	183.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.86	4.59	1.86	4.59	HS 37.26	67.1
5C1T	3.58	7.57	3.58	7.57	0.00	286.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	42.00	0.0	45.25	34.81	70.00			
		-45.75 R	-35.19	108.00	0.0	-35.42	-27.25	85.00	135.00		
OPER	5C1T	55.09 L	42.38	19.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	184.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	54.51
5C1T	5.48	6.25	4.90	6.99	0.00

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 3.800
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.5 -5.3 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.3	73.3
OPER	151.3	-110.5	122.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.39	2.94	-19.53	2.26	-20.98	4.39	-16.14	3.38
OPER	5C1T	-20.46	5.11	-15.74	3.93	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.61	16.70	HS 52.24	94.0	
5C1T	5.40	23.92	0.00	432.3	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.8	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-
OPER 278.1	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	42.00	0.0	45.25	34.81	70.00	
		-45.75 R	-35.19	108.00	0.0	-35.42	-27.25	85.00	135.00
OPER	5C1T	55.09 L	42.38	19.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	184.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.68	102.0
5C1T	5.10	6.50	5.10	6.50	0.00	407.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.3	-150.2	172.1	-169.4
OPER	300.6C	-268.7	268.7	-300.6C	318.9	-250.4	286.9	-282.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.21 L	12.47	44.50	0.0	25.07	19.29	72.50			
		-58.98 L	-45.37	66.00	0.0	-54.10	-41.62	85.00	62.50		
OPER	5C1T	29.51 L	22.70	21.50	0.0	0.00	0.00	0.00			
		-49.72 R	-38.24	186.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	7.63	2.55	6.87	2.87	HS 50.95	91.7
5C1T	10.81	5.04	9.72	5.68	0.00	402.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.2	74.4
OPER	151.3	-108.7	124.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	3.08	-23.16	2.37	-23.79	3.13	-18.30	2.41
OPER	5C1T	-23.57	3.39	-18.13	2.61	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.16	23.75	HS 43.31	78.0
5C1T	4.61	36.56	0.00	368.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.900Dead Load Moment -1.5
Superimposed Dead Load Moment -16.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.7	160.3	-174.9	160.3	-174.9	178.6	-156.7	178.6	-
OPER 261.2	279.4	-279.4	279.4	-279.4	297.6	-261.2	297.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.21 L	12.47	44.50	0.0	25.07	19.29	72.50	
		-58.98 L	-45.37	66.00	0.0	-54.10	-41.62	85.00	62.50
OPER	5C1T	29.51 L	22.70	21.50	0.0	0.00	0.00	0.00	
		-49.72 R	-38.24	186.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.12	2.66	7.12	2.66	HS 53.13	95.6
5C1T	10.09	5.25	10.09	5.25	0.00	420.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.3	-137.3	185.1	-156.5
OPER	300.6C	-268.7	268.7	-300.6C	340.5	-228.8	308.5	-260.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00			
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00		65.00	
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00			
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.44	1.39	11.27	1.59	HS 27.86
5C1T	26.82	3.66	24.30	4.17	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	64.1
OPER	151.3	-106.8	106.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	34.53	-23.16	26.56	-23.79	26.35	-18.30	20.27
OPER	5C1T	-23.57	26.27	-18.13	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.12	66.8
5C1T	4.04	4.07	0.00	323.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.7	151.7	-183.6	151.7	-183.6	191.6	-143.7	191.6	-
OPER 239.5	279.4	-279.4	279.4	-279.4	319.3	-239.5	319.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00	
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00	
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.66	1.46	11.66	1.46	HS 29.17	52.5
5C1T	25.14	3.83	25.14	3.83	0.00	306.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.3	-137.3	185.1	-156.5
OPER	300.6C	-268.7	268.7	-300.6C	340.5	-228.8	308.5	-260.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00			
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00		65.00	
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00			
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.44	1.39	11.27	1.59	HS 27.86 50.2
5C1T	26.82	3.66	24.30	4.17	0.00 292.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-8.8	8.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.1	64.1
OPER	151.3	-106.8	106.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.52	34.53	-26.56	26.56	-26.36	26.35	-20.28	20.27
OPER	5C1T	-26.44	26.27	-20.34	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.12	66.8
5C1T	4.04	4.07	0.00	323.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.7	151.7	-183.6	151.7	-183.6	191.6	-143.7	191.6	-
OPER 239.5	279.4	-279.4	279.4	-279.4	319.3	-239.5	319.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 R	12.63	133.00	0.0	16.32	12.55	110.00	
		-98.55 L	-75.80	54.50	0.0	-90.65	-69.73	85.00	65.00
OPER	5C1T	12.70 R	9.77	248.00	0.0	0.00	0.00	0.00	
		-62.57 R	-48.13	106.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.66	1.46	11.66	1.46	HS 29.17	52.5
5C1T	25.14	3.83	25.14	3.83	0.00	306.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.5	-150.1	172.3	-169.3
OPER	300.6C	-268.7	268.7	-300.6C	319.1	-250.2	287.1	-282.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.19 R	12.46	105.50	0.0	25.38	19.52	77.50			
		-58.96 R	-45.35	84.00	0.0	-54.15	-41.66	65.00		87.50	
OPER	5C1T	28.68 R	22.06	128.50	0.0	0.00	0.00	0.00			
		-50.27 L	-38.67	-36.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.55	2.55	6.79	2.87	HS 50.92	91.7
5C1T	11.13	4.98	10.01	5.61	0.00	398.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 7.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.4	65.3
OPER	151.3	-124.0	108.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.19	23.78	-2.46	18.29
OPER	5C1T	-3.35	23.42	-2.58	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.30	2.17	HS 43.34	78.0
5C1T	36.96	4.64	0.00	371.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-16.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	160.2	-175.0	160.2	-175.0	178.7	-156.5	178.7	-
156.5								
OPER	279.4	-279.4	279.4	-279.4	297.9	-260.9	297.9	-
260.9								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.19 R	12.46	105.50	0.0	25.38	19.52	77.50	
		-58.96 R	-45.35	84.00	0.0	-54.15	-41.66	65.00	87.50
OPER	5C1T	28.68 R	22.06	128.50	0.0	0.00	0.00	0.00	
		-50.27 L	-38.67	-36.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
bend	+bend	-bend	+bend	-bend		
HS20	7.04	2.65	7.04	2.65	HS 53.10	95.6
5C1T	10.39	5.19	10.39	5.19	0.00	415.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.200

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.71	108.00	0.0	44.49	34.23	80.00			
		-45.74 L	-35.19	42.00	0.0	-35.63	-27.41	65.00		15.00	
OPER	5C1T	54.47 R	41.90	131.00	0.0	0.00	0.00	0.00			
		-43.32 L	-33.32	-34.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.50	2.73	3.92	HS 54.62	98.3
5C1T	5.55	6.16	4.97	6.90	0.00	397.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.3

Rat.	Shear Capacity	Available Capacity for LL+I
Veh.	VU	(-) (+)
INV.	90.8	-73.3 66.4
OPER	151.3	-122.1 110.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.44	20.97	-3.41	16.13
OPER	5C1T	-5.07	20.32	-3.90	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.51	2.61	HS 52.28	94.1
5C1T	24.08	5.45	0.00	435.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.5	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-
OPER 277.6	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.71	108.00	0.0	44.49	34.23	80.00	
		-45.74 L	-35.19	42.00	0.0	-35.63	-27.41	65.00	15.00
OPER	5C1T	54.47 R	41.90	131.00	0.0	0.00	0.00	0.00	
		-43.32 L	-33.32	-34.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.84	3.64	2.84	3.64	HS 56.79	102.2
5C1T	5.16	6.41	5.16	6.41	0.00	413.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 9.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.5	-278.8	258.5	-310.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 R	66.52	110.50	0.0	65.00	50.00	82.50			
		-37.97 L	-29.21	42.00	0.0	-30.01	-23.08	65.00	0.00		
OPER	5C1T	74.55 R	57.34	133.50	0.0	0.00	0.00	0.00			
		-38.82 L	-29.86	-33.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	4.41	1.79	4.91	HS 35.87	64.6
5C1T	3.90	7.18	3.47	8.01	0.00	277.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.1	67.5
OPER	151.3	-120.2	112.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.71	18.02	-5.16	13.86
OPER	5C1T	-7.06	17.15	-5.43	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.75	3.28	HS 65.65	118.2
5C1T	17.04	6.56	0.00	524.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.300Dead Load Moment 0.8
Superimposed Dead Load Moment 9.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.7	171.7	-163.6	171.7	-163.6	161.5	-173.7	161.5	-
OPER 289.6	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.47 R	66.52	110.50	0.0	65.00	50.00	82.50	
		-37.97 L	-29.21	42.00	0.0	-30.01	-23.08	65.00	0.00
OPER	5C1T	74.55 R	57.34	133.50	0.0	0.00	0.00	0.00	
		-38.82 L	-29.86	-33.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.87	4.57	1.87	4.57	HS 37.36	67.3
5C1T	3.61	7.46	3.61	7.46	0.00	288.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 16.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.8
OPER	300.6C	-268.7	268.7	-300.6C	283.2	-286.1	251.2	-318.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 R	74.62	113.00	0.0	77.32	59.48	85.00			
		-30.20 L	-23.23	42.00	0.0	-26.40	-20.31	65.00	0.00		
OPER	5C1T	87.00 R	66.92	184.00	0.0	0.00	0.00	0.00			
		-35.71 L	-27.47	-31.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.68	1.55	6.32	HS 31.08	55.9
5C1T	3.26	8.01	2.89	8.91	0.00	231.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.400

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.0	68.6
OPER	151.3	-118.3	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.28	15.04	-7.14	11.57
OPER	5C1T	-9.25	14.06	-7.12	10.81	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.65	4.09	HS 81.81	147.3	
5C1T	12.79	8.14	0.00	651.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 16.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.1	174.6	-160.7	174.6	-160.7	157.2	-178.1	157.2	-
OPER 296.8	279.4	-279.4	279.4	-279.4	262.0	-296.8	262.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	97.00 R	74.62	113.00	0.0	77.32	59.48	85.00	
		-30.20 L	-23.23	42.00	0.0	-26.40	-20.31	65.00	0.00
OPER	5C1T	87.00 R	66.92	184.00	0.0	0.00	0.00	0.00	
		-35.71 L	-27.47	-31.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.62	5.90	1.62	5.90	HS 32.41	58.3
5C1T	3.01	8.31	3.01	8.31	0.00	240.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.065

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.4	-173.2	149.2	-192.4
OPER	300.6C	-268.7	268.7	-300.6C	280.6	-288.7	248.6	-320.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 R	72.83	101.50	0.0	82.22	63.25	87.50			
		-22.43 R	-17.26	133.00	0.0	-22.80	-17.53	110.00		0.00	
OPER	5C1T	89.94 R	69.18	186.50	0.0	0.00	0.00	0.00			
		-34.36 L	-26.43	15.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	7.60	1.58	8.44	HS 31.51	56.7
5C1T	3.12	8.40	2.76	9.33	0.00	221.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.5	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.08	12.10	-9.29	9.31
OPER	5C1T	-11.59	11.61	-8.91	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.31	191.4
5C1T	10.05	10.02	0.00	801.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.5

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	175.7	-159.6	175.7	-159.6	155.6	-179.7	155.6	-
179.7								
OPER	279.4	-279.4	279.4	-279.4	259.4	-299.4	259.4	-
299.4								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	94.68 R	72.83	101.50	0.0	82.22	63.25	87.50	
		-22.43 R	-17.26	133.00	0.0	-22.80	-17.53	110.00	0.00
OPER	5C1T	89.94 R	69.18	186.50	0.0	0.00	0.00	0.00	
		-34.36 L	-26.43	15.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	1.64	7.88	1.64	7.88	HS 32.87	59.2
5C1T	2.88	8.72	2.88	8.72	0.00	230.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.065

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 16.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.8	-171.8	150.6	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	283.0	-286.3	251.0	-318.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	62.00	0.0	77.41	59.55	90.00			
		-30.21 R	-23.24	133.00	0.0	-26.38	-20.29	110.00	0.00		
OPER	5C1T	86.82 L	66.79	39.00	0.0	0.00	0.00	0.00			
		-35.33 R	-27.18	206.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.69	1.55	6.32	HS 31.05	55.9
5C1T	3.26	8.10	2.89	9.01	0.00	231.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.5	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.01	9.31	-11.55	7.16
OPER	5C1T	-14.02	9.29	-10.79	7.15	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.63	HS 81.87	147.4	
5C1T	8.16	12.73	0.00	653.1	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.600Dead Load Moment 1.4
Superimposed Dead Load Moment 16.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.2	174.7	-160.6	174.7	-160.6	157.1	-178.2	157.1	-
OPER 297.0	279.4	-279.4	279.4	-279.4	261.8	-297.0	261.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 L	74.62	62.00	0.0	77.41	59.55	90.00	
		-30.21 R	-23.24	133.00	0.0	-26.38	-20.29	110.00	0.00
OPER	5C1T	86.82 L	66.79	39.00	0.0	0.00	0.00	0.00	
		-35.33 R	-27.18	206.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.62	5.90	1.62	5.90	HS 32.38	58.3
5C1T	3.02	8.41	3.02	8.41	0.00	241.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.065

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 9.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.1	-167.5	154.9	-186.7
OPER	300.6C	-268.7	268.7	-300.6C	290.1	-279.2	258.1	-311.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	64.50	0.0	65.18	50.14	92.50			
		-37.98 R	-29.21	133.00	0.0	-29.97	-23.05	110.00	0.00		
OPER	5C1T	74.87 L	57.59	41.50	0.0	0.00	0.00	0.00			
		-38.37 R	-29.52	208.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.41	1.79	35.82	64.5
5C1T	3.88	7.28	3.45	0.00	275.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.5
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.6	72.1
OPER	151.3	-112.6	120.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.00	6.73	-13.85	5.18
OPER	5C1T	-17.10	7.10	-13.16	5.46	0.00	0.00	0.00	0.00

Rating		Shear	
Veh.	Rating (-)	Factor (+)	Rating Value
HS20	3.29	10.71	HS 65.69
5C1T	6.58	16.92	0.00
			Load Capacity (tons)
			118.2
			526.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.700Dead Load Moment 0.8
Superimposed Dead Load Moment 9.7

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend
INV.	171.8	-163.4	171.8	-163.4
174.0				
OPER	279.4	-279.4	279.4	-279.4
289.9				

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.48 L	66.52	64.50	0.0	65.18	50.14
		-37.98 R	-29.21	133.00	0.0	-29.97	-23.05
OPER	5C1T	74.87 L	57.59	41.50	0.0	0.00	0.00
		-38.37 R	-29.52	208.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	4.58	1.87	4.58	HS 37.31
5C1T	3.59	7.55	3.59	7.55	0.00

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.065

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	67.00	0.0	45.27	34.83	95.00			
		-45.75 R	-35.19	133.00	0.0	-35.40	-27.23	110.00	160.00		
OPER	5C1T	55.09 L	42.38	44.00	0.0	0.00	0.00	0.00			
		-42.79 R	-32.92	209.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	3.05	3.51	2.72	3.93	HS 54.50	98.1
5C1T	5.48	6.25	4.90	7.00	0.00	391.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.4	73.2
OPER	151.3	-110.7	122.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.95	4.46	-16.12	3.43
OPER	5C1T	-20.27	5.12	-15.59	3.94	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.62	16.42	HS 52.31	94.2	
5C1T	5.46	23.82	0.00	437.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	167.1	-168.1	167.1	-168.1	168.4	-166.9	168.4	-
166.9								
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-
278.1								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.72	67.00	0.0	45.27	34.83	95.00	
		-45.75 R	-35.19	133.00	0.0	-35.40	-27.23	110.00	160.00
OPER	5C1T	55.09 L	42.38	44.00	0.0	0.00	0.00	0.00	
		-42.79 R	-32.92	209.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	2.83	3.65	2.83	3.65	HS 56.67	102.0
5C1T	5.09	6.50	5.09	6.50	0.00	407.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.065

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -16.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.0	-150.5	171.8	-169.7
OPER	300.6C	-268.7	268.7	-300.6C	318.4	-250.9	286.4	-282.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	69.50	0.0	25.27	19.44	97.50			
		-58.98 L	-45.37	91.00	0.0	-54.00	-41.54	110.00		87.50	
OPER	5C1T	29.55 L	22.73	46.50	0.0	0.00	0.00	0.00			
		-49.71 R	-38.24	211.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.56	2.55	6.80	2.88	HS 51.05
5C1T	10.77	5.05	9.69	5.69	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.3	74.3
OPER	151.3	-108.8	123.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	3.11	-23.17	2.39	-23.76	3.21	-18.28	2.47
OPER	5C1T	-23.37	3.41	-17.98	2.62	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.17	23.13	HS 43.37	78.1
5C1T	4.66	36.39	0.00	372.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-16.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.0	160.5	-174.7	160.5	-174.7	178.3	-157.0	178.3	-
OPER 261.6	279.4	-279.4	279.4	-279.4	297.2	-261.6	297.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 L	12.46	69.50	0.0	25.27	19.44	97.50	
		-58.98 L	-45.37	91.00	0.0	-54.00	-41.54	110.00	87.50
OPER	5C1T	29.55 L	22.73	46.50	0.0	0.00	0.00	0.00	
		-49.71 R	-38.24	211.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.06	2.66	7.06	2.66	HS 53.24	95.8
5C1T	10.06	5.26	10.06	5.26	0.00	421.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.065

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Superimposed Dead Load
Moment Moment
-3.2 -35.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	203.7	-137.8	184.5	-157.0
OPER	300.6C	-268.7	268.7	-300.6C	339.6	-229.7	307.6	-261.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00			
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00		90.00	
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00			
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.21	1.40	11.06	1.59	50.3
5C1T	26.70	3.70	24.18	4.22	296.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.2	64.2
OPER	151.3	-107.0	106.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.11	34.53	-23.17	26.56	-23.76	26.34	-18.28	20.26
OPER	5C1T	-23.37	26.27	-17.98	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.17	66.9
5C1T	4.08	4.07	0.00	325.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-35.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 144.3	152.1	-183.2	152.1	-183.2	191.0	-144.3	191.0	-
OPER 240.5	279.4	-279.4	279.4	-279.4	318.3	-240.5	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00	
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00	90.00
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00	
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.44	1.46	11.44	1.46	HS 29.28	52.7
5C1T	25.03	3.88	25.03	3.88	0.00	310.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.053

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Superimposed Dead Load
Moment Moment
-3.2 -35.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	203.7	-137.8	184.5	-157.0
OPER	300.6C	-268.7	268.7	-300.6C	339.6	-229.7	307.6	-261.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00			
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00		90.00	
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00			
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.21	1.40	11.06	1.59	HS 27.97	50.3
5C1T	26.70	3.70	24.18	4.22	0.00	296.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-8.6	8.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.2	64.2
OPER	151.3	-107.0	106.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.33	26.34	-20.25	20.26
OPER	5C1T	-26.23	26.27	-20.18	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.17	66.9
5C1T	4.08	4.07	0.00	325.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -35.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 144.3	152.1	-183.2	152.1	-183.2	191.0	-144.3	191.0	-
OPER 240.5	279.4	-279.4	279.4	-279.4	318.3	-240.5	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.42 R	12.63	158.00	0.0	16.69	12.84	135.00	
		-98.55 L	-75.81	79.50	0.0	-90.47	-69.59	110.00	90.00
OPER	5C1T	12.72 R	9.78	273.00	0.0	0.00	0.00	0.00	
		-62.03 L	-47.72	68.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.44	1.46	11.44	1.46	HS 29.28	52.7
5C1T	25.03	3.88	25.03	3.88	0.00	310.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.053

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -16.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.0	-150.6	171.8	-169.8
OPER	300.6C	-268.7	268.7	-300.6C	318.3	-251.0	286.3	-282.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	130.50	0.0	25.71	19.77	102.50			
		-58.98 R	-45.37	109.00	0.0	-54.00	-41.54	90.00	112.50		
OPER	5C1T	29.61 R	22.78	153.50	0.0	0.00	0.00	0.00			
		-49.54 L	-38.11	-11.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.43	2.55	6.68	2.88	HS 51.06 91.9
5C1T	10.75	5.07	9.67	5.71	0.00 405.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 6.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.4	65.3
OPER	151.3	-123.9	108.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.21	23.77	-2.47	18.29
OPER	5C1T	-3.41	23.42	-2.63	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.15	2.17	HS 43.36	78.0
5C1T	36.31	4.65	0.00	371.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -16.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.0	160.6	-174.7	160.6	-174.7	178.3	-157.0	178.3	-
OPER 261.7	279.4	-279.4	279.4	-279.4	297.1	-261.7	297.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 R	12.46	130.50	0.0	25.71	19.77	102.50	
		-58.98 R	-45.37	109.00	0.0	-54.00	-41.54	90.00	112.50
OPER	5C1T	29.61 R	22.78	153.50	0.0	0.00	0.00	0.00	
		-49.54 L	-38.11	-11.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.93	2.66	6.93	2.66	HS 53.25	95.9
5C1T	10.03	5.28	10.03	5.28	0.00	422.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.053

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	133.00	0.0	44.77	34.44	105.00			
		-45.75 L	-35.19	67.00	0.0	-35.33	-27.18	90.00		40.00	
OPER	5C1T	55.11 R	42.40	156.00	0.0	0.00	0.00	0.00			
		-42.59 L	-32.76	-9.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	HS 54.48	98.1
5C1T	5.48	6.28	4.89	7.03	0.00	391.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03
Check Point I. D. 5.200

HS20 5C1T

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.5	0.0 5.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.2	66.4
OPER	151.3	-122.1	110.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.46	20.96	-3.43	16.12
OPER	5C1T	-5.13	20.32	-3.94	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.43	2.62	HS 52.30	94.1
5C1T	23.80	5.45	0.00	435.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.3	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.72	133.00	0.0	44.77	34.44	105.00	
		-45.75 L	-35.19	67.00	0.0	-35.33	-27.18	90.00	40.00
OPER	5C1T	55.11 R	42.40	156.00	0.0	0.00	0.00	0.00	
		-42.59 L	-32.76	-9.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.65	102.0
5C1T	5.09	6.53	5.09	6.53	0.00	407.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.053

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.300

Dead Load Moment 0.9
Superimposed Dead Load Moment 9.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.0	-167.6	154.8	-186.8
OPER	300.6C	-268.7	268.7	-300.6C	289.9	-279.4	257.9	-311.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	135.50	0.0	65.23	50.17	107.50			
		-37.98 L	-29.21	67.00	0.0	-29.90	-23.00	90.00	0.00		
OPER	5C1T	74.87 R	57.59	158.50	0.0	0.00	0.00	0.00			
		-38.20 L	-29.39	-8.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.41	1.79	35.79	64.4
5C1T	3.87	7.31	3.44	0.00	275.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.1	67.5
OPER	151.3	-120.2	112.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.73	18.01	-5.18	13.86
OPER	5C1T	-7.11	17.15	-5.47	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.71	3.28	HS 65.68	118.2
5C1T	16.91	6.57	0.00	525.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.300Dead Load Moment 0.9
Superimposed Dead Load Moment 9.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.1	171.9	-163.4	171.9	-163.4	161.2	-174.1	161.2	-
OPER 290.1	279.4	-279.4	279.4	-279.4	268.7	-290.1	268.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.48 R	66.52	135.50	0.0	65.23	50.17	107.50
		-37.98 L	-29.21	67.00	0.0	-29.90	-23.00	90.00
OPER	5C1T	74.87 R	57.59	158.50	0.0	0.00	0.00	0.00
		-38.20 L	-29.39	-8.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.86	4.58	1.86	4.58	HS 37.28	67.1
5C1T	3.59	7.59	3.59	7.59	0.00	287.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.053

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.99		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.400

Dead Load Moment Superimposed Dead Load Moment
1.4 16.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.7	-171.9	150.5	-191.1
OPER	300.6C	-268.7	268.7	-300.6C	282.8	-286.5	250.8	-318.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	138.00	0.0	77.50	59.62	110.00			
		-30.21 L	-23.24	67.00	0.0	-26.32	-20.25	90.00	0.00		
OPER	5C1T	87.01 R	66.93	209.00	0.0	0.00	0.00	0.00			
		-35.20 L	-27.08	-6.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.69	1.55	6.33	HS 31.02	55.8
5C1T	3.25	8.14	2.88	9.05	0.00	230.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.400

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.2	0.0 1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.30	15.03	-7.16	11.56
OPER	5C1T	-9.29	14.06	-7.15	10.81	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.63	4.09	HS 81.85	147.3	
5C1T	12.73	8.14	0.00	651.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 16.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.4	174.8	-160.5	174.8	-160.5	156.9	-178.4	156.9	-
OPER 297.3	279.4	-279.4	279.4	-279.4	261.5	-297.3	261.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	97.01 R	74.62	138.00	0.0	77.50	59.62
		-30.21 L	-23.24	67.00	0.0	-26.32	-20.25
OPER	5C1T	87.01 R	66.93	209.00	0.0	0.00	0.00
		-35.20 L	-27.08	-6.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.62	5.91	1.62	5.91	HS 32.35	58.2
5C1T	3.01	8.45	3.01	8.45	0.00	240.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.053

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
 Check Point I. D. 5.500

Dead Load Moment 1.6
 Superimposed Dead Load Moment 18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.2	-173.4	149.0	-192.6
OPER	300.6C	-268.7	268.7	-300.6C	280.3	-289.0	248.3	-321.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	98.50	0.0	82.35	63.34	112.50			
		-22.43 R	-17.26	158.00	0.0	-22.73	-17.49	135.00	0.00		
OPER	5C1T	89.96 L	69.20	13.50	0.0	0.00	0.00	0.00			
		-34.30 L	-26.38	40.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	7.63	1.57	8.47	HS 31.47	56.6
5C1T	3.12	8.43	2.76	9.36	0.00	220.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.10	12.09	-9.31	9.30
OPER	5C1T	-11.61	11.61	-8.93	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.35	191.4
5C1T	10.03	10.02	0.00	801.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.9	175.8	-159.5	175.8	-159.5	155.4	-179.9	155.4	-
OPER 299.8	279.4	-279.4	279.4	-279.4	259.0	-299.8	259.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.68 L	72.83	98.50	0.0	82.35	63.34	112.50	
		-22.43 R	-17.26	158.00	0.0	-22.73	-17.49	135.00	0.00
OPER	5C1T	89.96 L	69.20	13.50	0.0	0.00	0.00	0.00	
		-34.30 L	-26.38	40.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.64	7.91	1.64	7.91	HS 32.83	59.1
5C1T	2.88	8.74	2.88	8.74	0.00	230.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.600

Dead Load Moment Superimposed Dead Load Moment
1.4 16.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.7	-171.9	150.5	-191.1
OPER	300.6C	-268.7	268.7	-300.6C	282.8	-286.5	250.8	-318.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	87.00	0.0	77.49	59.61	115.00			
		-30.21 R	-23.24	158.00	0.0	-26.34	-20.27	135.00		0.00	
OPER	5C1T	87.02 L	66.94	16.00	0.0	0.00	0.00	0.00			
		-35.34 R	-27.19	231.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.69	1.55	6.32	HS 31.03	55.9
5C1T	3.25	8.11	2.88	9.01	0.00	230.6

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 5.600
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.2 -1.8 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.4	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.03	9.29	-11.56	7.15
OPER	5C1T	-14.06	9.29	-10.82	7.15	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.64	HS 81.83	147.3	
5C1T	8.14	12.74	0.00	651.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.600Dead Load Moment 1.4
Superimposed Dead Load Moment 16.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.3	174.8	-160.5	174.8	-160.5	157.0	-178.3	157.0	-
OPER 297.2	279.4	-279.4	279.4	-279.4	261.6	-297.2	261.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 L	74.62	87.00	0.0	77.49	59.61	115.00	
		-30.21 R	-23.24	158.00	0.0	-26.34	-20.27	135.00	0.00
OPER	5C1T	87.02 L	66.94	16.00	0.0	0.00	0.00	0.00	
		-35.34 R	-27.19	231.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.62	5.90	1.62	5.90	HS 32.36	58.2
5C1T	3.01	8.41	3.01	8.41	0.00	240.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 9.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.0	-167.5	154.8	-186.7
OPER	300.6C	-268.7	268.7	-300.6C	290.1	-279.2	258.1	-311.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	89.50	0.0	65.20	50.15	117.50			
		-37.98 R	-29.21	158.00	0.0	-29.95	-23.04	135.00	0.00		
OPER	5C1T	74.87 L	57.59	66.50	0.0	0.00	0.00	0.00			
		-38.38 R	-29.52	233.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.01	4.41	1.79	4.92	HS 35.81	64.5
5C1T	3.87	7.28	3.45	8.11	0.00	275.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.5	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-67.5 72.1
OPER	151.3		-112.5 120.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
Typ.	Veh.	w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.02	6.72	-13.86	5.17
OPER	5C1T	-17.15	7.10	-13.19	5.46	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating	Factor	Rating	Load	
	(-)	(+)	Value	Capacity	
				(tons)	
HS20	3.28	10.73	HS 65.66	118.2	
5C1T	6.56	16.92	0.00	525.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.700Dead Load Moment 0.8
Superimposed Dead Load Moment 9.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.0	171.9	-163.4	171.9	-163.4	161.3	-174.0	161.3	-
OPER 290.0	279.4	-279.4	279.4	-279.4	268.8	-290.0	268.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.48 L	66.52	89.50	0.0	65.20	50.15	117.50	
		-37.98 R	-29.21	158.00	0.0	-29.95	-23.04	135.00	0.00
OPER	5C1T	74.87 L	57.59	66.50	0.0	0.00	0.00	0.00	
		-38.38 R	-29.52	233.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.58	1.87	4.58	HS 37.30	67.1
5C1T	3.59	7.55	3.59	7.55	0.00	287.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	92.00	0.0	45.25	34.81	120.00			
		-45.75 R	-35.19	158.00	0.0	-35.42	-27.24	135.00		185.00	
OPER	5C1T	55.09 L	42.38	69.00	0.0	0.00	0.00	0.00			
		-42.80 R	-32.92	234.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	54.51
5C1T	5.48	6.25	4.90	6.99	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.800

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.5	-5.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.4	73.2
OPER	151.3	-110.7	122.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.97	4.45	-16.13	3.42
OPER	5C1T	-20.32	5.12	-15.63	3.94	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.61	16.47	HS 52.29	94.1
5C1T	5.45	23.83	0.00	435.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
bend								
INV.	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-
166.8								
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-
278.1								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 L	45.72	92.00	0.0	45.25	34.81	120.00	
		-45.75 R	-35.19	158.00	0.0	-35.42	-27.24	135.00	185.00
OPER	5C1T	55.09 L	42.38	69.00	0.0	0.00	0.00	0.00	
		-42.80 R	-32.92	234.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.83	3.65	2.83	3.65	HS 56.68	102.0
5C1T	5.10	6.50	5.10	6.50	0.00	407.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-16.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.1	-150.4	172.0	-169.6
OPER	300.6C	-268.7	268.7	-300.6C	318.6	-250.7	286.6	-282.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	94.50	0.0	25.22	19.40	122.50			
		-58.98 L	-45.37	116.00	0.0	-54.07	-41.59	135.00	112.50		
OPER	5C1T	29.55 L	22.73	71.50	0.0	0.00	0.00	0.00			
		-49.73 R	-38.25	236.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	7.58	2.55	6.82	2.88	HS 51.01	91.8
5C1T	10.78	5.04	9.70	5.68	0.00	403.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.3	74.4
OPER	151.3	-108.8	124.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.78	3.20	-18.29	2.46
OPER	5C1T	-23.42	3.41	-18.02	2.62	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.17	23.21	HS 43.35	78.0	
5C1T	4.64	36.39	0.00	371.6	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -16.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.9	160.5	-174.8	160.5	-174.8	178.4	-156.9	178.4	-
OPER 261.5	279.4	-279.4	279.4	-279.4	297.3	-261.5	297.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 L	12.46	94.50	0.0	25.22	19.40	122.50	
		-58.98 L	-45.37	116.00	0.0	-54.07	-41.59	135.00	112.50
OPER	5C1T	29.55 L	22.73	71.50	0.0	0.00	0.00	0.00	
		-49.73 R	-38.25	236.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.07	2.66	7.07	2.66	HS 53.20	95.8
5C1T	10.06	5.26	10.06	5.26	0.00	420.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -36.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	203.9	-137.7	184.7	-156.8
OPER	300.6C	-268.7	268.7	-300.6C	339.9	-229.4	307.9	-261.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00			
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00		
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00			
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.27	1.40	11.12	1.59	HS 27.93
5C1T	26.78	3.69	24.26	4.20	0.00 295.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	64.1
OPER	151.3	-106.9	106.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.53	-23.17	26.56	-23.78	26.35	-18.29	20.27
OPER	5C1T	-23.42	26.27	-18.02	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.16	66.9
5C1T	4.07	4.07	0.00	325.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 144.1	151.9	-183.3	151.9	-183.3	191.2	-144.1	191.2	-
OPER 240.2	279.4	-279.4	279.4	-279.4	318.6	-240.2	318.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00	
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00	
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.51	1.46	11.51	1.46	HS 29.24	52.6
5C1T	25.10	3.86	25.10	3.86	0.00	309.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-36.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	203.9	-137.7	184.7	-156.8
OPER	300.6C	-268.7	268.7	-300.6C	339.9	-229.4	307.9	-261.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00			
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00		
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00			
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.27	1.40	11.12	1.59	HS 27.93	50.3
5C1T	26.78	3.69	24.26	4.20	0.00	295.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-8.7	8.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.1	64.1
OPER	151.3	-106.9	106.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.35	26.35	-20.27	20.27
OPER	5C1T	-26.27	26.27	-20.21	20.21	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.16	66.9
5C1T	4.07	4.07	0.00	325.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 144.1	151.9	-183.3	151.9	-183.3	191.2	-144.1	191.2	-
OPER 240.2	279.4	-279.4	279.4	-279.4	318.6	-240.2	318.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.42 L	12.63	67.00	0.0	16.62	12.78	90.00	
		-98.55 R	-75.81	145.50	0.0	-90.58	-69.68	115.00	135.00
OPER	5C1T	12.69 L	9.76	-48.00	0.0	0.00	0.00	0.00	
		-62.17 L	-47.82	94.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.51	1.46	11.51	1.46	HS 29.24	52.6
5C1T	25.10	3.86	25.10	3.86	0.00	309.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-16.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.1	-150.4	172.0	-169.6
OPER	300.6C	-268.7	268.7	-300.6C	318.6	-250.7	286.6	-282.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	155.50	0.0	25.65	19.73	127.50			
		-58.98 R	-45.37	134.00	0.0	-54.09	-41.61	115.00	137.50		
OPER	5C1T	29.55 R	22.73	178.50	0.0	0.00	0.00	0.00			
		-49.73 L	-38.25	13.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.45	2.55	6.70	2.88	HS 51.01	91.8
5C1T	10.78	5.04	9.70	5.68	0.00	403.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 7.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.4	65.3
OPER	151.3	-124.0	108.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.12	-2.29	23.17	-3.20	23.78	-2.46	18.29
OPER	5C1T	-3.41	23.42	-2.62	18.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.21	2.17	HS 43.35	78.0
5C1T	36.39	4.64	0.00	371.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-16.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.9	160.5	-174.8	160.5	-174.8	178.4	-156.9	178.4	-
OPER 261.5	279.4	-279.4	279.4	-279.4	297.3	-261.5	297.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 R	12.46	155.50	0.0	25.65	19.73	127.50	
		-58.98 R	-45.37	134.00	0.0	-54.09	-41.61	115.00	137.50
OPER	5C1T	29.55 R	22.73	178.50	0.0	0.00	0.00	0.00	
		-49.73 L	-38.25	13.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	6.95	2.66	6.95	2.66	HS 53.20	95.8
5C1T	10.06	5.26	10.06	5.26	0.00	420.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	158.00	0.0	44.74	34.41	130.00			
		-45.75 L	-35.19	92.00	0.0	-35.41	-27.24	115.00		65.00	
OPER	5C1T	55.09 R	42.38	181.00	0.0	0.00	0.00	0.00			
		-42.80 L	-32.92	16.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	HS 54.51	98.1
5C1T	5.48	6.25	4.90	6.99	0.00	392.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.2	66.4
OPER	151.3	-122.1	110.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.45	20.97	-3.42	16.13
OPER	5C1T	-5.12	20.32	-3.94	15.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.47	2.61	HS 52.29	94.1
5C1T	23.83	5.45	0.00	435.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.200

Dead Load Moment Superimposed Dead Load Moment

-0.1 -1.2

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.8	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-
OPER 278.1	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 R	45.72	158.00	0.0	44.74	34.41	130.00	
		-45.75 L	-35.19	92.00	0.0	-35.41	-27.24	115.00	65.00
OPER	5C1T	55.09 R	42.38	181.00	0.0	0.00	0.00	0.00	
		-42.80 L	-32.92	16.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	2.83	3.65	2.83	3.65	HS 56.68	102.0
5C1T	5.10	6.50	5.10	6.50	0.00	407.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 9.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.0	-167.5	154.8	-186.7
OPER	300.6C	-268.7	268.7	-300.6C	290.1	-279.2	258.1	-311.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	160.50	0.0	65.20	50.15	132.50			
		-37.98 L	-29.21	92.00	0.0	-29.96	-23.04	115.00		0.00	
OPER	5C1T	74.87 R	57.59	183.50	0.0	0.00	0.00	0.00			
		-38.38 L	-29.52	17.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.41	1.79	35.81	64.5
5C1T	3.87	7.28	3.45	0.00	275.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.1	67.5
OPER	151.3	-120.2	112.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.72	18.02	-5.17	13.86
OPER	5C1T	-7.10	17.15	-5.46	13.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.73	3.28	HS 65.66	118.2
5C1T	16.92	6.56	0.00	525.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 9.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.0	171.9	-163.4	171.9	-163.4	161.3	-174.0	161.3	-
OPER 290.0	279.4	-279.4	279.4	-279.4	268.8	-290.0	268.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	86.48 R	66.52	160.50	0.0	65.20	50.15	132.50	
		-37.98 L	-29.21	92.00	0.0	-29.96	-23.04	115.00	0.00
OPER	5C1T	74.87 R	57.59	183.50	0.0	0.00	0.00	0.00	
		-38.38 L	-29.52	17.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.58	1.87	4.58	HS 37.30	67.1
5C1T	3.59	7.55	3.59	7.55	0.00	287.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.168

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.44		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.400

Dead Load Moment Superimposed Dead Load Moment
1.4 16.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.7	-171.9	150.5	-191.1
OPER	300.6C	-268.7	268.7	-300.6C	282.8	-286.5	250.8	-318.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	163.00	0.0	77.49	59.61	135.00			
		-30.21 L	-23.24	92.00	0.0	-26.35	-20.27	115.00	0.00		
OPER	5C1T	87.02 R	66.94	234.00	0.0	0.00	0.00	0.00			
		-35.34 L	-27.19	18.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.69	1.55	6.32	HS 31.03
5C1T	3.25	8.11	2.88	9.01	0.00 230.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.400

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.2	0.0 1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.29	15.03	-7.15	11.56
OPER	5C1T	-9.29	14.06	-7.15	10.82	0.00	0.00	0.00	0.00

Rating		Shear	
Veh.	Rating (-)	Factor (+)	Rating Value
HS20	7.64	4.09	HS 81.83
5C1T	12.74	8.14	0.00
			Load Capacity (tons)
			147.3
			651.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 16.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.3	174.8	-160.5	174.8	-160.5	157.0	-178.3	157.0	-
OPER 297.2	279.4	-279.4	279.4	-279.4	261.6	-297.2	261.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	97.01 R	74.62	163.00	0.0	77.49	59.61	135.00	
		-30.21 L	-23.24	92.00	0.0	-26.35	-20.27	115.00	0.00
OPER	5C1T	87.02 R	66.94	234.00	0.0	0.00	0.00	0.00	
		-35.34 L	-27.19	18.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.62	5.90	1.62	5.90	HS 32.36	58.2
5C1T	3.01	8.41	3.01	8.41	0.00	240.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.009

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.2	-173.4	149.0	-192.6
OPER	300.6C	-268.7	268.7	-300.6C	280.3	-289.0	248.3	-321.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	123.50	0.0	82.35	63.34	137.50			
		-22.44 L	-17.26	92.00	0.0	-22.73	-17.49	115.00	0.00		
OPER	5C1T	89.96 R	69.20	236.50	0.0	0.00	0.00	0.00			
		-34.30 R	-26.38	209.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.78	7.63	1.57	HS 31.47	56.6
5C1T	3.12	8.43	2.76	0.00	220.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.09	12.10	-9.30	9.31
OPER	5C1T	-11.61	11.61	-8.93	8.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.33	191.4
5C1T	10.03	10.02	0.00	801.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment Superimposed Dead Load Moment
1.6 18.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.9	175.8	-159.5	175.8	-159.5	155.4	-179.9	155.4	-
OPER 299.8	279.4	-279.4	279.4	-279.4	259.0	-299.8	259.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.68 L	72.83	123.50	0.0	82.35	63.34	137.50	
		-22.44 L	-17.26	92.00	0.0	-22.73	-17.49	115.00	0.00
OPER	5C1T	89.96 R	69.20	236.50	0.0	0.00	0.00	0.00	
		-34.30 R	-26.38	209.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.64	7.91	1.64	7.91	HS 32.83	59.1
5C1T	2.88	8.74	2.88	8.74	0.00	230.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.009

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 16.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.7	-171.9	150.5	-191.1
OPER	300.6C	-268.7	268.7	-300.6C	282.8	-286.5	250.8	-318.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 L	74.62	112.00	0.0	77.50	59.62	140.00			
		-30.21 R	-23.24	183.00	0.0	-26.32	-20.25	160.00		0.00	
OPER	5C1T	87.01 L	66.93	41.00	0.0	0.00	0.00	0.00			
		-35.20 R	-27.08	256.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.69	1.55	6.33	HS 31.02	55.8
5C1T	3.25	8.14	2.88	9.05	0.00	230.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.4	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.03	9.30	-11.56	7.16
OPER	5C1T	-14.06	9.29	-10.81	7.15	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.63	HS 81.85	147.3	
5C1T	8.14	12.73	0.00	651.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.600Dead Load Moment 1.4
Superimposed Dead Load Moment 16.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.4	174.8	-160.5	174.8	-160.5	156.9	-178.4	156.9	-
OPER 297.3	279.4	-279.4	279.4	-279.4	261.5	-297.3	261.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 L	74.62	112.00	0.0	77.50	59.62	140.00	
		-30.21 R	-23.24	183.00	0.0	-26.32	-20.25	160.00	0.00
OPER	5C1T	87.01 L	66.93	41.00	0.0	0.00	0.00	0.00	
		-35.20 R	-27.08	256.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.62	5.91	1.62	5.91	HS 32.35	58.2
5C1T	3.01	8.45	3.01	8.45	0.00	240.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.009

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.700

Dead Load Moment 0.9
Superimposed Dead Load Moment 9.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.0	-167.6	154.8	-186.8
OPER	300.6C	-268.7	268.7	-300.6C	289.9	-279.4	257.9	-311.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 L	66.52	114.50	0.0	65.23	50.17	142.50			
		-37.98 R	-29.21	183.00	0.0	-29.90	-23.00	160.00		0.00	
OPER	5C1T	74.87 L	57.59	91.50	0.0	0.00	0.00	0.00			
		-38.20 R	-29.39	258.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.41	1.79	35.79	64.4
5C1T	3.87	7.31	3.44	0.00	275.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.5	72.1
OPER	151.3	-112.6	120.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.	(-) w/imp.	(+) w/imp.	(-) w/o imp.	(+) w/o imp.
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.01	6.73	-13.86	5.18
OPER	5C1T	-17.15	7.11	-13.19	5.47	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.28	10.71	HS 65.68	118.2	
5C1T	6.57	16.91	0.00	525.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.700Dead Load Moment 0.9
Superimposed Dead Load Moment 9.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.1	171.9	-163.4	171.9	-163.4	161.2	-174.1	161.2	-
OPER 290.1	279.4	-279.4	279.4	-279.4	268.7	-290.1	268.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.48 L	66.52	114.50	0.0	65.23	50.17	142.50
		-37.98 R	-29.21	183.00	0.0	-29.90	-23.00	160.00
OPER	5C1T	74.87 L	57.59	91.50	0.0	0.00	0.00	0.00
		-38.20 R	-29.39	258.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.86	4.58	1.86	4.58	HS 37.28	67.1
5C1T	3.59	7.59	3.59	7.59	0.00	287.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.009

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.72	117.00	0.0	45.29	34.84	145.00			
		-45.75 R	-35.19	183.00	0.0	-35.34	-27.18	160.00		210.00	
OPER	5C1T	55.11 L	42.40	94.00	0.0	0.00	0.00	0.00			
		-42.59 R	-32.76	259.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	HS 54.48	98.1
5C1T	5.48	6.28	4.89	7.03	0.00	391.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.4	73.2
OPER	151.3	-110.7	122.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.96	4.46	-16.12	3.43
OPER	5C1T	-20.32	5.13	-15.63	3.94	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.62	16.43	HS 52.30	94.1	
5C1T	5.45	23.80	0.00	435.8	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.3	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	59.43 L	45.72	117.00	0.0	45.29	34.84	145.00	
		-45.75 R	-35.19	183.00	0.0	-35.34	-27.18	160.00	210.00
OPER	5C1T	55.11 L	42.40	94.00	0.0	0.00	0.00	0.00	
		-42.59 R	-32.76	259.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.65	102.0
5C1T	5.09	6.53	5.09	6.53	0.00	407.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.009

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -16.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.0	-150.6	171.8	-169.8
OPER	300.6C	-268.7	268.7	-300.6C	318.3	-251.0	286.3	-282.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 L	12.46	119.50	0.0	25.28	19.44	147.50			
		-58.98 L	-45.37	141.00	0.0	-53.97	-41.52	160.00		137.50	
OPER	5C1T	29.61 L	22.78	96.50	0.0	0.00	0.00	0.00			
		-49.54 R	-38.11	261.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.56	2.55	6.80	2.88	HS 51.06	91.9
5C1T	10.75	5.07	9.67	5.71	0.00	405.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.3	74.4
OPER	151.3	-108.8	123.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.77	3.21	-18.29	2.47
OPER	5C1T	-23.42	3.41	-18.02	2.63	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.17	23.15	HS 43.36	78.0	
5C1T	4.65	36.31	0.00	371.7	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -16.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.0	160.6	-174.7	160.6	-174.7	178.3	-157.0	178.3	-
OPER 261.7	279.4	-279.4	279.4	-279.4	297.1	-261.7	297.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 L	12.46	119.50	0.0	25.28	19.44	147.50	
		-58.98 L	-45.37	141.00	0.0	-53.97	-41.52	160.00	137.50
OPER	5C1T	29.61 L	22.78	96.50	0.0	0.00	0.00	0.00	
		-49.54 R	-38.11	261.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.05	2.66	7.05	2.66	HS 53.25	95.9
5C1T	10.03	5.28	10.03	5.28	0.00	422.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.009

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Superimposed Dead Load
Moment Moment
-3.2 -35.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	203.7	-137.8	184.5	-157.0
OPER	300.6C	-268.7	268.7	-300.6C	339.6	-229.7	307.6	-261.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00			
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00		160.00	
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00			
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.21	1.40	11.06	1.59	HS 27.97 50.3
5C1T	26.53	3.70	24.03	4.21	0.00 295.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.2	64.2
OPER	151.3	-106.9	107.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.53	-23.17	26.56	-23.77	26.33	-18.29	20.25
OPER	5C1T	-23.42	26.23	-18.02	20.18	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.17	66.9
5C1T	4.07	4.08	0.00	325.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -35.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 144.3	152.1	-183.2	152.1	-183.2	191.0	-144.3	191.0	-
OPER 240.5	279.4	-279.4	279.4	-279.4	318.3	-240.5	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00	
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00	
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.44	1.46	11.44	1.46	HS 29.28	52.7
5C1T	24.87	3.87	24.87	3.87	0.00	309.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.009

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Superimposed Dead Load
Moment Moment
-3.2 -35.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	203.7	-137.8	184.5	-157.0
OPER	300.6C	-268.7	268.7	-300.6C	339.6	-229.7	307.6	-261.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00			
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00		160.00	
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00			
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.21	1.40	11.06	1.59	HS 27.97 50.3
5C1T	26.53	3.70	24.03	4.21	0.00 295.7

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-8.6	8.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.2	64.2
OPER	151.3	-106.9	107.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.53	-26.56	26.56	-26.34	26.33	-20.26	20.25
OPER	5C1T	-26.27	26.23	-20.21	20.18	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.17	66.9
5C1T	4.07	4.08	0.00	325.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -35.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 144.3	152.1	-183.2	152.1	-183.2	191.0	-144.3	191.0	-
OPER 240.5	279.4	-279.4	279.4	-279.4	318.3	-240.5	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.42 L	12.63	92.00	0.0	16.69	12.84	115.00	
		-98.55 L	-75.81	129.50	0.0	-90.47	-69.59	140.00	160.00
OPER	5C1T	12.80 R	9.85	321.50	0.0	0.00	0.00	0.00	
		-62.16 R	-47.82	181.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.44	1.46	11.44	1.46	HS 29.28	52.7
5C1T	24.87	3.87	24.87	3.87	0.00	309.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.021

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -16.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.0	-150.5	171.8	-169.7
OPER	300.6C	-268.7	268.7	-300.6C	318.4	-250.9	286.4	-282.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.20 R	12.46	180.50	0.0	25.70	19.77	152.50			
		-58.98 R	-45.37	159.00	0.0	-54.03	-41.56	140.00		162.50	
OPER	5C1T	29.55 R	22.73	203.50	0.0	0.00	0.00	0.00			
		-49.71 L	-38.24	38.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.43	2.55	6.69	2.88	HS 51.05
5C1T	10.77	5.05	9.69	5.69	0.00 403.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	6.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.3	65.3
OPER	151.3	-123.9	108.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	30.11	-2.29	23.17	-3.21	23.76	-2.47	18.28
OPER	5C1T	-3.41	23.37	-2.62	17.98	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.13	2.17	HS 43.37	78.1
5C1T	36.39	4.66	0.00	372.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-16.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	160.5	-174.7	160.5	-174.7	178.3	-157.0	178.3	-
157.0								
OPER	279.4	-279.4	279.4	-279.4	297.2	-261.6	297.2	-
261.6								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.20 R	12.46	180.50	0.0	25.70	19.77	152.50	
		-58.98 R	-45.37	159.00	0.0	-54.03	-41.56	140.00	162.50
OPER	5C1T	29.55 R	22.73	203.50	0.0	0.00	0.00	0.00	
		-49.71 L	-38.24	38.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	6.94	2.66	6.94	2.66	HS 53.24	95.8
5C1T	10.06	5.26	10.06	5.26	0.00	421.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.021

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	183.00	0.0	44.76	34.43	155.00			
		-45.75 L	-35.19	117.00	0.0	-35.40	-27.23	140.00		90.00	
OPER	5C1T	55.09 R	42.38	206.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	41.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	54.50	98.1
5C1T	5.48	6.25	4.90	0.00	391.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.200

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.5	0.0 5.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.2	66.4
OPER	151.3	-122.0	110.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.98	25.40	-2.29	19.54	-4.46	20.95	-3.43	16.12
OPER	5C1T	-5.12	20.27	-3.94	15.59	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.42	2.62	HS 52.31	94.2
5C1T	23.82	5.46	0.00	437.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.1	-168.1	167.1	-168.1	168.4	-166.9	168.4	-
OPER 278.1	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.43 R	45.72	183.00	0.0	44.76	34.43	155.00	
		-45.75 L	-35.19	117.00	0.0	-35.40	-27.23	140.00	90.00
OPER	5C1T	55.09 R	42.38	206.00	0.0	0.00	0.00	0.00	
		-42.79 L	-32.92	41.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.67	102.0
5C1T	5.09	6.50	5.09	6.50	0.00	407.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.021

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 9.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.1	-167.5	154.9	-186.7
OPER	300.6C	-268.7	268.7	-300.6C	290.1	-279.2	258.1	-311.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.48 R	66.52	185.50	0.0	65.18	50.14	157.50			
		-37.98 L	-29.21	117.00	0.0	-29.97	-23.05	140.00		0.00	
OPER	5C1T	74.87 R	57.59	208.50	0.0	0.00	0.00	0.00			
		-38.37 L	-29.52	42.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.01	4.41	1.79	35.82	64.5
5C1T	3.88	7.28	3.45	0.00	275.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	3.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.1	67.6
OPER	151.3	-120.2	112.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.41	20.57	-3.40	15.82	-6.73	18.00	-5.18	13.85
OPER	5C1T	-7.10	17.10	-5.46	13.16	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.71	3.29	HS 65.69	118.2
5C1T	16.92	6.58	0.00	526.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.300Dead Load Moment 0.8
Superimposed Dead Load Moment 9.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.0	171.8	-163.4	171.8	-163.4	161.3	-174.0	161.3	-
OPER 289.9	279.4	-279.4	279.4	-279.4	268.9	-289.9	268.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.48 R	66.52	185.50	0.0	65.18	50.14	157.50	
		-37.98 L	-29.21	117.00	0.0	-29.97	-23.05	140.00	0.00
OPER	5C1T	74.87 R	57.59	208.50	0.0	0.00	0.00	0.00	
		-38.37 L	-29.52	42.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.58	1.87	4.58	HS 37.31	67.2
5C1T	3.59	7.55	3.59	7.55	0.00	287.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.86	28.67	28.67	1.699
			999999.000
			93.021

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		22.81		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 16.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.8	-171.8	150.6	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	283.0	-286.3	251.0	-318.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	188.00	0.0	77.41	59.55	160.00			
		-30.21 L	-23.24	117.00	0.0	-26.38	-20.29	140.00		0.00	
OPER	5C1T	86.82 R	66.79	211.00	0.0	0.00	0.00	0.00			
		-35.33 L	-27.18	43.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.75	5.69	1.55	31.05	55.9
5C1T	3.26	8.10	2.89	0.00	231.3

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.2 0.0 1.8

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -71.0 68.7
OPER 151.3 -118.3 114.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.31	15.01	-7.16	11.55
OPER	5C1T	-9.29	14.02	-7.15	10.79	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.63	4.09	HS 81.87	147.4
5C1T	12.73	8.16	0.00	653.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.400Dead Load Moment 1.4
Superimposed Dead Load Moment 16.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.2	174.7	-160.6	174.7	-160.6	157.1	-178.2	157.1	-
OPER 297.0	279.4	-279.4	279.4	-279.4	261.8	-297.0	261.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 R	74.62	188.00	0.0	77.41	59.55	160.00	
		-30.21 L	-23.24	117.00	0.0	-26.38	-20.29	140.00	0.00
OPER	5C1T	86.82 R	66.79	211.00	0.0	0.00	0.00	0.00	
		-35.33 L	-27.18	43.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.62	5.90	1.62	5.90	HS 32.38	58.3
5C1T	3.02	8.41	3.02	8.41	0.00	241.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.86	28.67	28.67	1.699	999999.000	93.021

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
 Check Point I. D. 7.500

Dead Load Moment 1.6
 Superimposed Dead Load Moment 18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.4	-173.2	149.2	-192.4
OPER	300.6C	-268.7	268.7	-300.6C	280.6	-288.7	248.6	-320.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.68 L	72.83	148.50	0.0	82.22	63.25	162.50			
		-22.43 L	-17.26	117.00	0.0	-22.80	-17.54	140.00	0.00		
OPER	5C1T	89.94 L	69.18	63.50	0.0	0.00	0.00	0.00			
		-34.36 R	-26.43	234.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.78	7.60	1.58	8.44	HS 31.51	56.7
5C1T	3.12	8.40	2.76	9.33	0.00	221.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.10	10.10	-12.10	12.08	-9.31	9.29
OPER	5C1T	-11.61	11.59	-8.93	8.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.38	191.5
5C1T	10.03	10.04	0.00	802.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.7	175.7	-159.6	175.7	-159.6	155.6	-179.7	155.6	-
OPER 299.4	279.4	-279.4	279.4	-279.4	259.4	-299.4	259.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	94.68 L	72.83	148.50	0.0	82.22	63.25	162.50	
		-22.43 L	-17.26	117.00	0.0	-22.80	-17.54	140.00	0.00
OPER	5C1T	89.94 L	69.18	63.50	0.0	0.00	0.00	0.00	
		-34.36 R	-26.43	234.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.64	7.88	1.64	7.88	HS 32.87	59.2
5C1T	2.88	8.72	2.88	8.72	0.00	230.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 16.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.8
OPER	300.6C	-268.7	268.7	-300.6C	283.2	-286.1	251.2	-318.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.00 L	74.62	137.00	0.0	77.32	59.48	165.00			
		-30.20 R	-23.23	208.00	0.0	-26.40	-20.31	185.00	0.00		
OPER	5C1T	87.00 L	66.92	66.00	0.0	0.00	0.00	0.00			
		-35.71 R	-27.47	281.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.68	1.55	6.32	HS 31.08	55.9
5C1T	3.26	8.01	2.89	8.91	0.00	231.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.0
OPER	151.3	-114.4	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.91	6.90	-15.04	9.28	-11.57	7.14
OPER	5C1T	-14.06	9.25	-10.81	7.12	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.09	7.65	HS 81.81	147.3	
5C1T	8.14	12.79	0.00	651.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.600Dead Load Moment 1.4
Superimposed Dead Load Moment 16.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.1	174.6	-160.7	174.6	-160.7	157.2	-178.1	157.2	-
OPER 296.8	279.4	-279.4	279.4	-279.4	262.0	-296.8	262.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.00 L	74.62	137.00	0.0	77.32	59.48	165.00
		-30.20 R	-23.23	208.00	0.0	-26.40	-20.31	185.00
OPER	5C1T	87.00 L	66.92	66.00	0.0	0.00	0.00	0.00
		-35.71 R	-27.47	281.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.62	5.90	1.62	5.90	HS 32.41	58.3
5C1T	3.01	8.31	3.01	8.31	0.00	240.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 9.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.5	-278.8	258.5	-310.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 L	66.52	139.50	0.0	65.00	50.00	167.50			
		-37.97 R	-29.21	208.00	0.0	-30.01	-23.08	185.00		0.00	
OPER	5C1T	74.55 L	57.34	116.50	0.0	0.00	0.00	0.00			
		-38.82 R	-29.86	283.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.02	4.41	1.79	4.91	HS 35.87	64.6
5C1T	3.90	7.18	3.47	8.01	0.00	277.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.5	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-67.5 72.1
OPER	151.3		-112.5 120.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.40	-18.02	6.71	-13.86	5.16
OPER	5C1T	-17.15	7.06	-13.19	5.43	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating	Factor	Rating	Load	
	(-)	(+)	Value	Capacity	
				(tons)	
HS20	3.28	10.75	HS 65.65	118.2	
5C1T	6.56	17.04	0.00	524.9	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.700Dead Load Moment 0.8
Superimposed Dead Load Moment 9.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.7	171.7	-163.6	171.7	-163.6	161.5	-173.7	161.5	-
OPER 289.6	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.47 L	66.52	139.50	0.0	65.00	50.00	167.50	
		-37.97 R	-29.21	208.00	0.0	-30.01	-23.08	185.00	0.00
OPER	5C1T	74.55 L	57.34	116.50	0.0	0.00	0.00	0.00	
		-38.82 R	-29.86	283.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.87	4.57	1.87	4.57	HS 37.36	67.3
5C1T	3.61	7.46	3.61	7.46	0.00	288.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 L	45.71	142.00	0.0	45.01	34.62	170.00			
		-45.74 R	-35.19	208.00	0.0	-35.64	-27.41	185.00		235.00	
OPER	5C1T	54.46 L	41.90	119.00	0.0	0.00	0.00	0.00			
		-43.32 R	-33.32	284.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.50	2.73	3.92	HS 54.62	98.3
5C1T	5.55	6.16	4.97	6.90	0.00	397.3

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 7.800
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.5 -5.3 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.4	73.3
OPER	151.3	-110.6	122.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.97	4.44	-16.13	3.41
OPER	5C1T	-20.32	5.07	-15.63	3.90	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.61	16.51	HS 52.28	94.1
5C1T	5.45	24.08	0.00	435.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.800

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.5	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-
OPER 277.6	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 L	45.71	142.00	0.0	45.01	34.62	170.00	
		-45.74 R	-35.19	208.00	0.0	-35.64	-27.41	185.00	235.00
OPER	5C1T	54.46 L	41.90	119.00	0.0	0.00	0.00	0.00	
		-43.32 R	-33.32	284.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.84	3.64	2.84	3.64	HS 56.79	102.2
5C1T	5.16	6.41	5.16	6.41	0.00	413.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.5	-150.1	172.3	-169.3
OPER	300.6C	-268.7	268.7	-300.6C	319.1	-250.2	287.1	-282.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.19 L	12.46	144.50	0.0	24.95	19.19	172.50			
		-58.96 L	-45.35	166.00	0.0	-54.13	-41.64	185.00	162.50		
OPER	5C1T	28.68 L	22.06	121.50	0.0	0.00	0.00	0.00			
		-50.27 R	-38.67	286.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.68	2.55	6.91	2.87	HS 50.92	91.7
5C1T	11.13	4.98	10.01	5.61	0.00	398.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.0	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-65.3 74.4
OPER	151.3		-108.8 124.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
Typ.	Veh.	w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.78	3.19	-18.29	2.46
OPER	5C1T	-23.42	3.35	-18.02	2.58	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating	Factor	Rating	Load
	(-)	(+)	Value	Capacity
				(tons)
HS20	2.17	23.30	HS 43.34	78.0
5C1T	4.64	36.96	0.00	371.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-16.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 156.5	160.2	-175.0	160.2	-175.0	178.7	-156.5	178.7	-
OPER 260.9	279.4	-279.4	279.4	-279.4	297.9	-260.9	297.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.19 L	12.46	144.50	0.0	24.95	19.19	172.50	
		-58.96 L	-45.35	166.00	0.0	-54.13	-41.64	185.00	162.50
OPER	5C1T	28.68 L	22.06	121.50	0.0	0.00	0.00	0.00	
		-50.27 R	-38.67	286.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	7.16	2.65	7.16	2.65	HS 53.10	95.6
5C1T	10.39	5.19	10.39	5.19	0.00	415.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	93.380

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.3	-137.3	185.1	-156.5
OPER	300.6C	-268.7	268.7	-300.6C	340.5	-228.8	308.5	-260.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00			
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00		185.00	
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00			
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.44	1.39	11.27	1.59	HS 27.86
5C1T	26.82	3.66	24.30	4.17	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	64.1
OPER	151.3	-106.9	106.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.52	-23.17	26.56	-23.78	26.36	-18.29	20.28
OPER	5C1T	-23.42	26.44	-18.02	20.34	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.12	66.8
5C1T	4.07	4.04	0.00	323.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.7	151.7	-183.6	151.7	-183.6	191.6	-143.7	191.6	-
OPER 239.5	279.4	-279.4	279.4	-279.4	319.3	-239.5	319.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00	
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00	
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.66	1.46	11.66	1.46	HS 29.17	52.5
5C1T	25.14	3.83	25.14	3.83	0.00	306.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.3	-137.3	185.1	-156.5
OPER	300.6C	-268.7	268.7	-300.6C	340.5	-228.8	308.5	-260.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00			
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00		
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00			
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.44	1.39	11.27	1.59	HS 27.86
5C1T	26.82	3.66	24.30	4.17	0.00 50.2 292.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-8.7	8.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	64.1
OPER	151.3	-106.9	106.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.52	-26.56	26.56	-26.35	26.36	-20.27	20.28
OPER	5C1T	-26.27	26.44	-20.21	20.34	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.12	66.8
5C1T	4.07	4.04	0.00	323.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -36.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.7	151.7	-183.6	151.7	-183.6	191.6	-143.7	191.6	-
OPER 239.5	279.4	-279.4	279.4	-279.4	319.3	-239.5	319.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.43 L	12.63	117.00	0.0	16.32	12.55	140.00	
		-98.55 R	-75.80	195.50	0.0	-90.65	-69.73	165.00	185.00
OPER	5C1T	12.70 L	9.77	2.00	0.0	0.00	0.00	0.00	
		-62.57 L	-48.13	144.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.66	1.46	11.66	1.46	HS 29.17	52.5
5C1T	25.14	3.83	25.14	3.83	0.00	306.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.3	-150.2	172.1	-169.4
OPER	300.6C	-268.7	268.7	-300.6C	318.9	-250.4	286.9	-282.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.21 R	12.47	205.50	0.0	25.50	19.62	177.50			
		-58.98 R	-45.37	184.00	0.0	-54.13	-41.64	165.00		187.50	
OPER	5C1T	29.51 R	22.70	228.50	0.0	0.00	0.00	0.00			
		-49.72 L	-38.24	63.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.50	2.55	6.75 2.87	HS 50.95	91.7
5C1T	10.81	5.04	9.72 5.68	0.00	402.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.100Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.6 0.0 7.1

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -74.4 65.2
OPER 151.3 -124.1 108.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.94	30.11	-2.26	23.16	-3.13	23.79	-2.41	18.30
OPER	5C1T	-3.39	23.57	-2.61	18.13	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.75	2.16	HS 43.31	78.0
5C1T	36.56	4.61	0.00	368.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -16.7

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
bend								
INV. 156.7	160.3	-174.9	160.3	-174.9	178.6	-156.7	178.6	-
OPER 261.2	279.4	-279.4	279.4	-279.4	297.6	-261.2	297.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.21 R	12.47	205.50	0.0	25.50	19.62	177.50	
		-58.98 R	-45.37	184.00	0.0	-54.13	-41.64	165.00	187.50
OPER	5C1T	29.51 R	22.70	228.50	0.0	0.00	0.00	0.00	
		-49.72 L	-38.24	63.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	7.00	2.66	7.00	2.66	HS 53.13	95.6
5C1T	10.09	5.25	10.09	5.25	0.00	420.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.43 R	45.72	208.00	0.0	44.74	34.41	180.00			
		-45.75 L	-35.19	142.00	0.0	-35.41	-27.24	165.00		115.00	
OPER	5C1T	55.09 R	42.38	231.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	66.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.73	3.92	HS 54.51	98.1
5C1T	5.48	6.25	4.90	6.99	0.00	392.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.200

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.5	0.0
	5.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-73.3	66.3
OPER	151.3	-122.2	110.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.94	25.39	-2.26	19.53	-4.39	20.98	-3.38	16.14
OPER	5C1T	-5.11	20.46	-3.93	15.74	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.70	2.61	HS 52.24	94.0
5C1T	23.92	5.40	0.00	432.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.8	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-
OPER 278.1	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	59.43 R	45.72	208.00	0.0	44.74	34.41	180.00	
		-45.75 L	-35.19	142.00	0.0	-35.41	-27.24	165.00	115.00
OPER	5C1T	55.09 R	42.38	231.00	0.0	0.00	0.00	0.00	
		-42.79 L	-32.92	66.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	2.83	3.65	2.83	3.65	HS 56.68	102.0
5C1T	5.10	6.50	5.10	6.50	0.00	407.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.87	28.67	28.67	1.699
			999999.000
			93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.300

Dead Load Moment 0.9
Superimposed Dead Load Moment 10.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.8	-167.7	154.7	-186.9
OPER	300.6C	-268.7	268.7	-300.6C	289.7	-279.5	257.8	-311.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.47 R	66.52	210.50	0.0	65.25	50.19	182.50			
		-37.98 L	-29.21	142.00	0.0	-29.81	-22.93	165.00	0.00		
OPER	5C1T	74.93 R	57.64	233.50	0.0	0.00	0.00	0.00			
		-38.36 L	-29.51	67.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	2.01	4.42	1.79	4.92	HS 35.77	64.4
5C1T	3.87	7.29	3.44	8.12	0.00	275.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.2	67.5
OPER	151.3	-120.3	112.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.42	20.56	-3.40	15.82	-6.66	18.03	-5.13	13.87
OPER	5C1T	-7.09	17.27	-5.45	13.29	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.83	3.28	HS 65.60	118.1
5C1T	16.98	6.51	0.00	520.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.300Dead Load Moment 0.9
Superimposed Dead Load Moment 10.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.2	172.0	-163.3	172.0	-163.3	161.1	-174.2	161.1	-
OPER 290.3	279.4	-279.4	279.4	-279.4	268.5	-290.3	268.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	86.47 R	66.52	210.50	0.0	65.25	50.19
		-37.98 L	-29.21	142.00	0.0	-29.81	-22.93
OPER	5C1T	74.93 R	57.64	233.50	0.0	0.00	0.00
		-38.36 L	-29.51	67.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	1.86	4.59	1.86	4.59	67.1
5C1T	3.58	7.57	3.58	7.57	286.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	93.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.24		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.400

Dead Load Moment 1.5
Superimposed Dead Load Moment 16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.3	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.01 R	74.62	213.00	0.0	77.56	59.66	185.00			
		-30.20 L	-23.23	142.00	0.0	-26.05	-20.04	165.00	0.00		
OPER	5C1T	87.63 R	67.41	284.00	0.0	0.00	0.00	0.00			
		-35.31 L	-27.16	68.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.70	1.55	6.34	HS 30.95	55.7
5C1T	3.22	8.13	2.86	9.04	0.00	228.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.400

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.2	0.0 1.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.6
OPER	151.3	-118.4	114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.97	16.78	-6.90	12.91	-9.24	15.05	-7.11	11.57
OPER	5C1T	-9.27	14.17	-7.13	10.90	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	7.69	4.09	HS 81.75	147.2	
5C1T	12.78	8.06	0.00	645.2	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.400

Dead Load Moment 1.5
Superimposed Dead Load Moment 16.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.01 R	74.62	213.00	0.0	77.56	59.66	185.00	
		-30.20 L	-23.23	142.00	0.0	-26.05	-20.04	165.00	0.00
OPER	5C1T	87.63 R	67.41	284.00	0.0	0.00	0.00	0.00	
		-35.31 L	-27.16	68.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.61	5.92	1.61	5.92	HS 32.28	58.1
5C1T	2.98	8.44	2.98	8.44	0.00	238.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 19.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	167.6	-174.0	148.4	-193.1
OPER	300.6C	-268.7	268.7	-300.6C	279.4	-289.9	247.4	-321.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.67 L	72.82	173.50	0.0	82.45	63.42	187.50			
		-22.43 L	-17.25	142.00	0.0	-22.28	-17.14	165.00		0.00	
OPER	5C1T	90.81 R	69.86	286.50	0.0	0.00	0.00	0.00			
		-33.70 L	-25.92	69.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.77	7.76	1.57	8.61	HS 31.36	56.4
5C1T	3.08	8.60	2.72	9.55	0.00	217.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.12	13.12	-10.09	10.09	-12.03	12.11	-9.26	9.32
OPER	5C1T	-11.58	11.72	-8.91	9.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.33	5.31	HS 106.24	191.2
5C1T	10.07	9.91	0.00	793.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 19.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 180.4	176.2	-159.1	176.2	-159.1	154.9	-180.4	154.9	-
OPER 300.7	279.4	-279.4	279.4	-279.4	258.1	-300.7	258.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.67 L	72.82	173.50	0.0	82.45	63.42	187.50	
		-22.43 L	-17.25	142.00	0.0	-22.28	-17.14	165.00	0.00
OPER	5C1T	90.81 R	69.86	286.50	0.0	0.00	0.00	0.00	
		-33.70 L	-25.92	69.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.64	8.04	1.64	8.04	HS 32.72	58.9
5C1T	2.84	8.92	2.84	8.92	0.00	227.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load Moment 1.6
Superimposed Dead Load Moment 17.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.9	-172.7	149.7	-191.8
OPER	300.6C	-268.7	268.7	-300.6C	281.5	-287.8	249.5	-319.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.97 L	74.59	162.00	0.0	77.63	59.72	190.00			
		-29.91 R	-23.01	233.00	0.0	-25.66	-19.74	210.00		0.00	
OPER	5C1T	88.02 L	67.71	139.00	0.0	0.00	0.00	0.00			
		-33.75 R	-25.96	306.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.77	1.54	6.41	HS 30.88	55.6
5C1T	3.20	8.53	2.84	9.48	0.00	226.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.78	8.97	-12.90	6.90	-14.97	9.31	-11.51	7.16
OPER	5C1T	-14.06	9.38	-10.81	7.21	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.10	7.61	HS 81.95	147.5	
5C1T	8.15	12.60	0.00	652.0	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load Moment 1.6
Superimposed Dead Load Moment 17.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.1	175.3	-160.0	175.3	-160.0	156.2	-179.1	156.2	-
OPER 298.5	279.4	-279.4	279.4	-279.4	260.3	-298.5	260.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	96.97 L	74.59	162.00	0.0	77.63	59.72	190.00	
		-29.91 R	-23.01	233.00	0.0	-25.66	-19.74	210.00	0.00
OPER	5C1T	88.02 L	67.71	139.00	0.0	0.00	0.00	0.00	
		-33.75 R	-25.96	306.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.61	5.99	1.61	5.99	HS 32.21	58.0
5C1T	2.96	8.85	2.96	8.85	0.00	236.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.700

Dead Load Moment 1.0
Superimposed Dead Load Moment 11.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.0	-168.5	153.8	-187.7
OPER	300.6C	-268.7	268.7	-300.6C	288.4	-280.9	256.4	-312.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.43 L	66.48	164.50	0.0	65.39	50.30	192.50			
		-37.61 R	-28.93	233.00	0.0	-29.08	-22.37	210.00	0.00		
OPER	5C1T	76.13 L	58.56	141.50	0.0	0.00	0.00	0.00			
		-36.19 R	-27.84	308.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	2.00	4.48	1.78	4.99	HS 35.60	64.1
5C1T	3.79	7.76	3.37	8.65	0.00	269.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.6	72.0
OPER	151.3	-112.7	120.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.57	4.41	-15.82	3.39	-17.96	6.74	-13.81	5.19
OPER	5C1T	-17.15	7.16	-13.19	5.51	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	3.29	10.68	HS 65.74	118.3	
5C1T	6.57	16.77	0.00	525.7	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.700

Dead Load Moment Superimposed Dead Load Moment

1.0 11.2

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 175.0	172.5	-162.7	172.5	-162.7	160.3	-175.0	160.3	-
OPER 291.7	279.4	-279.4	279.4	-279.4	267.1	-291.7	267.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.43 L	66.48	164.50	0.0	65.39	50.30	192.50	
		-37.61 R	-28.93	233.00	0.0	-29.08	-22.37	210.00	0.00
OPER	5C1T	76.13 L	58.56	141.50	0.0	0.00	0.00	0.00	
		-36.19 R	-27.84	308.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	1.86	4.65	1.86	4.65	HS 37.09	66.8
5C1T	3.51	8.06	3.51	8.06	0.00	280.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.800

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	299.9	-269.4	267.9	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.36 L	45.67	167.00	0.0	45.49	34.99	195.00			
		-45.31 R	-34.85	233.00	0.0	-33.05	-25.42	210.00	177.50		
OPER	5C1T	56.23 L	43.25	144.00	0.0	0.00	0.00	0.00			
		-40.11 R	-30.86	222.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	3.03	3.57	2.71	3.99	54.16
5C1T	5.33	6.72	4.77	7.51	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.5	73.2
OPER	151.3	-110.8	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.40	2.98	-19.54	2.29	-20.91	4.47	-16.08	3.44
OPER	5C1T	-20.31	5.16	-15.63	3.97	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.62	16.37	HS 52.35	94.2
5C1T	5.45	23.62	0.00	436.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.800Dead Load Moment 0.1
Superimposed Dead Load Moment 0.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 168.1	167.9	-167.4	167.9	-167.4	167.2	-168.1	167.2	-
OPER 280.1	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.36 L	45.67	167.00	0.0	45.49	34.99	195.00	
		-45.31 R	-34.85	233.00	0.0	-33.05	-25.42	210.00	177.50
OPER	5C1T	56.23 L	43.25	144.00	0.0	0.00	0.00	0.00	
		-40.11 R	-30.86	222.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.82	3.71	2.82	3.71	HS 56.33	101.4
5C1T	4.96	6.98	4.96	6.98	0.00	396.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.7	-151.9	170.5	-171.1
OPER	300.6C	-268.7	268.7	-300.6C	316.2	-253.1	284.2	-285.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.13 L	12.41	169.50	0.0	25.54	19.64	197.50			
		-58.69 L	-45.15	191.00	0.0	-52.86	-40.66	210.00	187.50		
OPER	5C1T	30.14 L	23.19	146.50	0.0	0.00	0.00	0.00			
		-47.23 R	-36.33	224.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.43	2.59	6.68	2.91	HS 51.76	93.2
5C1T	10.49	5.36	9.43	6.04	0.00	428.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.6	-6.8
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-65.4	74.3
OPER	151.3	-108.9	123.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-30.12	3.11	-23.17	2.39	-23.71	3.23	-18.24	2.48
OPER	5C1T	-23.40	3.46	-18.00	2.66	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.17	23.01	HS 43.41	78.1
5C1T	4.66	35.74	0.00	372.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.900

Dead Load Moment Superimposed Dead Load Moment
-1.2 -14.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.3	161.4	-173.8	161.4	-173.8	177.0	-158.3	177.0	-
OPER 263.9	279.4	-279.4	279.4	-279.4	294.9	-263.9	294.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.13 L	12.41	169.50	0.0	25.54	19.64	197.50	
		-58.69 L	-45.15	191.00	0.0	-52.86	-40.66	210.00	187.50
OPER	5C1T	30.14 L	23.19	146.50	0.0	0.00	0.00	0.00	
		-47.23 R	-36.33	224.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.93	2.70	6.93	2.70	HS 53.95	97.1
5C1T	9.78	5.59	9.78	5.59	0.00	447.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.5
OPER	300.6C	-268.7	268.7	-300.6C	337.1	-232.2	305.1	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00			
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00	210.00		
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00			
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	10.12	1.41	9.16	HS 28.31	51.0
5C1T	21.90	3.76	19.83	0.00	301.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.2	64.5
OPER	151.3	-107.1	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.12	34.48	-23.17	26.52	-23.71	26.11	-18.24	20.08
OPER	5C1T	-23.40	25.93	-18.00	19.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.87	HS 37.21	67.0
5C1T	4.08	4.14	0.00	326.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -33.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 145.8	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-
OPER 243.0	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00	
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00	210.00
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	9.48	1.48	9.48	1.48	HS 29.62	53.3
5C1T	20.52	3.94	20.52	3.94	0.00	314.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.772

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Superimposed Dead Load
Moment Moment
-2.9 -33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.5
OPER	300.6C	-268.7	268.7	-300.6C	337.1	-232.2	305.1	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00			
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00		210.00	
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00			
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	10.12	1.41	9.16	HS 28.31	51.0
5C1T	21.90	3.76	19.83	0.00	301.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-8.6	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.2	64.5
OPER	151.3	-107.1	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.53	34.48	-26.56	26.52	-26.28	26.11	-20.22	20.08
OPER	5C1T	-26.22	25.93	-20.17	19.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.87	HS 37.21	67.0
5C1T	4.08	4.14	0.00	326.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -33.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 145.8	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-
OPER 243.0	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.98 R	15.37	258.00	0.0	17.84	13.72	235.00	
		-98.43 R	-75.72	220.50	0.0	-89.21	-68.63	190.00	210.00
OPER	5C1T	15.39 R	11.84	371.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	231.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	9.48	1.48	9.48	1.48	HS 29.62	53.3
5C1T	20.52	3.94	20.52	3.94	0.00	314.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.3	-151.3	171.1	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.1	-252.2	285.1	-284.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.43 R	12.64	230.50	0.0	25.89	19.91	202.50			
		-59.00 R	-45.39	209.00	0.0	-53.36	-41.05	190.00	212.50		
OPER	5C1T	31.30 R	24.08	253.50	0.0	0.00	0.00	0.00			
		-49.71 L	-38.24	88.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.35	2.57	6.61	2.89	HS 51.29	92.3
5C1T	10.13	5.07	9.11	5.72	0.00	405.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 6.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.1	65.6
OPER	151.3	-123.4	109.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.64	30.06	-2.80	23.12	-3.50	23.53	-2.69	18.10
OPER	5C1T	-3.74	22.87	-2.88	17.59	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	20.34	2.18	HS 43.64	78.6
5C1T	32.97	4.78	0.00	382.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.100

Dead Load Moment Superimposed Dead Load Moment
-1.3 -15.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.8	161.1	-174.2	161.1	-174.2	177.5	-157.8	177.5	-
OPER 262.9	279.4	-279.4	279.4	-279.4	295.9	-262.9	295.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.43 R	12.64	230.50	0.0	25.89	19.91	202.50	
		-59.00 R	-45.39	209.00	0.0	-53.36	-41.05	190.00	212.50
OPER	5C1T	31.30 R	24.08	253.50	0.0	0.00	0.00	0.00	
		-49.71 L	-38.24	88.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.86	2.67	6.86	2.67	HS 53.48	96.3
5C1T	9.45	5.29	9.45	5.29	0.00	423.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	59.46 R	45.74	233.00	0.0	44.78	34.45	205.00			
		-45.76 L	-35.20	167.00	0.0	-35.35	-27.19	190.00	140.00		
OPER	5C1T	55.30 R	42.54	256.00	0.0	0.00	0.00	0.00			
		-42.79 L	-32.92	91.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.05	3.51	2.72	3.93	54.45
5C1T	5.46	6.25	4.88	7.00	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	4.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.9	66.7
OPER	151.3	-121.6	111.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.64	25.34	-2.80	19.49	-4.54	20.71	-3.49	15.93
OPER	5C1T	-5.65	19.67	-4.34	15.13	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.07	2.63	HS 52.66	94.8
5C1T	21.52	5.65	0.00	452.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend
INV.	167.2	-168.1	167.2	-168.1
167.0				
OPER	279.4	-279.4	279.4	-279.4
278.3				

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.46 R	45.74	233.00	0.0	44.78	34.45
		-45.76 L	-35.20	167.00	0.0	-35.35	-27.19
OPER	5C1T	55.30 R	42.54	256.00	0.0	0.00	0.00
		-42.79 L	-32.92	91.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.83	3.65	2.83	56.61	101.9
5C1T	5.07	6.50	5.07	0.00	405.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.300

Dead Load Moment 0.7
Superimposed Dead Load Moment 8.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.2	-278.1	259.2	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	86.17 R	66.29	235.50	0.0	64.63	49.71	207.50			
		-37.94 L	-29.19	167.00	0.0	-30.08	-23.14	190.00	0.00		
OPER	5C1T	73.27 R	56.36	258.50	0.0	0.00	0.00	0.00			
		-38.42 L	-29.56	92.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	2.03	4.40	1.80	36.09	65.0
5C1T	3.97	7.24	3.54	0.00	283.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.2	0.0 3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.8	67.8
OPER	151.3	-119.7	113.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.55	20.51	-3.50	15.77	-6.82	17.75	-5.25	13.66
OPER	5C1T	-7.79	16.51	-5.99	12.70	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.52	3.31	HS 66.16	119.1
5C1T	15.36	6.85	0.00	548.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.300Dead Load Moment 0.7
Superimposed Dead Load Moment 8.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.3	171.4	-163.9	171.4	-163.9	162.0	-173.3	162.0	-
OPER 288.9	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	86.17 R	66.29	235.50	0.0	64.63	49.71	207.50
		-37.94 L	-29.19	167.00	0.0	-30.08	-23.14	190.00
OPER	5C1T	73.27 R	56.36	258.50	0.0	0.00	0.00	0.00
		-38.42 L	-29.56	92.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.88	4.57	1.88	4.57	HS 37.59	67.7
5C1T	3.68	7.52	3.68	7.52	0.00	294.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.97		106.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.400

Dead Load Moment 1.1
Superimposed Dead Load Moment 14.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	171.1	-170.4	152.0	-189.6
OPER	300.6C	-268.7	268.7	-300.6C	285.2	-284.1	253.3	-316.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.30 R	74.08	238.00	0.0	76.22	58.63	210.00			
		-30.13 L	-23.17	167.00	0.0	-26.61	-20.47	190.00	0.00		
OPER	5C1T	84.08 R	64.68	261.00	0.0	0.00	0.00	0.00			
		-36.44 L	-28.03	140.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	5.66	1.58	6.29	HS 31.56	56.8
5C1T	3.39	7.80	3.01	8.67	0.00	241.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 1.3

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.7 69.0
OPER 151.3 -117.8 114.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-9.12	16.75	-7.02	12.88	-9.40	14.76	-7.23	11.35
OPER	5C1T	-10.04	13.49	-7.72	10.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.52	4.12	HS 82.35	148.2
5C1T	11.74	8.52	0.00	681.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.400Dead Load Moment 1.1
Superimposed Dead Load Moment 14.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.9	173.8	-161.5	173.8	-161.5	158.4	-176.9	158.4	-
OPER 294.8	279.4	-279.4	279.4	-279.4	264.0	-294.8	264.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	96.30 R	74.08	238.00	0.0	76.22	58.63	210.00	
		-30.13 L	-23.17	167.00	0.0	-26.61	-20.47	190.00	0.00
OPER	5C1T	84.08 R	64.68	261.00	0.0	0.00	0.00	0.00	
		-36.44 L	-28.03	140.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.64	5.87	1.64	5.87	HS 32.90	59.2
5C1T	3.14	8.09	3.14	8.09	0.00	251.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.975

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	94.36 R	72.58	226.50	0.0	80.36	61.82	212.50			
		-27.30 R	-21.00	258.00	0.0	-24.32	-18.71	235.00		0.00	
OPER	5C1T	87.72 L	67.48	113.50	0.0	0.00	0.00	0.00			
		-37.81 R	-29.08	284.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.81	6.27	1.60	32.05	57.7
5C1T	3.24	7.55	2.87	0.00	229.8

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 9.500
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.1 -0.4 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.6	70.1
OPER	151.3	-115.9	116.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-13.29	13.08	-10.22	10.06	-12.21	11.82	-9.39	9.09
OPER	5C1T	-12.29	10.98	-9.46	8.45	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.23	5.36	HS 104.67	188.4
5C1T	9.43	10.63	0.00	754.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.500

Dead Load Moment Superimposed Dead Load Moment

1.2 15.5

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 177.6	174.3	-161.0	174.3	-161.0	157.7	-177.6	157.7	-
OPER 296.0	279.4	-279.4	279.4	-279.4	262.8	-296.0	262.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.36 R	72.58	226.50	0.0	80.36	61.82	212.50	
		-27.30 R	-21.00	258.00	0.0	-24.32	-18.71	235.00	0.00
OPER	5C1T	87.72 L	67.48	113.50	0.0	0.00	0.00	0.00	
		-37.81 R	-29.08	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	1.67	6.51	1.67	6.51	HS 33.42	60.2
5C1T	2.99	7.83	2.99	7.83	0.00	239.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.93	28.67	28.67	1.699	999999.000	96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.600

Dead Load Moment 0.8
Superimposed Dead Load Moment 12.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	172.7	-168.9	153.5	-188.1
OPER	300.6C	-268.7	268.7	-300.6C	287.8	-281.5	255.8	-313.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	96.49 L	74.22	187.00	0.0	74.80	57.54	215.00			
		-36.75 R	-28.27	258.00	0.0	-28.46	-21.89	235.00	0.00		
OPER	5C1T	84.02 L	64.63	116.00	0.0	0.00	0.00	0.00			
		-39.21 R	-30.16	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	1.79	4.60	1.59	5.12	57.3
5C1T	3.42	7.18	3.04	7.99	243.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.4	71.3
OPER	151.3	-113.9	118.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-16.99	8.92	-13.07	6.86	-15.15	9.03	-11.65	6.94
OPER	5C1T	-14.48	8.75	-11.13	6.73	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	4.02	7.90	HS 80.47	144.8	
5C1T	7.87	13.58	0.00	629.6	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.600

Dead Load Moment 0.8
Superimposed Dead Load Moment 12.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 175.4	172.8	-162.5	172.8	-162.5	159.9	-175.4	159.9	-
OPER 292.3	279.4	-279.4	279.4	-279.4	266.5	-292.3	266.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	96.49 L	74.22	187.00	0.0	74.80	57.54	215.00	
		-36.75 R	-28.27	258.00	0.0	-28.46	-21.89	235.00	0.00
OPER	5C1T	84.02 L	64.63	116.00	0.0	0.00	0.00	0.00	
		-39.21 R	-30.16	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.66	4.77	1.66	4.77	HS 33.15	59.7
5C1T	3.17	7.45	3.17	7.45	0.00	253.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.93	28.67	28.67	1.699
			999999.000
			96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.700

Dead Load Moment 0.1
Superimposed Dead Load Moment 4.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	177.7	-163.8	158.6	-183.0
OPER	300.6C	-268.7	268.7	-300.6C	296.2	-273.1	264.3	-305.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	85.73 L	65.95	189.50	0.0	61.84	47.57	217.50			
		-46.21 R	-35.55	258.00	0.0	-32.60	-25.07	235.00	0.00		
OPER	5C1T	68.20 L	52.46	114.50	0.0	0.00	0.00	0.00			
		-40.61 R	-31.24	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.07	3.55	1.85	3.96	HS 36.99	66.6
5C1T	4.34	6.72	3.88	7.51	0.00	310.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-4.0	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-67.2 72.4
OPER	151.3		-112.0 120.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-20.66	4.35	-15.90	3.35	-18.14	6.46	-13.95	4.97
OPER	5C1T	-17.47	6.71	-13.44	5.16	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating	Factor	Rating	Load	
	(-)	(+)	Value	Capacity	
				(tons)	
HS20	3.25	11.21	HS 65.07	117.1	
5C1T	6.41	18.00	0.00	513.1	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.700Dead Load Moment 0.1
Superimposed Dead Load Moment 4.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 170.3	169.4	-165.9	169.4	-165.9	165.0	-170.3	165.0	-
OPER 283.8	279.4	-279.4	279.4	-279.4	275.0	-283.8	275.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	85.73 L	65.95	189.50	0.0	61.84	47.57	217.50	
		-46.21 R	-35.55	258.00	0.0	-32.60	-25.07	235.00	0.00
OPER	5C1T	68.20 L	52.46	114.50	0.0	0.00	0.00	0.00	
		-40.61 R	-31.24	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.92	3.68	1.92	3.68	HS 38.49	69.3
5C1T	4.03	6.99	4.03	6.99	0.00	322.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.93	28.67	28.67	1.699	999999.000	96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.800

Dead Load Moment Superimposed Dead Load Moment
-1.0 -7.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.6	-155.9	166.4	-175.1
OPER	300.6C	-268.7	268.7	-300.6C	309.4	-259.9	277.4	-291.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	58.49 L	45.00	192.00	0.0	41.39	31.84	220.00			
		-55.67 R	-42.82	258.00	0.0	-37.46	-28.81	235.00	202.50		
OPER	5C1T	46.46 L	35.74	82.00	0.0	0.00	0.00	0.00			
		-44.90 R	-34.54	247.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.17	2.80	2.85	3.15	56.03
5C1T	6.66	5.79	5.97	6.50	0.00

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 9.800
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.5 -5.7 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-66.1	73.5
OPER	151.3	-110.2	122.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-25.52	2.99	-19.63	2.30	-21.08	4.19	-16.22	3.22
OPER	5C1T	-20.74	4.89	-15.96	3.76	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.59	17.54	HS 51.80	93.2
5C1T	5.31	25.05	0.00	424.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.800Dead Load Moment -1.0
Superimposed Dead Load Moment -7.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 162.4	164.1	-171.1	164.1	-171.1	172.9	-162.4	172.9	-
OPER 270.6	279.4	-279.4	279.4	-279.4	288.2	-270.6	288.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	58.49 L	45.00	192.00	0.0	41.39	31.84	220.00	
		-55.67 R	-42.82	258.00	0.0	-37.46	-28.81	235.00	202.50
OPER	5C1T	46.46 L	35.74	82.00	0.0	0.00	0.00	0.00	
		-44.90 R	-34.54	247.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	2.96	2.92	2.96	2.92	HS 58.34	105.0
5C1T	6.20	6.03	6.20	6.03	0.00	482.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.93	28.67	28.67	1.699
			999999.000
			96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.900

Dead Load Moment Superimposed Dead Load Moment
-2.6 -24.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	196.3	-145.2	177.1	-164.4
OPER	300.6C	-268.7	268.7	-300.6C	327.2	-242.1	295.2	-274.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.19 L	11.69	194.50	0.0	21.07	16.20	222.50			
		-67.93 L	-52.25	216.00	0.0	-58.56	-45.05	235.00		212.50	
OPER	5C1T	21.91 L	16.85	84.50	0.0	0.00	0.00	0.00			
		-56.28 R	-43.29	253.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	9.32	2.14	8.41	42.76	77.0
5C1T	14.94	4.30	13.48	0.00	344.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-7.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.0	74.7
OPER	151.3	-108.3	124.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.26	3.13	-23.28	2.40	-23.88	3.00	-18.37	2.30
OPER	5C1T	-24.05	3.34	-18.50	2.57	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.15	23.89	HS 42.94	77.3
5C1T	4.50	37.31	0.00	360.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.900

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-24.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	157.0	-178.3	157.0	-178.3	183.6	-151.7	183.6	-
151.7								
OPER	279.4	-279.4	279.4	-279.4	306.0	-252.8	306.0	-
252.8								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	15.19 L	11.69	194.50	0.0	21.07	16.20	222.50	
		-67.93 L	-52.25	216.00	0.0	-58.56	-45.05	235.00	212.50
OPER	5C1T	21.91 L	16.85	84.50	0.0	0.00	0.00	0.00	
		-56.28 R	-43.29	253.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	8.72	2.23	8.72	2.23	HS 44.66	80.4
5C1T	13.97	4.49	13.97	4.49	0.00	359.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.93	28.67	28.67	1.699
			999999.000
			96.720

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		35.73		103.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -44.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-161.2	161.2	-215.8C	245.3	-131.7	190.7	-186.3
OPER	359.7C	-268.7	268.7	-359.7C	408.8	-219.5	317.8	-310.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00			
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00		215.00	
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00			
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	14.64	1.27	11.38	HS 25.50	45.9
5C1T	31.55	2.86	24.52	0.00	228.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	-0.8	-7.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-63.9	72.5
OPER	172.1	-106.4	120.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-30.26	36.72	-23.28	28.25	-23.88	26.68	-18.37	20.52
OPER	5C1T	-24.05	27.33	-18.50	21.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.97	HS 36.83	66.3
5C1T	3.94	4.42	0.00	315.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-44.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	148.0	-187.3	148.0	-187.3	197.1	-138.2	197.1	-
138.2								
OPER	279.4	-279.4	279.4	-279.4	328.5	-230.3	328.5	-
230.3								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00	
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00	215.00
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	11.76	1.34	11.76	1.34	HS 26.75	48.1
5C1T	25.35	3.00	25.35	3.00	0.00	240.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.67	35.20	35.20	2.861	999999.000	107.114

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -44.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-161.2	161.2	-215.8C	245.3	-131.7	190.7	-186.3
OPER	359.7C	-268.7	268.7	-359.7C	408.8	-219.5	317.8	-310.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00			
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00	215.00		
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00			
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	14.64	1.27	11.38	1.80	HS 25.50 45.9
5C1T	31.55	2.86	24.52	4.05	0.00 228.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	1.1	-9.1	10.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-63.9	72.5
OPER	172.1	-106.4	120.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-34.68	36.72	-26.68	28.25	-26.43	26.68	-20.33	20.52
OPER	5C1T	-26.99	27.33	-20.76	21.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.97	HS 36.83	66.3
5C1T	3.94	4.42	0.00	315.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-44.7

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	148.0	-187.3	148.0	-187.3	197.1	-138.2	197.1	-
138.2								
OPER	279.4	-279.4	279.4	-279.4	328.5	-230.3	328.5	-
230.3								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Truck	Live Load Moment	Loc. of Ax.	Lane Live Load Moment	Loc. of Conc.				
Typ.	Veh.	w/imp.	w/o imp.	Front Wheel	Dis.	w/imp.	w/o imp.	Load 1	Load 2
INV.	HS20	16.76 L	12.89	167.00	0.0	12.38	9.53	190.00	
		-103.30 R	-79.46	246.50	0.0	-95.85	-73.73	235.00	215.00
OPER	5C1T	12.96 L	9.97	52.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	257.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity	
	top fiber	bottom fiber	top fiber	bottom fiber	(tons)	
	+bend	-bend	+bend	-bend		
HS20	11.76	1.34	11.76	1.34	HS 26.75	48.1
5C1T	25.35	3.00	25.35	3.00	0.00	240.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.67	35.20	35.20	2.861
			999999.000
			90.089

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.100

Dead Load Moment Superimposed Dead Load Moment
-2.0 -20.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	229.4	-178.1	205.2	-202.2
OPER	359.7C	-319.4	319.4	-359.7C	382.3	-296.8	342.1	-337.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	12.56 L	9.66	162.00	0.0	24.05	18.50	227.50			
		-62.02 R	-47.71	234.00	0.0	-57.85	-44.50	215.00		240.00	
OPER	5C1T	30.15 L	23.19	93.50	0.0	0.00	0.00	0.00			
		-55.00 R	-42.31	259.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	9.54	2.87	8.53	3.26	HS 57.42
5C1T	12.68	5.40	11.35	6.13	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.9	0.0	8.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-85.2	73.6
OPER	172.1	-142.0	122.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.64	32.71	-0.49	25.16	-1.34	24.40	-1.03	18.77
OPER	5C1T	-1.04	24.64	-0.80	18.95	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	63.50	2.25	HS 45.03	81.1
5C1T	137.02	4.98	0.00	398.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.100

Dead Load Moment	Superimposed Dead Load Moment
-2.0	-20.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
bend								
INV. 185.7	190.3	-208.4	190.3	-208.4	212.9	-185.7	212.9	-
OPER 309.6	332.2	-332.2	332.2	-332.2	354.8	-309.6	354.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	12.56 L	9.66	162.00	0.0	24.05	18.50	227.50	
		-62.02 R	-47.71	234.00	0.0	-57.85	-44.50	215.00	240.00
OPER	5C1T	30.15 L	23.19	93.50	0.0	0.00	0.00	0.00	
		-55.00 R	-42.31	259.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	8.85	2.99	8.85	2.99	HS 59.89	107.8
5C1T	11.77	5.63	11.77	5.63	0.00	450.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.67	35.20	35.20	2.861
			999999.000
			90.089

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.200

Dead Load Moment Superimposed Dead Load Moment
0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	216.4	-191.1	192.2	-215.3
OPER	359.7C	-319.4	319.4	-359.7C	360.6	-318.5	320.3	-358.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	63.97 R	49.20	258.00	0.0	47.55	36.58	230.00			
		-50.04 L	-38.49	192.00	0.0	-38.63	-29.72	215.00		165.00	
OPER	5C1T	59.03 L	45.40	96.00	0.0	0.00	0.00	0.00			
		-47.09 L	-36.22	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	3.38	3.82	3.01	4.30	HS 60.10 108.2
5C1T	6.11	6.76	5.43	7.62	0.00 434.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	7.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-84.1	74.8
OPER	172.1	-140.1	124.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.97	28.22	-0.75	21.70	-2.83	21.94	-2.18	16.88
OPER	5C1T	-2.55	21.72	-1.96	16.71	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	29.72	2.65	HS 53.01	95.4
5C1T	54.87	5.74	0.00	459.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.200Dead Load Moment 0.1
Superimposed Dead Load Moment -1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 198.8	199.0	-199.7	199.0	-199.7	199.9	-198.8	199.9	-
OPER 331.3	332.2	-332.2	332.2	-332.2	333.1	-331.3	333.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.97 R	49.20	258.00	0.0	47.55	36.58	230.00	
		-50.04 L	-38.49	192.00	0.0	-38.63	-29.72	215.00	165.00
OPER	5C1T	59.03 L	45.40	96.00	0.0	0.00	0.00	0.00	
		-47.09 L	-36.22	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	3.12	3.97	3.12	3.97	HS 62.49	112.5
5C1T	5.64	7.03	5.64	7.03	0.00	451.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.67	35.20	35.20	2.861
			999999.000
			90.089

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
 Check Point I. D. 10.300

Dead Load Moment 1.7
 Superimposed Dead Load Moment 14.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	206.2	-201.3	182.0	-225.4
OPER	359.7C	-319.4	319.4	-359.7C	343.6	-335.5	303.4	-375.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	99.53 R	76.56	260.50	0.0	71.95	55.35	232.50			
		-43.78 L	-33.68	192.00	0.0	-33.81	-26.00	215.00	165.00		
OPER	5C1T	86.28 R	66.37	283.50	0.0	0.00	0.00	0.00			
		-41.20 L	-31.70	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.07	4.60	1.83	5.15	HS 36.58	65.8
5C1T	3.98	8.14	3.52	9.12	0.00	281.3

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 10.300
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.5 0.0 5.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-82.9	75.9
OPER	172.1	-138.2	126.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.02	23.31	-2.32	17.93	-4.64	19.35	-3.57	14.88
OPER	5C1T	-4.32	18.62	-3.33	14.32	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	17.88	3.26	HS 65.15	117.3
5C1T	31.97	6.80	0.00	543.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.300Dead Load Moment 1.7
Superimposed Dead Load Moment 14.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.9	205.7	-192.9	205.7	-192.9	189.7	-208.9	189.7	-
OPER 348.2	332.2	-332.2	332.2	-332.2	316.2	-348.2	316.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	99.53 R	76.56	260.50	0.0	71.95	55.35	232.50	
		-43.78 L	-33.68	192.00	0.0	-33.81	-26.00	215.00	165.00
OPER	5C1T	86.28 R	66.37	283.50	0.0	0.00	0.00	0.00	
		-41.20 L	-31.70	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.91	4.77	1.91	4.77	HS 38.12	68.6
5C1T	3.66	8.45	3.66	8.45	0.00	293.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.67	35.20	35.20	2.861
			999999.000
			90.089

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		17.47		106.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.400

Dead Load Moment Superimposed Dead Load Moment
2.8 25.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	198.9	-208.6	174.7	-232.8
OPER	359.7C	-319.4	319.4	-359.7C	331.4	-347.7	291.2	-387.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	115.16 R	88.59	263.00	0.0	88.90	68.38	235.00			
		-37.53 L	-28.87	192.00	0.0	-27.73	-21.33	215.00	0.00		
OPER	5C1T	104.59 R	80.45	286.00	0.0	0.00	0.00	0.00			
		-35.32 L	-27.17	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.73	5.56	1.52	6.20	HS 30.34
5C1T	3.17	9.84	2.78	10.98	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.6

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	103.3		-81.8 77.1
OPER	172.1		-136.3 128.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.09	18.19	-4.69	14.00	-6.75	16.67	-5.19	12.82
OPER	5C1T	-6.39	15.81	-4.92	12.16	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating	Factor	Rating	Load	
	(-)	(+)	Value	Capacity	
				(tons)	
HS20	12.12	4.24	HS 84.71	152.5	
5C1T	21.33	8.12	0.00	649.8	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.400Dead Load Moment 2.8
Superimposed Dead Load Moment 25.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 216.3	210.6	-188.0	210.6	-188.0	182.4	-216.3	182.4	-
OPER 360.5	332.2	-332.2	332.2	-332.2	303.9	-360.5	303.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.16 R	88.59	263.00	0.0	88.90	68.38	235.00	
		-37.53 L	-28.87	192.00	0.0	-27.73	-21.33	215.00	0.00
OPER	5C1T	104.59 R	80.45	286.00	0.0	0.00	0.00	0.00	
		-35.32 L	-27.17	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.58	5.76	1.58	5.76	HS 31.67	57.0
5C1T	2.91	10.21	2.91	10.21	0.00	232.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.67	35.20	35.20	2.861	999999.000	90.089

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.500

Dead Load Moment 3.5
Superimposed Dead Load Moment 32.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	194.4	-213.1	170.2	-237.2
OPER	359.7C	-319.4	319.4	-359.7C	324.0	-355.1	283.7	-395.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	121.30 R	93.31	265.50	0.0	99.09	76.22	237.50			
		-31.27 L	-24.06	192.00	0.0	-23.11	-17.77	215.00	0.00		
OPER	5C1T	114.31 L	87.93	138.50	0.0	0.00	0.00	0.00			
		-29.43 L	-22.64	116.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.60	6.81	1.40	7.59	HS 28.07	50.5
5C1T	2.83	12.07	2.48	13.44	0.00	198.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.500Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.2 0.0 1.9

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 103.3 -80.6 78.2
OPER 172.1 -134.4 130.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-9.70	15.07	-7.46	11.59	-9.15	13.93	-7.04	10.71
OPER	5C1T	-8.82	13.55	-6.78	10.42	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.31	5.19	HS 103.82	186.9
5C1T	15.24	9.62	0.00	769.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.500Dead Load Moment 3.5
Superimposed Dead Load Moment 32.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 220.7	213.6	-185.0	213.6	-185.0	177.9	-220.7	177.9	-
OPER 367.9	332.2	-332.2	332.2	-332.2	296.5	-367.9	296.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	121.30 R	93.31	265.50	0.0	99.09	76.22	237.50	
		-31.27 L	-24.06	192.00	0.0	-23.11	-17.77	215.00	0.00
OPER	5C1T	114.31 L	87.93	138.50	0.0	0.00	0.00	0.00	
		-29.43 L	-22.64	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.47	7.06	1.47	7.06	HS 29.33	52.8
5C1T	2.59	12.50	2.59	12.50	0.00	207.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.600

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.600

Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	193.0	-214.5	168.8	-238.7
OPER	359.7C	-319.4	319.4	-359.7C	321.6	-357.5	281.3	-397.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.61 R	98.93	254.00	0.0	99.47	76.52	240.00			
		-25.02 L	-19.25	192.00	0.0	-18.49	-14.22	215.00	0.00		
OPER	5C1T	115.53 L	88.87	141.00	0.0	0.00	0.00	0.00			
		-23.55 L	-18.11	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.50	8.57	1.31	9.54	HS 26.25	47.2
5C1T	2.78	15.18	2.43	16.89	0.00	194.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-79.4	79.4
OPER	172.1	-132.4	132.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-12.86	11.47	-9.89	8.82	-11.81	11.17	-9.09	8.59
OPER	5C1T	-11.39	11.15	-8.76	8.57	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.18	6.93	HS 123.51	222.3
5C1T	11.62	11.88	0.00	929.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.600Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 222.2	214.6	-184.1	214.6	-184.1	176.5	-222.2	176.5	-
OPER 370.3	332.2	-332.2	332.2	-332.2	294.1	-370.3	294.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	128.61 R	98.93	254.00	0.0	99.47	76.52	240.00	
		-25.02 L	-19.25	192.00	0.0	-18.49	-14.22	215.00	0.00
OPER	5C1T	115.53 L	88.87	141.00	0.0	0.00	0.00	0.00	
		-23.55 L	-18.11	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.37	8.88	1.37	8.88	HS 27.44	49.4
5C1T	2.55	15.73	2.55	15.73	0.00	203.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.700

Dead Load Moment 3.5
Superimposed Dead Load Moment 32.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	194.4	-213.1	170.2	-237.2
OPER	359.7C	-319.4	319.4	-359.7C	324.0	-355.1	283.7	-395.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	128.35 R	98.73	256.50	0.0	91.13	70.10	242.50			
		-18.76 L	-14.43	192.00	0.0	-13.86	-10.66	215.00		0.00	
OPER	5C1T	109.03 L	83.87	139.50	0.0	0.00	0.00	0.00			
		-17.66 L	-13.58	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	1.51	11.35	1.33	12.64	HS 26.53
5C1T	2.97	20.11	2.60	22.39	0.00 208.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-78.3	80.6
OPER	172.1	-130.5	134.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-17.11	8.72	-13.16	6.71	-14.73	8.44	-11.33	6.49
OPER	5C1T	-14.54	8.57	-11.18	6.60	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.57	9.24	HS 91.49	164.7
5C1T	8.98	15.66	0.00	718.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.700Dead Load Moment 3.5
Superimposed Dead Load Moment 32.2

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
	+bend	-bend	+bend	-bend
INV. 220.7	213.6	-185.0	213.6	-185.0
OPER 367.9	332.2	-332.2	332.2	-332.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.35 R	98.73	256.50	0.0	91.13	70.10	242.50	
		-18.76 L	-14.43	192.00	0.0	-13.86	-10.66	215.00	0.00
OPER	5C1T	109.03 L	83.87	139.50	0.0	0.00	0.00	0.00	
		-17.66 L	-13.58	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber	bottom fiber	top fiber	bottom fiber
	+bend	-bend	+bend	-bend
HS20	1.39	11.76	1.39	11.76
5C1T	2.72	20.83	2.72	20.83

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.800

Dead Load Moment Superimposed Dead Load Moment
2.8 25.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	198.7	-208.8	174.5	-232.9
OPER	359.7C	-319.4	319.4	-359.7C	331.1	-348.0	290.9	-388.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	108.85 R	83.73	259.00	0.0	71.41	54.93	245.00			
		-12.51 L	-9.62	192.00	0.0	-9.24	-7.11	215.00	0.00		
OPER	5C1T	90.16 L	69.35	142.00	0.0	0.00	0.00	0.00			
		-11.77 L	-9.06	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.83	16.69	1.60	18.62	HS 32.07	57.7
5C1T	3.67	29.56	3.23	32.98	0.00	258.1

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 10.800
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.4 -3.4 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-77.1	81.7
OPER	172.1	-128.6	136.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-21.77	5.87	-16.75	4.52	-17.86	5.76	-13.74	4.43
OPER	5C1T	-18.03	5.81	-13.87	4.47	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.54	13.91	HS 70.87	127.6
5C1T	7.13	23.43	0.00	570.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.800

Dead Load Moment	Superimposed Dead Load Moment
2.8	25.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 216.5	210.7	-187.9	210.7	-187.9	182.2	-216.5	182.2	-
OPER 360.8	332.2	-332.2	332.2	-332.2	303.6	-360.8	303.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	108.85 R	83.73	259.00	0.0	71.41	54.93	245.00	
		-12.51 L	-9.62	192.00	0.0	-9.24	-7.11	215.00	0.00
OPER	5C1T	90.16 L	69.35	142.00	0.0	0.00	0.00	0.00	
		-11.77 L	-9.06	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.67	17.30	1.67	17.30	HS 33.47	60.3
5C1T	3.37	30.64	3.37	30.64	0.00	269.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 10.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.900

Dead Load Moment Superimposed Dead Load Moment
1.6 15.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	205.8	-201.6	181.7	-225.8
OPER	359.7C	-319.4	319.4	-359.7C	343.0	-336.1	302.8	-376.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	66.91 R	51.47	261.50	0.0	41.79	32.15	247.50			
		-6.25 L	-4.81	192.00	0.0	-4.62	-3.55	215.00		0.00	
OPER	5C1T	54.18 L	41.68	144.50	0.0	0.00	0.00	0.00			
		-5.89 L	-4.53	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.08	32.24	2.71	36.10	HS 54.30	97.7
5C1T	6.33	57.09	5.59	63.93	0.00	447.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-5.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-76.0	82.9
OPER	172.1	-126.7	138.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-26.76	2.95	-20.59	2.27	-21.20	3.16	-16.31	2.43
OPER	5C1T	-21.67	3.83	-16.67	2.94	0.00	0.00	0.00	0.00

Rating		Shear			
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)	
HS20	2.84	26.19	HS 56.79	102.2	
5C1T	5.84	36.08	0.00	467.5	

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 10.900Dead Load Moment 1.6
Superimposed Dead Load Moment 15.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 209.3	206.0	-192.7	206.0	-192.7	189.3	-209.3	189.3	-
OPER 348.9	332.2	-332.2	332.2	-332.2	315.5	-348.9	315.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.91 R	51.47	261.50	0.0	41.79	32.15	247.50	
		-6.25 L	-4.81	192.00	0.0	-4.62	-3.55	215.00	0.00
OPER	5C1T	54.18 L	41.68	144.50	0.0	0.00	0.00	0.00	
		-5.89 L	-4.53	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	2.83	33.46	2.83	33.46	HS 56.59	101.9
5C1T	5.82	59.26	5.82	59.26	0.00	465.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 11.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 11.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
 Check Point I. D. 11.000

Dead Load Moment 0.0
 Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	215.8	-191.7	191.7	-215.8
OPER	359.7C	-319.4	319.4	-359.7C	359.7	-319.4	319.4	-359.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 11.000

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-6.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-74.9	79.9
OPER	172.1	-124.8	133.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-32.02	0.00	-24.63	0.00	-24.72	2.36	-19.01	1.82
OPER	5C1T	-25.40	0.00	-19.54	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.34	33.80	HS 46.75	84.2
5C1T	4.91	999.00	0.00	392.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 11.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 199.3	199.3	-199.3	199.3	-199.3	199.3	-199.3	199.3	-
OPER 332.2	332.2	-332.2	332.2	-332.2	332.2	-332.2	332.2	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 10

Live Load Distribution Factor 0.286

Second Live Load Dist. Factor 0.286

Comments:

Member I. D. S04 Symmetry:

Span Length:	Span 1 25.000	Span 2 25.000	Span 3 25.000	Span 4 25.000	Span 5 25.000
	Span 6 25.000	Span 7 25.000	Span 8 25.000	Span 9 25.000	Span 10 25.000

Range Span No.	Length Range No.	-- Non-Composite: Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	25.000	1	0		0.0	0.0
2	1	25.000	2	0		0.0	0.0
3	1	25.000	2	0		0.0	0.0
4	1	25.000	2	0		0.0	0.0
5	1	25.000	2	0		0.0	0.0
6	1	25.000	2	0		0.0	0.0
7	1	25.000	2	0		0.0	0.0
8	1	25.000	2	0		0.0	0.0
9	1	25.000	2	0		0.0	0.0
10	1	25.000	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	0.000	615.0	615.0	25.000	0.0
1	P	12.500	0.0	0.0	0.000	0.1
2	W	0.000	615.0	615.0	25.000	0.0
2	P	12.500	0.0	0.0	0.000	0.1
3	W	0.000	615.0	615.0	25.000	0.0
3	P	12.500	0.0	0.0	0.000	0.1
4	W	0.000	615.0	615.0	25.000	0.0
4	P	12.500	0.0	0.0	0.000	0.1
5	W	0.000	615.0	615.0	25.000	0.0
5	P	12.500	0.0	0.0	0.000	0.1
6	W	0.000	615.0	615.0	25.000	0.0
6	P	12.500	0.0	0.0	0.000	0.1
7	W	0.000	615.0	615.0	25.000	0.0
7	P	12.500	0.0	0.0	0.000	0.1
8	W	0.000	615.0	615.0	25.000	0.0
8	P	12.500	0.0	0.0	0.000	0.1

9	W	0.000	615.0	615.0	25.000	0.0
9	P	12.500	0.0	0.0	0.000	0.1
10	W	0.000	615.0	615.0	25.000	0.0
10	P	12.500	0.0	0.0	0.000	0.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.000

Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	215.8	-191.7	191.7	-215.8
OPER	359.7C	-319.4	319.4	-359.7C	359.7	-319.4	319.4	-359.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S04
Check Point I. D. 1.000

HS20 5C1T

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-83.6	75.3
OPER	172.1	-139.3	125.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.60	8.01	-0.46	6.16	-0.59	6.18	-0.45	4.76
OPER	5C1T	-0.55	6.36	-0.42	4.89	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	139.31	9.40	HS 187.94	338.3
5C1T	254.44	19.74	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.000

Dead Load Moment Superimposed Dead Load Moment
0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 199.3	199.3	-199.3	199.3	-199.3	199.3	-199.3	199.3	-
OPER 332.2	332.2	-332.2	332.2	-332.2	332.2	-332.2	332.2	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.100

Dead Load Moment 1.6
Superimposed Dead Load Moment 13.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	206.8	-200.7	182.6	-224.9
OPER	359.7C	-319.4	319.4	-359.7C	344.6	-334.5	304.4	-374.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.74 L	12.88	-11.50	0.0	10.46	8.04	2.50			
		-1.57 R	-1.20	58.00	0.0	-1.16	-0.89	35.00	0.00		
OPER	5C1T	13.56 R	10.43	105.50	0.0	0.00	0.00	0.00			
		-1.47 R	-1.13	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.35	128.23	10.91	143.67	HS 218.16	392.7
5C1T	25.42	227.10	22.45	254.44	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	4.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-82.5	76.3
OPER	172.1	-137.5	127.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.74	6.70	-0.57	5.15	-0.79	5.31	-0.61	4.08
OPER	5C1T	-0.96	5.42	-0.74	4.17	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	104.24	11.40	HS 227.95	410.3
5C1T	143.62	23.46	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.100

Dead Load Moment 1.6
Superimposed Dead Load Moment 13.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.4	205.3	-193.3	205.3	-193.3	190.3	-208.4	190.3	-
OPER 347.3	332.2	-332.2	332.2	-332.2	317.1	-347.3	317.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	16.74 L	12.88	-11.50	0.0	10.46	8.04	2.50	
		-1.57 R	-1.20	58.00	0.0	-1.16	-0.89	35.00	0.00
OPER	5C1T	13.56 R	10.43	105.50	0.0	0.00	0.00	0.00	
		-1.47 R	-1.13	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.37	133.13	11.37	133.13	HS 227.31	409.2
5C1T	23.39	235.78	23.39	235.78	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.200

Dead Load Moment Superimposed Dead Load Moment
2.8 23.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	200.3	-207.2	176.1	-231.3
OPER	359.7C	-319.4	319.4	-359.7C	333.8	-345.3	293.6	-385.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	27.24 L	20.95	-9.00	0.0	17.87	13.74	5.00			
		-3.13 R	-2.41	58.00	0.0	-2.31	-1.78	35.00	0.00		
OPER	5C1T	22.56 R	17.35	108.00	0.0	0.00	0.00	0.00			
		-2.95 R	-2.27	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.35	66.18	6.47	73.90	HS 129.35	232.8
5C1T	14.80	117.21	13.01	130.88	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-81.5	77.4
OPER	172.1	-135.8	128.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.47	5.45	-1.13	4.19	-1.44	4.47	-1.11	3.44
OPER	5C1T	-1.45	4.51	-1.12	3.47	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	55.46	14.20	HS 284.01	511.2
5C1T	93.41	28.58	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.200

Dead Load Moment Superimposed Dead Load Moment
2.8 23.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.8	209.7	-189.0	209.7	-189.0	183.8	-214.8	183.8	-
OPER 358.0	332.2	-332.2	332.2	-332.2	306.4	-358.0	306.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	27.24 L	20.95	-9.00	0.0	17.87	13.74	5.00	
		-3.13 R	-2.41	58.00	0.0	-2.31	-1.78	35.00	0.00
OPER	5C1T	22.56 R	17.35	108.00	0.0	0.00	0.00	0.00	
		-2.95 R	-2.27	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.75	68.63	6.75	68.63	HS 134.98	243.0
5C1T	13.58	121.55	13.58	121.55	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.300

Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	196.4	-211.0	172.3	-235.2
OPER	359.7C	-319.4	319.4	-359.7C	327.4	-351.7	287.1	-392.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	32.12 L	24.70	-6.50	0.0	22.80	17.54	7.50			
		-4.70 R	-3.61	58.00	0.0	-3.47	-2.67	35.00	0.00		
OPER	5C1T	27.28 R	20.98	110.50	0.0	0.00	0.00	0.00			
		-4.42 R	-3.40	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.12	44.95	5.36	50.09	HS 107.28	193.1
5C1T	12.00	79.60	10.52	88.72	0.00	842.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.300Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.2 0.0 1.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 103.3 -80.5 78.4
OPER 172.1 -134.1 130.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.18	4.28	-1.68	3.29	-2.11	3.68	-1.62	2.83
OPER	5C1T	-2.15	3.64	-1.65	2.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	36.87	18.31	HS 366.12	659.0
5C1T	62.50	35.92	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.300Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 218.7	212.2	-186.4	212.2	-186.4	179.9	-218.7	179.9	-
OPER 364.5	332.2	-332.2	332.2	-332.2	299.9	-364.5	299.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	32.12 L	24.70	-6.50	0.0	22.80	17.54	7.50	
		-4.70 R	-3.61	58.00	0.0	-3.47	-2.67	35.00	0.00
OPER	5C1T	27.28 R	20.98	110.50	0.0	0.00	0.00	0.00	
		-4.42 R	-3.40	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	5.60	46.58	5.60	46.58	HS 112.05	201.7
5C1T	10.99	82.50	10.99	82.50	0.00	879.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.400

Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	195.1	-212.3	171.0	-236.5
OPER	359.7C	-319.4	319.4	-359.7C	325.2	-353.9	284.9	-394.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	32.18 L	24.75	-4.00	0.0	24.89	19.15	10.00			
		-6.26 R	-4.82	58.00	0.0	-4.63	-3.56	35.00	0.00		
OPER	5C1T	28.91 R	22.24	109.00	0.0	0.00	0.00	0.00			
		-5.89 R	-4.53	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.06	33.92	5.31	37.78	HS 106.25	191.2
5C1T	11.25	60.07	9.86	66.91	0.00	788.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-79.4	79.4
OPER	172.1	-132.4	132.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.87	3.22	-2.21	2.48	-2.80	2.96	-2.15	2.27
OPER	5C1T	-2.79	2.85	-2.15	2.19	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	27.68	24.68	HS 493.57	888.4
5C1T	47.47	46.43	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.400Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 220.0	213.1	-185.5	213.1	-185.5	178.6	-220.0	178.6	-
OPER 366.7	332.2	-332.2	332.2	-332.2	297.7	-366.7	297.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	32.18 L	24.75	-4.00	0.0	24.89	19.15	10.00	
		-6.26 R	-4.82	58.00	0.0	-4.63	-3.56	35.00	0.00
OPER	5C1T	28.91 R	22.24	109.00	0.0	0.00	0.00	0.00	
		-5.89 R	-4.53	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	5.55	35.14	5.55	35.14	HS 111.01	199.8
5C1T	10.30	62.24	10.30	62.24	0.00	823.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.500

Dead Load Moment Superimposed Dead Load Moment
3.5 28.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	196.4	-211.1	172.2	-235.2
OPER	359.7C	-319.4	319.4	-359.7C	327.3	-351.8	287.1	-392.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	30.35 L	23.35	-15.50	0.0	24.79	19.07	12.50			
		-7.83 R	-6.02	58.00	0.0	-5.78	-4.45	35.00	0.00		
OPER	5C1T	28.60 R	22.00	111.50	0.0	0.00	0.00	0.00			
		-7.36 R	-5.66	134.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.47	26.97	5.68	30.06	HS 113.50	204.3
5C1T	11.44	47.77	10.04	53.24	0.00	802.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-78.4	80.5
OPER	172.1	-130.7	134.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.77	2.43	-2.90	1.87	-3.48	2.29	-2.68	1.76
OPER	5C1T	-3.39	2.21	-2.61	1.70	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	20.80	33.13	HS 415.91	748.6
5C1T	38.53	60.78	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.500Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 218.7	212.3	-186.4	212.3	-186.4	179.9	-218.7	179.9	-
OPER 364.6	332.2	-332.2	332.2	-332.2	299.8	-364.6	299.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	30.35 L	23.35	-15.50	0.0	24.79	19.07	12.50	
		-7.83 R	-6.02	58.00	0.0	-5.78	-4.45	35.00	0.00
OPER	5C1T	28.60 R	22.00	111.50	0.0	0.00	0.00	0.00	
		-7.36 R	-5.66	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	5.93	27.95	5.93	27.95	HS 118.55	213.4
5C1T	10.48	49.50	10.48	49.50	0.00	838.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.05	35.20	35.20	2.861	999999.000	110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.600

Dead Load Moment Superimposed Dead Load Moment
2.8 22.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	200.5	-207.0	176.3	-231.2
OPER	359.7C	-319.4	319.4	-359.7C	334.1	-345.0	293.8	-385.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	28.82 L	22.17	-13.00	0.0	22.24	17.11	15.00			
		-9.39 R	-7.22	58.00	0.0	-6.94	-5.34	35.00	0.00		
OPER	5C1T	26.17 L	20.13	-36.00	0.0	0.00	0.00	0.00			
		-8.84 R	-6.80	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	6.96	22.04	6.12	24.62	HS 122.36
5C1T	12.77	39.04	11.23	43.60	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.3	-77.3	81.6
OPER	172.1	-128.8	135.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.55	1.52	-3.50	1.17	-4.17	1.69	-3.21	1.30
OPER	5C1T	-3.96	1.60	-3.04	1.23	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.98	48.31	HS 339.52	611.1
5C1T	32.55	85.01	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.600Dead Load Moment 2.8
Superimposed Dead Load Moment 22.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.7	209.6	-189.1	209.6	-189.1	184.0	-214.7	184.0	-
OPER 357.8	332.2	-332.2	332.2	-332.2	306.6	-357.8	306.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	28.82 L	22.17	-13.00	0.0	22.24	17.11	15.00	
		-9.39 R	-7.22	58.00	0.0	-6.94	-5.34	35.00	0.00
OPER	5C1T	26.17 L	20.13	-36.00	0.0	0.00	0.00	0.00	
		-8.84 R	-6.80	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.38	22.86	6.38	22.86	HS 127.68	229.8
5C1T	11.72	40.49	11.72	40.49	0.00	937.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.05	35.20	35.20	2.861	999999.000	110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.700

Dead Load Moment 1.7
Superimposed Dead Load Moment 12.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	207.1	-200.4	182.9	-224.5
OPER	359.7C	-319.4	319.4	-359.7C	345.1	-334.0	304.9	-374.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.90 L	19.16	-10.50	0.0	18.00	13.85	17.50			
		-10.96 R	-8.43	58.00	0.0	-8.46	-6.51	35.00	85.00		
OPER	5C1T	21.59 L	16.61	-33.50	0.0	0.00	0.00	0.00			
		-10.31 R	-7.93	134.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.31	18.29	7.34	20.50	HS 146.91	264.4
5C1T	15.99	32.39	14.12	36.30	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.5	-4.7
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-76.3	82.6
OPER	172.1	-127.1	137.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.83	0.76	-4.49	0.58	-4.84	1.16	-3.72	0.89
OPER	5C1T	-4.66	1.08	-3.58	0.83	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.08	71.18	HS 261.52	470.7
5C1T	27.28	127.24	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.700

Dead Load Moment 1.7
Superimposed Dead Load Moment 12.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.0	205.1	-193.5	205.1	-193.5	190.6	-208.0	190.6	-
OPER 346.7	332.2	-332.2	332.2	-332.2	317.7	-346.7	317.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	24.90 L	19.16	-10.50	0.0	18.00	13.85	17.50	
		-10.96 R	-8.43	58.00	0.0	-8.46	-6.51	35.00	85.00
OPER	5C1T	21.59 L	16.61	-33.50	0.0	0.00	0.00	0.00	
		-10.31 R	-7.93	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.65	18.99	7.65	18.99	HS 153.06	275.5
5C1T	14.71	33.63	14.71	33.63	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.05	35.20	35.20	2.861
			999999.000
			110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.800

Dead Load Moment Superimposed Dead Load Moment
0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	216.3	-191.2	192.1	-215.3
OPER	359.7C	-319.4	319.4	-359.7C	360.5	-318.6	320.2	-358.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.01 L	12.31	-8.00	0.0	11.90	9.15	20.00			
		-12.52 R	-9.63	58.00	0.0	-9.67	-7.44	35.00		85.00	
OPER	5C1T	14.77 R	11.36	154.00	0.0	0.00	0.00	0.00			
		-11.78 R	-9.06	134.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	13.52	15.27	12.01	17.20	432.2
5C1T	24.41	27.04	21.68	30.46	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-6.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-75.2	83.6
OPER	172.1	-125.4	139.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.06	0.24	-5.43	0.19	-5.49	0.71	-4.22	0.54
OPER	5C1T	-5.43	0.64	-4.18	0.49	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.65	118.14	HS 213.08	383.6
5C1T	23.07	218.14	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.800

Dead Load Moment Superimposed Dead Load Moment
0.1 -0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 198.8	199.0	-199.6	199.0	-199.6	199.8	-198.8	199.8	-
OPER 331.4	332.2	-332.2	332.2	-332.2	333.0	-331.4	333.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 L	12.31	-8.00	0.0	11.90	9.15	20.00	
		-12.52 R	-9.63	58.00	0.0	-9.67	-7.44	35.00	85.00
OPER	5C1T	14.77 R	11.36	154.00	0.0	0.00	0.00	0.00	
		-11.78 R	-9.06	134.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.48	15.88	12.48	15.88	HS 249.68	449.4
5C1T	22.55	28.12	22.55	28.12	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.05	35.20	35.20	2.861
			999999.000
			110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.900

Dead Load Moment Superimposed Dead Load Moment
-2.0 -18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	228.1	-179.4	203.9	-203.5
OPER	359.7C	-319.4	319.4	-359.7C	380.2	-298.9	339.9	-339.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	3.14 R	2.42	88.00	0.0	5.91	4.55	22.50			
		-15.52 L	-11.94	16.00	0.0	-14.47	-11.13	35.00		10.00	
OPER	5C1T	7.54 R	5.80	156.50	0.0	0.00	0.00	0.00			
		-13.76 L	-10.59	-9.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	38.60	11.56	34.52	13.11	HS 231.15	416.1
5C1T	50.40	21.72	45.06	24.65	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.9	-7.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-74.2	84.7
OPER	172.1	-123.6	141.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.18	0.16	-6.30	0.12	-6.10	0.34	-4.70	0.26
OPER	5C1T	-6.17	0.26	-4.74	0.20	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.06	252.14	HS 181.31	326.4
5C1T	20.06	544.05	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 1.900Dead Load Moment Superimposed Dead Load Moment
-2.0 -18.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 187.0	191.1	-207.5	191.1	-207.5	211.6	-187.0	211.6	-
OPER 311.7	332.2	-332.2	332.2	-332.2	352.7	-311.7	352.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	3.14 R	2.42	88.00	0.0	5.91	4.55	22.50	
		-15.52 L	-11.94	16.00	0.0	-14.47	-11.13	35.00	10.00
OPER	5C1T	7.54 R	5.80	156.50	0.0	0.00	0.00	0.00	
		-13.76 L	-10.59	-9.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	35.81	12.05	35.81	12.05	HS 241.03	433.8
5C1T	46.75	22.65	46.75	22.65	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.05	35.20	35.20	2.861	999999.000	110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.0	-134.5	187.9	-153.7
OPER	300.6C	-268.7	268.7	-300.6C	345.1	-224.2	313.1	-256.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.19 R	3.23	83.00	0.0	3.10	2.38	60.00			
		-26.01 L	-20.01	4.50	0.0	-23.98	-18.45	15.00		35.00	
OPER	5C1T	3.24 R	2.49	198.00	0.0	0.00	0.00	0.00			
		-19.20 L	-14.77	-7.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	49.37	5.17	44.79	5.91	HS 103.44	186.2
5C1T	106.43	11.68	96.57	13.35	0.00	934.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	-1.1	-7.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.2	64.4
OPER	151.3	-121.9	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.18	8.75	-6.30	6.73	-6.10	6.61	-4.70	5.09
OPER	5C1T	-6.17	6.79	-4.74	5.22	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.96	7.37	HS 147.32	265.2
5C1T	17.83	15.81	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.0	149.9	-185.4	149.9	-185.4	194.3	-141.0	194.3	-
OPER 235.0	279.4	-279.4	279.4	-279.4	323.8	-235.0	323.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.19 R	3.23	83.00	0.0	3.10	2.38	60.00	
		-26.01 L	-20.01	4.50	0.0	-23.98	-18.45	15.00	35.00
OPER	5C1T	3.24 R	2.49	198.00	0.0	0.00	0.00	0.00	
		-19.20 L	-14.77	-7.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	46.33	5.42	46.33	5.42	HS 108.40	195.1
5C1T	99.88	12.24	99.88	12.24	0.00	979.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.0	-134.5	187.9	-153.7
OPER	300.6C	-268.7	268.7	-300.6C	345.1	-224.2	313.1	-256.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.19 R	3.23	83.00	0.0	3.10	2.38	60.00			
		-26.01 L	-20.01	4.50	0.0	-23.98	-18.45	15.00		35.00	
OPER	5C1T	3.24 R	2.49	198.00	0.0	0.00	0.00	0.00			
		-19.20 L	-14.77	-7.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	49.37	5.17	44.79	5.91	HS 103.44
5C1T	106.43	11.68	96.57	13.35	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-1.1	0.8	-9.4	8.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-73.2	64.4
OPER	151.3	-121.9	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-9.19	8.75	-7.07	6.73	-6.68	6.61	-5.13	5.09
OPER	5C1T	-6.84	6.79	-5.26	5.22	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.96	7.37	HS 147.32	265.2
5C1T	17.83	15.81	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.0	149.9	-185.4	149.9	-185.4	194.3	-141.0	194.3	-
OPER 235.0	279.4	-279.4	279.4	-279.4	323.8	-235.0	323.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.19 R	3.23	83.00	0.0	3.10	2.38	60.00	
		-26.01 L	-20.01	4.50	0.0	-23.98	-18.45	15.00	35.00
OPER	5C1T	3.24 R	2.49	198.00	0.0	0.00	0.00	0.00	
		-19.20 L	-14.77	-7.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	46.33	5.42	46.33	5.42	HS 108.40	195.1
5C1T	99.88	12.24	99.88	12.24	0.00	979.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.100

Dead Load Superimposed Dead Load
Moment Moment
-2.6 -21.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	194.8	-146.7	175.6	-165.9
OPER	300.6C	-268.7	268.7	-300.6C	324.7	-244.6	292.7	-276.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	3.80 R	2.92	55.50	0.0	5.38	4.14	27.50			
		-17.00 R	-13.08	34.00	0.0	-14.66	-11.28	15.00		37.50	
OPER	5C1T	5.48 R	4.22	165.50	0.0	0.00	0.00	0.00			
		-14.08 L	-10.83	-3.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	36.23	8.63	32.66	9.76	HS 172.66	310.8
5C1T	59.24	17.37	53.41	19.64	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.7	0.0
	6.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.2	65.4
OPER	151.3	-123.7	109.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-0.75	7.57	-0.58	5.82	-0.75	5.98	-0.58	4.60
OPER	5C1T	-0.83	6.02	-0.64	4.63	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	99.00	8.64	HS 172.86	311.1
5C1T	148.18	18.13	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.100

Dead Load Moment Superimposed Dead Load Moment
-2.6 -21.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.2	158.0	-177.3	158.0	-177.3	182.1	-153.2	182.1	-
OPER 255.3	279.4	-279.4	279.4	-279.4	303.5	-255.3	303.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	3.80 R	2.92	55.50	0.0	5.38	4.14	27.50	
		-17.00 R	-13.08	34.00	0.0	-14.66	-11.28	15.00	37.50
OPER	5C1T	5.48 R	4.22	165.50	0.0	0.00	0.00	0.00	
		-14.08 L	-10.83	-3.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	33.86	9.01	33.86	9.01	HS 180.25	324.5
5C1T	55.37	18.13	55.37	18.13	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.74	28.67	28.67	1.699	999999.000	86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.200

Dead Load Moment Superimposed Dead Load Moment
-1.0 -6.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.2	-156.4	166.0	-175.6
OPER	300.6C	-268.7	268.7	-300.6C	308.6	-260.7	276.6	-292.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.64 R	11.26	58.00	0.0	10.23	7.87	30.00			
		-13.93 L	-10.71	-8.00	0.0	-9.37	-7.21	15.00	47.50		
OPER	5C1T	11.63 R	8.94	168.00	0.0	0.00	0.00	0.00			
		-11.23 L	-8.64	3.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.65	11.23	11.34	12.61	404.3
5C1T	26.55	23.22	23.79	26.07	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.1

Rat.	Shear Capacity	Available Capacity for LL+I
Veh.	VU	(-) (+)
INV.	90.8	-73.2 66.5
OPER	151.3	-122.0 110.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.75	6.39	-0.58	4.91	-1.05	5.28	-0.81	4.06
OPER	5C1T	-1.22	5.19	-0.94	3.99	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	69.77	10.41	HS 208.13	374.6
5C1T	99.62	21.34	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.200

Dead Load Moment Superimposed Dead Load Moment
-1.0 -6.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 162.9	164.5	-170.8	164.5	-170.8	172.4	-162.9	172.4	-
OPER 271.4	279.4	-279.4	279.4	-279.4	287.4	-271.4	287.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.64 R	11.26	58.00	0.0	10.23	7.87	30.00	
		-13.93 L	-10.71	-8.00	0.0	-9.37	-7.21	15.00	47.50
OPER	5C1T	11.63 R	8.94	168.00	0.0	0.00	0.00	0.00	
		-11.23 L	-8.64	3.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.78	11.69	11.78	11.69	HS 233.86	421.0
5C1T	24.72	24.17	24.72	24.17	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.74	28.67	28.67	1.699	999999.000	86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.300

Dead Load Moment 0.1
Superimposed Dead Load Moment 3.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	178.0	-163.6	158.8	-182.7
OPER	300.6C	-268.7	268.7	-300.6C	296.7	-272.6	264.7	-304.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.45 R	16.50	60.50	0.0	15.47	11.90	32.50			
		-11.56 L	-8.89	-8.00	0.0	-8.16	-6.27	15.00	0.00		
OPER	5C1T	17.06 R	13.13	135.50	0.0	0.00	0.00	0.00			
		-10.16 L	-7.82	-34.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	8.30	14.15	7.40	148.07	266.5
5C1T	17.39	26.82	15.51	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 2.300
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.4 0.0 3.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.2	67.5
OPER	151.3	-120.3	112.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.09	5.17	-0.84	3.98	-1.62	4.54	-1.24	3.49
OPER	5C1T	-1.68	4.37	-1.29	3.36	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	44.67	13.05	HS 261.01	469.8
5C1T	71.69	25.73	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.300Dead Load Moment 0.1
Superimposed Dead Load Moment 3.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 170.0	169.2	-166.1	169.2	-166.1	165.3	-170.0	165.3	-
OPER 283.3	279.4	-279.4	279.4	-279.4	275.5	-283.3	275.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.45 R	16.50	60.50	0.0	15.47	11.90	32.50	
		-11.56 L	-8.89	-8.00	0.0	-8.16	-6.27	15.00	0.00
OPER	5C1T	17.06 R	13.13	135.50	0.0	0.00	0.00	0.00	
		-10.16 L	-7.82	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.70	14.70	7.70	14.70	HS 154.09	277.4
5C1T	16.14	27.88	16.14	27.88	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.400

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.2	154.2	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.0	-280.3	257.0	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.14 R	18.57	63.00	0.0	18.72	14.40	35.00			
		-9.20 L	-7.07	-8.00	0.0	-7.12	-5.48	15.00	0.00		
OPER	5C1T	21.02 R	16.17	134.00	0.0	0.00	0.00	0.00			
		-9.81 L	-7.55	-34.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	7.18	18.28	6.39	HS 127.76	230.0
5C1T	13.75	28.57	12.23	0.00	978.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.400

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.2	68.5
OPER	151.3	-118.6	114.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.23	4.25	-1.72	3.27	-2.26	3.79	-1.74	2.92
OPER	5C1T	-2.19	3.72	-1.68	2.86	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	31.51	16.11	HS 322.24	580.0
5C1T	54.17	30.69	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.400Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.6	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-
OPER 291.0	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.14 R	18.57	63.00	0.0	18.72	14.40	35.00	
		-9.20 L	-7.07	-8.00	0.0	-7.12	-5.48	15.00	0.00
OPER	5C1T	21.02 R	16.17	134.00	0.0	0.00	0.00	0.00	
		-9.81 L	-7.55	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.66	18.99	6.66	18.99	HS 133.10	239.6
5C1T	12.74	29.66	12.74	29.66	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.500

Dead Load Moment Superimposed Dead Load Moment
1.2 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.4	-170.2	152.2	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	23.61	L	18.16	23.50	0.0	20.11	15.47	37.50		
		-6.83	L	-5.25	-8.00	0.0	-6.09	-4.68	15.00	0.00	
OPER	5C1T	21.95	R	16.88	136.50	0.0	0.00	0.00	0.00		
		-9.46	L	-7.28	-34.50	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.26	24.92	6.45	27.73	HS 128.91
5C1T	13.01	29.99	11.55	33.37	0.00 924.3

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 2.500
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.1 0.0 0.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.1	69.5
OPER	151.3	-116.9	115.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.27	3.33	-2.52	2.56	-2.96	3.05	-2.28	2.35
OPER	5C1T	-2.75	3.08	-2.11	2.37	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.43	20.90	HS 418.03	752.5
5C1T	42.53	37.66	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.500

Dead Load Moment Superimposed Dead Load Moment
1.2 13.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.7	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-
OPER 294.4	279.4	-279.4	279.4	-279.4	264.4	-294.4	264.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	23.61 L	18.16	23.50	0.0	20.11	15.47	37.50	
		-6.83 L	-5.25	-8.00	0.0	-6.09	-4.68	15.00	0.00
OPER	5C1T	21.95 R	16.88	136.50	0.0	0.00	0.00	0.00	
		-9.46 L	-7.28	-34.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.72	25.86	6.72	25.86	HS 134.37	241.9
5C1T	12.04	31.12	12.04	31.12	0.00	963.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.74	28.67	28.67	1.699	999999.000	86.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.600

Dead Load Moment 1.1
Superimposed Dead Load Moment 12.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.0	-169.5	152.8	-188.7
OPER	300.6C	-268.7	268.7	-300.6C	286.7	-282.6	254.7	-314.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.10 L	18.53	12.00	0.0	19.07	14.67	40.00			
		-7.54 R	-5.80	83.00	0.0	-6.66	-5.12	60.00	0.00		
OPER	5C1T	21.04 L	16.18	-11.00	0.0	0.00	0.00	0.00			
		-9.12 R	-7.01	109.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.14	22.49	6.34	25.04	HS 126.87	228.4
5C1T	13.63	30.99	12.11	34.50	0.00	968.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.1	-1.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.0	70.6
OPER	151.3	-115.1	117.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-4.19	2.28	-3.22	1.76	-3.69	2.35	-2.84	1.81
OPER	5C1T	-3.38	2.51	-2.60	1.93	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.48	30.00	HS 329.50	593.1
5C1T	34.09	46.86	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.600

Dead Load Moment Superimposed Dead Load Moment

1.1 12.8

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 176.0	173.2	-162.1	173.2	-162.1	159.3	-176.0	159.3	-
OPER 293.3	279.4	-279.4	279.4	-279.4	265.5	-293.3	265.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.10 L	18.53	12.00	0.0	19.07	14.67	40.00	
		-7.54 R	-5.80	83.00	0.0	-6.66	-5.12	60.00	0.00
OPER	5C1T	21.04 L	16.18	-11.00	0.0	0.00	0.00	0.00	
		-9.12 R	-7.01	109.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	6.61	23.35	6.61	23.35	HS 132.22	238.0
5C1T	12.62	32.17	12.62	32.17	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.700

Dead Load Moment 0.7
Superimposed Dead Load Moment 7.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	175.3	-166.3	156.1	-185.5
OPER	300.6C	-268.7	268.7	-300.6C	292.1	-277.2	260.1	-309.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.56 L	16.59	14.50	0.0	16.17	12.44	42.50			
		-9.49 R	-7.30	83.00	0.0	-7.53	-5.79	60.00	0.00		
OPER	5C1T	18.33 L	14.10	-8.50	0.0	0.00	0.00	0.00			
		-9.61 R	-7.40	158.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.13	17.52	7.24	19.54	HS 144.76	260.6
5C1T	15.93	28.83	14.19	32.16	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.0	71.6
OPER	151.3	-113.4	119.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.13	1.14	-3.95	0.88	-4.44	1.71	-3.42	1.31
OPER	5C1T	-4.13	1.95	-3.18	1.50	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.26	41.95	HS 265.15	477.3
5C1T	27.45	61.24	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.700Dead Load Moment 0.7
Superimposed Dead Load Moment 7.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 172.8	171.1	-164.2	171.1	-164.2	162.5	-172.8	162.5	-
OPER 287.9	279.4	-279.4	279.4	-279.4	270.9	-287.9	270.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.56 L	16.59	14.50	0.0	16.17	12.44	42.50	
		-9.49 R	-7.30	83.00	0.0	-7.53	-5.79	60.00	0.00
OPER	5C1T	18.33 L	14.10	-8.50	0.0	0.00	0.00	0.00	
		-9.61 R	-7.40	158.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.54	18.20	7.54	18.20	HS 150.74	271.3
5C1T	14.77	29.95	14.77	29.95	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.74	28.67	28.67	1.699	999999.000	86.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.88 L	11.45	17.00	0.0	11.33	8.72	45.00			
		-11.45 R	-8.81	83.00	0.0	-8.85	-6.80	60.00		110.00	
OPER	5C1T	13.84 L	10.64	-6.00	0.0	0.00	0.00	0.00			
		-10.71 R	-8.24	159.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.16	14.02	10.88	15.70	HS 217.51	391.5
5C1T	21.80	24.99	19.49	27.98	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.800

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.4	-4.3
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.0	72.6
OPER	151.3	-111.7	121.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-6.34	0.91	-4.88	0.70	-5.18	1.14	-3.99	0.87
OPER	5C1T	-4.92	1.41	-3.79	1.09	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.57	63.97	HS 211.42	380.5
5C1T	22.69	85.67	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.800Dead Load Moment -0.1
Superimposed Dead Load Moment -0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.4	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.88 L	11.45	17.00	0.0	11.33	8.72	45.00	
		-11.45 R	-8.81	83.00	0.0	-8.85	-6.80	60.00	110.00
OPER	5C1T	13.84 L	10.64	-6.00	0.0	0.00	0.00	0.00	
		-10.71 R	-8.24	159.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.31	14.59	11.31	14.59	HS 226.18	407.1
5C1T	20.27	26.00	20.27	26.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.3	-152.3	170.1	-171.5
OPER	300.6C	-268.7	268.7	-300.6C	315.5	-253.8	283.5	-285.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 L	3.16	19.50	0.0	6.37	4.90	47.50			
		-14.76 L	-11.36	41.00	0.0	-13.35	-10.27	60.00	37.50		
OPER	5C1T	7.83 L	6.03	-3.50	0.0	0.00	0.00	0.00			
		-12.44 R	-9.57	161.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	29.72	10.31	26.70	11.61	HS 206.28	371.3
5C1T	40.28	20.40	36.20	22.97	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.0	73.6
OPER	151.3	-110.0	122.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.52	0.95	-5.79	0.73	-5.89	0.88	-4.53	0.67
OPER	5C1T	-5.72	0.94	-4.40	0.72	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.77	77.82	HS 175.50	315.9
5C1T	19.22	131.05	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 2.900

Dead Load Moment Superimposed Dead Load Moment
-1.3 -13.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.7	161.7	-173.6	161.7	-173.6	176.6	-158.7	176.6	-
OPER 264.5	279.4	-279.4	279.4	-279.4	294.3	-264.5	294.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.11 L	3.16	19.50	0.0	6.37	4.90	47.50	
		-14.76 L	-11.36	41.00	0.0	-13.35	-10.27	60.00	37.50
OPER	5C1T	7.83 L	6.03	-3.50	0.0	0.00	0.00	0.00	
		-12.44 R	-9.57	161.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	27.72	10.75	27.72	10.75	HS 215.01	387.0
5C1T	37.57	21.26	37.57	21.26	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.74	28.67	28.67	1.699	999999.000	86.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.000

Dead Load Superimposed Dead Load
Moment Moment
-2.9 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.1	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.6	-235.7	301.6	-267.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	5.00	L	3.85	-8.00	0.0	4.46	3.43	15.00		
		-24.63	L	-18.95	29.50	0.0	-22.32	-17.17	60.00	40.00	
OPER	5C1T	3.85	L	2.96	-121.50	0.0	0.00	0.00	0.00		
		-15.40	L	-11.84	18.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	40.03	5.74	36.19	6.52	HS 114.85	206.7
5C1T	86.62	15.31	78.32	17.39	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-65.0	64.8
OPER	151.3	-108.3	108.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.52	8.64	-5.79	6.65	-5.89	6.58	-4.53	5.06
OPER	5C1T	-5.72	6.56	-4.40	5.05	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.53	7.50	HS 149.96	269.9
5C1T	16.69	16.46	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.9	154.5	-180.8	154.5	-180.8	187.4	-147.9	187.4	-
OPER 246.5	279.4	-279.4	279.4	-279.4	312.3	-246.5	312.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	5.00 L	3.85	-8.00	0.0	4.46	3.43	15.00	
		-24.63 L	-18.95	29.50	0.0	-22.32	-17.17	60.00	40.00
OPER	5C1T	3.85 L	2.96	-121.50	0.0	0.00	0.00	0.00	
		-15.40 L	-11.84	18.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	37.48	6.00	37.48	6.00	HS 120.08	216.2
5C1T	81.11	16.01	81.11	16.01	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.1	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.6	-235.7	301.6	-267.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	5.00	L	3.85	-8.00	0.0	4.46	3.43	15.00		
		-24.63	L	-18.95	29.50	0.0	-22.32	-17.17	60.00	40.00	
OPER	5C1T	3.85	L	2.96	-121.50	0.0	0.00	0.00	0.00		
		-15.40	L	-11.84	18.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	40.03	5.74	36.19	6.52	HS 114.85	206.7
5C1T	86.62	15.31	78.32	17.39	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-7.3	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-65.0	64.8
OPER	151.3	-108.3	108.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.63	8.64	-6.64	6.65	-6.53	6.58	-5.02	5.06
OPER	5C1T	-6.49	6.56	-4.99	5.05	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.53	7.50	HS 149.96	269.9
5C1T	16.69	16.46	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.9	154.5	-180.8	154.5	-180.8	187.4	-147.9	187.4	-
OPER 246.5	279.4	-279.4	279.4	-279.4	312.3	-246.5	312.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	5.00 L	3.85	-8.00	0.0	4.46	3.43	15.00	
		-24.63 L	-18.95	29.50	0.0	-22.32	-17.17	60.00	40.00
OPER	5C1T	3.85 L	2.96	-121.50	0.0	0.00	0.00	0.00	
		-15.40 L	-11.84	18.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	37.48	6.00	37.48	6.00	HS 120.08	216.2
5C1T	81.11	16.01	81.11	16.01	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.191

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.100

Dead Load Superimposed Dead Load
Moment Moment
-1.2 -12.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.8	-152.8	169.6	-172.0
OPER	300.6C	-268.7	268.7	-300.6C	314.7	-254.6	282.7	-286.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.04 R	3.10	80.50	0.0	6.50	5.00	52.50			
		-14.69 R	-11.30	59.00	0.0	-13.23	-10.18	40.00		62.50	
OPER	5C1T	7.54 R	5.80	103.50	0.0	0.00	0.00	0.00			
		-11.82 L	-9.09	25.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	29.06	10.40	26.10	11.71	HS 208.07
5C1T	41.72	21.55	37.48	24.25	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 6.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.9	65.8
OPER	151.3	-123.1	109.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-0.75	7.54	-0.57	5.80	-0.81	5.93	-0.62	4.56
OPER	5C1T	-0.87	5.85	-0.67	4.50	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	91.43	8.73	HS 174.62	314.3
5C1T	142.01	18.73	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.100

Dead Load Moment Superimposed Dead Load Moment
-1.2 -12.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 159.2	162.0	-173.3	162.0	-173.3	176.1	-159.2	176.1	-
OPER 265.4	279.4	-279.4	279.4	-279.4	293.4	-265.4	293.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.04 R	3.10	80.50	0.0	6.50	5.00	52.50	
		-14.69 R	-11.30	59.00	0.0	-13.23	-10.18	40.00	62.50
OPER	5C1T	7.54 R	5.80	103.50	0.0	0.00	0.00	0.00	
		-11.82 L	-9.09	25.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	27.10	10.84	27.10	10.84	HS 216.85	390.3
5C1T	38.90	22.45	38.90	22.45	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.191

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.200

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	300.0	-269.3	268.0	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.85 R	11.43	83.00	0.0	11.25	8.66	55.00			
		-11.34 L	-8.72	17.00	0.0	-8.27	-6.36	40.00	72.50		
OPER	5C1T	14.07 R	10.82	106.00	0.0	0.00	0.00	0.00			
		-10.04 L	-7.72	28.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.12	14.25	10.83	15.95	HS 216.52	389.7
5C1T	21.32	26.83	19.05	30.01	0.00	999.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S04
Check Point I. D. 3.200

HS20 5C1T

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.5	0.0
	4.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.8
OPER	151.3	-121.4	111.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-0.75	6.36	-0.57	4.89	-1.12	5.23	-0.86	4.02
OPER	5C1T	-1.29	5.08	-0.99	3.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	65.13	10.51	HS 210.24	378.4
5C1T	94.00	21.91	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.200Dead Load Moment 0.1
Superimposed Dead Load Moment 0.5

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 168.0	167.9	-167.4	167.9	-167.4	167.3	-168.0	167.3	-
OPER 280.0	279.4	-279.4	279.4	-279.4	278.8	-280.0	278.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	14.85 R	11.43	83.00	0.0	11.25	8.66
		-11.34 L	-8.72	17.00	0.0	-8.27	-6.36
OPER	5C1T	14.07 R	10.82	106.00	0.0	0.00	0.00
		-10.04 L	-7.72	28.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	11.26	14.82	11.26	14.82	HS 225.20	405.4
5C1T	19.81	27.90	19.81	27.90	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.85	28.67	28.67	1.699
			999999.000
			92.191

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.300

Dead Load Moment 1.0
Superimposed Dead Load Moment 10.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.7	-167.8	154.5	-187.0
OPER	300.6C	-268.7	268.7	-300.6C	289.6	-279.7	257.6	-311.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.63 R	16.63	85.50	0.0	16.36	12.59	57.50			
		-9.41 L	-7.24	17.00	0.0	-7.28	-5.60	40.00	0.00		
OPER	5C1T	19.05 R	14.65	108.50	0.0	0.00	0.00	0.00			
		-9.06 L	-6.97	-58.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.03	17.83	7.15	19.87	HS 142.93	257.3
5C1T	15.20	30.89	13.52	34.42	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.8	67.8
OPER	151.3	-119.7	113.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-1.10	5.15	-0.85	3.96	-1.69	4.49	-1.30	3.46
OPER	5C1T	-1.79	4.29	-1.38	3.30	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	42.57	13.18	HS 263.55	474.4
5C1T	66.84	26.34	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.300Dead Load Moment 1.0
Superimposed Dead Load Moment 10.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.3	172.1	-163.2	172.1	-163.2	161.0	-174.3	161.0	-
OPER 290.5	279.4	-279.4	279.4	-279.4	268.3	-290.5	268.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.63 R	16.63	85.50	0.0	16.36	12.59	57.50	
		-9.41 L	-7.24	17.00	0.0	-7.28	-5.60	40.00	0.00
OPER	5C1T	19.05 R	14.65	108.50	0.0	0.00	0.00	0.00	
		-9.06 L	-6.97	-58.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.45	18.52	7.45	18.52	HS 148.90	268.0
5C1T	14.09	32.07	14.09	32.07	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.191

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.400

Dead Load Moment 1.6
Superimposed Dead Load Moment 15.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.0	-171.6	150.8	-190.8
OPER	300.6C	-268.7	268.7	-300.6C	283.4	-285.9	251.4	-317.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.26 R	18.66	88.00	0.0	19.42	14.94	60.00			
		-7.48 L	-5.76	17.00	0.0	-6.42	-4.94	40.00	0.00		
OPER	5C1T	22.03 R	16.94	111.00	0.0	0.00	0.00	0.00			
		-8.44 L	-6.50	-56.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.01	22.92	6.22	25.49	HS 124.32	223.8
5C1T	12.86	33.86	11.41	37.65	0.00	913.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 1.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.8 68.8
OPER 151.3 -118.0 114.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.24	4.20	-1.73	3.23	-2.33	3.75	-1.79	2.88
OPER	5C1T	-2.35	3.52	-1.81	2.71	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	30.38	16.40	HS 328.02	590.4
5C1T	50.29	32.62	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.400Dead Load Moment 1.6
Superimposed Dead Load Moment 15.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.0	174.6	-160.7	174.6	-160.7	157.3	-178.0	157.3	-
OPER 296.7	279.4	-279.4	279.4	-279.4	262.1	-296.7	262.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.26 R	18.66	88.00	0.0	19.42	14.94	60.00	
		-7.48 L	-5.76	17.00	0.0	-6.42	-4.94	40.00	0.00
OPER	5C1T	22.03 R	16.94	111.00	0.0	0.00	0.00	0.00	
		-8.44 L	-6.50	-56.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.48	23.78	6.48	23.78	HS 129.64	233.3
5C1T	11.90	35.13	11.90	35.13	0.00	952.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.8	-172.7	149.6	-191.9
OPER	300.6C	-268.7	268.7	-300.6C	281.4	-287.9	249.4	-319.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	23.69 R	18.22	76.50	0.0	20.63	15.87	62.50			
		-5.61 R	-4.32	108.00	0.0	-5.58	-4.29	85.00	0.00		
OPER	5C1T	22.72 L	17.48	-36.50	0.0	0.00	0.00	0.00			
		-8.43 R	-6.49	180.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.13	30.78	6.32	34.20	HS 126.34	227.4
5C1T	12.38	34.14	10.98	37.93	0.00	878.1

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 3.500
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.0 -0.1 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.28	3.28	-2.53	2.53	-3.03	3.01	-2.33	2.32
OPER	5C1T	-2.93	2.90	-2.26	2.23	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.26	21.27	HS 425.12	765.2
5C1T	39.66	40.19	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.2	175.3	-159.9	175.3	-159.9	156.1	-179.2	156.1	-
OPER 298.6	279.4	-279.4	279.4	-279.4	260.2	-298.6	260.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	23.69 R	18.22	76.50	0.0	20.63	15.87	62.50	
		-5.61 R	-4.32	108.00	0.0	-5.58	-4.29	85.00	0.00
OPER	5C1T	22.72 L	17.48	-36.50	0.0	0.00	0.00	0.00	
		-8.43 R	-6.49	180.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	6.59	31.93	6.59	31.93	HS 131.79	237.2
5C1T	11.45	35.42	11.45	35.42	0.00	915.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.600

Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 L	18.67	37.00	0.0	19.41	14.93	65.00			
		-7.56 R	-5.81	108.00	0.0	-6.52	-5.01	85.00	0.00		
OPER	5C1T	21.93 L	16.87	-34.00	0.0	0.00	0.00	0.00			
		-8.83 R	-6.80	181.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.02	22.65	6.23	25.19	HS 124.58	224.2
5C1T	12.95	32.30	11.49	35.92	0.00	919.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-1.7
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.5	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.20	2.24	-3.23	1.73	-3.76	2.31	-2.90	1.78
OPER	5C1T	-3.55	2.32	-2.73	1.78	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.36	30.70	HS 327.28	589.1
5C1T	32.29	51.01	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.600Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.6	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-
OPER 296.1	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.27 L	18.67	37.00	0.0	19.41	14.93	65.00	
		-7.56 R	-5.81	108.00	0.0	-6.52	-5.01	85.00	0.00
OPER	5C1T	21.93 L	16.87	-34.00	0.0	0.00	0.00	0.00	
		-8.83 R	-6.80	181.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.49	23.51	6.49	23.51	HS 129.89	233.8
5C1T	11.98	33.51	11.98	33.51	0.00	958.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.700

Dead Load Moment 0.9
Superimposed Dead Load Moment 9.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.5	-167.1	155.3	-186.3
OPER	300.6C	-268.7	268.7	-300.6C	290.8	-278.5	258.8	-310.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 L	16.64	39.50	0.0	16.33	12.56	67.50			
		-9.50 R	-7.31	108.00	0.0	-7.46	-5.74	85.00	0.00		
OPER	5C1T	18.75 L	14.42	16.50	0.0	0.00	0.00	0.00			
		-9.60 R	-7.38	183.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.06	17.58	7.18	19.60	HS 143.54	258.4
5C1T	15.51	29.01	13.80	32.34	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.7	72.0
OPER	151.3	-112.8	119.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.15	1.10	-3.96	0.85	-4.51	1.67	-3.47	1.28
OPER	5C1T	-4.32	1.77	-3.32	1.36	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.15	43.16	HS 263.06	473.5
5C1T	26.10	67.65	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.700Dead Load Moment 0.9
Superimposed Dead Load Moment 9.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.5	171.6	-163.7	171.6	-163.7	161.7	-173.5	161.7	-
OPER 289.2	279.4	-279.4	279.4	-279.4	269.6	-289.2	269.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 L	16.64	39.50	0.0	16.33	12.56	67.50	
		-9.50 R	-7.31	108.00	0.0	-7.46	-5.74	85.00	0.00
OPER	5C1T	18.75 L	14.42	16.50	0.0	0.00	0.00	0.00	
		-9.60 R	-7.38	183.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.47	18.26	7.47	18.26	HS 149.50	269.1
5C1T	14.38	30.13	14.38	30.13	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 L	11.44	42.00	0.0	11.32	8.71	70.00			
		-11.45 R	-8.81	108.00	0.0	-8.86	-6.82	85.00	135.00		
OPER	5C1T	13.78 L	10.60	19.00	0.0	0.00	0.00	0.00			
		-10.71 R	-8.24	184.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.18	14.02	10.89	15.69	HS 217.76
5C1T	21.90	24.98	19.58	27.96	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.800

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.5	-4.8
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.7	73.0
OPER	151.3	-111.1	121.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.35	0.74	-4.89	0.57	-5.25	1.10	-4.04	0.84
OPER	5C1T	-5.12	1.28	-3.94	0.98	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.49	66.45	HS 209.83	377.7
5C1T	21.71	95.14	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
	+bend	-bend	+bend	-bend
bend				
INV.	167.2	-168.1	167.2	-168.1
166.9				
OPER	279.4	-279.4	279.4	-279.4
278.2				

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.87 L	11.44	42.00	0.0	11.32	8.71
		-11.45 R	-8.81	108.00	0.0	-8.86	-6.82
OPER	5C1T	13.78 L	10.60	19.00	0.0	0.00	0.00
		-10.71 R	-8.24	184.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.32	14.58	11.32	14.58	226.44
5C1T	20.36	25.98	20.36	25.98	0.00

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -15.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.3	-151.3	171.1	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.1	-252.2	285.2	-284.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.06 L	3.12	44.50	0.0	6.27	4.83	72.50			
		-14.76 L	-11.35	66.00	0.0	-13.54	-10.41	85.00		62.50	
OPER	5C1T	7.38 L	5.68	21.50	0.0	0.00	0.00	0.00			
		-12.44 R	-9.57	186.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	30.33	10.25	27.27	11.55	HS 205.03	369.1
5C1T	42.95	20.27	38.62	22.84	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.6	-6.3
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.6	74.0
OPER	151.3	-109.4	123.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.53	0.77	-5.80	0.59	-5.95	0.78	-4.58	0.60
OPER	5C1T	-5.90	0.85	-4.54	0.65	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.71	94.35	HS 174.26	313.7
5C1T	18.55	145.23	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 3.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -15.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.7	161.0	-174.2	161.0	-174.2	177.5	-157.7	177.5	-
OPER 262.9	279.4	-279.4	279.4	-279.4	295.9	-262.9	295.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.06 L	3.12	44.50	0.0	6.27	4.83	72.50	
		-14.76 L	-11.35	66.00	0.0	-13.54	-10.41	85.00	62.50
OPER	5C1T	7.38 L	5.68	21.50	0.0	0.00	0.00	0.00	
		-12.44 R	-9.57	186.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	28.30	10.69	28.30	10.69	HS 213.77	384.8
5C1T	40.07	21.13	40.07	21.13	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -32.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.0	-139.6	182.8	-158.8
OPER	300.6C	-268.7	268.7	-300.6C	336.7	-232.6	304.7	-264.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 R	3.16	133.00	0.0	4.08	3.14	110.00			
		-24.66 L	-18.97	54.50	0.0	-22.68	-17.45	85.00		65.00	
OPER	5C1T	3.18 R	2.44	248.00	0.0	0.00	0.00	0.00			
		-15.66 R	-12.04	106.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	49.15	5.66	44.48	6.44	HS 113.21	203.8
5C1T	105.97	14.86	95.90	16.90	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.6	64.7
OPER	151.3	-107.7	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.53	8.64	-5.80	6.65	-5.95	6.59	-4.58	5.07
OPER	5C1T	-5.90	6.57	-4.54	5.06	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.48	7.49	HS 149.63	269.3
5C1T	16.28	16.40	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.0	153.2	-182.0	153.2	-182.0	189.3	-146.0	189.3	-
OPER 243.4	279.4	-279.4	279.4	-279.4	315.4	-243.4	315.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.11 R	3.16	133.00	0.0	4.08	3.14	110.00	
		-24.66 L	-18.97	54.50	0.0	-22.68	-17.45	85.00	65.00
OPER	5C1T	3.18 R	2.44	248.00	0.0	0.00	0.00	0.00	
		-15.66 R	-12.04	106.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	46.05	5.92	46.05	5.92	HS 118.44	213.2
5C1T	99.28	15.55	99.28	15.55	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -32.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.0	-139.6	182.8	-158.8
OPER	300.6C	-268.7	268.7	-300.6C	336.7	-232.6	304.7	-264.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 R	3.16	133.00	0.0	4.08	3.14	110.00			
		-24.66 L	-18.97	54.50	0.0	-22.68	-17.45	85.00		65.00	
OPER	5C1T	3.18 R	2.44	248.00	0.0	0.00	0.00	0.00			
		-15.66 R	-12.04	106.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	49.15	5.66	44.48	6.44	HS 113.21
5C1T	105.97	14.86	95.90	16.90	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.9	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.6	64.7
OPER	151.3	-107.7	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.64	8.64	-6.65	6.65	-6.60	6.59	-5.07	5.07
OPER	5C1T	-6.62	6.57	-5.09	5.06	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.48	7.49	HS 149.63	269.3
5C1T	16.28	16.40	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.000Dead Load Moment -3.3
Superimposed Dead Load Moment -32.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.0	153.2	-182.0	153.2	-182.0	189.3	-146.0	189.3	-
OPER 243.4	279.4	-279.4	279.4	-279.4	315.4	-243.4	315.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.11 R	3.16	133.00	0.0	4.08	3.14	110.00	
		-24.66 L	-18.97	54.50	0.0	-22.68	-17.45	85.00	65.00
OPER	5C1T	3.18 R	2.44	248.00	0.0	0.00	0.00	0.00	
		-15.66 R	-12.04	106.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	46.05	5.92	46.05	5.92	HS 118.44	213.2
5C1T	99.28	15.55	99.28	15.55	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.100

Dead Load Moment Superimposed Dead Load Moment
-1.6 -15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.4	-151.2	171.2	-170.3
OPER	300.6C	-268.7	268.7	-300.6C	317.4	-251.9	285.4	-283.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.05 R	3.12	105.50	0.0	6.35	4.88	77.50			
		-14.75 R	-11.35	84.00	0.0	-13.55	-10.42	65.00		87.50	
OPER	5C1T	7.18 R	5.52	128.50	0.0	0.00	0.00	0.00			
		-12.58 L	-9.68	-36.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	29.99	10.25	26.97	11.55	HS 204.93
5C1T	44.22	20.03	39.76	22.57	0.00 999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 6.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.9	65.7
OPER	151.3	-123.2	109.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-0.75	7.54	-0.57	5.80	-0.80	5.95	-0.61	4.58
OPER	5C1T	-0.84	5.86	-0.65	4.51	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	92.59	8.72	HS 174.38	313.9
5C1T	146.82	18.68	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.100

Dead Load Moment Superimposed Dead Load Moment
-1.6 -15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.6	161.0	-174.3	161.0	-174.3	177.7	-157.6	177.7	-
OPER 262.7	279.4	-279.4	279.4	-279.4	296.1	-262.7	296.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.05 R	3.12	105.50	0.0	6.35	4.88	77.50	
		-14.75 R	-11.35	84.00	0.0	-13.55	-10.42	65.00	87.50
OPER	5C1T	7.18 R	5.52	128.50	0.0	0.00	0.00	0.00	
		-12.58 L	-9.68	-36.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	27.98	10.68	27.98	10.68	HS 213.67	384.6
5C1T	41.26	20.88	41.26	20.88	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.200

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.3	-299.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 R	11.44	108.00	0.0	11.13	8.56	80.00			
		-11.45 L	-8.80	42.00	0.0	-8.92	-6.86	65.00	15.00		
OPER	5C1T	13.63 R	10.48	131.00	0.0	0.00	0.00	0.00			
		-10.84 L	-8.34	-34.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.20	14.00	10.91	15.67	HS 218.15	392.7
5C1T	22.18	24.63	19.83	27.58	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	4.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.9	66.7
OPER	151.3	-121.5	111.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.75	6.36	-0.57	4.89	-1.11	5.25	-0.85	4.04
OPER	5C1T	-1.27	5.08	-0.98	3.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	65.70	10.50	HS 209.96	377.9
5C1T	95.80	21.87	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.6	167.0	-168.3	167.0	-168.3	168.6	-166.6	168.6	-
OPER 277.7	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.87 R	11.44	108.00	0.0	11.13	8.56	80.00	
		-11.45 L	-8.80	42.00	0.0	-8.92	-6.86	65.00	15.00
OPER	5C1T	13.63 R	10.48	131.00	0.0	0.00	0.00	0.00	
		-10.84 L	-8.34	-34.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.34	14.56	11.34	14.56	HS 226.82	408.3
5C1T	20.62	25.62	20.62	25.62	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.9	-166.7	155.7	-185.9
OPER	300.6C	-268.7	268.7	-300.6C	291.5	-277.8	259.5	-309.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 R	16.64	110.50	0.0	16.26	12.51	82.50			
		-9.50 L	-7.31	42.00	0.0	-7.51	-5.78	65.00	0.00		
OPER	5C1T	18.65 R	14.35	133.50	0.0	0.00	0.00	0.00			
		-9.71 L	-7.47	-33.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.08	17.55	7.20	19.57	HS 143.91	259.0
5C1T	15.63	28.60	13.91	31.89	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.300

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.3	0.0
	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.9	67.7
OPER	151.3	-119.9	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-1.10	5.15	-0.85	3.96	-1.68	4.51	-1.29	3.47
OPER	5C1T	-1.77	4.29	-1.36	3.30	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	42.83	13.16	HS 263.22	473.8
5C1T	67.89	26.31	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.300Dead Load Moment 0.8
Superimposed Dead Load Moment 8.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.1	171.3	-164.0	171.3	-164.0	162.1	-173.1	162.1	-
OPER 288.6	279.4	-279.4	279.4	-279.4	270.2	-288.6	270.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 R	16.64	110.50	0.0	16.26	12.51	82.50	
		-9.50 L	-7.31	42.00	0.0	-7.51	-5.78	65.00	0.00
OPER	5C1T	18.65 R	14.35	133.50	0.0	0.00	0.00	0.00	
		-9.71 L	-7.47	-33.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.49	18.22	7.49	18.22	HS 149.87	269.8
5C1T	14.49	29.70	14.49	29.70	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.400

Dead Load Moment Superimposed Dead Load Moment
1.4 14.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.9	-170.6	151.7	-189.8
OPER	300.6C	-268.7	268.7	-300.6C	284.9	-284.4	252.9	-316.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 R	18.67	113.00	0.0	19.35	14.88	85.00			
		-7.56 L	-5.81	42.00	0.0	-6.61	-5.08	65.00		0.00	
OPER	5C1T	21.77 R	16.74	184.00	0.0	0.00	0.00	0.00			
		-8.94 L	-6.87	-31.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	7.04	22.58	6.25	HS 125.03	225.0
5C1T	13.09	31.83	11.62	0.00	929.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.24	4.20	-1.73	3.23	-2.32	3.76	-1.79	2.89
OPER	5C1T	-2.32	3.52	-1.78	2.71	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	30.52	16.38	HS 327.50	589.5
5C1T	51.03	32.57	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.400

Dead Load Moment Superimposed Dead Load Moment
1.4 14.4

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
	+bend	-bend	+bend	-bend
bend				
INV.	173.9	-161.3	173.9	-161.3
177.1				
OPER	279.4	-279.4	279.4	-279.4
295.2				

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.27 R	18.67	113.00	0.0	19.35	14.88	85.00	
		-7.56 L	-5.81	42.00	0.0	-6.61	-5.08	65.00	0.00
OPER	5C1T	21.77 R	16.74	184.00	0.0	0.00	0.00	0.00	
		-8.94 L	-6.87	-31.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.52	23.44	6.52	23.44	HS 130.34	234.6
5C1T	12.11	33.03	12.11	33.03	0.00	968.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.500

Dead Load Moment Superimposed Dead Load Moment
1.6 16.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.5	-172.1	150.3	-191.3
OPER	300.6C	-268.7	268.7	-300.6C	282.5	-286.8	250.5	-318.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	23.69 R	18.22	101.50	0.0	20.57	15.83	87.50			
		-5.61 R	-4.32	133.00	0.0	-5.70	-4.39	110.00		0.00	
OPER	5C1T	22.50 R	17.31	186.50	0.0	0.00	0.00	0.00			
		-8.60 L	-6.61	15.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.16	30.17	6.34	33.53	HS 126.90	228.4
5C1T	12.55	33.35	11.13	37.08	0.00	890.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.500

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.0	0.0
	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.5	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.28	3.28	-2.53	2.53	-3.02	3.03	-2.32	2.33
OPER	5C1T	-2.90	2.90	-2.23	2.23	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.28	21.24	HS 424.88	764.8
5C1T	40.17	40.03	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.500Dead Load Moment 1.6
Superimposed Dead Load Moment 16.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.5	174.9	-160.4	174.9	-160.4	156.8	-178.5	156.8	-
OPER 297.5	279.4	-279.4	279.4	-279.4	261.3	-297.5	261.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	23.69 R	18.22	101.50	0.0	20.57	15.83	87.50	
		-5.61 R	-4.32	133.00	0.0	-5.70	-4.39	110.00	0.00
OPER	5C1T	22.50 R	17.31	186.50	0.0	0.00	0.00	0.00	
		-8.60 L	-6.61	15.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.62	31.30	6.62	31.30	HS 132.34	238.2
5C1T	11.61	34.60	11.61	34.60	0.00	928.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.745

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.8	-170.8	151.6	-189.9
OPER	300.6C	-268.7	268.7	-300.6C	284.7	-284.6	252.7	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 L	18.67	62.00	0.0	19.37	14.90	90.00			
		-7.56 R	-5.81	133.00	0.0	-6.60	-5.08	110.00	0.00		
OPER	5C1T	21.72 L	16.71	39.00	0.0	0.00	0.00	0.00			
		-8.84 R	-6.80	206.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.04	22.59	6.25	25.13	HS 124.94	224.9
5C1T	13.10	32.19	11.63	35.81	0.00	930.6

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 4.600
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.2 -1.6 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.20	2.24	-3.23	1.73	-3.76	2.33	-2.89	1.79
OPER	5C1T	-3.51	2.32	-2.70	1.79	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.38	30.43	HS 327.69	589.8
5C1T	32.68	50.80	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.600Dead Load Moment 1.4
Superimposed Dead Load Moment 14.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.2	174.0	-161.3	174.0	-161.3	158.1	-177.2	158.1	-
OPER 295.3	279.4	-279.4	279.4	-279.4	263.5	-295.3	263.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.27 L	18.67	62.00	0.0	19.37	14.90	90.00	
		-7.56 R	-5.81	133.00	0.0	-6.60	-5.08	110.00	0.00
OPER	5C1T	21.72 L	16.71	39.00	0.0	0.00	0.00	0.00	
		-8.84 R	-6.80	206.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.51	23.44	6.51	23.44	HS 130.25	234.5
5C1T	12.13	33.40	12.13	33.40	0.00	970.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.700

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.745

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.1	-278.2	259.2	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 L	16.64	64.50	0.0	16.31	12.54	92.50			
		-9.50 R	-7.31	133.00	0.0	-7.50	-5.77	110.00	0.00		
OPER	5C1T	18.73 L	14.41	41.50	0.0	0.00	0.00	0.00			
		-9.60 R	-7.39	208.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.07	17.56	7.19	19.58	HS 143.72	258.7
5C1T	15.54	28.97	13.83	32.30	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.1
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.8	71.9
OPER	151.3	-113.0	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.15	1.10	-3.96	0.85	-4.50	1.68	-3.46	1.30
OPER	5C1T	-4.28	1.78	-3.29	1.37	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.17	42.66	HS 263.38	474.1
5C1T	26.39	67.40	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.3	171.4	-163.8	171.4	-163.8	161.9	-173.3	161.9	-
OPER 288.9	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	21.64 L	16.64	64.50	0.0	16.31	12.54	92.50	
		-9.50 R	-7.31	133.00	0.0	-7.50	-5.77	110.00	0.00
OPER	5C1T	18.73 L	14.41	41.50	0.0	0.00	0.00	0.00	
		-9.60 R	-7.39	208.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.48	18.24	7.48	18.24	HS 149.68	269.4
5C1T	14.41	30.09	14.41	30.09	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.745

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 L	11.44	67.00	0.0	11.33	8.71	95.00			
		-11.45 R	-8.81	133.00	0.0	-8.86	-6.81	110.00	160.00		
OPER	5C1T	13.79 L	10.60	44.00	0.0	0.00	0.00	0.00			
		-10.71 R	-8.24	209.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.18	14.02	10.89	15.70	HS 217.72
5C1T	21.89	24.98	19.57	27.97	0.00

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 4.800
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.5 -4.7 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-66.8	72.9
OPER	151.3	-111.3	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.35	0.75	-4.89	0.57	-5.24	1.12	-4.03	0.86
OPER	5C1T	-5.07	1.28	-3.90	0.99	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.51	65.33	HS 210.09	378.2
5C1T	21.94	94.79	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.800Dead Load Moment -0.1
Superimposed Dead Load Moment -1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.3	-166.9	168.3	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.87 L	11.44	67.00	0.0	11.33	8.71	95.00	
		-11.45 R	-8.81	133.00	0.0	-8.86	-6.81	110.00	160.00
OPER	5C1T	13.79 L	10.60	44.00	0.0	0.00	0.00	0.00	
		-10.71 R	-8.24	209.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.32	14.58	11.32	14.58	HS 226.39	407.5
5C1T	20.35	25.99	20.35	25.99	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.745

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.900

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -14.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.6	170.8	-170.8
OPER	300.6C	-268.7	268.7	-300.6C	316.7	-252.6	284.7	-284.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.05 L	3.12	69.50	0.0	6.32	4.86	97.50			
		-14.76 L	-11.35	91.00	0.0	-13.51	-10.39	110.00		87.50	
OPER	5C1T	7.39 L	5.69	46.50	0.0	0.00	0.00	0.00			
		-12.44 R	-9.57	211.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	30.05	10.27	27.02	11.57	HS 205.40	369.7
5C1T	42.83	20.31	38.50	22.88	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.6	-6.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.6	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-7.54	0.78	-5.80	0.60	-5.94	0.80	-4.57	0.62
OPER	5C1T	-5.85	0.85	-4.50	0.66	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.72	91.91	HS 174.49	314.1
5C1T	18.74	144.56	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 4.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.6

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend
INV.	161.2	-174.1	161.2	-174.1
158.0				
OPER	279.4	-279.4	279.4	-279.4
263.3				

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.05 L	3.12	69.50	0.0	6.32	4.86	97.50	
		-14.76 L	-11.35	91.00	0.0	-13.51	-10.39	110.00	87.50
OPER	5C1T	7.39 L	5.69	46.50	0.0	0.00	0.00	0.00	
		-12.44 R	-9.57	211.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber	Factor bottom fiber	Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend
HS20	28.04	10.71	28.04	10.71
5C1T	39.95	21.17	39.95	21.17

HS 214.14 385.5
0.00 999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.745

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.5	-140.1	182.3	-159.3
OPER	300.6C	-268.7	268.7	-300.6C	335.8	-233.5	303.8	-265.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 R	3.16	158.00	0.0	4.18	3.21	135.00			
		-24.66 L	-18.97	79.50	0.0	-22.64	-17.41	110.00		90.00	
OPER	5C1T	3.18 R	2.45	273.00	0.0	0.00	0.00	0.00			
		-15.52 L	-11.94	68.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	48.24	5.68	43.65	6.46	HS 113.61	204.5
5C1T	105.53	15.04	95.47	17.10	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.9	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	8.64	-5.80	6.65	-5.94	6.59	-4.57	5.07
OPER	5C1T	-5.85	6.57	-4.50	5.06	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.49	7.49	HS 149.80	269.6
5C1T	16.44	16.41	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -32.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.5	153.6	-181.7	153.6	-181.7	188.7	-146.5	188.7	-
OPER 244.2	279.4	-279.4	279.4	-279.4	314.6	-244.2	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	4.11 R	3.16	158.00	0.0	4.18	3.21	135.00	
		-24.66 L	-18.97	79.50	0.0	-22.64	-17.41	110.00	90.00
OPER	5C1T	3.18 R	2.45	273.00	0.0	0.00	0.00	0.00	
		-15.52 L	-11.94	68.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	45.19	5.94	45.19	5.94	HS 118.84	213.9
5C1T	98.85	15.73	98.85	15.73	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.745

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.5	-140.1	182.3	-159.3
OPER	300.6C	-268.7	268.7	-300.6C	335.8	-233.5	303.8	-265.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 R	3.16	158.00	0.0	4.18	3.21	135.00			
		-24.66 L	-18.97	79.50	0.0	-22.64	-17.41	110.00		90.00	
OPER	5C1T	3.18 R	2.45	273.00	0.0	0.00	0.00	0.00			
		-15.52 L	-11.94	68.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	48.24	5.68	43.65	6.46	HS 113.61	204.5
5C1T	105.53	15.04	95.47	17.10	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.7	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.9	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.64	8.64	-6.65	6.65	-6.59	6.59	-5.07	5.07
OPER	5C1T	-6.56	6.57	-5.05	5.06	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.49	7.49	HS 149.80	269.6
5C1T	16.44	16.41	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -32.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.5	153.6	-181.7	153.6	-181.7	188.7	-146.5	188.7	-
OPER 244.2	279.4	-279.4	279.4	-279.4	314.6	-244.2	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.11 R	3.16	158.00	0.0	4.18	3.21	135.00	
		-24.66 L	-18.97	79.50	0.0	-22.64	-17.41	110.00	90.00
OPER	5C1T	3.18 R	2.45	273.00	0.0	0.00	0.00	0.00	
		-15.52 L	-11.94	68.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	45.19	5.94	45.19	5.94	HS 118.84	213.9
5C1T	98.85	15.73	98.85	15.73	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			91.019

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -14.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.6	170.8	-170.8
OPER	300.6C	-268.7	268.7	-300.6C	316.6	-252.7	284.6	-284.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.05 R	3.12	130.50	0.0	6.43	4.95	102.50			
		-14.76 R	-11.35	109.00	0.0	-13.51	-10.39	90.00	112.50		
OPER	5C1T	7.41 R	5.70	153.50	0.0	0.00	0.00	0.00			
		-12.40 L	-9.53	-11.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	29.54	10.27	26.55	11.57	HS 205.45
5C1T	42.73	20.38	38.42	22.96	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.6	0.0
	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.9	65.7
OPER	151.3	-123.2	109.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-0.75	7.54	-0.57	5.80	-0.80	5.95	-0.62	4.58
OPER	5C1T	-0.85	5.86	-0.66	4.51	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	91.99	8.72	HS 174.45	314.0
5C1T	144.26	18.69	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.0	161.2	-174.0	161.2	-174.0	177.2	-158.0	177.2	-
OPER 263.4	279.4	-279.4	279.4	-279.4	295.4	-263.4	295.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.05 R	3.12	130.50	0.0	6.43	4.95	102.50	
		-14.76 R	-11.35	109.00	0.0	-13.51	-10.39	90.00	112.50
OPER	5C1T	7.41 R	5.70	153.50	0.0	0.00	0.00	0.00	
		-12.40 L	-9.53	-11.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	27.56	10.71	27.56	10.71	HS 214.19	385.5
5C1T	39.87	21.25	39.87	21.25	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			91.019

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 R	11.44	133.00	0.0	11.20	8.62	105.00			
		-11.45 L	-8.81	67.00	0.0	-8.84	-6.80	90.00		40.00	
OPER	5C1T	13.79 R	10.61	156.00	0.0	0.00	0.00	0.00			
		-10.66 L	-8.20	-9.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.17	14.03	10.88	15.70	HS 217.63	391.7
5C1T	21.88	25.11	19.56	28.11	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	4.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.9	66.7
OPER	151.3	-121.5	111.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.75	6.36	-0.57	4.89	-1.11	5.25	-0.86	4.03
OPER	5C1T	-1.28	5.08	-0.99	3.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	65.39	10.50	HS 210.05	378.1
5C1T	94.71	21.88	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
	+bend	-bend	+bend	-bend
INV.	167.2	-168.1	167.2	-168.1
167.0				
OPER	279.4	-279.4	279.4	-279.4
278.4				

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	14.87 R	11.44	133.00	0.0	11.20	8.62	105.00	
		-11.45 L	-8.81	67.00	0.0	-8.84	-6.80	90.00	40.00
OPER	5C1T	13.79 R	10.61	156.00	0.0	0.00	0.00	0.00	
		-10.66 L	-8.20	-9.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	+bend	-bend		
	+bend	-bend	+bend	-bend		
HS20	11.31	14.59	11.31	14.59	HS 226.30	407.3
5C1T	20.34	26.12	20.34	26.12	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			91.019

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.300

Dead Load Moment 0.9
Superimposed Dead Load Moment 8.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.6	-167.0	155.4	-186.2
OPER	300.6C	-268.7	268.7	-300.6C	291.0	-278.3	259.0	-310.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 R	16.65	135.50	0.0	16.32	12.55	107.50			
		-9.50 L	-7.31	67.00	0.0	-7.48	-5.76	90.00	0.00		
OPER	5C1T	18.73 R	14.41	158.50	0.0	0.00	0.00	0.00			
		-9.56 L	-7.35	-8.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.07	17.57	7.18	19.59	HS 143.62	258.5
5C1T	15.53	29.12	13.82	32.46	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.10	5.15	-0.85	3.96	-1.68	4.51	-1.30	3.47
OPER	5C1T	-1.78	4.29	-1.37	3.30	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	42.69	13.17	HS 263.32	474.0
5C1T	67.38	26.32	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.300Dead Load Moment 0.9
Superimposed Dead Load Moment 8.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.4	171.5	-163.8	171.5	-163.8	161.8	-173.4	161.8	-
OPER 289.1	279.4	-279.4	279.4	-279.4	269.7	-289.1	269.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 R	16.65	135.50	0.0	16.32	12.55	107.50	
		-9.50 L	-7.31	67.00	0.0	-7.48	-5.76	90.00	0.00
OPER	5C1T	18.73 R	14.41	158.50	0.0	0.00	0.00	0.00	
		-9.56 L	-7.35	-8.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.48	18.25	7.48	18.25	HS 149.58	269.2
5C1T	14.40	30.24	14.40	30.24	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			91.019

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.1
OPER	300.6C	-268.7	268.7	-300.6C	284.5	-284.8	252.5	-316.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 R	18.67	138.00	0.0	19.39	14.92	110.00			
		-7.56 L	-5.81	67.00	0.0	-6.59	-5.07	90.00	0.00		
OPER	5C1T	21.77 R	16.75	209.00	0.0	0.00	0.00	0.00			
		-8.81 L	-6.77	-6.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	7.03	22.61	6.24	HS 124.83	224.7
5C1T	13.07	32.34	11.60	0.00	927.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.24	4.20	-1.73	3.23	-2.33	3.76	-1.79	2.89
OPER	5C1T	-2.32	3.52	-1.79	2.71	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	30.45	16.38	HS 327.62	589.7
5C1T	50.81	32.58	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	174.1	-161.2	174.1	-161.2	157.9	-177.3	157.9	-
OPER 295.6	279.4	-279.4	279.4	-279.4	263.2	-295.6	263.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	24.27 R	18.67	138.00	0.0	19.39	14.92	110.00	
		-7.56 L	-5.81	67.00	0.0	-6.59	-5.07	90.00	0.00
OPER	5C1T	21.77 R	16.75	209.00	0.0	0.00	0.00	0.00	
		-8.81 L	-6.77	-6.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.51	23.46	HS 130.14	234.3
5C1T	12.09	33.56	0.00	967.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	23.69 L	18.22	98.50	0.0	20.60	15.85	112.50			
		-5.61 R	-4.32	158.00	0.0	-5.69	-4.38	135.00	0.00		
OPER	5C1T	22.51 L	17.31	13.50	0.0	0.00	0.00	0.00			
		-8.58 L	-6.60	40.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.15	30.28	6.34	33.65	HS 126.75	228.2
5C1T	12.54	33.45	11.12	37.18	0.00	889.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.28	3.28	-2.53	2.53	-3.03	3.03	-2.33	2.33
OPER	5C1T	-2.90	2.90	-2.23	2.23	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.27	21.25	HS 425.04	765.1
5C1T	40.08	40.04	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.500Dead Load Moment 1.6
Superimposed Dead Load Moment 16.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	23.69 L	18.22	98.50	0.0	20.60	15.85
		-5.61 R	-4.32	158.00	0.0	-5.69	-4.38
OPER	5C1T	22.51 L	17.31	13.50	0.0	0.00	0.00
		-8.58 L	-6.60	40.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	6.61	31.41	6.61	31.41
5C1T	11.60	34.70	11.60	34.70

HS 132.19
0.00

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.0
OPER	300.6C	-268.7	268.7	-300.6C	284.5	-284.8	252.6	-316.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 L	18.67	87.00	0.0	19.39	14.91	115.00			
		-7.56 R	-5.81	158.00	0.0	-6.59	-5.07	135.00	0.00		
OPER	5C1T	21.77 L	16.75	16.00	0.0	0.00	0.00	0.00			
		-8.84 R	-6.80	231.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	7.03	22.60	6.24	HS 124.86	224.7
5C1T	13.07	32.20	11.60	0.00	927.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-1.6
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.20	2.24	-3.23	1.73	-3.76	2.33	-2.89	1.79
OPER	5C1T	-3.52	2.32	-2.71	1.79	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.38	30.48	HS 327.56	589.6
5C1T	32.57	50.82	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.600

Dead Load Moment Superimposed Dead Load Moment
1.4 14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	174.1	-161.2	174.1	-161.2	158.0	-177.3	158.0	-
OPER 295.5	279.4	-279.4	279.4	-279.4	263.3	-295.5	263.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	24.27 L	18.67	87.00	0.0	19.39	14.91	115.00	
		-7.56 R	-5.81	158.00	0.0	-6.59	-5.07	135.00	0.00
OPER	5C1T	21.77 L	16.75	16.00	0.0	0.00	0.00	0.00	
		-8.84 R	-6.80	231.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.51	23.46	6.51	23.46	HS 130.17	234.3
5C1T	12.09	33.42	12.09	33.42	0.00	967.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.6	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.1	-278.2	259.1	-310.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 L	16.65	89.50	0.0	16.31	12.55	117.50			
		-9.50 R	-7.31	158.00	0.0	-7.50	-5.77	135.00	0.00		
OPER	5C1T	18.73 L	14.41	66.50	0.0	0.00	0.00	0.00			
		-9.60 R	-7.39	233.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	8.07	17.57	7.18	HS 143.68	258.6
5C1T	15.54	28.97	13.83	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.7	71.9
OPER	151.3	-112.9	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.15	1.10	-3.96	0.85	-4.51	1.68	-3.47	1.29
OPER	5C1T	-4.29	1.78	-3.30	1.37	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.16	42.74	HS 263.27	473.9
5C1T	26.31	67.42	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.700Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.4	171.5	-163.8	171.5	-163.8	161.9	-173.4	161.9	-
OPER 289.0	279.4	-279.4	279.4	-279.4	269.8	-289.0	269.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 L	16.65	89.50	0.0	16.31	12.55	117.50	
		-9.50 R	-7.31	158.00	0.0	-7.50	-5.77	135.00	0.00
OPER	5C1T	18.73 L	14.41	66.50	0.0	0.00	0.00	0.00	
		-9.60 R	-7.39	233.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.48	18.24	7.48	18.24	HS 149.64	269.4
5C1T	14.40	30.09	14.40	30.09	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
 Check Point I. D. 5.800

Dead Load Moment Superimposed Dead Load Moment
 -0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 L	11.44	92.00	0.0	11.32	8.71	120.00			
		-11.45 R	-8.81	158.00	0.0	-8.86	-6.82	135.00	185.00		
OPER	5C1T	13.79 L	10.60	69.00	0.0	0.00	0.00	0.00			
		-10.71 R	-8.24	234.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.18	14.02	10.89	15.69	HS 217.77	392.0
5C1T	21.90	24.97	19.58	27.96	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.7	72.9
OPER	151.3	-111.2	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.36	0.75	-4.89	0.57	-5.25	1.11	-4.04	0.86
OPER	5C1T	-5.08	1.28	-3.91	0.99	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.50	65.51	HS 210.00	378.0
5C1T	21.87	94.81	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.800Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I		top fiber		bottom fi	
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
166.9								
OPER	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-
278.2								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.87 L	11.44	92.00	0.0	11.32	8.71	120.00	
		-11.45 R	-8.81	158.00	0.0	-8.86	-6.82	135.00	185.00
OPER	5C1T	13.79 L	10.60	69.00	0.0	0.00	0.00	0.00	
		-10.71 R	-8.24	234.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	11.32	14.58	11.32	14.58	HS 226.44	407.6
5C1T	20.36	25.98	20.36	25.98	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.1	-151.5	170.9	-170.7
OPER	300.6C	-268.7	268.7	-300.6C	316.9	-252.4	284.9	-284.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.05 L	3.12	94.50	0.0	6.31	4.85	122.50			
		-14.76 L	-11.35	116.00	0.0	-13.53	-10.41	135.00	112.50		
OPER	5C1T	7.39 L	5.69	71.50	0.0	0.00	0.00	0.00			
		-12.44 R	-9.57	236.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	30.13	10.26	27.09	11.56	HS 205.27	369.5
5C1T	42.85	20.29	38.53	22.86	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.5	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	0.78	-5.80	0.60	-5.95	0.80	-4.58	0.62
OPER	5C1T	-5.86	0.85	-4.51	0.66	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.72	92.22	HS 174.41	313.9
5C1T	18.69	144.59	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 5.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.9	161.2	-174.1	161.2	-174.1	177.4	-157.9	177.4	-
OPER 263.2	279.4	-279.4	279.4	-279.4	295.6	-263.2	295.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.05 L	3.12	94.50	0.0	6.31	4.85	122.50	
		-14.76 L	-11.35	116.00	0.0	-13.53	-10.41	135.00	112.50
OPER	5C1T	7.39 L	5.69	71.50	0.0	0.00	0.00	0.00	
		-12.44 R	-9.57	236.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	28.11	10.70	28.11	10.70	HS 214.01	385.2
5C1T	39.98	21.15	39.98	21.15	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -32.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 L	3.16	67.00	0.0	4.16	3.20	90.00			
		-24.66 R	-18.97	145.50	0.0	-22.67	-17.44	115.00		135.00	
OPER	5C1T	3.18 L	2.44	-48.00	0.0	0.00	0.00	0.00			
		-15.56 L	-11.97	94.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	48.50	5.67	43.89	6.45	HS 113.48	204.3
5C1T	105.82	14.99	95.75	17.05	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.8	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	8.64	-5.80	6.65	-5.95	6.59	-4.58	5.07
OPER	5C1T	-5.86	6.57	-4.51	5.06	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.49	7.49	HS 149.77	269.6
5C1T	16.40	16.40	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.000Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.2

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I		top fiber		bottom fi	
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-
146.4								
OPER	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-
243.9								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.11 L	3.16	67.00	0.0	4.16	3.20	90.00	
		-24.66 R	-18.97	145.50	0.0	-22.67	-17.44	115.00	135.00
OPER	5C1T	3.18 L	2.44	-48.00	0.0	0.00	0.00	0.00	
		-15.56 L	-11.97	94.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	45.44	5.93	45.44	5.93	HS 118.71	213.7
5C1T	99.14	15.68	99.14	15.68	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 L	3.16	67.00	0.0	4.16	3.20	90.00			
		-24.66 R	-18.97	145.50	0.0	-22.67	-17.44	115.00		135.00	
OPER	5C1T	3.18 L	2.44	-48.00	0.0	0.00	0.00	0.00			
		-15.56 L	-11.97	94.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	48.50	5.67	43.89	6.45	HS 113.48	204.3
5C1T	105.82	14.99	95.75	17.05	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 6.000
 HS20 5C1T

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.8	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.8	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.64	8.64	-6.65	6.65	-6.59	6.59	-5.07	5.07
OPER	5C1T	-6.57	6.57	-5.06	5.06	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.49	7.49	HS 149.77	269.6
5C1T	16.40	16.40	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.2

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.4	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-
OPER 243.9	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.11 L	3.16	67.00	0.0	4.16	3.20	90.00	
		-24.66 R	-18.97	145.50	0.0	-22.67	-17.44	115.00	135.00
OPER	5C1T	3.18 L	2.44	-48.00	0.0	0.00	0.00	0.00	
		-15.56 L	-11.97	94.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	45.44	5.93	45.44	5.93	HS 118.71	213.7
5C1T	99.14	15.68	99.14	15.68	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.1	-151.5	170.9	-170.7
OPER	300.6C	-268.7	268.7	-300.6C	316.9	-252.4	284.9	-284.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.05 R	3.12	155.50	0.0	6.42	4.94	127.50			
		-14.76 R	-11.35	134.00	0.0	-13.53	-10.41	115.00	137.50		
OPER	5C1T	7.39 R	5.69	178.50	0.0	0.00	0.00	0.00			
		-12.44 L	-9.57	13.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	29.62	10.26	26.63 11.56	HS 205.27	369.5
5C1T	42.85	20.29	38.53 22.86	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.6	0.0
	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.9	65.7
OPER	151.3	-123.2	109.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-0.75	7.54	-0.57	5.80	-0.80	5.95	-0.62	4.58
OPER	5C1T	-0.85	5.86	-0.66	4.51	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	92.22	8.72	HS 174.41	313.9
5C1T	144.59	18.69	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.9	161.2	-174.1	161.2	-174.1	177.4	-157.9	177.4	-
OPER 263.2	279.4	-279.4	279.4	-279.4	295.6	-263.2	295.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.05 R	3.12	155.50	0.0	6.42	4.94	127.50	
		-14.76 R	-11.35	134.00	0.0	-13.53	-10.41	115.00	137.50
OPER	5C1T	7.39 R	5.69	178.50	0.0	0.00	0.00	0.00	
		-12.44 L	-9.57	13.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	27.64	10.70	27.64	10.70	HS 214.01	385.2
5C1T	39.98	21.15	39.98	21.15	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 R	11.44	158.00	0.0	11.19	8.61	130.00			
		-11.45 L	-8.81	92.00	0.0	-8.86	-6.82	115.00		65.00	
OPER	5C1T	13.79 R	10.60	181.00	0.0	0.00	0.00	0.00			
		-10.71 L	-8.24	16.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.18	14.02	10.89	15.69	HS 217.77	392.0
5C1T	21.90	24.97	19.58	27.96	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.200

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.5	0.0 4.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.9	66.7
OPER	151.3	-121.5	111.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-0.75	6.36	-0.57	4.89	-1.11	5.25	-0.86	4.04
OPER	5C1T	-1.28	5.08	-0.99	3.91	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	65.51	10.50	HS 210.01	378.0
5C1T	94.81	21.87	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	14.87 R	11.44	158.00	0.0	11.19	8.61
		-11.45 L	-8.81	92.00	0.0	-8.86	-6.82
OPER	5C1T	13.79 R	10.60	181.00	0.0	0.00	0.00
		-10.71 L	-8.24	16.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	11.32	14.58	11.32	14.58	407.6
5C1T	20.36	25.98	20.36	25.98	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.300

Dead Load Moment Superimposed Dead Load Moment
0.8 8.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.6	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.1	-278.2	259.1	-310.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 R	16.65	160.50	0.0	16.31	12.55	132.50			
		-9.50 L	-7.31	92.00	0.0	-7.50	-5.77	115.00		0.00	
OPER	5C1T	18.73 R	14.41	183.50	0.0	0.00	0.00	0.00			
		-9.60 L	-7.39	17.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.07	17.57	7.18	19.58	HS 143.68	258.6
5C1T	15.54	28.97	13.83	32.30	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.300

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.3	0.0
	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.9	67.7
OPER	151.3	-119.8	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-1.10	5.15	-0.85	3.96	-1.68	4.51	-1.29	3.47
OPER	5C1T	-1.78	4.29	-1.37	3.30	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	42.74	13.16	HS 263.27	473.9
5C1T	67.42	26.31	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.300Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.4	171.5	-163.8	171.5	-163.8	161.9	-173.4	161.9	-
OPER 289.0	279.4	-279.4	279.4	-279.4	269.8	-289.0	269.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 R	16.65	160.50	0.0	16.31	12.55	132.50	
		-9.50 L	-7.31	92.00	0.0	-7.50	-5.77	115.00	0.00
OPER	5C1T	18.73 R	14.41	183.50	0.0	0.00	0.00	0.00	
		-9.60 L	-7.39	17.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.48	18.24	7.48	18.24	HS 149.64	269.4
5C1T	14.40	30.09	14.40	30.09	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.0
OPER	300.6C	-268.7	268.7	-300.6C	284.5	-284.8	252.6	-316.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 R	18.67	163.00	0.0	19.39	14.91	135.00			
		-7.56 L	-5.81	92.00	0.0	-6.59	-5.07	115.00	0.00		
OPER	5C1T	21.77 R	16.75	234.00	0.0	0.00	0.00	0.00			
		-8.84 L	-6.80	18.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.03	22.60	6.24	25.14	HS 124.86	224.7
5C1T	13.07	32.20	11.60	35.82	0.00	927.9

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 6.400
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.2 0.0 1.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.24	4.20	-1.73	3.23	-2.33	3.76	-1.79	2.89
OPER	5C1T	-2.32	3.52	-1.79	2.71	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	30.48	16.38	HS 327.56	589.6
5C1T	50.82	32.57	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.400Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	174.1	-161.2	174.1	-161.2	158.0	-177.3	158.0	-
OPER 295.5	279.4	-279.4	279.4	-279.4	263.3	-295.5	263.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.27 R	18.67	163.00	0.0	19.39	14.91	135.00	
		-7.56 L	-5.81	92.00	0.0	-6.59	-5.07	115.00	0.00
OPER	5C1T	21.77 R	16.75	234.00	0.0	0.00	0.00	0.00	
		-8.84 L	-6.80	18.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.51	23.46	6.51	23.46	HS 130.17	234.3
5C1T	12.09	33.42	12.09	33.42	0.00	967.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.999

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	23.69 L	18.22	123.50	0.0	20.60	15.85	137.50			
		-5.61 L	-4.32	92.00	0.0	-5.69	-4.38	115.00	0.00		
OPER	5C1T	22.51 R	17.31	236.50	0.0	0.00	0.00	0.00			
		-8.58 R	-6.60	209.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.15	30.28	6.34	33.65	HS 126.75	228.2
5C1T	12.54	33.45	11.12	37.18	0.00	889.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.28	3.28	-2.53	2.53	-3.03	3.03	-2.33	2.33
OPER	5C1T	-2.90	2.90	-2.23	2.23	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.28	21.25	HS 424.96	764.9
5C1T	40.09	40.03	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	23.69 L	18.22	123.50	0.0	20.60	15.85	137.50	
		-5.61 L	-4.32	92.00	0.0	-5.69	-4.38	115.00	0.00
OPER	5C1T	22.51 R	17.31	236.50	0.0	0.00	0.00	0.00	
		-8.58 R	-6.60	209.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.61	31.41	6.61	31.41	HS 132.19	238.0
5C1T	11.60	34.70	11.60	34.70	0.00	927.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			91.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.1
OPER	300.6C	-268.7	268.7	-300.6C	284.5	-284.8	252.5	-316.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 L	18.67	112.00	0.0	19.39	14.92	140.00			
		-7.56 R	-5.81	183.00	0.0	-6.59	-5.07	160.00	0.00		
OPER	5C1T	21.77 L	16.75	41.00	0.0	0.00	0.00	0.00			
		-8.81 R	-6.77	256.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.03	22.61	6.24	25.15	HS 124.83	224.7
5C1T	13.07	32.34	11.60	35.97	0.00	927.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.20	2.24	-3.23	1.73	-3.76	2.33	-2.89	1.79
OPER	5C1T	-3.52	2.32	-2.71	1.79	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.38	30.45	HS 327.62	589.7
5C1T	32.58	50.81	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	174.1	-161.2	174.1	-161.2	157.9	-177.3	157.9	-
OPER 295.6	279.4	-279.4	279.4	-279.4	263.2	-295.6	263.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	24.27 L	18.67	112.00	0.0	19.39	14.92
		-7.56 R	-5.81	183.00	0.0	-6.59	-5.07
OPER	5C1T	21.77 L	16.75	41.00	0.0	0.00	0.00
		-8.81 R	-6.77	256.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	6.51	23.46	6.51	23.46
5C1T	12.09	33.56	12.09	33.56

HS 130.14
0.00

234.3
967.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			91.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.700

Dead Load Moment 0.9
Superimposed Dead Load Moment 8.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.6	-167.0	155.4	-186.2
OPER	300.6C	-268.7	268.7	-300.6C	291.0	-278.3	259.0	-310.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 L	16.64	114.50	0.0	16.32	12.55	142.50			
		-9.50 R	-7.31	183.00	0.0	-7.48	-5.76	160.00	0.00		
OPER	5C1T	18.73 L	14.41	91.50	0.0	0.00	0.00	0.00			
		-9.56 R	-7.35	258.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	8.07	17.57	7.18	143.62	258.5
5C1T	15.53	29.12	13.82	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.1
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.8	71.9
OPER	151.3	-112.9	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.15	1.10	-3.96	0.85	-4.51	1.68	-3.47	1.30
OPER	5C1T	-4.29	1.78	-3.30	1.37	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.17	42.69	HS 263.32	474.0
5C1T	26.32	67.38	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.700Dead Load Moment 0.9
Superimposed Dead Load Moment 8.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.4	171.5	-163.8	171.5	-163.8	161.8	-173.4	161.8	-
OPER 289.1	279.4	-279.4	279.4	-279.4	269.7	-289.1	269.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 L	16.64	114.50	0.0	16.32	12.55	142.50
		-9.50 R	-7.31	183.00	0.0	-7.48	-5.76	160.00
OPER	5C1T	18.73 L	14.41	91.50	0.0	0.00	0.00	0.00
		-9.56 R	-7.35	258.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.48	18.25	7.48	18.25	HS 149.58	269.2
5C1T	14.40	30.24	14.40	30.24	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	91.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 L	11.44	117.00	0.0	11.33	8.72	145.00			
		-11.45 R	-8.81	183.00	0.0	-8.84	-6.80	160.00		210.00	
OPER	5C1T	13.79 L	10.61	94.00	0.0	0.00	0.00	0.00			
		-10.66 R	-8.20	259.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	12.17	14.03	10.88	15.70	217.63
5C1T	21.88	25.11	19.56	28.11	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.800

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.5	-4.7
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-66.7	72.9
OPER	151.3	-111.2	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.36	0.75	-4.89	0.57	-5.25	1.11	-4.03	0.86
OPER	5C1T	-5.08	1.28	-3.91	0.99	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.50	65.39	HS 210.05	378.1
5C1T	21.88	94.71	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.800Dead Load Moment -0.1
Superimposed Dead Load Moment -0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.4	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	14.87 L	11.44	117.00	0.0	11.33	8.72
		-11.45 R	-8.81	183.00	0.0	-8.84	-6.80
OPER	5C1T	13.79 L	10.61	94.00	0.0	0.00	0.00
		-10.66 R	-8.20	259.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	11.31	14.59	11.31	14.59	407.3
5C1T	20.34	26.12	20.34	26.12	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			91.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.900

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -14.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.6	170.8	-170.8
OPER	300.6C	-268.7	268.7	-300.6C	316.6	-252.7	284.6	-284.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.05 L	3.12	119.50	0.0	6.32	4.86	147.50			
		-14.76 L	-11.35	141.00	0.0	-13.50	-10.39	160.00	137.50		
OPER	5C1T	7.41 L	5.70	96.50	0.0	0.00	0.00	0.00			
		-12.40 R	-9.53	261.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	30.04	10.27	27.00	11.57	HS 205.46
5C1T	42.73	20.38	38.42	22.96	0.00 999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.6	-6.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.5	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	0.78	-5.80	0.60	-5.95	0.80	-4.58	0.62
OPER	5C1T	-5.86	0.85	-4.51	0.66	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.72	91.99	HS 174.45	314.0
5C1T	18.69	144.26	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 6.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.0	161.2	-174.0	161.2	-174.0	177.2	-158.0	177.2	-
OPER 263.4	279.4	-279.4	279.4	-279.4	295.4	-263.4	295.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.05 L	3.12	119.50	0.0	6.32	4.86	147.50	
		-14.76 L	-11.35	141.00	0.0	-13.50	-10.39	160.00	137.50
OPER	5C1T	7.41 L	5.70	96.50	0.0	0.00	0.00	0.00	
		-12.40 R	-9.53	261.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	28.02	10.71	28.02	10.71	HS 214.19	385.5
5C1T	39.87	21.25	39.87	21.25	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			91.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		5.30		108.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -32.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	201.5	-140.1	182.3	-159.3
OPER	300.6C	-268.7	268.7	-300.6C	335.8	-233.5	303.8	-265.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 L	3.16	92.00	0.0	4.18	3.21	115.00			
		-24.66 L	-18.97	129.50	0.0	-22.64	-17.41	140.00		160.00	
OPER	5C1T	3.20 R	2.46	321.50	0.0	0.00	0.00	0.00			
		-15.55 R	-11.96	181.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	48.24	5.68	43.65	6.46	HS 113.61	204.5
5C1T	104.86	15.01	94.87	17.07	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.9	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	8.64	-5.80	6.65	-5.95	6.59	-4.58	5.07
OPER	5C1T	-5.86	6.56	-4.51	5.05	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.49	7.49	HS 149.80	269.6
5C1T	16.41	16.44	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -32.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.5	153.6	-181.7	153.6	-181.7	188.7	-146.5	188.7	-
OPER 244.2	279.4	-279.4	279.4	-279.4	314.6	-244.2	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.11 L	3.16	92.00	0.0	4.18	3.21	115.00	
		-24.66 L	-18.97	129.50	0.0	-22.64	-17.41	140.00	160.00
OPER	5C1T	3.20 R	2.46	321.50	0.0	0.00	0.00	0.00	
		-15.55 R	-11.96	181.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	45.19	5.94	45.19	5.94	HS 118.84	213.9
5C1T	98.23	15.70	98.23	15.70	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.742

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.000

Dead Load Superimposed Dead Load
Moment Moment
-3.2 -32.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.5	-140.1	182.3	-159.3
OPER	300.6C	-268.7	268.7	-300.6C	335.8	-233.5	303.8	-265.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 L	3.16	92.00	0.0	4.18	3.21	115.00			
		-24.66 L	-18.97	129.50	0.0	-22.64	-17.41	140.00		160.00	
OPER	5C1T	3.20 R	2.46	321.50	0.0	0.00	0.00	0.00			
		-15.55 R	-11.96	181.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	48.24	5.68	43.65	6.46	HS 113.61
5C1T	104.86	15.01	94.87	17.07	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.7	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.7
OPER	151.3	-107.9	107.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.64	8.64	-6.65	6.65	-6.59	6.59	-5.07	5.07
OPER	5C1T	-6.57	6.56	-5.06	5.05	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.49	7.49	HS 149.80	269.6
5C1T	16.41	16.44	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.5	153.6	-181.7	153.6	-181.7	188.7	-146.5	188.7	-
OPER 244.2	279.4	-279.4	279.4	-279.4	314.6	-244.2	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.11 L	3.16	92.00	0.0	4.18	3.21	115.00	
		-24.66 L	-18.97	129.50	0.0	-22.64	-17.41	140.00	160.00
OPER	5C1T	3.20 R	2.46	321.50	0.0	0.00	0.00	0.00	
		-15.55 R	-11.96	181.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	45.19	5.94	45.19	5.94	HS 118.84	213.9
5C1T	98.23	15.70	98.23	15.70	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.742

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.5	-14.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.6	170.8	-170.8
OPER	300.6C	-268.7	268.7	-300.6C	316.7	-252.6	284.7	-284.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.05 R	3.12	180.50	0.0	6.43	4.95	152.50			
		-14.76 R	-11.35	159.00	0.0	-13.52	-10.40	140.00	162.50		
OPER	5C1T	7.39 R	5.69	203.50	0.0	0.00	0.00	0.00			
		-12.44 L	-9.57	38.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	29.55	10.27	26.57	11.57	HS 205.40	369.7
5C1T	42.83	20.31	38.50	22.88	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.6	0.0
	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.9	65.7
OPER	151.3	-123.2	109.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-0.75	7.54	-0.57	5.80	-0.80	5.94	-0.62	4.57
OPER	5C1T	-0.85	5.85	-0.66	4.50	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	91.91	8.72	HS 174.49	314.1
5C1T	144.57	18.74	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -14.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.0	161.2	-174.1	161.2	-174.1	177.3	-158.0	177.3	-
OPER 263.3	279.4	-279.4	279.4	-279.4	295.5	-263.3	295.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.05 R	3.12	180.50	0.0	6.43	4.95	152.50	
		-14.76 R	-11.35	159.00	0.0	-13.52	-10.40	140.00	162.50
OPER	5C1T	7.39 R	5.69	203.50	0.0	0.00	0.00	0.00	
		-12.44 L	-9.57	38.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	27.57	10.71	27.57	10.71	HS 214.14	385.5
5C1T	39.95	21.17	39.95	21.17	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.742

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 R	11.44	183.00	0.0	11.20	8.62	155.00			
		-11.45 L	-8.81	117.00	0.0	-8.86	-6.81	140.00	90.00		
OPER	5C1T	13.79 R	10.60	206.00	0.0	0.00	0.00	0.00			
		-10.71 L	-8.24	41.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.18	14.02	10.89	15.70	HS 217.72
5C1T	21.89	24.98	19.57	27.97	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.200

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.5	0.0
	4.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.9	66.8
OPER	151.3	-121.5	111.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-0.75	6.35	-0.57	4.89	-1.12	5.24	-0.86	4.03
OPER	5C1T	-1.28	5.07	-0.99	3.90	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	65.33	10.51	HS 210.09	378.2
5C1T	94.79	21.94	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.3	-166.9	168.3	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.87 R	11.44	183.00	0.0	11.20	8.62	155.00	
		-11.45 L	-8.81	117.00	0.0	-8.86	-6.81	140.00	90.00
OPER	5C1T	13.79 R	10.60	206.00	0.0	0.00	0.00	0.00	
		-10.71 L	-8.24	41.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.32	14.58	11.32	14.58	HS 226.39	407.5
5C1T	20.35	25.99	20.35	25.99	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.742

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.1	-278.2	259.2	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 R	16.65	185.50	0.0	16.31	12.54	157.50			
		-9.50 L	-7.31	117.00	0.0	-7.50	-5.77	140.00	0.00		
OPER	5C1T	18.73 R	14.41	208.50	0.0	0.00	0.00	0.00			
		-9.60 L	-7.39	42.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	8.07	17.56	7.19	143.72	258.7
5C1T	15.54	28.97	13.83	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.3	0.0 3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	113.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.10	5.15	-0.85	3.96	-1.68	4.50	-1.30	3.46
OPER	5C1T	-1.78	4.28	-1.37	3.29	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	42.66	13.17	HS 263.38	474.1
5C1T	67.40	26.39	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.300Dead Load Moment 0.8
Superimposed Dead Load Moment 8.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.3	171.4	-163.8	171.4	-163.8	161.9	-173.3	161.9	-
OPER 288.9	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 R	16.65	185.50	0.0	16.31	12.54	157.50
		-9.50 L	-7.31	117.00	0.0	-7.50	-5.77	140.00
OPER	5C1T	18.73 R	14.41	208.50	0.0	0.00	0.00	0.00
		-9.60 L	-7.39	42.00	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	7.48	18.24	7.48	18.24
5C1T	14.41	30.09	14.41	30.09

HS 149.68
0.00269.4
999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.742

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.8	-170.8	151.6	-189.9
OPER	300.6C	-268.7	268.7	-300.6C	284.7	-284.6	252.7	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 R	18.67	188.00	0.0	19.37	14.90	160.00			
		-7.56 L	-5.81	117.00	0.0	-6.60	-5.08	140.00		0.00	
OPER	5C1T	21.72 R	16.71	211.00	0.0	0.00	0.00	0.00			
		-8.84 L	-6.80	43.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.04	22.59	6.25	25.13	HS 124.94	224.9
5C1T	13.10	32.19	11.63	35.81	0.00	930.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.2 0.0 1.6

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.9 68.8
OPER 151.3 -118.1 114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.24	4.20	-1.73	3.23	-2.33	3.76	-1.79	2.89
OPER	5C1T	-2.32	3.51	-1.79	2.70	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	30.43	16.38	HS 327.69	589.8
5C1T	50.80	32.68	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.2	174.0	-161.3	174.0	-161.3	158.1	-177.2	158.1	-
OPER 295.3	279.4	-279.4	279.4	-279.4	263.5	-295.3	263.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.27 R	18.67	188.00	0.0	19.37	14.90	160.00	
		-7.56 L	-5.81	117.00	0.0	-6.60	-5.08	140.00	0.00
OPER	5C1T	21.72 R	16.71	211.00	0.0	0.00	0.00	0.00	
		-8.84 L	-6.80	43.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.51	23.44	6.51	23.44	HS 130.25	234.5
5C1T	12.13	33.40	12.13	33.40	0.00	970.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.688

LFD - Moment Values

Compact Values (C)			M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
	4110/ sqrt Fy	19230/ sqrt Fy			
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.5	-172.1	150.3	-191.3
OPER	300.6C	-268.7	268.7	-300.6C	282.5	-286.8	250.5	-318.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	23.69 L	18.22	148.50	0.0	20.57	15.83	162.50			
		-5.61 L	-4.32	117.00	0.0	-5.70	-4.39	140.00	0.00		
OPER	5C1T	22.50 L	17.31	63.50	0.0	0.00	0.00	0.00			
		-8.60 R	-6.61	234.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.16	30.17	6.34	33.53	HS 126.90	228.4
5C1T	12.55	33.35	11.13	37.08	0.00	890.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S04
Check Point I. D. 7.500

HS20 5C1T

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.28	3.28	-2.53	2.53	-3.03	3.02	-2.33	2.32
OPER	5C1T	-2.90	2.90	-2.23	2.23	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.27	21.26	HS 425.13	765.2
5C1T	40.07	40.13	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.5

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber +bend	top fiber -bend	bottom fi +bend	bottom fi -bend
INV. 178.5	174.9	-160.4	174.9	-160.4	156.8	-178.5	156.8	-
OPER 297.5	279.4	-279.4	279.4	-279.4	261.3	-297.5	261.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	23.69 L	18.22	148.50	0.0	20.57	15.83	162.50	
		-5.61 L	-4.32	117.00	0.0	-5.70	-4.39	140.00	0.00
OPER	5C1T	22.50 L	17.31	63.50	0.0	0.00	0.00	0.00	
		-8.60 R	-6.61	234.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	6.62	31.30	6.62	31.30	HS 132.34	238.2
5C1T	11.61	34.60	11.61	34.60	0.00	928.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.9	-170.6	151.7	-189.8
OPER	300.6C	-268.7	268.7	-300.6C	284.9	-284.4	252.9	-316.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 L	18.67	137.00	0.0	19.35	14.88	165.00			
		-7.56 R	-5.81	208.00	0.0	-6.61	-5.08	185.00	0.00		
OPER	5C1T	21.77 L	16.74	66.00	0.0	0.00	0.00	0.00			
		-8.94 R	-6.87	281.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.04	22.58	6.25	25.12	HS 125.03	225.0
5C1T	13.09	31.83	11.62	35.41	0.00	929.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.2	-1.6
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-4.20	2.24	-3.23	1.73	-3.76	2.32	-2.89	1.79
OPER	5C1T	-3.52	2.32	-2.71	1.78	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.38	30.52	HS 327.50	589.5
5C1T	32.57	51.03	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 14.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.1	173.9	-161.3	173.9	-161.3	158.2	-177.1	158.2	-
OPER 295.2	279.4	-279.4	279.4	-279.4	263.6	-295.2	263.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	24.27 L	18.67	137.00	0.0	19.35	14.88
		-7.56 R	-5.81	208.00	0.0	-6.61	-5.08
OPER	5C1T	21.77 L	16.74	66.00	0.0	0.00	0.00
		-8.94 R	-6.87	281.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	6.52	23.44	6.52	23.44
5C1T	12.11	33.03	12.11	33.03

HS 130.34 234.6
0.00 968.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.700

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.700

Dead Load Moment Superimposed Dead Load Moment
0.8 8.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.9	-166.7	155.7	-185.9
OPER	300.6C	-268.7	268.7	-300.6C	291.5	-277.8	259.5	-309.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 L	16.64	139.50	0.0	16.26	12.51	167.50			
		-9.50 R	-7.31	208.00	0.0	-7.51	-5.78	185.00		0.00	
OPER	5C1T	18.65 L	14.35	116.50	0.0	0.00	0.00	0.00			
		-9.71 R	-7.47	283.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.08	17.55	7.20	19.57	HS 143.91	259.0
5C1T	15.63	28.60	13.91	31.89	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.7	71.9
OPER	151.3	-112.9	119.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.15	1.10	-3.96	0.85	-4.51	1.68	-3.47	1.29
OPER	5C1T	-4.29	1.77	-3.30	1.36	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.16	42.83	HS 263.22	473.8
5C1T	26.31	67.89	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.700Dead Load Moment 0.8
Superimposed Dead Load Moment 8.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.1	171.3	-164.0	171.3	-164.0	162.1	-173.1	162.1	-
OPER 288.6	279.4	-279.4	279.4	-279.4	270.2	-288.6	270.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 L	16.64	139.50	0.0	16.26	12.51	167.50	
		-9.50 R	-7.31	208.00	0.0	-7.51	-5.78	185.00	0.00
OPER	5C1T	18.65 L	14.35	116.50	0.0	0.00	0.00	0.00	
		-9.71 R	-7.47	283.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.49	18.22	7.49	18.22	HS 149.87	269.8
5C1T	14.49	29.70	14.49	29.70	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.800

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.3	-299.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 L	11.44	142.00	0.0	11.26	8.66	170.00			
		-11.45 R	-8.80	208.00	0.0	-8.92	-6.86	185.00		235.00	
OPER	5C1T	13.63 L	10.48	119.00	0.0	0.00	0.00	0.00			
		-10.84 R	-8.34	284.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.20	14.00	10.91	15.67	HS 218.15	392.7
5C1T	22.18	24.63	19.83	27.58	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.7	72.9
OPER	151.3	-111.2	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.36	0.75	-4.89	0.57	-5.25	1.11	-4.04	0.85
OPER	5C1T	-5.08	1.27	-3.91	0.98	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.50	65.70	HS 209.96	377.9
5C1T	21.87	95.80	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
bend								
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.6	168.6	-
166.6								
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-
277.7								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	14.87 L	11.44	142.00	0.0	11.26	8.66	170.00	
		-11.45 R	-8.80	208.00	0.0	-8.92	-6.86	185.00	235.00
OPER	5C1T	13.63 L	10.48	119.00	0.0	0.00	0.00	0.00	
		-10.84 R	-8.34	284.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	11.34	14.56	11.34	14.56	HS 226.82	408.3
5C1T	20.62	25.62	20.62	25.62	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.82	28.67	28.67	1.699
			999999.000
			90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.900

Dead Load Moment Superimposed Dead Load Moment
-1.6 -15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.4	-151.2	171.2	-170.3
OPER	300.6C	-268.7	268.7	-300.6C	317.4	-251.9	285.4	-283.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.05 L	3.12	144.50	0.0	6.24	4.80	172.50			
		-14.75 L	-11.35	166.00	0.0	-13.54	-10.42	185.00	162.50		
OPER	5C1T	7.18 L	5.52	121.50	0.0	0.00	0.00	0.00			
		-12.58 R	-9.68	286.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	30.50	10.25	27.43	11.55	HS 204.93	368.9
5C1T	44.22	20.03	39.76	22.57	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.900

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.6	-6.2
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.7	73.9
OPER	151.3	-109.5	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	0.78	-5.80	0.60	-5.95	0.80	-4.58	0.61
OPER	5C1T	-5.86	0.84	-4.51	0.65	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.72	92.58	HS 174.38	313.9
5C1T	18.68	146.82	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 7.900

Dead Load Moment Superimposed Dead Load Moment
-1.6 -15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.6	161.0	-174.3	161.0	-174.3	177.7	-157.6	177.7	-
OPER 262.7	279.4	-279.4	279.4	-279.4	296.1	-262.7	296.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.05 L	3.12	144.50	0.0	6.24	4.80	172.50	
		-14.75 L	-11.35	166.00	0.0	-13.54	-10.42	185.00	162.50
OPER	5C1T	7.18 L	5.52	121.50	0.0	0.00	0.00	0.00	
		-12.58 R	-9.68	286.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	28.46	10.68	28.46	10.68	HS 213.67	384.6
5C1T	41.26	20.88	41.26	20.88	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.90		108.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -32.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.0	-139.6	182.8	-158.8
OPER	300.6C	-268.7	268.7	-300.6C	336.7	-232.6	304.7	-264.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 L	3.16	117.00	0.0	4.08	3.14	140.00			
		-24.66 R	-18.97	195.50	0.0	-22.68	-17.45	165.00	185.00		
OPER	5C1T	3.18 L	2.44	2.00	0.0	0.00	0.00	0.00			
		-15.66 L	-12.04	144.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	49.15	5.66	44.48	6.44	HS 113.21
5C1T	105.97	14.86	95.90	16.90	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.6
OPER	151.3	-107.8	107.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	8.64	-5.80	6.65	-5.95	6.60	-4.58	5.07
OPER	5C1T	-5.86	6.62	-4.51	5.09	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.49	7.48	HS 149.63	269.3
5C1T	16.40	16.28	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.000Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.0	153.2	-182.0	153.2	-182.0	189.3	-146.0	189.3	-
OPER 243.4	279.4	-279.4	279.4	-279.4	315.4	-243.4	315.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.11 L	3.16	117.00	0.0	4.08	3.14	140.00	
		-24.66 R	-18.97	195.50	0.0	-22.68	-17.45	165.00	185.00
OPER	5C1T	3.18 L	2.44	2.00	0.0	0.00	0.00	0.00	
		-15.66 L	-12.04	144.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	46.05	5.92	46.05	5.92	HS 118.44	213.2
5C1T	99.28	15.55	99.28	15.55	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	90.688

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-32.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.0	-139.6	182.8	-158.8
OPER	300.6C	-268.7	268.7	-300.6C	336.7	-232.6	304.7	-264.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 L	3.16	117.00	0.0	4.08	3.14	140.00			
		-24.66 R	-18.97	195.50	0.0	-22.68	-17.45	165.00	185.00		
OPER	5C1T	3.18 L	2.44	2.00	0.0	0.00	0.00	0.00			
		-15.66 L	-12.04	144.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	49.15	5.66	44.48	6.44	HS 113.21	203.8
5C1T	105.97	14.86	95.90	16.90	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-7.8	7.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.7	64.6
OPER	151.3	-107.8	107.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.64	8.64	-6.65	6.65	-6.59	6.60	-5.07	5.07
OPER	5C1T	-6.57	6.62	-5.06	5.09	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.49	7.48	HS 149.63	269.3
5C1T	16.40	16.28	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -32.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.0	153.2	-182.0	153.2	-182.0	189.3	-146.0	189.3	-
OPER 243.4	279.4	-279.4	279.4	-279.4	315.4	-243.4	315.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.11 L	3.16	117.00	0.0	4.08	3.14	140.00	
		-24.66 R	-18.97	195.50	0.0	-22.68	-17.45	165.00	185.00
OPER	5C1T	3.18 L	2.44	2.00	0.0	0.00	0.00	0.00	
		-15.66 L	-12.04	144.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	46.05	5.92	46.05	5.92	HS 118.44	213.2
5C1T	99.28	15.55	99.28	15.55	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -15.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.3	-151.3	171.1	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.1	-252.2	285.2	-284.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.06 R	3.12	205.50	0.0	6.38	4.91	177.50			
		-14.76 R	-11.35	184.00	0.0	-13.54	-10.42	165.00		187.50	
OPER	5C1T	7.38 R	5.68	228.50	0.0	0.00	0.00	0.00			
		-12.44 L	-9.57	63.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	29.82	10.25	26.81 11.55	HS 205.03	369.1
5C1T	42.95	20.27	38.62 22.84	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	6.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.0	65.6
OPER	151.3	-123.3	109.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.74	7.53	-0.57	5.80	-0.78	5.95	-0.60	4.58
OPER	5C1T	-0.85	5.90	-0.65	4.54	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	94.35	8.71	HS 174.26	313.7
5C1T	145.23	18.55	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -15.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 157.7	161.0	-174.2	161.0	-174.2	177.5	-157.7	177.5	-
OPER 262.9	279.4	-279.4	279.4	-279.4	295.9	-262.9	295.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.06 R	3.12	205.50	0.0	6.38	4.91	177.50	
		-14.76 R	-11.35	184.00	0.0	-13.54	-10.42	165.00	187.50
OPER	5C1T	7.38 R	5.68	228.50	0.0	0.00	0.00	0.00	
		-12.44 L	-9.57	63.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	27.82	10.69	27.82	10.69	HS 213.77	384.8
5C1T	40.07	21.13	40.07	21.13	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.87 R	11.44	208.00	0.0	11.19	8.61	180.00			
		-11.45 L	-8.81	142.00	0.0	-8.86	-6.82	165.00		115.00	
OPER	5C1T	13.78 R	10.60	231.00	0.0	0.00	0.00	0.00			
		-10.71 L	-8.24	66.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.18	14.02	10.89	15.69	HS 217.76
5C1T	21.90	24.98	19.58	27.96	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	4.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.0	66.7
OPER	151.3	-121.6	111.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.	w/imp. (-)	(+) w/imp.	w/o imp. (-)	(+) w/o imp.
INV.	HS20	-0.74	6.35	-0.57	4.89	-1.10	5.25	-0.84	4.04
OPER	5C1T	-1.28	5.12	-0.98	3.94	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	66.45	10.49	HS 209.83	377.7
5C1T	95.14	21.71	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 166.9	167.2	-168.1	167.2	-168.1	168.4	-166.9	168.4	-
OPER 278.2	279.4	-279.4	279.4	-279.4	280.6	-278.2	280.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	14.87 R	11.44	208.00	0.0	11.19	8.61	180.00	
		-11.45 L	-8.81	142.00	0.0	-8.86	-6.82	165.00	115.00
OPER	5C1T	13.78 R	10.60	231.00	0.0	0.00	0.00	0.00	
		-10.71 L	-8.24	66.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.32	14.58	11.32	14.58	HS 226.43	407.6
5C1T	20.36	25.98	20.36	25.98	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.300

Dead Load Moment 0.9
Superimposed Dead Load Moment 9.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	174.5	-167.1	155.3	-186.3
OPER	300.6C	-268.7	268.7	-300.6C	290.8	-278.5	258.8	-310.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.64 R	16.64	210.50	0.0	16.33	12.56	182.50			
		-9.50 L	-7.31	142.00	0.0	-7.46	-5.74	165.00	0.00		
OPER	5C1T	18.75 R	14.42	233.50	0.0	0.00	0.00	0.00			
		-9.60 L	-7.38	67.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.06	17.58	7.18	19.60	HS 143.54	258.4
5C1T	15.51	29.01	13.80	32.34	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.300

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.3	0.0
	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.0	67.7
OPER	151.3	-119.9	112.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-1.10	5.15	-0.85	3.96	-1.67	4.51	-1.28	3.47
OPER	5C1T	-1.77	4.32	-1.36	3.32	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	43.16	13.15	HS 263.06	473.5
5C1T	67.65	26.10	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.300Dead Load Moment 0.9
Superimposed Dead Load Moment 9.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 173.5	171.6	-163.7	171.6	-163.7	161.7	-173.5	161.7	-
OPER 289.2	279.4	-279.4	279.4	-279.4	269.6	-289.2	269.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.64 R	16.64	210.50	0.0	16.33	12.56	182.50	
		-9.50 L	-7.31	142.00	0.0	-7.46	-5.74	165.00	0.00
OPER	5C1T	18.75 R	14.42	233.50	0.0	0.00	0.00	0.00	
		-9.60 L	-7.38	67.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.47	18.26	7.47	18.26	HS 149.49	269.1
5C1T	14.38	30.13	14.38	30.13	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.400

Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.27 R	18.67	213.00	0.0	19.41	14.93	185.00			
		-7.56 L	-5.81	142.00	0.0	-6.52	-5.01	165.00	0.00		
OPER	5C1T	21.93 R	16.87	284.00	0.0	0.00	0.00	0.00			
		-8.83 L	-6.80	68.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.02	22.65	6.23	25.19	HS 124.58	224.2
5C1T	12.95	32.30	11.49	35.92	0.00	919.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.400

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.2	0.0 1.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.24	4.20	-1.73	3.23	-2.31	3.76	-1.78	2.90
OPER	5C1T	-2.32	3.55	-1.78	2.73	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	30.70	16.36	HS 327.28	589.1
5C1T	51.01	32.29	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.400

Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.6	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-
OPER 296.1	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.27 R	18.67	213.00	0.0	19.41	14.93	185.00	
		-7.56 L	-5.81	142.00	0.0	-6.52	-5.01	165.00	0.00
OPER	5C1T	21.93 R	16.87	284.00	0.0	0.00	0.00	0.00	
		-8.83 L	-6.80	68.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.49	23.51	6.49	23.51	HS 129.89	233.8
5C1T	11.98	33.51	11.98	33.51	0.00	958.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.84	28.67	28.67	1.699
			999999.000
			91.917

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.8	-172.7	149.6	-191.9
OPER	300.6C	-268.7	268.7	-300.6C	281.4	-287.9	249.4	-319.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	23.69 L	18.22	173.50	0.0	20.63	15.87	187.50			
		-5.61 L	-4.32	142.00	0.0	-5.58	-4.29	165.00		0.00	
OPER	5C1T	22.72 R	17.48	286.50	0.0	0.00	0.00	0.00			
		-8.43 L	-6.49	69.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.13	30.78	6.32	34.20	HS 126.34	227.4
5C1T	12.38	34.14	10.98	37.93	0.00	878.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.0	0.0 0.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.28	3.28	-2.53	2.53	-3.01	3.03	-2.32	2.33
OPER	5C1T	-2.90	2.93	-2.23	2.26	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.30	21.23	HS 424.64	764.4
5C1T	40.24	39.62	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.2	175.3	-159.9	175.3	-159.9	156.1	-179.2	156.1	-
OPER 298.6	279.4	-279.4	279.4	-279.4	260.2	-298.6	260.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	23.69 L	18.22	173.50	0.0	20.63	15.87	187.50
		-5.61 L	-4.32	142.00	0.0	-5.58	-4.29	165.00
OPER	5C1T	22.72 R	17.48	286.50	0.0	0.00	0.00	0.00
		-8.43 L	-6.49	69.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.59	31.93	6.59	31.93	HS 131.79	237.2
5C1T	11.45	35.42	11.45	35.42	0.00	915.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.185

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.600

Dead Load Moment 1.6
Superimposed Dead Load Moment 15.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.0	-171.6	150.8	-190.8
OPER	300.6C	-268.7	268.7	-300.6C	283.4	-285.9	251.4	-317.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.26 L	18.66	162.00	0.0	19.42	14.94	190.00			
		-7.48 R	-5.76	233.00	0.0	-6.42	-4.94	210.00	0.00		
OPER	5C1T	22.03 L	16.94	139.00	0.0	0.00	0.00	0.00			
		-8.44 R	-6.50	306.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	7.01	22.92	6.22	HS 124.32	223.8
5C1T	12.86	33.86	11.41	0.00	913.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.600

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.1	-1.5
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.8	70.8
OPER	151.3	-114.7	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-4.20	2.24	-3.23	1.73	-3.75	2.33	-2.88	1.79
OPER	5C1T	-3.52	2.35	-2.71	1.81	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.40	30.38	HS 328.02	590.4
5C1T	32.62	50.29	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.600

Dead Load Moment Superimposed Dead Load Moment
1.6 15.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.0	174.6	-160.7	174.6	-160.7	157.3	-178.0	157.3	-
OPER 296.7	279.4	-279.4	279.4	-279.4	262.1	-296.7	262.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	24.26 L	18.66	162.00	0.0	19.42	14.94	190.00	
		-7.48 R	-5.76	233.00	0.0	-6.42	-4.94	210.00	0.00
OPER	5C1T	22.03 L	16.94	139.00	0.0	0.00	0.00	0.00	
		-8.44 R	-6.50	306.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.48	23.78	6.48	23.78	HS 129.64	233.3
5C1T	11.90	35.13	11.90	35.13	0.00	952.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.85	28.67	28.67	1.699
			999999.000
			92.185

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.700

Dead Load Moment 1.0
Superimposed Dead Load Moment 10.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	173.7	-167.8	154.5	-187.0
OPER	300.6C	-268.7	268.7	-300.6C	289.6	-279.7	257.6	-311.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.63 L	16.63	164.50	0.0	16.36	12.59	192.50			
		-9.41 R	-7.24	233.00	0.0	-7.28	-5.60	210.00	0.00		
OPER	5C1T	19.05 L	14.65	141.50	0.0	0.00	0.00	0.00			
		-9.06 R	-6.97	308.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.03	17.83	7.15	19.88	HS 142.93	257.3
5C1T	15.20	30.89	13.52	34.42	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.700

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
-0.3	-3.0
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.8	71.8
OPER	151.3	-113.0	119.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.15	1.10	-3.96	0.85	-4.49	1.69	-3.46	1.30
OPER	5C1T	-4.29	1.79	-3.30	1.38	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.18	42.57	HS 263.55	474.4
5C1T	26.34	66.84	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.700

Dead Load Moment Superimposed Dead Load Moment
1.0 10.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 174.3	172.1	-163.2	172.1	-163.2	161.0	-174.3	161.0	-
OPER 290.5	279.4	-279.4	279.4	-279.4	268.3	-290.5	268.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.63 L	16.63	164.50	0.0	16.36	12.59	192.50	
		-9.41 R	-7.24	233.00	0.0	-7.28	-5.60	210.00	0.00
OPER	5C1T	19.05 L	14.65	141.50	0.0	0.00	0.00	0.00	
		-9.06 R	-6.97	308.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.45	18.52	7.45	18.52	HS 148.90	268.0
5C1T	14.09	32.07	14.09	32.07	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z (Fy * Z)
Positive Top	Bending Bott.	Negative Top	Bending Bott.	
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.185

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
 Check Point I. D. 8.800

Dead Load Moment 0.1
 Superimposed Dead Load Moment 0.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	300.0	-269.3	268.0	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.85 L	11.43	167.00	0.0	11.38	8.76	195.00			
		-11.34 R	-8.72	233.00	0.0	-8.27	-6.36	210.00	177.50		
OPER	5C1T	14.07 L	10.82	144.00	0.0	0.00	0.00	0.00			
		-10.04 R	-7.72	222.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.12	14.25	10.83	15.95	HS 216.52	389.7
5C1T	21.32	26.83	19.05	30.02	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-4.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.8	72.8
OPER	151.3	-111.4	121.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.36	0.75	-4.89	0.57	-5.23	1.12	-4.02	0.86
OPER	5C1T	-5.08	1.29	-3.91	0.99	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.51	65.13	HS 210.24	378.4
5C1T	21.91	94.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.800Dead Load Moment 0.1
Superimposed Dead Load Moment 0.5

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 168.0	167.9	-167.4	167.9	-167.4	167.3	-168.0	167.3	-
OPER 280.0	279.4	-279.4	279.4	-279.4	278.8	-280.0	278.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.85 L	11.43	167.00	0.0	11.38	8.76	195.00	
		-11.34 R	-8.72	233.00	0.0	-8.27	-6.36	210.00	177.50
OPER	5C1T	14.07 L	10.82	144.00	0.0	0.00	0.00	0.00	
		-10.04 R	-7.72	222.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	11.26	14.82	11.26	14.82	HS 225.20	405.4
5C1T	19.81	27.90	19.81	27.90	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.185

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.8	-152.8	169.6	-172.0
OPER	300.6C	-268.7	268.7	-300.6C	314.7	-254.6	282.7	-286.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.04 L	3.10	169.50	0.0	6.39	4.92	197.50			
		-14.69 L	-11.30	191.00	0.0	-13.23	-10.18	210.00	187.50		
OPER	5C1T	7.54 L	5.80	146.50	0.0	0.00	0.00	0.00			
		-11.82 R	-9.09	224.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	29.55	10.40	26.54	11.71	HS 208.07	374.5
5C1T	41.72	21.55	37.48	24.25	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-6.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.8	73.9
OPER	151.3	-109.7	123.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	0.78	-5.80	0.60	-5.93	0.81	-4.56	0.62
OPER	5C1T	-5.85	0.87	-4.50	0.67	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.73	91.43	HS 174.62	314.3
5C1T	18.73	142.01	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 8.900

Dead Load Moment Superimposed Dead Load Moment
-1.2 -12.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 159.2	162.0	-173.3	162.0	-173.3	176.1	-159.2	176.1	-
OPER 265.4	279.4	-279.4	279.4	-279.4	293.4	-265.4	293.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.04 L	3.10	169.50	0.0	6.39	4.92	197.50	
		-14.69 L	-11.30	191.00	0.0	-13.23	-10.18	210.00	187.50
OPER	5C1T	7.54 L	5.80	146.50	0.0	0.00	0.00	0.00	
		-11.82 R	-9.09	224.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	27.55	10.84	27.55	10.84	HS 216.85	390.3
5C1T	38.90	22.45	38.90	22.45	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.85	28.67	28.67	1.699	999999.000	92.185

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.72		107.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.000

Dead Load Superimposed Dead Load
Moment Moment
-2.9 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.1	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.6	-235.7	301.6	-267.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	5.00 R	3.85	258.00	0.0	4.46	3.43	235.00			
		-24.63 R	-18.95	220.50	0.0	-22.32	-17.17	190.00	210.00		
OPER	5C1T	3.85 R	2.96	371.50	0.0	0.00	0.00	0.00			
		-15.44 R	-11.88	231.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	40.03	5.74	36.19 6.52	HS 114.85	206.7
5C1T	86.62	15.26	78.32 17.33	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.8	65.0
OPER	151.3	-108.0	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.54	8.63	-5.80	6.64	-5.93	6.53	-4.56	5.02
OPER	5C1T	-5.85	6.49	-4.50	4.99	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.50	7.53	HS 149.96	269.9
5C1T	16.46	16.69	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.9	154.5	-180.8	154.5	-180.8	187.4	-147.9	187.4	-
OPER 246.5	279.4	-279.4	279.4	-279.4	312.3	-246.5	312.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	5.00 R	3.85	258.00	0.0	4.46	3.43	235.00	
		-24.63 R	-18.95	220.50	0.0	-22.32	-17.17	190.00	210.00
OPER	5C1T	3.85 R	2.96	371.50	0.0	0.00	0.00	0.00	
		-15.44 R	-11.88	231.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	37.48	6.00	37.48	6.00	HS 120.08	216.2
5C1T	81.11	15.96	81.11	15.96	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.776

LFD - Moment Values

Compact Values (C)	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
4110/ sqrt Fy	19230/ sqrt Fy		
top 22.62	105.86	0.00	390.83
bott 22.62		0.99	
			109.1
			108.9

Braced Non Compact Values (B)

24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top 24.00	200.93	0.00
bott 24.00		0.00

Non Compact Values (N)

Cb	lambda	Rb	Mr	Lp	Lr
top 0.00	0.	0.000	0.00	0.0	0.00
bott 0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.000

Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.1	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.6	-235.7	301.6	-267.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	5.00 R	3.85	258.00	0.0	4.46	3.43	235.00			
		-24.63 R	-18.95	220.50	0.0	-22.32	-17.17	190.00		210.00	
OPER	5C1T	3.85 R	2.96	371.50	0.0	0.00	0.00	0.00			
		-15.44 R	-11.88	231.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	40.03	5.74	36.19	6.52	HS 114.85
5C1T	86.62	15.26	78.32	17.33	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-7.7	7.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.8	65.0
OPER	151.3	-108.0	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.64	8.63	-6.65	6.64	-6.58	6.53	-5.06	5.02
OPER	5C1T	-6.56	6.49	-5.05	4.99	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.50	7.53	HS 149.96	269.9
5C1T	16.46	16.69	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.000Dead Load Moment Superimposed Dead Load Moment
-2.9 -30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.9	154.5	-180.8	154.5	-180.8	187.4	-147.9	187.4	-
OPER 246.5	279.4	-279.4	279.4	-279.4	312.3	-246.5	312.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	5.00 R	3.85	258.00	0.0	4.46	3.43	235.00	
		-24.63 R	-18.95	220.50	0.0	-22.32	-17.17	190.00	210.00
OPER	5C1T	3.85 R	2.96	371.50	0.0	0.00	0.00	0.00	
		-15.44 R	-11.88	231.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	37.48	6.00	37.48	6.00	HS 120.08	216.2
5C1T	81.11	15.96	81.11	15.96	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.776

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.3	-152.3	170.1	-171.5
OPER	300.6C	-268.7	268.7	-300.6C	315.5	-253.8	283.5	-285.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.11 R	3.16	230.50	0.0	6.48	4.98	202.50			
		-14.76 R	-11.36	209.00	0.0	-13.35	-10.27	190.00	212.50		
OPER	5C1T	7.83 R	6.03	253.50	0.0	0.00	0.00	0.00			
		-12.44 L	-9.57	88.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	29.22	10.31	26.26	11.61	HS 206.28	371.3
5C1T	40.28	20.40	36.20	22.97	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.100

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.6	0.0 5.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.6	66.0
OPER	151.3	-122.7	110.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-0.91	7.52	-0.70	5.79	-0.88	5.89	-0.67	4.53
OPER	5C1T	-0.94	5.72	-0.72	4.40	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	80.85	8.77	HS 175.50	315.9
5C1T	131.05	19.22	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.100

Dead Load Moment Superimposed Dead Load Moment
-1.3 -13.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 158.7	161.7	-173.6	161.7	-173.6	176.6	-158.7	176.6	-
OPER 264.5	279.4	-279.4	279.4	-279.4	294.3	-264.5	294.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.11 R	3.16	230.50	0.0	6.48	4.98	202.50	
		-14.76 R	-11.36	209.00	0.0	-13.35	-10.27	190.00	212.50
OPER	5C1T	7.83 R	6.03	253.50	0.0	0.00	0.00	0.00	
		-12.44 L	-9.57	88.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	27.26	10.75	27.26	10.75	HS 215.01	387.0
5C1T	37.57	21.26	37.57	21.26	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.776

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.88 R	11.45	233.00	0.0	11.21	8.62	205.00			
		-11.45 L	-8.81	167.00	0.0	-8.84	-6.80	190.00	140.00		
OPER	5C1T	13.84 R	10.64	256.00	0.0	0.00	0.00	0.00			
		-10.71 L	-8.24	91.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	12.16	14.02	10.88	15.70	217.51
5C1T	21.80	24.99	19.49	27.98	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	4.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.6	67.0
OPER	151.3	-121.1	111.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.91	6.34	-0.70	4.88	-1.14	5.18	-0.87	3.99
OPER	5C1T	-1.41	4.92	-1.09	3.79	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	63.97	10.57	HS 211.42	380.5
5C1T	85.67	22.69	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.0	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-
OPER 278.4	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	14.88 R	11.45	233.00	0.0	11.21	8.62	205.00	
		-11.45 L	-8.81	167.00	0.0	-8.84	-6.80	190.00	140.00
OPER	5C1T	13.84 R	10.64	256.00	0.0	0.00	0.00	0.00	
		-10.71 L	-8.24	91.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	11.31	14.59	11.31	14.59	HS 226.18	407.1
5C1T	20.27	26.00	20.27	26.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.776

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.300

Dead Load Moment 0.7
Superimposed Dead Load Moment 7.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	175.3	-166.3	156.1	-185.5
OPER	300.6C	-268.7	268.7	-300.6C	292.1	-277.2	260.1	-309.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.56 R	16.59	235.50	0.0	16.17	12.44	207.50			
		-9.49 L	-7.30	167.00	0.0	-7.53	-5.79	190.00	0.00		
OPER	5C1T	18.33 R	14.10	258.50	0.0	0.00	0.00	0.00			
		-9.61 L	-7.40	92.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.13	17.52	7.24	19.54	HS 144.76	260.6
5C1T	15.93	28.83	14.19	32.16	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.2	0.0 2.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.6	68.0
OPER	151.3	-119.4	113.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.14	5.13	-0.88	3.95	-1.71	4.44	-1.31	3.42
OPER	5C1T	-1.95	4.13	-1.50	3.18	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.95	13.26	HS 265.15	477.3
5C1T	61.24	27.45	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.300Dead Load Moment 0.7
Superimposed Dead Load Moment 7.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 172.8	171.1	-164.2	171.1	-164.2	162.5	-172.8	162.5	-
OPER 287.9	279.4	-279.4	279.4	-279.4	270.9	-287.9	270.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.56 R	16.59	235.50	0.0	16.17	12.44	207.50	
		-9.49 L	-7.30	167.00	0.0	-7.53	-5.79	190.00	0.00
OPER	5C1T	18.33 R	14.10	258.50	0.0	0.00	0.00	0.00	
		-9.61 L	-7.40	92.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.54	18.20	7.54	18.20	HS 150.74	271.3
5C1T	14.77	29.95	14.77	29.95	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.74	28.67	28.67	1.699	999999.000	86.776

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.400

Dead Load Moment 1.1
Superimposed Dead Load Moment 12.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	172.0	-169.5	152.8	-188.7
OPER	300.6C	-268.7	268.7	-300.6C	286.7	-282.6	254.7	-314.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.10 R	18.54	238.00	0.0	19.07	14.67	210.00			
		-7.54 L	-5.80	167.00	0.0	-6.66	-5.12	190.00	0.00		
OPER	5C1T	21.04 R	16.18	261.00	0.0	0.00	0.00	0.00			
		-9.12 L	-7.01	140.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.14	22.49	6.34	25.04	HS 126.87	228.4
5C1T	13.63	30.99	12.11	34.50	0.00	968.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.400

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.1	0.0 1.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.6	69.0
OPER	151.3	-117.7	115.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-2.28	4.19	-1.76	3.22	-2.35	3.69	-1.81	2.84
OPER	5C1T	-2.51	3.38	-1.93	2.60	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	30.00	16.48	HS 329.50	593.1
5C1T	46.86	34.09	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.400

Dead Load Moment Superimposed Dead Load Moment

1.1 12.8

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 176.0	173.2	-162.1	173.2	-162.1	159.3	-176.0	159.3	-
OPER 293.3	279.4	-279.4	279.4	-279.4	265.5	-293.3	265.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	24.10 R	18.54	238.00	0.0	19.07	14.67	210.00	
		-7.54 L	-5.80	167.00	0.0	-6.66	-5.12	190.00	0.00
OPER	5C1T	21.04 R	16.18	261.00	0.0	0.00	0.00	0.00	
		-9.12 L	-7.01	140.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	6.61	23.35	6.61	23.35	HS 132.22	238.0
5C1T	12.62	32.17	12.62	32.17	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.776

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.500

Dead Load Moment Superimposed Dead Load Moment
1.2 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.4	-170.2	152.2	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	23.61	R	18.16	226.50	0.0	20.11	15.47	212.50		
		-6.83	R	-5.25	258.00	0.0	-6.09	-4.68	235.00	0.00	
OPER	5C1T	21.95	L	16.88	113.50	0.0	0.00	0.00	0.00		
		-9.46	R	-7.28	284.50	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	7.26	24.92	6.45	27.73	HS 128.91
5C1T	13.01	29.99	11.55	33.37	0.00 924.3

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 9.500
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.1 -0.4 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.6	70.1
OPER	151.3	-116.0	116.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.33	3.27	-2.56	2.52	-3.05	2.96	-2.35	2.28
OPER	5C1T	-3.08	2.75	-2.37	2.11	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	20.92	21.40	HS 418.50	753.3
5C1T	37.70	42.48	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.7	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-
OPER 294.4	279.4	-279.4	279.4	-279.4	264.4	-294.4	264.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	23.61 R	18.16	226.50	0.0	20.11	15.47	212.50	
		-6.83 R	-5.25	258.00	0.0	-6.09	-4.68	235.00	0.00
OPER	5C1T	21.95 L	16.88	113.50	0.0	0.00	0.00	0.00	
		-9.46 R	-7.28	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.72	25.86	HS 134.37	241.9
5C1T	12.04	31.12	0.00	963.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.600

Dead Load Moment Superimposed Dead Load Moment
0.8 10.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.2	154.2	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.0	-280.3	257.0	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.14 L	18.57	187.00	0.0	18.72	14.40	215.00			
		-9.20 R	-7.07	258.00	0.0	-7.12	-5.48	235.00	0.00		
OPER	5C1T	21.02 L	16.17	116.00	0.0	0.00	0.00	0.00			
		-9.81 R	-7.55	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.18	18.28	6.39	20.37	HS 127.76	230.0
5C1T	13.75	28.57	12.23	31.83	0.00	978.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.5	71.2
OPER	151.3	-114.2	118.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.25	2.23	-3.27	1.72	-3.79	2.26	-2.92	1.74
OPER	5C1T	-3.62	2.19	-2.79	1.68	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.11	31.51	HS 322.24	580.0
5C1T	31.52	54.17	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.600Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 174.6	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-
OPER 291.0	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Live Load Moment w/imp.	Loc. of Conc. Load 2
INV.	HS20	24.14 L	18.57	187.00	0.0	18.72	14.40
		-9.20 R	-7.07	258.00	0.0	-7.12	-5.48
OPER	5C1T	21.02 L	16.17	116.00	0.0	0.00	0.00
		-9.81 R	-7.55	284.50	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.66	18.99	6.66	18.99	HS 133.10	239.6
5C1T	12.74	29.66	12.74	29.66	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.700

Dead Load Moment 0.1
Superimposed Dead Load Moment 3.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	178.0	-163.6	158.8	-182.7
OPER	300.6C	-268.7	268.7	-300.6C	296.7	-272.6	264.7	-304.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	21.45 L	16.50	189.50	0.0	15.47	11.90	217.50			
		-11.56 R	-8.89	258.00	0.0	-8.16	-6.27	235.00	0.00		
OPER	5C1T	17.06 L	13.13	114.50	0.0	0.00	0.00	0.00			
		-10.16 R	-7.82	284.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.30	14.15	7.40	15.81	HS 148.07	266.5
5C1T	17.39	26.82	15.51	29.97	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 9.700
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.4 -3.5 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.5	72.2
OPER	151.3	-112.5	120.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.17	1.09	-3.98	0.84	-4.54	1.62	-3.49	1.24
OPER	5C1T	-4.37	1.68	-3.36	1.29	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.05	44.67	HS 261.00	469.8
5C1T	25.73	71.69	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.700

Dead Load Moment 0.1
Superimposed Dead Load Moment 3.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 170.0	169.2	-166.1	169.2	-166.1	165.3	-170.0	165.3	-
OPER 283.3	279.4	-279.4	279.4	-279.4	275.5	-283.3	275.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	21.45 L	16.50	189.50	0.0	15.47	11.90	217.50	
		-11.56 R	-8.89	258.00	0.0	-8.16	-6.27	235.00	0.00
OPER	5C1T	17.06 L	13.13	114.50	0.0	0.00	0.00	0.00	
		-10.16 R	-7.82	284.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	7.70	14.70	7.70	14.70	HS 154.09	277.4
5C1T	16.14	27.88	16.14	27.88	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.800

Dead Load Moment Superimposed Dead Load Moment
-1.0 -6.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.2	-156.4	166.0	-175.6
OPER	300.6C	-268.7	268.7	-300.6C	308.6	-260.7	276.6	-292.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.64 L	11.26	192.00	0.0	10.36	7.97	220.00			
		-13.93 R	-10.71	258.00	0.0	-9.37	-7.21	235.00	202.50		
OPER	5C1T	11.63 L	8.94	82.00	0.0	0.00	0.00	0.00			
		-11.24 R	-8.64	247.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	12.65	11.23	11.34	12.61	404.3
5C1T	26.55	23.20	23.79	26.05	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.5	73.2
OPER	151.3	-110.8	122.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.39	0.75	-4.91	0.58	-5.28	1.05	-4.06	0.81
OPER	5C1T	-5.19	1.22	-3.99	0.94	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.41	69.77	HS 208.13	374.6
5C1T	21.34	99.61	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.800Dead Load Moment -1.0
Superimposed Dead Load Moment -6.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 162.9	164.5	-170.8	164.5	-170.8	172.4	-162.9	172.4	-
OPER 271.4	279.4	-279.4	279.4	-279.4	287.4	-271.4	287.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Live Load Moment w/o imp.	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.64 L	11.26	192.00	0.0	10.36	7.97	220.00
		-13.93 R	-10.71	258.00	0.0	-9.37	-7.21	235.00
OPER	5C1T	11.63 L	8.94	82.00	0.0	0.00	0.00	0.00
		-11.24 R	-8.64	247.50	0.0	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.78	11.69	11.78	11.69	HS 233.87	421.0
5C1T	24.72	24.16	24.72	24.16	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 9.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	28.67	28.67	1.699
			999999.000
			86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.900

Dead Load Moment	Superimposed Dead Load Moment
-2.6	-21.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	194.8	-146.7	175.6	-165.9
OPER	300.6C	-268.7	268.7	-300.6C	324.7	-244.6	292.7	-276.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	3.80 L	2.92	194.50	0.0	5.27	4.05	222.50			
		-17.00 L	-13.08	216.00	0.0	-14.65	-11.27	235.00		212.50	
OPER	5C1T	5.48 L	4.22	84.50	0.0	0.00	0.00	0.00			
		-14.08 R	-10.83	253.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	36.96	8.63	33.32	9.76	HS 172.67	310.8
5C1T	59.24	17.37	53.41	19.64	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S04
 Check Point I. D. 9.900
 HS20 5C1T
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 -0.7 -6.6 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-65.4	74.2
OPER	151.3	-109.1	123.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.57	0.78	-5.82	0.60	-5.98	0.75	-4.60	0.58
OPER	5C1T	-6.02	0.83	-4.63	0.64	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.64	94.87	HS 172.86	311.1
5C1T	18.13	148.18	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 9.900

Dead Load Moment Superimposed Dead Load Moment
-2.6 -21.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.2	158.0	-177.3	158.0	-177.3	182.1	-153.2	182.1	-
OPER 255.3	279.4	-279.4	279.4	-279.4	303.5	-255.3	303.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	3.80 L	2.92	194.50	0.0	5.27	4.05	222.50	
		-17.00 L	-13.08	216.00	0.0	-14.65	-11.27	235.00	212.50
OPER	5C1T	5.48 L	4.22	84.50	0.0	0.00	0.00	0.00	
		-14.08 R	-10.83	253.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	34.54	9.01	34.54	9.01	HS 180.25	324.5
5C1T	55.37	18.13	55.37	18.13	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.74	28.67	28.67	1.699	999999.000	86.932

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.99		108.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-161.2	161.2	-215.8C	242.5	-134.5	187.9	-189.1
OPER	359.7C	-268.7	268.7	-359.7C	404.1	-224.2	313.1	-315.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.19 L	3.23	167.00	0.0	3.10	2.38	190.00			
		-25.85 R	-19.88	246.50	0.0	-23.98	-18.45	235.00		215.00	
OPER	5C1T	3.24 L	2.49	52.00	0.0	0.00	0.00	0.00			
		-19.20 R	-14.77	257.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	57.82	5.20	44.79	7.32	HS 104.09	187.4
5C1T	124.64	11.68	96.57	16.42	0.00	934.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	-0.8	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-64.4	73.2
OPER	172.1	-107.4	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-7.57	9.19	-5.82	7.07	-5.98	6.68	-4.60	5.13
OPER	5C1T	-6.02	6.84	-4.63	5.26	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.43	7.96	HS 148.50	267.3
5C1T	15.90	17.83	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -40.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.0	149.9	-185.4	149.9	-185.4	194.3	-141.0	194.3	-
OPER 235.0	279.4	-279.4	279.4	-279.4	323.8	-235.0	323.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	4.19 L	3.23	167.00	0.0	3.10	2.38	190.00	
		-25.85 R	-19.88	246.50	0.0	-23.98	-18.45	235.00	215.00
OPER	5C1T	3.24 L	2.49	52.00	0.0	0.00	0.00	0.00	
		-19.20 R	-14.77	257.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	46.33	5.45	46.33	5.45	HS 109.08	196.3
5C1T	99.88	12.24	99.88	12.24	0.00	979.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.74	35.20	35.20	2.861
			999999.000
			111.436

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.000

Dead Load Superimposed Dead Load
Moment Moment
-4.5 -40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-161.2	161.2	-215.8C	242.5	-134.5	187.9	-189.1
OPER	359.7C	-268.7	268.7	-359.7C	404.1	-224.2	313.1	-315.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	4.19 L	3.23	167.00	0.0	3.10	2.38	190.00			
		-25.85 R	-19.88	246.50	0.0	-23.98	-18.45	235.00	215.00		
OPER	5C1T	3.24 L	2.49	52.00	0.0	0.00	0.00	0.00			
		-19.20 R	-14.77	257.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	57.82	5.20	44.79	7.32	HS 104.09
5C1T	124.64	11.68	96.57	16.42	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	1.1	-8.1	9.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-64.4	73.2
OPER	172.1	-107.4	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.68	9.19	-6.67	7.07	-6.61	6.68	-5.09	5.13
OPER	5C1T	-6.75	6.84	-5.19	5.26	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.43	7.96	HS 148.50	267.3
5C1T	15.90	17.83	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-40.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 141.0	149.9	-185.4	149.9	-185.4	194.3	-141.0	194.3	-
OPER 235.0	279.4	-279.4	279.4	-279.4	323.8	-235.0	323.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	4.19 L	3.23	167.00	0.0	3.10	2.38	190.00	
		-25.85 R	-19.88	246.50	0.0	-23.98	-18.45	235.00	215.00
OPER	5C1T	3.24 L	2.49	52.00	0.0	0.00	0.00	0.00	
		-19.20 R	-14.77	257.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	46.33	5.45	46.33	5.45	HS 109.08	196.3
5C1T	99.88	12.24	99.88	12.24	0.00	979.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.05	35.20	35.20	2.861	999999.000	110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.100

Dead Load Moment Superimposed Dead Load Moment
-2.0 -18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	228.1	-179.4	203.9	-203.5
OPER	359.7C	-319.4	319.4	-359.7C	380.2	-298.9	339.9	-339.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	3.14 L	2.42	162.00	0.0	6.02	4.63	227.50			
		-15.52 R	-11.94	234.00	0.0	-14.48	-11.14	215.00	240.00		
OPER	5C1T	7.54 L	5.80	93.50	0.0	0.00	0.00	0.00			
		-13.76 R	-10.59	259.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	37.90	11.56	33.89	13.11	HS 231.15
5C1T	50.39	21.72	45.06	24.65	0.00

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S04
 Check Point I. D. 10.100

HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear

0.9 0.0 7.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-84.7	74.2
OPER	172.1	-141.1	123.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-0.16	8.18	-0.12	6.30	-0.34	6.10	-0.26	4.70
OPER	5C1T	-0.26	6.17	-0.20	4.74	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	252.14	9.06	HS 181.31	326.4
5C1T	544.05	20.06	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.100

Dead Load Moment Superimposed Dead Load Moment
-2.0 -18.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 187.0	191.1	-207.5	191.1	-207.5	211.6	-187.0	211.6	-
OPER 311.7	332.2	-332.2	332.2	-332.2	352.7	-311.7	352.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	3.14 L	2.42	162.00	0.0	6.02	4.63	227.50	
		-15.52 R	-11.94	234.00	0.0	-14.48	-11.14	215.00	240.00
OPER	5C1T	7.54 L	5.80	93.50	0.0	0.00	0.00	0.00	
		-13.76 R	-10.59	259.50	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	35.16	12.05	35.16	12.05	HS 241.03	433.8
5C1T	46.75	22.65	46.75	22.65	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.05	35.20	35.20	2.861	999999.000	110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.200

Dead Load Moment Superimposed Dead Load Moment
0.1 -0.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	216.3	-191.2	192.1	-215.3
OPER	359.7C	-319.4	319.4	-359.7C	360.5	-318.6	320.2	-358.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.01 R	12.31	258.00	0.0	11.90	9.15	230.00			
		-12.52 L	-9.63	192.00	0.0	-9.67	-7.44	215.00		165.00	
OPER	5C1T	14.77 L	11.36	96.00	0.0	0.00	0.00	0.00			
		-11.78 L	-9.06	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	13.52	15.27	12.01	17.20	HS 240.10
5C1T	24.41	27.04	21.68	30.46	0.00 999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	6.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-83.6	75.2
OPER	172.1	-139.4	125.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.24	7.06	-0.19	5.43	-0.71	5.49	-0.54	4.22
OPER	5C1T	-0.64	5.43	-0.49	4.18	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	118.14	10.65	HS 213.08	383.6
5C1T	218.14	23.07	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.200Dead Load Moment 0.1
Superimposed Dead Load Moment -0.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 198.8	199.0	-199.6	199.0	-199.6	199.8	-198.8	199.8	-
OPER 331.4	332.2	-332.2	332.2	-332.2	333.0	-331.4	333.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 R	12.31	258.00	0.0	11.90	9.15	230.00	
		-12.52 L	-9.63	192.00	0.0	-9.67	-7.44	215.00	165.00
OPER	5C1T	14.77 L	11.36	96.00	0.0	0.00	0.00	0.00	
		-11.78 L	-9.06	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.48	15.88	12.48	15.88	HS 249.68	449.4
5C1T	22.55	28.12	22.55	28.12	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.05	35.20	35.20	2.861
			999999.000
			110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.300

Dead Load Moment 1.7
Superimposed Dead Load Moment 12.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	207.1	-200.4	182.9	-224.5
OPER	359.7C	-319.4	319.4	-359.7C	345.1	-334.0	304.9	-374.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	24.90 R	19.16	260.50	0.0	18.00	13.85	232.50			
		-10.96 L	-8.43	192.00	0.0	-8.46	-6.51	215.00	165.00		
OPER	5C1T	21.59 R	16.61	283.50	0.0	0.00	0.00	0.00			
		-10.31 L	-7.93	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	8.31	18.29	7.34	20.50	HS 146.91	264.4
5C1T	15.99	32.39	14.12	36.30	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.300

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) Shear
0.5	0.0 4.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	103.3	-82.6	76.3
OPER	172.1	-137.7	127.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-0.76	5.83	-0.58	4.49	-1.16	4.84	-0.89	3.72
OPER	5C1T	-1.08	4.66	-0.83	3.58	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	71.18	13.08	HS 261.52	470.7
5C1T	127.24	27.28	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.300Dead Load Moment 1.7
Superimposed Dead Load Moment 12.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.0	205.1	-193.5	205.1	-193.5	190.6	-208.0	190.6	-
OPER 346.7	332.2	-332.2	332.2	-332.2	317.7	-346.7	317.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	24.90 R	19.16	260.50	0.0	18.00	13.85	232.50	
		-10.96 L	-8.43	192.00	0.0	-8.46	-6.51	215.00	165.00
OPER	5C1T	21.59 R	16.61	283.50	0.0	0.00	0.00	0.00	
		-10.31 L	-7.93	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	7.65	18.99	7.65	18.99	HS 153.06	275.5
5C1T	14.71	33.63	14.71	33.63	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.05	35.20	35.20	2.861	999999.000	110.227

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		26.07		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.400

Dead Load Moment Superimposed Dead Load Moment
2.8 22.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	200.5	-207.0	176.3	-231.2
OPER	359.7C	-319.4	319.4	-359.7C	334.1	-345.0	293.8	-385.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	28.82 R	22.17	263.00	0.0	22.24	17.11	235.00			
		-9.39 L	-7.22	192.00	0.0	-6.94	-5.34	215.00		0.00	
OPER	5C1T	26.17 R	20.13	286.00	0.0	0.00	0.00	0.00			
		-8.84 L	-6.80	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.96	22.04	6.12	24.62	HS 122.36	220.2
5C1T	12.77	39.04	11.23	43.60	0.00	898.2

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-81.6	77.3
OPER	172.1	-135.9	128.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.52	4.55	-1.17	3.50	-1.69	4.17	-1.30	3.21
OPER	5C1T	-1.60	3.96	-1.23	3.04	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	48.31	16.98	HS 339.52	611.1
5C1T	85.01	32.55	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.400Dead Load Moment 2.8
Superimposed Dead Load Moment 22.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.7	209.6	-189.1	209.6	-189.1	184.0	-214.7	184.0	-
OPER 357.8	332.2	-332.2	332.2	-332.2	306.6	-357.8	306.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	28.82 R	22.17	263.00	0.0	22.24	17.11	235.00	
		-9.39 L	-7.22	192.00	0.0	-6.94	-5.34	215.00	0.00
OPER	5C1T	26.17 R	20.13	286.00	0.0	0.00	0.00	0.00	
		-8.84 L	-6.80	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.38	22.86	6.38	22.86	HS 127.68	229.8
5C1T	11.72	40.49	11.72	40.49	0.00	937.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.500

Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	196.4	-211.1	172.2	-235.2
OPER	359.7C	-319.4	319.4	-359.7C	327.3	-351.8	287.1	-392.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	30.35 R	23.35	265.50	0.0	24.79	19.07	237.50			
		-7.83 L	-6.02	192.00	0.0	-5.78	-4.45	215.00	0.00		
OPER	5C1T	28.60 L	22.00	138.50	0.0	0.00	0.00	0.00			
		-7.36 L	-5.66	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.47	26.97	5.68	30.06	HS 113.50	204.3
5C1T	11.44	47.77	10.04	53.24	0.00	802.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.500

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.2	0.0
	1.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-80.5	78.3
OPER	172.1	-134.2	130.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.43	3.77	-1.87	2.90	-2.29	3.48	-1.76	2.68
OPER	5C1T	-2.21	3.39	-1.70	2.61	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	33.17	20.77	HS 415.50	747.9
5C1T	60.84	38.50	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.500Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 218.7	212.3	-186.4	212.3	-186.4	179.9	-218.7	179.9	-
OPER 364.6	332.2	-332.2	332.2	-332.2	299.8	-364.6	299.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	30.35 R	23.35	265.50	0.0	24.79	19.07	237.50	
		-7.83 L	-6.02	192.00	0.0	-5.78	-4.45	215.00	0.00
OPER	5C1T	28.60 L	22.00	138.50	0.0	0.00	0.00	0.00	
		-7.36 L	-5.66	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	5.93	27.95	5.93	27.95	HS 118.55	213.4
5C1T	10.48	49.50	10.48	49.50	0.00	838.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.600

Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	195.1	-212.3	171.0	-236.5
OPER	359.7C	-319.4	319.4	-359.7C	325.2	-353.9	284.9	-394.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	32.18 R	24.75	254.00	0.0	24.89	19.15	240.00			
		-6.26 L	-4.82	192.00	0.0	-4.63	-3.56	215.00		0.00	
OPER	5C1T	28.91 L	22.24	141.00	0.0	0.00	0.00	0.00			
		-5.89 L	-4.53	116.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.06	33.92	5.31	37.78	HS 106.25	191.2
5C1T	11.25	60.07	9.86	66.90	0.00	788.6

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-79.4	79.4
OPER	172.1	-132.4	132.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.22	2.87	-2.48	2.21	-2.96	2.80	-2.27	2.15
OPER	5C1T	-2.85	2.79	-2.19	2.15	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	24.68	27.68	HS 493.57	888.4
5C1T	46.43	47.47	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.600Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 220.0	213.1	-185.5	213.1	-185.5	178.6	-220.0	178.6	-
OPER 366.7	332.2	-332.2	332.2	-332.2	297.7	-366.7	297.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	32.18 R	24.75	254.00	0.0	24.89	19.15	240.00	
		-6.26 L	-4.82	192.00	0.0	-4.63	-3.56	215.00	0.00
OPER	5C1T	28.91 L	22.24	141.00	0.0	0.00	0.00	0.00	
		-5.89 L	-4.53	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	5.55	35.14	5.55	35.14	HS 111.01	199.8
5C1T	10.30	62.24	10.30	62.24	0.00	823.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.700

Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	196.4	-211.0	172.3	-235.2
OPER	359.7C	-319.4	319.4	-359.7C	327.4	-351.7	287.1	-392.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	32.12 R	24.70	256.50	0.0	22.80	17.54	242.50			
		-4.70 L	-3.61	192.00	0.0	-3.47	-2.67	215.00	0.00		
OPER	5C1T	27.28 L	20.98	139.50	0.0	0.00	0.00	0.00			
		-4.42 L	-3.40	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.12	44.95	5.36	50.09	HS 107.28	193.1
5C1T	12.00	79.60	10.52	88.71	0.00	841.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-78.4	80.5
OPER	172.1	-130.6	134.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.28	2.18	-3.29	1.68	-3.68	2.11	-2.83	1.62
OPER	5C1T	-3.64	2.15	-2.80	1.65	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	18.31	36.87	HS 366.12	659.0
5C1T	35.92	62.50	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.700Dead Load Moment 3.5
Superimposed Dead Load Moment 28.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 218.7	212.2	-186.4	212.2	-186.4	179.9	-218.7	179.9	-
OPER 364.5	332.2	-332.2	332.2	-332.2	299.9	-364.5	299.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	32.12 R	24.70	256.50	0.0	22.80	17.54	242.50	
		-4.70 L	-3.61	192.00	0.0	-3.47	-2.67	215.00	0.00
OPER	5C1T	27.28 L	20.98	139.50	0.0	0.00	0.00	0.00	
		-4.42 L	-3.40	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	5.60	46.58	5.60	46.58	HS 112.05	201.7
5C1T	10.99	82.50	10.99	82.50	0.00	879.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.800

Dead Load Moment Superimposed Dead Load Moment
2.8 23.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	200.3	-207.2	176.1	-231.3
OPER	359.7C	-319.4	319.4	-359.7C	333.8	-345.3	293.6	-385.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	27.24 R	20.95	259.00	0.0	17.87	13.74	245.00			
		-3.13 L	-2.41	192.00	0.0	-2.31	-1.78	215.00	0.00		
OPER	5C1T	22.56 L	17.35	142.00	0.0	0.00	0.00	0.00			
		-2.95 L	-2.27	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.35	66.18	6.47	73.90	HS 129.35	232.8
5C1T	14.80	117.21	13.01	130.88	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.800

Dead Load	Superimposed Dead Load
Shear (-) Shear	(+) Shear
-0.4	-3.1
	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-77.4	81.5
OPER	172.1	-128.9	135.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-5.45	1.47	-4.19	1.13	-4.47	1.44	-3.44	1.11
OPER	5C1T	-4.51	1.45	-3.47	1.12	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	14.20	55.46	HS 284.01	511.2
5C1T	28.58	93.41	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.800Dead Load Moment 2.8
Superimposed Dead Load Moment 23.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.8	209.7	-189.0	209.7	-189.0	183.8	-214.8	183.8	-
OPER 358.0	332.2	-332.2	332.2	-332.2	306.4	-358.0	306.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	27.24 R	20.95	259.00	0.0	17.87	13.74	245.00	
		-3.13 L	-2.41	192.00	0.0	-2.31	-1.78	215.00	0.00
OPER	5C1T	22.56 L	17.35	142.00	0.0	0.00	0.00	0.00	
		-2.95 L	-2.27	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	6.75	68.63	6.75	68.63	HS 134.98	243.0
5C1T	13.58	121.55	13.58	121.55	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 10.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.20	35.20	2.861	999999.000	94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.900

Dead Load Moment 1.6
Superimposed Dead Load Moment 13.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.8C	-191.7	191.7	-215.8C	206.8	-200.7	182.6	-224.9
OPER	359.7C	-319.4	319.4	-359.7C	344.6	-334.5	304.4	-374.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.74 R	12.88	261.50	0.0	10.46	8.04	247.50			
		-1.57 L	-1.20	192.00	0.0	-1.16	-0.89	215.00	0.00		
OPER	5C1T	13.56 L	10.43	144.50	0.0	0.00	0.00	0.00			
		-1.47 L	-1.13	116.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.35	128.23	10.91	143.67	HS 218.16	392.7
5C1T	25.42	227.10	22.45	254.44	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-4.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-76.3	82.5
OPER	172.1	-127.2	137.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-6.70	0.74	-5.15	0.57	-5.31	0.79	-4.08	0.61
OPER	5C1T	-5.42	0.96	-4.17	0.74	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	11.40	104.24	HS 227.95	410.3
5C1T	23.46	143.62	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 10.900Dead Load Moment 1.6
Superimposed Dead Load Moment 13.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 208.4	205.3	-193.3	205.3	-193.3	190.3	-208.4	190.3	-
OPER 347.3	332.2	-332.2	332.2	-332.2	317.1	-347.3	317.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.74 R	12.88	261.50	0.0	10.46	8.04	247.50	
		-1.57 L	-1.20	192.00	0.0	-1.16	-0.89	215.00	0.00
OPER	5C1T	13.56 L	10.43	144.50	0.0	0.00	0.00	0.00	
		-1.47 L	-1.13	116.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	11.37	133.13	11.37	133.13	HS 227.31	409.2
5C1T	23.39	235.78	23.39	235.78	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 11.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.81
21.2	19.76	0.460	bott	9.86	8.30	8.30	0.74	1.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.50	21.50	10.60	10.60	1600.0	1600.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
151.0	151.0	151.0	151.0	467.60

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
Check Point I. D. 11.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	0.01	0.01	43.43	21.66
bott	3.92	0.74	11.210	150.00	82.81		21.66

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.20	35.20	2.861
			999999.000
			94.285

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.60	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	172.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 11.000

Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.8C	-191.7	191.7	-215.8C	215.8	-191.7	191.7	-215.8
OPER	359.7C	-319.4	319.4	-359.7C	359.7	-319.4	319.4	-359.7

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 11.000

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.3	-75.3	79.9
OPER	172.1	-125.5	133.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-8.01	0.00	-6.16	0.00	-6.18	0.59	-4.76	0.45
OPER	5C1T	-6.36	0.00	-4.89	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.40	135.08	HS 187.94	338.3
5C1T	19.74	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S04
Check Point I. D. 11.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 199.3	199.3	-199.3	199.3	-199.3	199.3	-199.3	199.3	-
OPER 332.2	332.2	-332.2	332.2	-332.2	332.2	-332.2	332.2	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 10

Live Load Distribution Factor 0.0

Second Live Load Dist. Factor 0.0

Comments:

Member I. D. S05 Symmetry:

Span Length:	Span 1 25.000	Span 2 25.000	Span 3 25.000	Span 4 25.000	Span 5 25.000
	Span 6 25.000	Span 7 25.000	Span 8 25.000	Span 9 25.000	Span 10 25.000

Range Span No.	Length Range No.	-- Non-Composite: Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	11.500	1	0		0.0	0.0
1	2	2.000	2	0		0.0	0.0
1	3	11.500	1	0		0.0	0.0
2	1	11.500	3	0		0.0	0.0
2	2	2.000	4	0		0.0	0.0
2	3	11.500	3	0		0.0	0.0
3	1	25.000	3	0		0.0	0.0
4	1	11.500	3	0		0.0	0.0
4	2	2.000	4	0		0.0	0.0
4	3	11.500	3	0		0.0	0.0
5	1	11.500	3	0		0.0	0.0
5	2	2.000	4	0		0.0	0.0
5	3	11.500	3	0		0.0	0.0
6	1	11.500	3	0		0.0	0.0
6	2	2.000	4	0		0.0	0.0
6	3	11.500	3	0		0.0	0.0
7	1	11.500	3	0		0.0	0.0
7	2	2.000	4	0		0.0	0.0
7	3	11.500	3	0		0.0	0.0
8	1	25.000	3	0		0.0	0.0
9	1	11.500	3	0		0.0	0.0
9	2	2.000	4	0		0.0	0.0
9	3	11.500	3	0		0.0	0.0
10	1	25.000	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	0.000	765.0	765.0	25.000	0.0
1	P	12.500	0.0	0.0	0.000	0.1

2	W	0.000	765.0	765.0	25.000	0.0
2	P	12.500	0.0	0.0	0.000	0.1
3	W	0.000	765.0	765.0	25.000	0.0
3	P	12.500	0.0	0.0	0.000	0.1
4	W	0.000	765.0	765.0	25.000	0.0
4	P	12.500	0.0	0.0	0.000	0.1
5	W	0.000	765.0	765.0	25.000	0.0
5	P	12.500	0.0	0.0	0.000	0.1
6	W	0.000	765.0	765.0	25.000	0.0
6	P	12.500	0.0	0.0	0.000	0.1
7	W	0.000	765.0	765.0	25.000	0.0
7	P	12.500	0.0	0.0	0.000	0.1
8	W	0.000	765.0	765.0	25.000	0.0
8	P	12.500	0.0	0.0	0.000	0.1
9	W	0.000	765.0	765.0	25.000	0.0
9	P	12.500	0.0	0.0	0.000	0.1
10	W	0.000	765.0	765.0	25.000	0.0
10	P	12.500	0.0	0.0	0.000	0.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.000

Dead Load Moment Superimposed Dead Load Moment
0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	215.6	-188.8	188.8	-215.6
OPER	359.4C	-314.7	314.7	-359.4C	359.4	-314.7	314.7	-359.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.000

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	7.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-84.3	74.3
OPER	171.7	-140.4	123.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 196.4	196.4	-196.4	196.4	-196.4	196.4	-196.4	196.4	-
OPER 327.3	327.3	-327.3	327.3	-327.3	327.3	-327.3	327.3	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.100

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.6C	-188.8	188.8	-215.6C	204.7	-199.8	177.9	-226.6
OPER	359.4C	-314.7	314.7	-359.4C	341.2	-332.9	296.5	-377.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	2.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-83.0	75.5
OPER	171.7	-138.4	125.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.100Dead Load Moment 1.6
Superimposed Dead Load Moment 16.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 207.3	203.7	-189.1	203.7	-189.1	185.4	-207.3	185.4	-
OPER 345.5	327.3	-327.3	327.3	-327.3	309.0	-345.5	309.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	2.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	35.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 1.200

Dead Load Moment 2.7
 Superimposed Dead Load Moment 28.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	196.9	-207.6	170.1	-234.4
OPER	359.4C	-314.7	314.7	-359.4C	328.2	-345.9	283.5	-390.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	5.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-81.8	76.8
OPER	171.7	-136.3	128.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.200Dead Load Moment 2.7
Superimposed Dead Load Moment 28.5

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 215.1	208.9	-183.9	208.9	-183.9	177.6	-215.1	177.6	-
OPER 358.5	327.3	-327.3	327.3	-327.3	296.0	-358.5	296.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 1.300

Dead Load Moment 3.4
 Superimposed Dead Load Moment 35.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.6C	-188.8	188.8	-215.6C	192.2	-212.2	165.4	-239.0
OPER	359.4C	-314.7	314.7	-359.4C	320.4	-353.7	275.7	-398.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	7.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	1.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-80.5	78.0
OPER	171.7	-134.2	130.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.300Dead Load Moment 3.4
Superimposed Dead Load Moment 35.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 219.8	212.0	-180.8	212.0	-180.8	173.0	-219.8	173.0	-
OPER 366.3	327.3	-327.3	327.3	-327.3	288.3	-366.3	288.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	7.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	35.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.400

Dead Load Moment 3.6
Superimposed Dead Load Moment 37.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.6C	-188.8	188.8	-215.6C	190.7	-213.7	163.9	-240.6
OPER	359.4C	-314.7	314.7	-359.4C	317.9	-356.2	273.2	-400.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	10.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-79.2	79.3
OPER	171.7	-132.1	132.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.400Dead Load Moment 3.6
Superimposed Dead Load Moment 37.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 221.3	213.0	-179.8	213.0	-179.8	171.4	-221.3	171.4	-
OPER 368.8	327.3	-327.3	327.3	-327.3	285.7	-368.8	285.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	10.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	35.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.34	8.30	8.30	0.74	1.87
21.2	19.72	0.460	bott	10.38	8.30	8.30	0.74	1.87

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
20.20	20.20	10.08	11.12	1462.8	1462.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
145.2	131.5	145.2	131.5	485.29

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	20.52
bott	4.15	0.74	11.220	150.00	80.23		22.82

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			108.292

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	485.29	109.1
bott	22.62		50.49		102.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.500

Dead Load Moment 3.4
Superimposed Dead Load Moment 35.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	224.0C	-184.3	166.9	-224.0C	200.7	-207.6	143.6	-247.3
OPER	373.3C	-307.1	278.2	-373.3C	334.5	-346.0	239.3	-412.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	12.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-78.0	80.5
OPER	171.7	-130.0	134.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.500Dead Load Moment 3.4
Superimposed Dead Load Moment 35.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 196.9	207.2	-176.1	189.1	-158.0	168.3	-214.9	150.3	-
OPER 328.1	319.4	-319.4	289.3	-289.3	280.6	-358.2	250.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	12.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	35.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z (Fy * Z)
Positive Top	Bending Bott.	Negative Top	Bending Bott.	
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	35.26	2.861	125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.49		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 1.600

Dead Load Moment 2.8
 Superimposed Dead Load Moment 28.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	197.2	-207.3	170.4	-234.1
OPER	359.4C	-314.7	314.7	-359.4C	328.6	-345.4	283.9	-390.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	15.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-76.7	81.8
OPER	171.7	-127.8	136.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.600Dead Load Moment 2.8
Superimposed Dead Load Moment 28.0

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 214.8	208.7	-184.1	208.7	-184.1	177.9	-214.8	177.9	-
OPER 358.0	327.3	-327.3	327.3	-327.3	296.5	-358.0	296.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	35.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	35.26	35.26	2.861
			999999.000
			125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.49		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 1.700

Dead Load Moment 1.7
 Superimposed Dead Load Moment 15.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.6C	-188.8	188.8	-215.6C	205.2	-199.3	178.4	-226.1
OPER	359.4C	-314.7	314.7	-359.4C	342.0	-332.1	297.3	-376.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	17.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-75.4	83.1
OPER	171.7	-125.7	138.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.700Dead Load Moment 1.7
Superimposed Dead Load Moment 15.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 206.8	203.3	-189.4	203.3	-189.4	185.9	-206.8	185.9	-
OPER 344.7	327.3	-327.3	327.3	-327.3	309.8	-344.7	309.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	17.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	35.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	35.26	35.26	2.861
			999999.000
			125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.49		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.800

Dead Load Moment Superimposed Dead Load Moment
0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	216.3	-188.1	189.5	-215.0
OPER	359.4C	-314.7	314.7	-359.4C	360.5	-313.6	315.8	-358.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	20.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-7.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-74.2	84.3
OPER	171.7	-123.6	140.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.800Dead Load Moment 0.1
Superimposed Dead Load Moment -1.2

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 195.7	195.9	-196.8	195.9	-196.8	197.0	-195.7	197.0	-
OPER 326.2	327.3	-327.3	327.3	-327.3	328.4	-326.2	328.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	35.26	35.26	2.861
			999999.000
			125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.49		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.900

Dead Load Moment Superimposed Dead Load Moment
-1.9 -23.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	230.6	-173.9	203.8	-200.7
OPER	359.4C	-314.7	314.7	-359.4C	384.3	-289.8	339.6	-334.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	22.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	35.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.9	-9.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-72.9	85.6
OPER	171.7	-121.5	142.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 1.900Dead Load Moment -1.9
Superimposed Dead Load Moment -23.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 181.4	186.4	-206.3	186.4	-206.3	211.3	-181.4	211.3	-
OPER 302.4	327.3	-327.3	327.3	-327.3	352.2	-302.4	352.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	35.26	35.26	2.861
			999999.000
			125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.49		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.4	-49.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	213.1	-126.1	190.8	-148.4
OPER	301.2C	-264.1	264.1	-301.2C	355.1	-210.2	318.0	-247.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	60.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	15.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	-1.1	-9.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-71.7	63.3
OPER	151.4	-119.5	105.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.4	-49.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 132.4	143.2	-186.3	143.2	-186.3	197.1	-132.4	197.1	-
OPER 220.7	274.6	-274.6	274.6	-274.6	328.5	-220.7	328.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	60.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.13	28.67	28.67	1.700
			999999.000
			108.560

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.4	-49.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	213.1	-126.1	190.8	-148.4
OPER	301.2C	-264.1	264.1	-301.2C	355.1	-210.2	318.0	-247.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	60.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	15.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-1.1	0.8	-11.6	10.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-71.7	63.3
OPER	151.4	-119.5	105.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.4 -49.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 132.4	143.2	-186.3	143.2	-186.3	197.1	-132.4	197.1	-
OPER 220.7	274.6	-274.6	274.6	-274.6	328.5	-220.7	328.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	60.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.13	28.67	28.67	1.700
			999999.000
			108.560

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.100

Dead Load Superimposed Dead Load
Moment Moment
-2.5 -26.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	198.2	-140.9	176.0	-163.2
OPER	301.2C	-264.1	264.1	-301.2C	330.4	-234.9	293.3	-272.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	27.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.100

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.7	0.0
	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-75.2	64.5
OPER	151.4	-125.3	107.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.100Dead Load Moment -2.5
Superimposed Dead Load Moment -26.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.3	153.1	-176.5	153.1	-176.5	182.3	-147.3	182.3	-
OPER 245.4	274.6	-274.6	274.6	-274.6	303.8	-245.4	303.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	27.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.13	28.67	28.67	1.700
			999999.000
			108.560

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 2.200

Dead Load Superimposed Dead Load
 Moment Moment
 -1.0 -8.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	186.5	-152.7	164.2	-174.9
OPER	301.2C	-264.1	264.1	-301.2C	310.8	-254.4	273.7	-291.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	30.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	15.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	6.3

Rat.	Shear Capacity	Available Capacity for LL+I	
Veh.	VU	(-)	(+)
INV.	90.8	-73.9	65.8
OPER	151.4	-123.2	109.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.200

Dead Load Moment Superimposed Dead Load Moment
-1.0 -8.6

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 159.0	160.9	-168.6	160.9	-168.6	170.6	-159.0	170.6	-
OPER 265.0	274.6	-274.6	274.6	-274.6	284.3	-265.0	284.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	30.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.13	28.67	28.67	1.700
			999999.000
			108.560

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.300

Dead Load Moment 0.1
Superimposed Dead Load Moment 4.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	177.9	-161.3	155.6	-183.6
OPER	301.2C	-264.1	264.1	-301.2C	296.5	-268.8	259.3	-305.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	32.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	15.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	4.4

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.7	67.0
OPER	151.4	-121.2	111.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.300

Dead Load Moment 0.1
Superimposed Dead Load Moment 4.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.6	166.7	-162.9	166.7	-162.9	161.9	-167.6	161.9	-
OPER 279.4	274.6	-274.6	274.6	-274.6	269.9	-279.4	269.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	32.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.13	28.67	28.67	1.700
			999999.000
			108.560

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.400

Dead Load Moment 0.8
Superimposed Dead Load Moment 13.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	172.3	-166.8	150.1	-189.1
OPER	301.2C	-264.1	264.1	-301.2C	287.2	-278.0	250.1	-315.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	35.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	15.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.4

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.5	68.3
OPER	151.4	-119.1	113.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.400Dead Load Moment 0.8
Superimposed Dead Load Moment 13.2

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 173.2	170.4	-159.2	170.4	-159.2	156.4	-173.2	156.4	-
OPER 288.6	274.6	-274.6	274.6	-274.6	260.7	-288.6	260.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.27	8.24	8.24	0.62	1.84
21.0	19.77	0.400	bott	10.50	8.24	8.24	0.62	1.84

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
17.00	17.00	9.88	11.12	1197.3	1197.3

Section Modulus		Plastic Section Modulus - Z	
Positive Bending	Negative Bending	(Fy * Z)	
Top	Bott.	Top	Bott.
121.1	107.7	121.1	107.7
409.17			

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	23.17
bott	4.12	0.62	13.400	150.00	81.63		26.25

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.700	999999.000	125.834

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	409.17	109.1
bott	22.62		23.43		105.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.500

Dead Load Moment 1.1
Superimposed Dead Load Moment 16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	188.8C	-153.8	136.7	-188.8C	178.0	-164.6	125.9	-199.7
OPER	314.7C	-256.3	227.8	-314.7C	296.7	-274.3	209.8	-332.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	37.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	15.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.500Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 0.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.2 69.5
OPER 151.4 -117.0 115.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.500

Dead Load Moment 1.1
Superimposed Dead Load Moment 16.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.0	167.1	-152.7	149.4	-135.0	149.1	-170.7	131.3	-
OPER 255.0	266.5	-266.5	236.9	-236.9	248.5	-284.5	218.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	37.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.213

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.600

Dead Load Moment 1.1
Superimposed Dead Load Moment 15.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	170.7	-168.5	148.4	-190.8
OPER	301.2C	-264.1	264.1	-301.2C	284.4	-280.8	247.3	-318.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	40.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	60.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.9	70.8
OPER	151.4	-114.9	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.600Dead Load Moment 1.1
Superimposed Dead Load Moment 15.7

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 174.8	171.5	-158.1	171.5	-158.1	154.7	-174.8	154.7	-
OPER 291.4	274.6	-274.6	274.6	-274.6	257.9	-291.4	257.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	40.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	60.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.213

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.700

Dead Load Superimposed Dead Load
Moment Moment
0.7 9.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	174.5	-164.6	152.2	-186.9
OPER	301.2C	-264.1	264.1	-301.2C	290.9	-274.4	253.7	-311.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	42.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	60.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-3.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.7	72.0
OPER	151.4	-112.8	120.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.700Dead Load Moment 0.7
Superimposed Dead Load Moment 9.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 171.0	168.9	-160.6	168.9	-160.6	158.6	-171.0	158.6	-
OPER 285.0	274.6	-274.6	274.6	-274.6	264.3	-285.0	264.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	42.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	60.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.213

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.5	-157.7	159.2	-180.0
OPER	301.2C	-264.1	264.1	-301.2C	302.5	-262.8	265.3	-299.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	45.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	60.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-5.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.5	73.3
OPER	151.4	-110.8	122.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.800Dead Load Moment -0.1
Superimposed Dead Load Moment -1.1

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 164.0	164.3	-165.3	164.3	-165.3	165.5	-164.0	165.5	-
OPER 273.4	274.6	-274.6	274.6	-274.6	275.9	-273.4	275.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.213

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 2.900

Dead Load Superimposed Dead Load
 Moment Moment
 -1.3 -16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	191.5	-147.6	169.3	-169.9
OPER	301.2C	-264.1	264.1	-301.2C	319.2	-246.1	282.1	-283.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	47.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	60.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.2	74.5
OPER	151.4	-108.7	124.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 2.900Dead Load Moment -1.3
Superimposed Dead Load Moment -16.7

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 154.0	157.6	-172.0	157.6	-172.0	175.6	-154.0	175.6	-
OPER 256.6	274.6	-274.6	274.6	-274.6	292.6	-256.6	292.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.213

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.43		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.000

Dead Load Superimposed Dead Load
Moment Moment
-2.9 -37.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	204.7	-134.5	182.4	-156.8
OPER	301.2C	-264.1	264.1	-301.2C	341.1	-224.1	304.0	-261.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	15.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	60.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-7.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.0	63.7
OPER	151.4	-106.6	106.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.000Dead Load Moment -2.9
Superimposed Dead Load Moment -37.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 140.8	148.8	-180.8	148.8	-180.8	188.7	-140.8	188.7	-
OPER 234.7	274.6	-274.6	274.6	-274.6	314.6	-234.7	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	60.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.213

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.000

Dead Load Superimposed Dead Load
Moment Moment
-2.9 -37.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	204.7	-134.5	182.4	-156.8
OPER	301.2C	-264.1	264.1	-301.2C	341.1	-224.1	304.0	-261.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	15.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	60.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-9.1	9.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-64.0	63.7
OPER	151.4	-106.6	106.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.000Dead Load Moment Superimposed Dead Load Moment
-2.9 -37.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 140.8	148.8	-180.8	148.8	-180.8	188.7	-140.8	188.7	-
OPER 234.7	274.6	-274.6	274.6	-274.6	314.6	-234.7	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	15.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	60.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.100

Dead Load Moment Superimposed Dead Load Moment
-1.2 -15.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	190.9	-148.3	168.6	-170.5
OPER	301.2C	-264.1	264.1	-301.2C	318.2	-247.1	281.1	-284.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	52.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	40.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.6

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-74.7 65.0
OPER	151.4		-124.6 108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.100Dead Load Moment -1.2
Superimposed Dead Load Moment -15.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 154.6	158.0	-171.6	158.0	-171.6	175.0	-154.6	175.0	-
OPER 257.7	274.6	-274.6	274.6	-274.6	291.6	-257.6	291.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	52.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	40.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 3.200

Dead Load Moment 0.1
 Superimposed Dead Load Moment 0.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	180.2	-158.9	158.0	-181.2
OPER	301.2C	-264.1	264.1	-301.2C	300.4	-264.9	263.3	-302.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	55.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	40.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	5.6

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.5	66.2
OPER	151.4	-122.5	110.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.200Dead Load Moment 0.1
Superimposed Dead Load Moment 0.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 165.3	165.1	-164.5	165.1	-164.5	164.3	-165.3	164.3	-
OPER 275.4	274.6	-274.6	274.6	-274.6	273.8	-275.4	273.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	55.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	40.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 3.300

Dead Load Moment 1.0
 Superimposed Dead Load Moment 12.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	172.7	-166.5	150.4	-188.8
OPER	301.2C	-264.1	264.1	-301.2C	287.8	-277.5	250.7	-314.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	57.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	40.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.300

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.3	0.0
	3.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.3	67.4
OPER	151.4	-120.4	112.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.300Dead Load Moment 1.0
Superimposed Dead Load Moment 12.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 172.8	170.1	-159.4	170.2	-159.4	156.7	-172.8	156.7	-
OPER 288.1	274.6	-274.6	274.6	-274.6	261.2	-288.1	261.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	57.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	40.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 3.400

Dead Load Moment 1.6
 Superimposed Dead Load Moment 19.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	168.2	-171.0	145.9	-193.2
OPER	301.2C	-264.1	264.1	-301.2C	280.3	-284.9	243.2	-322.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	60.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	40.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 1.8

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -71.0 68.7
OPER 151.4 -118.4 114.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.400Dead Load Moment 1.6
Superimposed Dead Load Moment 19.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.3	173.1	-156.4	173.1	-156.4	152.3	-177.3	152.3	-
OPER 295.5	274.6	-274.6	274.6	-274.6	253.8	-295.5	253.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	60.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	40.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.500

Dead Load Moment 1.7
Superimposed Dead Load Moment 21.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	166.8	-172.3	144.5	-194.6
OPER	301.2C	-264.1	264.1	-301.2C	278.0	-287.2	240.9	-324.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	62.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	85.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.8	69.9
OPER	151.4	-116.3	116.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.500Dead Load Moment 1.7
Superimposed Dead Load Moment 21.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	174.0	-155.5	174.0	-155.5	150.9	-178.7	150.9	-
OPER 297.8	274.6	-274.6	274.6	-274.6	251.5	-297.8	251.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	62.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	85.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.600

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 3.600

Dead Load Moment 1.5
 Superimposed Dead Load Moment 18.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	168.6	-170.5	146.4	-192.8
OPER	301.2C	-264.1	264.1	-301.2C	281.1	-284.2	243.9	-321.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	65.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	85.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.5	71.2
OPER	151.4	-114.2	118.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.600Dead Load Moment 1.5
Superimposed Dead Load Moment 18.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.9	172.8	-156.7	172.8	-156.7	152.7	-176.9	152.7	-
OPER 294.8	274.6	-274.6	274.6	-274.6	254.5	-294.8	254.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	65.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	85.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.700

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.700

Dead Load Moment 0.9
Superimposed Dead Load Moment 11.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	173.6	-165.6	151.3	-187.9
OPER	301.2C	-264.1	264.1	-301.2C	289.3	-276.0	252.2	-313.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	67.50	
		0.00 R	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	85.00	0.00
OPER	5C1T	0.00 R	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-4.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.3	72.4
OPER	151.4	-112.1	120.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.700Dead Load Moment 0.9
Superimposed Dead Load Moment 11.1

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 171.9	169.5	-160.0	169.6	-160.0	157.6	-171.9	157.6	-
OPER 286.6	274.6	-274.6	274.6	-274.6	262.7	-286.6	262.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 3.800

Dead Load Moment Superimposed Dead Load Moment
 -0.1 -1.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.6	-157.6	159.3	-179.9
OPER	301.2C	-264.1	264.1	-301.2C	302.6	-262.6	265.5	-299.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	70.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	85.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.9	0.0

Rat.	Shear Capacity	Available Capacity for LL+I
Veh.	VU	(-) (+)
INV.	90.8	-66.0 73.7
OPER	151.4	-110.0 122.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.800Dead Load Moment -0.1
Superimposed Dead Load Moment -1.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 163.9	164.2	-165.4	164.2	-165.4	165.6	-163.9	165.7	-
OPER 273.2	274.6	-274.6	274.6	-274.6	276.1	-273.2	276.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	70.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	85.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.900

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.7	-146.5	170.4	-168.7
OPER	301.2C	-264.1	264.1	-301.2C	321.2	-244.1	284.1	-281.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	72.50	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	85.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.8	74.9
OPER	151.4	-108.0	124.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 3.900Dead Load Moment -1.5
Superimposed Dead Load Moment -18.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 152.8	156.8	-172.8	156.8	-172.8	176.8	-152.8	176.8	-
OPER 254.7	274.6	-274.6	274.6	-274.6	294.6	-254.7	294.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	72.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	85.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.11		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -40.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.9	-132.2	184.7	-154.5
OPER	301.2C	-264.1	264.1	-301.2C	344.9	-220.4	307.8	-257.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	110.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	85.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.4	-105.9	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.000Dead Load Moment -3.3
Superimposed Dead Load Moment -40.4

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 138.6	147.3	-182.2	147.3	-182.3	191.0	-138.6	191.0	-
OPER 231.0	274.6	-274.6	274.6	-274.6	318.3	-231.0	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 4.000

Dead Load Superimposed Dead Load
 Moment Moment
 -3.3 -40.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.9	-132.2	184.7	-154.5
OPER	301.2C	-264.1	264.1	-301.2C	344.9	-220.4	307.8	-257.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	110.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	85.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.7	9.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.4	-105.9	106.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 138.6	147.3	-182.2	147.3	-182.3	191.0	-138.6	191.0	-
OPER 231.0	274.6	-274.6	274.6	-274.6	318.3	-231.0	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	85.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.9	-146.3	170.6	-168.6
OPER	301.2C	-264.1	264.1	-301.2C	321.5	-243.8	284.3	-280.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	77.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	65.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.9	64.9
OPER	151.4	-124.8	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.100

Dead Load Moment Superimposed Dead Load Moment
-1.6 -18.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 152.6	156.7	-172.9	156.7	-172.9	176.9	-152.6	176.9	-
OPER 254.4	274.6	-274.6	274.6	-274.6	294.9	-254.4	294.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	77.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	65.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 4.200

Dead Load Superimposed Dead Load
 Moment Moment
 -0.2 -1.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.9	-157.2	159.7	-179.5
OPER	301.2C	-264.1	264.1	-301.2C	303.2	-262.1	266.1	-299.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	80.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	65.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.6	66.1
OPER	151.4	-122.7	110.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 163.6	164.0	-165.6	164.0	-165.6	166.0	-163.6	166.0	-
OPER 272.6	274.6	-274.6	274.6	-274.6	276.6	-272.6	276.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	80.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	65.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	174.1	-165.1	151.8	-187.4
OPER	301.2C	-264.1	264.1	-301.2C	290.1	-275.1	253.0	-312.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	82.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	65.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	3.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.4	67.3
OPER	151.4	-120.6	112.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.300Dead Load Moment 0.8
Superimposed Dead Load Moment 10.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 171.4	169.2	-160.4	169.2	-160.4	158.1	-171.4	158.1	-
OPER 285.7	274.6	-274.6	274.6	-274.6	263.6	-285.7	263.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	82.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	65.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.400

Dead Load Moment 1.3
Superimposed Dead Load Moment 17.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	169.3	-169.8	147.1	-192.1
OPER	301.2C	-264.1	264.1	-301.2C	282.2	-283.1	245.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	85.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	65.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.1	68.6
OPER	151.4	-118.6	114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.400Dead Load Moment 1.3
Superimposed Dead Load Moment 17.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.2	172.4	-157.2	172.4	-157.2	153.4	-176.2	153.4	-
OPER 293.6	274.6	-274.6	274.6	-274.6	255.6	-293.6	255.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	85.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	65.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.27	8.24	8.24	0.62	1.84
21.0	19.77	0.400	bott	10.50	8.24	8.24	0.62	1.84

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
17.00	17.00	9.88	11.12	1197.3	1197.3

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
121.1	107.7	121.1	107.7	409.17

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	23.17
bott	4.12	0.62	13.400	150.00	81.63		26.25

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	135.591

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	409.17	109.1
bott	22.62		28.26		104.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 4.500

Dead Load Moment 1.5
 Superimposed Dead Load Moment 20.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	188.8C	-153.8	136.7	-188.8C	175.8	-166.8	123.6	-201.9
OPER	314.7C	-256.3	227.8	-314.7C	293.0	-278.0	206.1	-336.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	87.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.4	-116.5	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.500Dead Load Moment 1.5
Superimposed Dead Load Moment 20.2

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 155.2	168.6	-151.2	150.9	-133.5	146.9	-173.0	129.1	-
OPER 258.7	266.5	-266.5	236.9	-236.9	244.8	-288.3	215.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	87.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 17.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	169.2	-169.9	146.9	-192.2
OPER	301.2C	-264.1	264.1	-301.2C	282.0	-283.2	244.9	-320.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	90.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.4	-114.4	118.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.600Dead Load Moment 1.4
Superimposed Dead Load Moment 17.8

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 176.3	172.4	-157.1	172.5	-157.1	153.3	-176.3	153.3	-
OPER 293.8	274.6	-274.6	274.6	-274.6	255.5	-293.8	255.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 4.700

Dead Load Moment 0.8
 Superimposed Dead Load Moment 10.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	173.9	-165.3	151.6	-187.6
OPER	301.2C	-264.1	264.1	-301.2C	289.8	-275.5	252.6	-312.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	92.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.4	72.3
OPER	151.4	-112.3	120.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.700Dead Load Moment 0.8
Superimposed Dead Load Moment 10.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 171.7	169.4	-160.2	169.4	-160.2	157.9	-171.6	157.9	-
OPER 286.1	274.6	-274.6	274.6	-274.6	263.2	-286.1	263.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	92.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.6	-157.6	159.3	-179.9
OPER	301.2C	-264.1	264.1	-301.2C	302.6	-262.6	265.5	-299.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	95.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	110.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.1	73.6
OPER	151.4	-110.2	122.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 163.9	164.2	-165.4	164.2	-165.4	165.6	-163.9	165.7	-
OPER 273.2	274.6	-274.6	274.6	-274.6	276.1	-273.2	276.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	95.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.900

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.4	-146.7	170.1	-169.0
OPER	301.2C	-264.1	264.1	-301.2C	320.7	-244.6	283.6	-281.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	97.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	110.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.9	74.8
OPER	151.4	-108.2	124.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 4.900Dead Load Moment -1.5
Superimposed Dead Load Moment -18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.1	157.0	-172.6	157.0	-172.6	176.5	-153.1	176.5	-
OPER 255.1	274.6	-274.6	274.6	-274.6	294.1	-255.1	294.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	97.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 5.000

Dead Load Superimposed Dead Load
 Moment Moment
 -3.2 -39.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.4	-132.8	184.1	-155.1
OPER	301.2C	-264.1	264.1	-301.2C	343.9	-221.3	306.8	-258.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	135.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	110.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.7	63.6
OPER	151.4	-106.1	106.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -39.6

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 139.1	147.7	-181.9	147.7	-181.9	190.4	-139.1	190.4	-
OPER 231.9	274.6	-274.6	274.6	-274.6	317.4	-231.9	317.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	135.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 5.000

Dead Load Superimposed Dead Load
 Moment Moment
 -3.2 -39.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.4	-132.8	184.1	-155.1
OPER	301.2C	-264.1	264.1	-301.2C	343.9	-221.3	306.8	-258.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	135.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	110.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.6	9.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.7	63.6
OPER	151.4	-106.1	106.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 139.1	147.7	-181.9	147.7	-181.9	190.4	-139.1	190.4	-
OPER 231.9	274.6	-274.6	274.6	-274.6	317.4	-231.9	317.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	135.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.4	-146.8	170.1	-169.1
OPER	301.2C	-264.1	264.1	-301.2C	320.6	-244.6	283.5	-281.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	102.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	90.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S05
 Check Point I. D. 5.100
 HS20 5C1T

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.8	64.9
OPER	151.4	-124.7	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.100Dead Load Moment -1.5
Superimposed Dead Load Moment -18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.1	157.0	-172.6	157.0	-172.6	176.4	-153.1	176.4	-
OPER 255.2	274.6	-274.6	274.6	-274.6	294.1	-255.2	294.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	102.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	90.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 5.200

Dead Load Moment Superimposed Dead Load Moment
 -0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.5	-157.6	159.2	-179.9
OPER	301.2C	-264.1	264.1	-301.2C	302.5	-262.7	265.4	-299.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	105.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	90.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.6	66.1
OPER	151.4	-122.6	110.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.200Dead Load Moment -0.1
Superimposed Dead Load Moment -1.2

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 164.0	164.3	-165.3	164.3	-165.3	165.6	-164.0	165.6	-
OPER 273.3	274.6	-274.6	274.6	-274.6	276.0	-273.3	276.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	105.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	90.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	173.7	-165.4	151.5	-187.7
OPER	301.2C	-264.1	264.1	-301.2C	289.6	-275.7	252.4	-312.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	107.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	90.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.3	67.4
OPER	151.4	-120.6	112.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.300Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 171.8	169.4	-160.1	169.4	-160.1	157.8	-171.8	157.8	-
OPER 286.3	274.6	-274.6	274.6	-274.6	263.0	-286.3	263.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	107.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	90.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	169.1	-170.1	146.8	-192.4
OPER	301.2C	-264.1	264.1	-301.2C	281.8	-283.5	244.6	-320.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	110.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	90.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 1.9

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -71.1 68.6
OPER 151.4 -118.5 114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.400Dead Load Moment 1.4
Superimposed Dead Load Moment 18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.4	172.5	-157.0	172.6	-157.0	153.1	-176.4	153.1	-
OPER 294.1	274.6	-274.6	274.6	-274.6	255.2	-294.1	255.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	110.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	90.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.27	8.24	8.24	0.62	1.84
21.0	19.77	0.400	bott	10.50	8.24	8.24	0.62	1.84

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
17.00	17.00	9.88	11.12	1197.3	1197.3

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
121.1	107.7	121.1	107.7	409.17

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	23.17
bott	4.12	0.62	13.400	150.00	81.63		26.25

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			135.591

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	409.17	109.1
bott	22.62		28.67		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 5.500

Dead Load Moment 1.6
 Superimposed Dead Load Moment 20.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	188.8C	-153.8	136.7	-188.8C	175.6	-167.0	123.5	-202.1
OPER	314.7C	-256.3	227.8	-314.7C	292.7	-278.3	205.8	-336.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	112.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	135.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.4	-116.4	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.5

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 155.4	168.7	-151.1	151.0	-133.3	146.7	-173.1	128.9	-
OPER 259.0	266.5	-266.5	236.9	-236.9	244.5	-288.6	214.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.600

Dead Load Moment 1.4
Superimposed Dead Load Moment 18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	169.1	-170.1	146.8	-192.3
OPER	301.2C	-264.1	264.1	-301.2C	281.8	-283.4	244.7	-320.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	115.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	135.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.4	-114.3	118.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.600Dead Load Moment 1.4
Superimposed Dead Load Moment 18.0

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 176.4	172.5	-157.0	172.5	-157.0	153.2	-176.4	153.2	-
OPER 294.0	274.6	-274.6	274.6	-274.6	255.3	-294.0	255.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	173.8	-165.3	151.5	-187.6
OPER	301.2C	-264.1	264.1	-301.2C	289.7	-275.6	252.6	-312.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	117.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	135.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.4	72.4
OPER	151.4	-112.3	120.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.700Dead Load Moment 0.8
Superimposed Dead Load Moment 10.7

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 171.7	169.4	-160.2	169.4	-160.2	157.9	-171.7	157.9	-
OPER 286.1	274.6	-274.6	274.6	-274.6	263.1	-286.1	263.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber	Rating bottom fiber	Factor top fiber	Factor bottom fiber	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.6	-157.5	159.4	-179.8
OPER	301.2C	-264.1	264.1	-301.2C	302.7	-262.6	265.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	120.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	135.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.1	73.6
OPER	151.4	-110.2	122.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.4

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I		top fiber		bottom fi	
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	164.2	-165.4	164.2	-165.4	165.7	-163.9	165.7	-
163.9								
OPER	274.6	-274.6	274.6	-274.6	276.1	-273.1	276.1	-
273.1								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	120.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	135.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.900

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -18.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.5	-146.6	170.3	-168.9
OPER	301.2C	-264.1	264.1	-301.2C	320.9	-244.4	283.8	-281.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	122.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	135.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.9	74.8
OPER	151.4	-108.1	124.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 5.900

Dead Load Moment Superimposed Dead Load Moment
-1.5 -18.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.0	156.9	-172.7	156.9	-172.7	176.6	-153.0	176.6	-
OPER 254.9	274.6	-274.6	274.6	-274.6	294.3	-254.9	294.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	122.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	135.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.5	-132.6	184.3	-154.9
OPER	301.2C	-264.1	264.1	-301.2C	344.2	-221.0	307.1	-258.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	90.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	115.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.4	-106.1	106.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 139.0	147.6	-182.0	147.6	-182.0	190.6	-139.0	190.6	-
OPER 231.6	274.6	-274.6	274.6	-274.6	317.7	-231.6	317.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	90.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	115.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.5	-132.6	184.3	-154.9
OPER	301.2C	-264.1	264.1	-301.2C	344.2	-221.0	307.1	-258.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	90.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	115.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.6	9.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.4	-106.1	106.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 139.0	147.6	-182.0	147.6	-182.0	190.6	-139.0	190.6	-
OPER 231.6	274.6	-274.6	274.6	-274.6	317.7	-231.6	317.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	90.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	115.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.100

Dead Load Superimposed Dead Load
Moment Moment
-1.5 -18.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.5	-146.6	170.3	-168.9
OPER	301.2C	-264.1	264.1	-301.2C	320.9	-244.4	283.8	-281.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	127.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	115.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.8	64.9
OPER	151.4	-124.7	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.100Dead Load Moment Superimposed Dead Load Moment
-1.5 -18.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.0	156.9	-172.7	156.9	-172.7	176.6	-153.0	176.6	-
OPER 254.9	274.6	-274.6	274.6	-274.6	294.3	-254.9	294.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.200

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.6	-157.5	159.4	-179.8
OPER	301.2C	-264.1	264.1	-301.2C	302.7	-262.6	265.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	130.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	115.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.8

Rat.	Shear Capacity	Available Capacity for LL+I
Veh.	VU	(-) (+)
INV.	90.8	-73.6 66.1
OPER	151.4	-122.7 110.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 163.9	164.2	-165.4	164.2	-165.4	165.7	-163.9	165.7	-
OPER 273.1	274.6	-274.6	274.6	-274.6	276.1	-273.1	276.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	130.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	115.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.300

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.300

Dead Load Moment Superimposed Dead Load Moment
0.8 10.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	173.8	-165.3	151.5	-187.6
OPER	301.2C	-264.1	264.1	-301.2C	289.7	-275.6	252.6	-312.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	132.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	115.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	3.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.4	67.4
OPER	151.4	-120.6	112.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.300Dead Load Moment 0.8
Superimposed Dead Load Moment 10.7

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 171.7	169.4	-160.2	169.4	-160.2	157.9	-171.7	157.9	-
OPER 286.1	274.6	-274.6	274.6	-274.6	263.1	-286.1	263.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	169.1	-170.1	146.8	-192.3
OPER	301.2C	-264.1	264.1	-301.2C	281.8	-283.4	244.7	-320.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	135.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	115.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.1	68.6
OPER	151.4	-118.5	114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.400

Dead Load Moment Superimposed Dead Load Moment

1.4 18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.4	172.5	-157.0	172.5	-157.0	153.2	-176.4	153.2	-
OPER 294.0	274.6	-274.6	274.6	-274.6	255.3	-294.0	255.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	135.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	115.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.27	8.24	8.24	0.62	1.84
21.0	19.77	0.400	bott	10.50	8.24	8.24	0.62	1.84

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
17.00	17.00	9.88	11.12	1197.3	1197.3

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
121.1	107.7	121.1	107.7	409.17

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	23.17
bott	4.12	0.62	13.400	150.00	81.63		26.25

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	135.591

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	409.17	109.1
bott	22.62		28.67		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 20.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	188.8C	-153.8	136.7	-188.8C	175.6	-167.0	123.5	-202.1
OPER	314.7C	-256.3	227.8	-314.7C	292.7	-278.3	205.8	-336.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	137.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	115.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.9	69.8
OPER	151.4	-116.5	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.5

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 155.4	168.7	-151.1	151.0	-133.3	146.7	-173.1	128.9	-
OPER 259.0	266.5	-266.5	236.9	-236.9	244.5	-288.6	214.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber	Rating bottom fiber	Factor	Rating Value	Load Capacity (tons)
	+bend	-bend	+bend -bend		
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 6.600

Dead Load Moment Superimposed Dead Load Moment
 1.4 18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	169.1	-170.1	146.8	-192.4
OPER	301.2C	-264.1	264.1	-301.2C	281.8	-283.5	244.6	-320.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	140.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	160.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.4	-114.3	118.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.600

Dead Load Moment Superimposed Dead Load Moment

1.4 18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.4	172.5	-157.0	172.6	-157.0	153.1	-176.4	153.1	-
OPER 294.1	274.6	-274.6	274.6	-274.6	255.2	-294.1	255.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	160.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	173.7	-165.4	151.5	-187.7
OPER	301.2C	-264.1	264.1	-301.2C	289.6	-275.7	252.4	-312.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	142.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	160.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.4	72.3
OPER	151.4	-112.3	120.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.700Dead Load Moment 0.8
Superimposed Dead Load Moment 10.8

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 171.8	169.4	-160.1	169.4	-160.1	157.8	-171.8	157.8	-
OPER 286.3	274.6	-274.6	274.6	-274.6	263.0	-286.3	263.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber	Rating bottom fiber	Factor	Rating Value	Load Capacity (tons)
	+bend	-bend	+bend -bend		
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.800

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.5	-157.6	159.2	-179.9
OPER	301.2C	-264.1	264.1	-301.2C	302.5	-262.7	265.4	-299.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	145.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	160.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.8	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-66.1 73.6
OPER	151.4		-110.2 122.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating	Factor	Rating	Load
	(-)	(+)	Value	Capacity
				(tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.800Dead Load Moment -0.1
Superimposed Dead Load Moment -1.2

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 164.0	164.2	-165.3	164.3	-165.3	165.6	-164.0	165.6	-
OPER 273.3	274.6	-274.6	274.6	-274.6	276.0	-273.3	276.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 6.900

Dead Load Moment Superimposed Dead Load Moment
 -1.5 -18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.4	-146.8	170.1	-169.1
OPER	301.2C	-264.1	264.1	-301.2C	320.6	-244.6	283.5	-281.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	147.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	160.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.9	74.8
OPER	151.4	-108.1	124.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 6.900Dead Load Moment -1.5
Superimposed Dead Load Moment -18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.1	157.0	-172.6	157.0	-172.6	176.4	-153.1	176.4	-
OPER 255.2	274.6	-274.6	274.6	-274.6	294.1	-255.2	294.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	147.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	160.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.67		104.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 7.000

Dead Load Superimposed Dead Load
 Moment Moment
 -3.2 -39.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.4	-132.8	184.1	-155.1
OPER	301.2C	-264.1	264.1	-301.2C	343.9	-221.3	306.8	-258.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	115.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	140.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.7
OPER	151.4	-106.1	106.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -39.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 139.1	147.7	-181.9	147.7	-181.9	190.4	-139.1	190.4	-
OPER 231.9	274.6	-274.6	274.6	-274.6	317.4	-231.9	317.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	115.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.000

Dead Load Superimposed Dead Load
Moment Moment
-3.2 -39.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.4	-132.8	184.1	-155.1
OPER	301.2C	-264.1	264.1	-301.2C	343.9	-221.3	306.8	-258.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	115.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	140.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.6	9.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.6	63.7
OPER	151.4	-106.1	106.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -39.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 139.1	147.7	-181.9	147.7	-181.9	190.4	-139.1	190.4	-
OPER 231.9	274.6	-274.6	274.6	-274.6	317.4	-231.9	317.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	115.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.100

Dead Load Moment Superimposed Dead Load Moment
-1.5 -18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.4	-146.7	170.1	-169.0
OPER	301.2C	-264.1	264.1	-301.2C	320.7	-244.6	283.6	-281.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	152.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	140.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.8	64.9
OPER	151.4	-124.7	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.100Dead Load Moment -1.5
Superimposed Dead Load Moment -18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 153.1	157.0	-172.6	157.0	-172.6	176.5	-153.1	176.5	-
OPER 255.1	274.6	-274.6	274.6	-274.6	294.1	-255.1	294.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	152.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.200

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.6	-157.6	159.3	-179.9
OPER	301.2C	-264.1	264.1	-301.2C	302.6	-262.6	265.5	-299.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	155.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	140.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S05
 Check Point I. D. 7.200
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.5 0.0 5.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.6	66.1
OPER	151.4	-122.6	110.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 163.9	164.2	-165.4	164.2	-165.4	165.6	-163.9	165.7	-
OPER 273.2	274.6	-274.6	274.6	-274.6	276.1	-273.2	276.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	155.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.300

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	173.9	-165.3	151.6	-187.6
OPER	301.2C	-264.1	264.1	-301.2C	289.8	-275.5	252.6	-312.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	157.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	140.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.3	67.4
OPER	151.4	-120.6	112.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.300Dead Load Moment 0.8
Superimposed Dead Load Moment 10.6

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 171.7	169.4	-160.2	169.4	-160.2	157.9	-171.6	157.9	-
OPER 286.1	274.6	-274.6	274.6	-274.6	263.2	-286.1	263.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	157.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.400

Dead Load Moment 1.4
Superimposed Dead Load Moment 17.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	169.2	-169.9	146.9	-192.2
OPER	301.2C	-264.1	264.1	-301.2C	282.0	-283.2	244.9	-320.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	160.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.400

Dead Load Shear	Superimposed (-) Shear	Dead Load (+) Shear
0.1	0.0	1.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.1	68.6
OPER	151.4	-118.5	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.400

Dead Load Moment Superimposed Dead Load Moment
1.4 17.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.3	172.4	-157.1	172.5	-157.1	153.3	-176.3	153.3	-
OPER 293.8	274.6	-274.6	274.6	-274.6	255.5	-293.8	255.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	160.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.27	8.24	8.24	0.62	1.84
21.0	19.77	0.400	bott	10.50	8.24	8.24	0.62	1.84

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
17.00	17.00	9.88	11.12	1197.3	1197.3

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
121.1	107.7	121.1	107.7	409.17

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	23.17
bott	4.12	0.62	13.400	150.00	81.63		26.25

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	135.591

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	409.17	109.1
bott	22.62		28.26		104.5

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 7.500

Dead Load Moment 1.5
 Superimposed Dead Load Moment 20.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	188.8C	-153.8	136.7	-188.8C	175.8	-166.8	123.6	-201.9
OPER	314.7C	-256.3	227.8	-314.7C	293.0	-278.0	206.1	-336.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	162.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	140.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S05
 Check Point I. D. 7.500
 HS20 5C1T

Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.0 0.0 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	90.8	-69.9	69.9
OPER	151.4	-116.4	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.500Dead Load Moment 1.5
Superimposed Dead Load Moment 20.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 155.2	168.6	-151.2	150.9	-133.5	146.9	-173.0	129.1	-
OPER 258.7	266.5	-266.5	236.9	-236.9	244.8	-288.3	215.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	162.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.600

Dead Load Moment 1.3
Superimposed Dead Load Moment 17.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	169.3	-169.8	147.1	-192.1
OPER	301.2C	-264.1	264.1	-301.2C	282.2	-283.1	245.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	165.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	185.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.4	-114.3	118.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.600Dead Load Moment 1.3
Superimposed Dead Load Moment 17.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.2	172.4	-157.2	172.4	-157.2	153.4	-176.2	153.4	-
OPER 293.6	274.6	-274.6	274.6	-274.6	255.6	-293.6	255.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	165.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	185.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.700

Dead Load Moment 0.8
Superimposed Dead Load Moment 10.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	174.1	-165.1	151.8	-187.4
OPER	301.2C	-264.1	264.1	-301.2C	290.1	-275.1	253.0	-312.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	167.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	185.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-67.3	72.4
OPER	151.4	-112.2	120.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.700

Dead Load Moment Superimposed Dead Load Moment
0.8 10.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 171.4	169.2	-160.3	169.2	-160.4	158.1	-171.4	158.1	-
OPER 285.7	274.6	-274.6	274.6	-274.6	263.6	-285.7	263.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	167.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	185.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.800

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.9	-157.2	159.7	-179.5
OPER	301.2C	-264.1	264.1	-301.2C	303.2	-262.1	266.1	-299.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	170.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	185.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.1	73.6
OPER	151.4	-110.2	122.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.800

Dead Load Moment Superimposed Dead Load Moment
-0.2 -1.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 163.6	164.0	-165.6	164.0	-165.6	166.0	-163.6	166.0	-
OPER 272.6	274.6	-274.6	274.6	-274.6	276.6	-272.6	276.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	170.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	185.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-1.6	-18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.9	-146.3	170.6	-168.6
OPER	301.2C	-264.1	264.1	-301.2C	321.5	-243.8	284.3	-280.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	172.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	185.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-64.9	74.9
OPER	151.4	-108.1	124.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 7.900Dead Load Moment -1.6
Superimposed Dead Load Moment -18.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 152.6	156.7	-172.9	156.7	-172.9	176.9	-152.6	176.9	-
OPER 254.4	274.6	-274.6	274.6	-274.6	294.9	-254.4	294.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	172.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	185.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		28.26		104.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -40.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.9	-132.2	184.6	-154.5
OPER	301.2C	-264.1	264.1	-301.2C	344.9	-220.4	307.7	-257.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	140.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	165.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.4	-106.0	105.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.000Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 138.6	147.3	-182.2	147.3	-182.3	191.0	-138.6	191.0	-
OPER 231.0	274.6	-274.6	274.6	-274.6	318.3	-231.0	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	165.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.000

Dead Load Superimposed Dead Load
Moment Moment
-3.3 -40.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	206.9	-132.2	184.6	-154.5
OPER	301.2C	-264.1	264.1	-301.2C	344.9	-220.4	307.7	-257.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	140.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	165.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.8	-9.6	9.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.6	63.6
OPER	151.4	-106.0	105.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.000Dead Load Moment Superimposed Dead Load Moment
-3.3 -40.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 138.6	147.3	-182.2	147.3	-182.3	191.0	-138.6	191.0	-
OPER 231.0	274.6	-274.6	274.6	-274.6	318.3	-231.0	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	140.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	165.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 8.100

Dead Load Superimposed Dead Load
 Moment Moment
 -1.5 -18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	192.7	-146.5	170.4	-168.7
OPER	301.2C	-264.1	264.1	-301.2C	321.2	-244.1	284.0	-281.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	177.50	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	165.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-74.9	64.8
OPER	151.4	-124.9	108.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.100Dead Load Moment -1.5
Superimposed Dead Load Moment -18.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 152.8	156.8	-172.8	156.8	-172.8	176.8	-152.8	176.8	-
OPER 254.7	274.6	-274.6	274.6	-274.6	294.6	-254.7	294.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	177.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	165.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.6	-157.6	159.3	-179.9
OPER	301.2C	-264.1	264.1	-301.2C	302.6	-262.6	265.5	-299.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	180.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	165.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.200

Dead Load	Superimposed Dead Load
Shear (-)	Shear (+)
0.5	0.0
	5.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.7	66.0
OPER	151.4	-122.8	110.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 163.9	164.2	-165.4	164.2	-165.4	165.6	-163.9	165.6	-
OPER 273.2	274.6	-274.6	274.6	-274.6	276.1	-273.2	276.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	180.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	165.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.300

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 8.300

Dead Load Moment 0.9
 Superimposed Dead Load Moment 11.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	173.6	-165.6	151.3	-187.9
OPER	301.2C	-264.1	264.1	-301.2C	289.3	-276.0	252.2	-313.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	182.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	165.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.3	0.0	4.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-72.4	67.3
OPER	151.4	-120.7	112.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.300Dead Load Moment 0.9
Superimposed Dead Load Moment 11.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 171.9	169.5	-160.0	169.6	-160.0	157.6	-171.9	157.6	-
OPER 286.6	274.6	-274.6	274.6	-274.6	262.7	-286.6	262.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	182.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	165.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.400

Dead Load Moment 1.5
Superimposed Dead Load Moment 18.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	168.6	-170.5	146.4	-192.8
OPER	301.2C	-264.1	264.1	-301.2C	281.1	-284.2	244.0	-321.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	185.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	165.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-71.2	68.5
OPER	151.4	-118.7	114.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.400Dead Load Moment 1.5
Superimposed Dead Load Moment 18.6

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 176.9	172.8	-156.7	172.8	-156.7	152.7	-176.9	152.7	-
OPER 294.8	274.6	-274.6	274.6	-274.6	254.5	-294.8	254.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber	Rating bottom fiber	Factor	Rating Value	Load Capacity (tons)
	+bend	-bend	+bend -bend		
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.500

Dead Load Moment Superimposed Dead Load Moment
1.7 21.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	166.8	-172.3	144.6	-194.6
OPER	301.2C	-264.1	264.1	-301.2C	278.0	-287.2	240.9	-324.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	187.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	165.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-70.0	69.7
OPER	151.4	-116.6	116.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 21.4

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 178.7	174.0	-155.5	174.0	-155.5	150.9	-178.7	150.9	-
OPER 297.8	274.6	-274.6	274.6	-274.6	251.5	-297.8	251.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	187.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	165.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.600

Dead Load Moment 1.6
Superimposed Dead Load Moment 19.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	168.2	-171.0	145.9	-193.2
OPER	301.2C	-264.1	264.1	-301.2C	280.3	-284.9	243.2	-322.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	190.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	210.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-1.8	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-68.7 71.0
OPER	151.4		-114.5 118.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.600Dead Load Moment 1.6
Superimposed Dead Load Moment 19.3

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 177.3	173.1	-156.4	173.1	-156.4	152.3	-177.3	152.3	-
OPER 295.5	274.6	-274.6	274.6	-274.6	253.8	-295.5	253.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 8.700

Dead Load Moment 1.0
 Superimposed Dead Load Moment 12.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	172.7	-166.5	150.4	-188.8
OPER	301.2C	-264.1	264.1	-301.2C	287.8	-277.5	250.7	-314.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	192.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	210.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.3	-3.7	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-67.4 72.3
OPER	151.4		-112.4 120.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
Typ.	Veh.	w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.700

Dead Load Moment 1.0
Superimposed Dead Load Moment 12.4

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	bottom fi	
INV. 172.8	170.1	-159.4	170.1	-159.4	156.7	-172.8	156.7	-
OPER 288.0	274.6	-274.6	274.6	-274.6	261.2	-288.0	261.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	192.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	210.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.800

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	180.2	-158.9	158.0	-181.2
OPER	301.2C	-264.1	264.1	-301.2C	300.4	-264.9	263.3	-302.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	195.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	210.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-5.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-66.2	73.5
OPER	151.4	-110.3	122.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.800

Dead Load Moment 0.1
Superimposed Dead Load Moment 0.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 165.3	165.1	-164.5	165.1	-164.5	164.3	-165.2	164.3	-
OPER 275.4	274.6	-274.6	274.6	-274.6	273.8	-275.4	273.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	195.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	210.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.700	999999.000	116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.900

Dead Load Moment Superimposed Dead Load Moment
-1.2 -15.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	190.9	-148.2	168.6	-170.5
OPER	301.2C	-264.1	264.1	-301.2C	318.2	-247.1	281.1	-284.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	197.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	210.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.6	-7.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.0	74.7
OPER	151.4	-108.3	124.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 8.900Dead Load Moment -1.2
Superimposed Dead Load Moment -15.8

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 154.6	158.0	-171.6	158.0	-171.6	175.0	-154.6	175.0	-
OPER 257.6	274.6	-274.6	274.6	-274.6	291.6	-257.6	291.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	197.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	210.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.700
			999999.000
			116.977

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		30.10		104.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 9.000

Dead Load Superimposed Dead Load
 Moment Moment
 -2.9 -37.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	204.7	-134.5	182.4	-156.7
OPER	301.2C	-264.1	264.1	-301.2C	341.2	-224.1	304.0	-261.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	235.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	190.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.7	64.0
OPER	151.4	-106.2	106.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.000Dead Load Moment Superimposed Dead Load Moment
-2.9 -37.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 140.8	148.8	-180.8	148.8	-180.8	188.8	-140.8	188.8	-
OPER 234.7	274.6	-274.6	274.6	-274.6	314.6	-234.7	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	235.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.254

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.000

Dead Load Superimposed Dead Load
Moment Moment
-2.9 -37.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	204.7	-134.5	182.4	-156.7
OPER	301.2C	-264.1	264.1	-301.2C	341.2	-224.1	304.0	-261.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	235.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	190.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-9.5	9.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	90.8	-63.7	64.0
OPER	151.4	-106.2	106.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.000Dead Load Moment Superimposed Dead Load Moment
-2.9 -37.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 140.8	148.8	-180.8	148.8	-180.8	188.8	-140.8	188.8	-
OPER 234.7	274.6	-274.6	274.6	-274.6	314.6	-234.7	314.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	235.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.254

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.100

Dead Load Moment Superimposed Dead Load Moment
-1.3 -16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	191.5	-147.6	169.3	-169.9
OPER	301.2C	-264.1	264.1	-301.2C	319.2	-246.0	282.1	-283.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	202.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	190.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.6	0.0	7.2

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-74.5 65.2
OPER	151.4		-124.2 108.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
Typ.	Veh.	w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.100Dead Load Moment -1.3
Superimposed Dead Load Moment -16.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 154.0	157.6	-172.0	157.6	-172.0	175.6	-154.0	175.6	-
OPER 256.6	274.6	-274.6	274.6	-274.6	292.7	-256.6	292.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	202.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.700	999999.000	116.254

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.200

Dead Load Moment Superimposed Dead Load Moment
-0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	181.5	-157.7	159.2	-180.0
OPER	301.2C	-264.1	264.1	-301.2C	302.5	-262.8	265.3	-299.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	205.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	190.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	5.3

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-73.3	66.5
OPER	151.4	-122.1	110.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.200

Dead Load Moment Superimposed Dead Load Moment

-0.1 -1.1

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 164.0	164.3	-165.3	164.3	-165.3	165.5	-164.0	165.5	-
OPER 273.4	274.6	-274.6	274.6	-274.6	275.9	-273.4	275.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	205.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.254

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.300

Dead Load Moment 0.7
Superimposed Dead Load Moment 9.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.7C	-158.4	158.4	-180.7C	174.5	-164.6	152.2	-186.9
OPER	301.2C	-264.1	264.1	-301.2C	290.9	-274.4	253.7	-311.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	207.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	190.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	3.4

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-72.0 67.7
OPER	151.4		-120.0 112.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
Typ.	Veh.	w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.300Dead Load Moment 0.7
Superimposed Dead Load Moment 9.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 171.0	168.9	-160.6	168.9	-160.6	158.6	-171.0	158.6	-
OPER 285.0	274.6	-274.6	274.6	-274.6	264.3	-285.0	264.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	207.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.29	28.67	28.67	1.700
			999999.000
			116.254

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 9.400

Dead Load Moment 1.1
 Superimposed Dead Load Moment 15.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	170.6	-168.5	148.4	-190.8
OPER	301.2C	-264.1	264.1	-301.2C	284.4	-280.9	247.3	-318.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	210.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	0.00		
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.400Dead Load Superimposed Dead Load
Shear (-) Shear (+) Shear

0.1 0.0 1.5

Rat. Shear Capacity Available Capacity for LL+I
Veh. VU (-) (+)INV. 90.8 -70.8 68.9
OPER 151.4 -118.0 114.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.400

Dead Load Moment Superimposed Dead Load Moment

1.1 15.7

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 174.9	171.5	-158.1	171.5	-158.1	154.7	-174.8	154.7	-
OPER 291.4	274.6	-274.6	274.6	-274.6	257.8	-291.4	257.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	210.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.27	8.24	8.24	0.62	1.84
21.0	19.77	0.400	bott	10.50	8.24	8.24	0.62	1.84

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
17.00	17.00	9.88	11.12	1197.3	1197.3

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
121.1	107.7	121.1	107.7	409.17

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	23.17
bott	4.12	0.62	13.400	150.00	81.63		26.25

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.700	999999.000	125.931

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	409.17	109.1
bott	22.62		23.48		105.3

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 9.500

Dead Load Moment 1.1
 Superimposed Dead Load Moment 16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	188.8C	-153.8	136.7	-188.8C	178.0	-164.6	125.9	-199.7
OPER	314.7C	-256.3	227.8	-314.7C	296.7	-274.3	209.8	-332.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	212.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	235.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.1	-0.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-69.5	70.2
OPER	151.4	-115.9	117.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.500

Dead Load Moment Superimposed Dead Load Moment

1.1 16.9

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 153.0	167.1	-152.7	149.4	-134.9	149.1	-170.7	131.3	-
OPER 255.0	266.5	-266.5	236.9	-236.9	248.5	-284.6	218.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	212.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	235.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber		Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.14	28.67	28.67	1.700
			999999.000
			108.643

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.600

Dead Load Moment 0.8
Superimposed Dead Load Moment 13.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	172.3	-166.8	150.0	-189.1
OPER	301.2C	-264.1	264.1	-301.2C	287.2	-278.1	250.1	-315.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	215.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	235.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-2.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-68.3	71.4
OPER	151.4	-113.8	119.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.600Dead Load Moment 0.8
Superimposed Dead Load Moment 13.2

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 173.2	170.4	-159.2	170.4	-159.2	156.4	-173.2	156.4	-
OPER 288.7	274.6	-274.6	274.6	-274.6	260.6	-288.6	260.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.700

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.14	28.67	28.67	1.700
			999999.000
			108.643

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.700

Dead Load Moment 0.1
Superimposed Dead Load Moment 4.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	177.8	-161.3	155.6	-183.6
OPER	301.2C	-264.1	264.1	-301.2C	296.4	-268.9	259.3	-306.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	217.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	235.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-4.3	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-67.0 72.7
OPER	151.4		-111.7 121.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
Typ.	Veh.	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating	Factor	Rating	Load
	(-)	(+)	Value	Capacity
				(tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.700Dead Load Moment 0.1
Superimposed Dead Load Moment 4.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.7	166.7	-162.9	166.7	-162.9	161.9	-167.7	161.9	-
OPER 279.4	274.6	-274.6	274.6	-274.6	269.8	-279.4	269.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	217.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	235.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.700	999999.000	108.643

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 9.800

Dead Load Moment Superimposed Dead Load Moment
 -1.0 -8.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	186.5	-152.7	164.2	-175.0
OPER	301.2C	-264.1	264.1	-301.2C	310.8	-254.5	273.6	-291.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	220.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	235.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-6.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	90.8	-65.8	73.9
OPER	151.4	-109.6	123.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.800Dead Load Moment Superimposed Dead Load Moment
-1.0 -8.5

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I		top fiber		bottom fi	
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	161.0	-168.6	161.0	-168.6	170.5	-159.0	170.5	-
159.0								
OPER	274.6	-274.6	274.6	-274.6	284.2	-265.1	284.2	-
265.1								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	220.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	235.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 9.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.14	28.67	28.67	1.700
			999999.000
			108.643

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.900

Dead Load Moment	Superimposed Dead Load Moment
-2.5	-26.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.7C	-158.4	158.4	-180.7C	198.2	-141.0	175.9	-163.3
OPER	301.2C	-264.1	264.1	-301.2C	330.3	-235.0	293.2	-272.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	222.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	235.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-8.2	0.0

Rat.	Shear	Capacity	Available Capacity for LL+I
Veh.		VU	(-) (+)
INV.	90.8		-64.5 75.2
OPER	151.4		-107.6 125.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
Typ.	Veh.	w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 9.900Dead Load Moment -2.5
Superimposed Dead Load Moment -26.6

Rating Veh. ber	Moment Capacity top fiber		Moment Capacity bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber +bend	top fiber -bend	bottom fi +bend	bottom fi -bend
INV. 147.3	153.1	-176.4	153.1	-176.4	182.2	-147.3	182.2	-
OPER 245.5	274.6	-274.6	274.6	-274.6	303.7	-245.5	303.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00
		0.00 R	0.00	0.00	0.0	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating top fiber -bend	Factor bottom fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.89	8.24	8.24	0.62	1.78
21.0	19.77	0.400	bott	9.88	8.24	8.24	0.62	1.78

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.00	18.00	10.50	10.50	1310.8	1310.8

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	391.56

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.42	24.71
bott	3.92	0.62	13.400	150.00	84.06		24.71

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.14	28.67	28.67	1.700
			999999.000
			108.643

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	391.56	109.1
bott	22.62		23.48		105.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	151.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.4	-49.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-158.4	158.4	-215.6C	247.9	-126.2	190.7	-183.4
OPER	359.4C	-264.1	264.1	-359.4C	413.2	-210.3	317.9	-305.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	190.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	235.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	-0.8	-8.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	103.0	-63.3	71.7
OPER	171.7	-105.5	119.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.4	-49.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 132.5	143.3	-186.3	143.3	-186.3	197.1	-132.5	197.1	-
OPER 220.8	274.6	-274.6	274.6	-274.6	328.4	-220.8	328.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	235.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
124.8	124.8	124.8	124.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.14	35.26	35.26	2.861
			999999.000
			139.233

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.59		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.000

Dead Load Superimposed Dead Load
Moment Moment
-4.4 -49.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-158.4	158.4	-215.6C	247.9	-126.2	190.7	-183.4
OPER	359.4C	-264.1	264.1	-359.4C	413.2	-210.3	317.9	-305.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	190.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	235.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	1.1	-10.1	11.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I	
		(-)	(+)
INV.	103.0	-63.3	71.7
OPER	171.7	-105.5	119.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.4	-49.4

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I		top fiber		bottom fi	
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	143.3	-186.3	143.3	-186.3	197.1	-132.5	197.1	-
132.5								
OPER	274.6	-274.6	274.6	-274.6	328.4	-220.8	328.4	-
220.8								

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat.	Truck	Live Load Moment	Loc. of Ax.	Lane Live Load Moment	Loc. of Conc.				
Typ.	Veh.	w/imp.	w/o imp.	Front Wheel	Dis.	w/imp.	w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	190.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	235.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.100

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	35.26	35.26	2.861
			999999.000
			125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.59		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.100

Dead Load Superimposed Dead Load
Moment Moment
-1.9 -22.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	230.5	-173.9	203.7	-200.8
OPER	359.4C	-314.7	314.7	-359.4C	384.2	-289.9	339.5	-334.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	227.50		
		0.00	R	0.00	0.00	0.0	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.100

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.9	0.0	9.7

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-85.6	72.9
OPER	171.7	-142.7	121.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.100

Dead Load Moment	Superimposed Dead Load Moment
-1.9	-22.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 181.5	186.4	-206.3	186.4	-206.3	211.2	-181.5	211.2	-
OPER 302.5	327.3	-327.3	327.3	-327.3	352.1	-302.5	352.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	227.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	215.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.200

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	35.26	35.26	2.861	999999.000	125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.59		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 10.200

Dead Load Moment Superimposed Dead Load Moment
 0.1 -1.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	216.3	-188.2	189.4	-215.0
OPER	359.4C	-314.7	314.7	-359.4C	360.4	-313.7	315.7	-358.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	230.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.200

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.7	0.0	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-84.3	74.2
OPER	171.7	-140.6	123.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.200Dead Load Moment 0.1
Superimposed Dead Load Moment -1.1

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 195.8	196.0	-196.8	196.0	-196.8	197.0	-195.8	197.0	-
OPER 326.3	327.3	-327.3	327.3	-327.3	328.3	-326.3	328.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	230.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	215.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.300

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	35.26	35.26	2.861
			999999.000
			125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.59		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.300

Dead Load Superimposed Dead Load
Moment Moment
1.7 15.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	205.1	-199.3	178.3	-226.2
OPER	359.4C	-314.7	314.7	-359.4C	341.9	-332.2	297.2	-376.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	232.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.300

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.5	0.0	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-83.1	75.4
OPER	171.7	-138.5	125.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.300Dead Load Moment 1.7
Superimposed Dead Load Moment 15.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 206.9	203.4	-189.4	203.4	-189.4	185.9	-206.9	185.9	-
OPER 344.8	327.3	-327.3	327.3	-327.3	309.8	-344.8	309.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	232.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	215.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	35.26	35.26	2.861
			999999.000
			125.801

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		50.59		101.9

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.400

Dead Load Moment Superimposed Dead Load Moment
2.8 28.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	197.1	-207.3	170.3	-234.1
OPER	359.4C	-314.7	314.7	-359.4C	328.6	-345.5	283.9	-390.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	235.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.400

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.4	0.0	3.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.0	-81.8	76.7
OPER	171.7	-136.4	127.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.400Dead Load Moment 2.8
Superimposed Dead Load Moment 28.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 214.9	208.7	-184.0	208.7	-184.0	177.9	-214.9	177.9	-
OPER 358.1	327.3	-327.3	327.3	-327.3	296.4	-358.1	296.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	235.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	215.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.26	35.26	2.861	999999.000	95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.500

Dead Load Moment 3.5
Superimposed Dead Load Moment 35.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.6C	-188.8	188.8	-215.6C	192.3	-212.2	165.5	-239.0
OPER	359.4C	-314.7	314.7	-359.4C	320.5	-353.6	275.8	-398.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	237.50		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.2	0.0	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	103.0	-80.6	78.0
OPER	171.7	-134.3	129.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.500Dead Load Moment 3.5
Superimposed Dead Load Moment 35.5

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
	+bend	-bend	+bend	-bend
INV. 219.7	211.9	-180.8	211.9	-180.8
OPER 366.2	327.3	-327.3	327.3	-327.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	237.50
		0.00 R	0.00	0.00	0.0	0.00	215.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber	bottom fiber	top fiber	bottom fiber
	+bend	-bend	+bend	-bend
HS20	999.00	999.00	999.00	999.00
5C1T	999.00	999.00	999.00	999.00

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	35.26	35.26	2.861	999999.000	95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.600

Dead Load Superimposed Dead Load
Moment Moment
3.7 37.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	190.7	-213.8	163.9	-240.6
OPER	359.4C	-314.7	314.7	-359.4C	317.8	-356.3	273.1	-401.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	240.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.600

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-79.3	79.2
OPER	171.7	-132.1	132.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.600Dead Load Moment 3.7
Superimposed Dead Load Moment 37.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 221.3	213.0	-179.7	213.0	-179.7	171.4	-221.3	171.4	-
OPER 368.9	327.3	-327.3	327.3	-327.3	285.7	-368.9	285.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	240.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	215.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.700

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.700

Dead Load Moment 3.4
Superimposed Dead Load Moment 35.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	192.2	-212.2	165.4	-239.1
OPER	359.4C	-314.7	314.7	-359.4C	320.4	-353.7	275.6	-398.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	242.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.700

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-78.0	80.5
OPER	171.7	-130.0	134.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.700Dead Load Moment 3.4
Superimposed Dead Load Moment 35.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 219.8	212.0	-180.7	212.0	-180.7	172.9	-219.8	172.9	-
OPER 366.3	327.3	-327.3	327.3	-327.3	288.2	-366.3	288.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	242.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	215.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.800

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
 Check Point I. D. 10.800

Dead Load Moment Superimposed Dead Load Moment
 2.7 28.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	196.9	-207.6	170.1	-234.4
OPER	359.4C	-314.7	314.7	-359.4C	328.1	-346.0	283.4	-390.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	245.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.800

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.4	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-76.8	81.8
OPER	171.7	-127.9	136.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.800Dead Load Moment 2.7
Superimposed Dead Load Moment 28.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 215.1	208.9	-183.9	208.9	-183.9	177.6	-215.1	177.6	-
OPER 358.5	327.3	-327.3	327.3	-327.3	296.0	-358.5	296.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	245.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	215.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.900

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 10.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.900

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	215.6C	-188.8	188.8	-215.6C	204.7	-199.8	177.9	-226.6
OPER	359.4C	-314.7	314.7	-359.4C	341.2	-332.9	296.4	-377.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	247.50		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	215.00	0.00	
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1T	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.900

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.5	-5.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-75.5	83.0
OPER	171.7	-125.9	138.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 10.900

Dead Load Moment Superimposed Dead Load Moment
1.6 16.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 207.3	203.7	-189.1	203.7	-189.1	185.4	-207.3	185.4	-
OPER 345.5	327.3	-327.3	327.3	-327.3	309.0	-345.5	309.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	247.50	
		0.00 R	0.00	0.00	0.0	0.00	0.00	215.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 11.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.30	8.30	0.74	1.82
21.2	19.72	0.460	bott	9.86	8.30	8.30	0.74	1.82

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
21.30	21.30	10.60	10.60	1576.9	1576.9

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
148.8	148.8	148.8	148.8	467.23

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S05
Check Point I. D. 11.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.220	0.01	0.01	43.34	21.67
bott	3.92	0.74	11.220	150.00	82.26		21.67

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	35.26	35.26	2.861
			999999.000
			95.718

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	467.23	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	12.50	1.00	33000.	73.86	0.00	11.0	171.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 11.000

Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	215.6C	-188.8	188.8	-215.6C	215.6	-188.8	188.8	-215.6
OPER	359.4C	-314.7	314.7	-359.4C	359.4	-314.7	314.7	-359.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 11.000

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) Shear
-0.7	-7.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	103.0	-74.3	79.7
OPER	171.7	-123.8	132.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S05
Check Point I. D. 11.000

Dead Load Moment Superimposed Dead Load Moment
0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 196.4	196.4	-196.4	196.4	-196.4	196.4	-196.4	196.4	-
OPER 327.3	327.3	-327.3	327.3	-327.3	327.3	-327.3	327.3	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0