

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 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

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
H	D	tw	top	16.78	16.59	16.59	1.57	3.81
36.5	33.38	0.880	bott	16.78	16.59	16.59	1.57	3.81

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
82.40	82.40	18.35	18.35	18900.0	18900.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Negative Bending Bott.	Positive Bending Top	Negative Bending Bott.	(Fy * Z)
1030.0	1030.0	1030.0	1030.0	3189.36

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	7.85	1.57	10.570	0.01	0.00	37.72	18.96
bott	7.85	1.57	10.570	84.00	22.03		18.96

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	597.93	597.93	50.526	999999.000	1141.252

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3189.36	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	7.00	1.00	33000.	73.86	0.00	11.0	565.4

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	Superimposed Dead Load Moment
52.7	229.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	1472.0C	-1307.3	1307.3	-1472.0C	1302.9	-1476.4	1138.2	-1641.1
OPER	2453.4C	-2178.8	2178.8	-2453.4C	2171.5	-2460.7	1897.0	-2735.2

Live Load Effect

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

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	866.70	R	666.69	28.42	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
OPER	5C1T	669.59	R	515.07	28.42	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		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	1.50	999.00	1.31	999.00	HS 26.27	47.3
5C1T	3.24	999.00	2.83	999.00	0.00	340.0

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
INV.	339.3	-261.0	261.0
OPER	565.4	-434.9	434.9

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 Veh.	Shear			
	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. 1.474

Dead Load Moment 52.7
 Superimposed Dead Load Moment 229.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 528.7	1472.3	-1246.9	1472.3	-1246.9	1190.5	-1528.7	1190.5	-1
OPER 547.8	2266.0	-2266.0	2266.0	-2266.0	1984.2	-2547.8	1984.2	-2

Live Load Effect

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

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	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	1.37	999.00	1.37	999.00	HS 27.47	49.4
5C1T	2.96	999.00	2.96	999.00	0.00	355.6

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 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	38.833	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	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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web		Dc	b max	b min	t	ry
	Depth	Thk.					
H	D	tw	top	16.61	16.66	16.66	1.68
36.7	33.38	0.940	bott	16.61	16.66	16.66	1.68

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
88.30	88.30	18.29	18.29	20300.0	20300.0

Section Modulus				Plastic Section Modulus - Z (Fy * Z)
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	
1110.0	1110.0	1110.0	1110.0	3414.56

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	7.86	1.68	9.910	0.01	0.00	35.32	17.57
bott	7.86	1.68	9.910	84.00	21.93		17.57

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	646.79	646.79	62.038	999999.000	1154.798

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3414.56	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	7.00	1.00	33000.	73.86	0.00	11.0	603.8

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	Superimposed Dead Load Moment
56.5	548.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	1575.9C	-1408.8	1408.8	-1575.9C	1212.9	-1771.9	1045.8	-1939.0
OPER	2626.6C	-2348.1	2348.1	-2626.6C	2021.5	-2953.1	1743.0	-3231.6

Live Load Effect

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

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	866.70	R	666.69	28.42	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
OPER	5C1T	669.59	R	515.07	28.42	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		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	1.40	999.00	1.21	999.00	HS 24.13	43.4
5C1T	3.02	999.00	2.60	999.00	0.00	312.4

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	362.3	-278.7	278.7
OPER	603.8	-464.4	464.4

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 Veh.	Shear			
	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. 1.474

Dead Load Moment	Superimposed Dead Load Moment
56.5	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. 828.2	1707.2	-1223.2	1707.2	-1223.2	1102.2	-1828.2	1102.2	-1
OPER 047.0	2442.0	-2442.0	2442.0	-2442.0	1837.0	-3047.0	1837.0	-3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. w/o imp.	Front Wheel	Lane Live Load Moment Dis.	Loc. of Conc. w/imp.	w/o imp.	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		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	+bend	-bend		
	+bend	-bend	+bend	-bend		
HS20	1.27	999.00	1.27	999.00	HS 25.43	45.8
5C1T	2.74	999.00	2.74	999.00	0.00	329.2

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 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	38.833	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	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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web		Dc	b max	b min	t	ry
	Depth	Thk.					
H	D	tw	top	16.78	16.59	16.59	1.57
36.5	33.38	0.880	bott	16.78	16.59	16.59	1.57

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
82.40	82.40	18.35	18.35	18900.0	18900.0

Section Modulus				Plastic Section Modulus - Z (Fy * Z)
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	
1030.0	1030.0	1030.0	1030.0	3189.36

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	7.85	1.57	10.570	0.01	0.00	37.72	18.96
bott	7.85	1.57	10.570	84.00	22.03		18.96

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	597.93	597.93	50.526	999999.000	1141.252

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3189.36	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	7.00	1.00	33000.	73.86	0.00	11.0	565.4

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
52.7	476.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	1472.0C	-1307.3	1307.3	-1472.0C	1154.3	-1625.0	989.6	-1789.7
OPER	2453.4C	-2178.8	2178.8	-2453.4C	1923.9	-2708.3	1649.4	-2982.8

Live Load Effect

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

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.	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	R	0.00	0.00	0.0	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	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		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	1.24	999.00	1.06	999.00	HS 21.22	38.2
5C1T	2.73	999.00	2.34	999.00	0.00	280.5

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
INV.	339.3	-261.0	261.0
OPER	565.4	-434.9	434.9

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 Veh.	Shear			
	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 52.7
Superimposed Dead Load Moment 476.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 677.3	1571.4	-1147.8	1571.4	-1147.8	1041.9	-1677.3	1041.9	-1
OPER 795.4	2266.0	-2266.0	2266.0	-2266.0	1736.6	-2795.4	1736.6	-2

Live Load Effect

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

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	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	1.12	999.00	1.12	999.00	HS 22.34	40.2
5C1T	2.46	999.00	2.46	999.00	0.00	295.3

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	Span 2	Span 3	Span 4	Span 5	
	25.000	25.000	25.000	25.000	25.000	
	Span 6	Span 7	Span 8	Span 9	Span 10	
	25.000	25.000	25.000	25.000	25.000	

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	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	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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	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. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	150.00	82.81	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	94.285	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. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	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	0.00 R	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	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

Moment

Rating Veh.	Rating Factor				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

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	35.22	2.32	HS 46.48	83.7	
5C1T	64.34	4.88	0.00	585.8	

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. 1.000

Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	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 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	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 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. S01
 Check Point I. D. 1.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	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. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	150.00	82.81	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	94.285	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. 1.400Dead Load Moment 3.7
Superimposed Dead Load Moment 38.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	

Moment

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
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	288.5

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. 1.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.93	6.18	HS 123.53	222.4
5C1T	11.87	11.62	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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	+bend	-bend	+bend	-
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 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	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		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -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	301.8

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.847	106.847

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.59	390.83	105.1
bott	22.62		23.59		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. S01
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-49.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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 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	285.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-94.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.69	1.24	11.54	1.42	HS 24.80	44.6
5C1T	27.36	2.80	24.89	3.22	0.00	336.0

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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.96	1.81	HS 36.20	65.2	
5C1T	4.38	3.89	0.00	466.3	

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. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-49.4

Rating Veh.	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 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 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	285.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-94.00	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	11.93	1.30	11.93	1.30	HS 26.04	46.9
5C1T	25.72	2.94	25.72	2.94	0.00	352.8

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.847	106.847

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.59	390.83	105.1
bott	22.62		23.59		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. S01
Check Point I. D. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 17.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-121.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom 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	342.7

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. 2.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) Shear
0.1	0.0	0.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
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/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.36	5.23	HS 104.54	188.2
5C1T	10.65	9.42	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 17.0

Rating Veh.	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 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	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	-121.50	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	6.54	1.66	6.54	HS 33.23	59.8
5C1T	2.98	7.87	2.98	7.87	0.00	357.4

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	114.362	114.362

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	30.17	390.83	103.9
bott	22.62		30.17		103.9

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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-208.50	0.0	0.00	0.00	0.00		
		-61.54	L	-47.34	-69.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
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	445.9

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. 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.85	1.85	HS 36.89	66.4
5C1T	4.11	4.05	0.00	485.8

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. 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 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 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	-208.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	-69.00	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	9.59	1.46	9.59	1.46	HS 29.19	52.5
5C1T	20.75	3.89	20.75	3.89	0.00	466.9

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	30.17	390.83	103.9
bott	22.62		30.17		103.9

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. 3.500Dead Load Moment 1.7
Superimposed Dead Load Moment 21.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-123.50	0.0	0.00	0.00	0.00			
		-33.69 R	-25.92	134.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
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	324.3

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. 3.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	151.3	-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/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	-12.11	12.03	-9.32	9.26
OPER	5C1T	-11.77	11.58	-9.05	8.91	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.33	HS 106.32	191.4
5C1T	9.88	10.06	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.500Dead 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 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	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	-123.50	0.0	0.00	0.00	0.00	
		-33.69 R	-25.92	134.50	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	1.62	8.10	1.62	8.10	HS 32.47	58.5
5C1T	2.82	8.98	2.82	8.98	0.00	338.5

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	28.42	390.83	104.2
bott	22.62		28.42		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	151.3

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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.43 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	335.00	0.0	0.00	0.00	0.00			
		-64.62 R	-49.71	193.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.58	1.37	11.41	1.56	HS 27.39	49.3
5C1T	27.12	3.48	24.60	3.98	0.00	417.8

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. 4.000

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	26.31	-20.34	20.23	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value		
HS20	1.84	1.84	HS 36.79	66.2	
5C1T	4.00	4.03	0.00	480.5	

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. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-40.3

Rating Veh.	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 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 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	335.00	0.0	0.00	0.00	0.00	
		-64.62 R	-49.71	193.00	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	11.80	1.43	11.80	1.43	HS 28.70	51.7
5C1T	25.45	3.65	25.45	3.65	0.00	437.7

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	28.42	390.83	104.2
bott	22.62		28.42		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	151.3

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. 4.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	89.93 R	69.18	273.50	0.0	0.00	0.00	0.00			
		-34.36 L	-26.43	-71.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.77	7.65	1.56	8.49	HS 31.28	56.3
5C1T	3.10	8.45	2.74	9.39	0.00	329.3

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. 4.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-11.64	11.66	-8.95	8.97	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.34	191.4
5C1T	10.01	9.97	0.00	999.0

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. 4.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 20.3

Rating Veh.	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 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	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	89.93 R	69.18	273.50	0.0	0.00	0.00	0.00	
		-34.36 L	-26.43	-71.50	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	1.63	7.93	1.63	7.93	HS 32.64	58.8
5C1T	2.86	8.77	2.86	8.77	0.00	343.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	28.86	390.83	104.2
bott	22.62		28.86		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	151.3

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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	360.00	0.0	0.00	0.00	0.00			
		-63.99 R	-49.22	218.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.34	1.38	11.19	1.57	HS 27.52	49.5
5C1T	26.99	3.53	24.48	4.03	0.00	423.8

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. 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	26.26	-20.18	20.20	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.84	66.3
5C1T	4.04	4.04	0.00	484.4

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. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh.	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 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	360.00	0.0	0.00	0.00	0.00	
		-63.99 R	-49.22	218.00	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	11.58	1.44	11.58	1.44	HS 28.82	51.9
5C1T	25.32	3.70	25.32	3.70	0.00	443.9

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	28.86	390.83	104.2
bott	22.62		28.86		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	151.3

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. 5.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-73.50	0.0	0.00	0.00	0.00			
		-34.25 L	-26.34	40.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.76	7.68	1.56	8.52	HS 31.24	56.2
5C1T	3.10	8.49	2.74	9.43	0.00	328.8

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. 5.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-11.66	11.65	-8.97	8.96	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.38	191.5
5C1T	9.98	9.99	0.00	999.0

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. 5.500

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 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	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	-73.50	0.0	0.00	0.00	0.00	
		-34.25 L	-26.34	40.50	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	1.63	7.96	1.63	7.96	HS 32.60	58.7
5C1T	2.86	8.81	2.86	8.81	0.00	343.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
 Check Point I. D. 6.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	28.86	390.83	104.2
bott	22.62		28.86		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	151.3

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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	-135.00	0.0	0.00	0.00	0.00			
		-64.25 L	-49.42	7.00	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.41	1.37	11.25	1.57	HS 27.47	49.5
5C1T	27.07	3.51	24.55	4.01	0.00	421.5

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. 6.000

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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.84	1.84	HS 36.83	66.3	
5C1T	4.03	4.03	0.00	484.1	

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. 6.000

Dead Load Moment Superimposed Dead Load Moment
-3.3 -39.7

Rating Veh.	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 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 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	-135.00	0.0	0.00	0.00	0.00	
		-64.25 L	-49.42	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	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	3.68	25.40	3.68	0.00	441.5

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	28.86	390.83	104.2
bott	22.62		28.86		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	151.3

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. 6.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	323.50	0.0	0.00	0.00	0.00			
		-34.25 R	-26.34	209.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.76	7.68	1.56	8.52	HS 31.24	56.2
5C1T	3.10	8.49	2.74	9.43	0.00	328.8

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. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	151.3	-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	-11.65	11.66	-8.96	8.97	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.36	191.4
5C1T	10.00	9.97	0.00	999.0

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. 6.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 20.6

Rating Veh.	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 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	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	323.50	0.0	0.00	0.00	0.00	
		-34.25 R	-26.34	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	1.63	7.96	1.63	7.96	HS 32.60	58.7
5C1T	2.86	8.81	2.86	8.81	0.00	343.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	28.42	390.83	104.2
bott	22.62		28.42		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	151.3

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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	408.50	0.0	0.00	0.00	0.00			
		-64.03 R	-49.26	266.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.34	1.38	11.19	1.57	HS 27.52	49.5
5C1T	26.82	3.53	24.32	4.03	0.00	423.5

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. 7.000

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	-26.26	26.23	-20.20	20.18	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.84	66.3
5C1T	4.04	4.04	0.00	484.4

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. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-39.4

Rating Veh.	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 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 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	408.50	0.0	0.00	0.00	0.00	
		-64.03 R	-49.26	266.50	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	11.58	1.44	11.58	1.44	HS 28.82	51.9
5C1T	25.16	3.70	25.16	3.70	0.00	443.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
 Check Point I. D. 7.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	28.42	390.83	104.2
bott	22.62		28.42		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	151.3

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. 7.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	89.93 L	69.18	-23.50	0.0	0.00	0.00	0.00			
		-34.36 R	-26.43	321.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.77	7.65	1.56	8.49	HS 31.28	56.3
5C1T	3.10	8.45	2.74	9.39	0.00	329.3

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. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-11.66	11.64	-8.97	8.95	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.40	191.5
5C1T	9.98	10.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.500Dead Load Moment 1.6
Superimposed Dead Load Moment 20.3

Rating Veh.	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 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	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	89.93 L	69.18	-23.50	0.0	0.00	0.00	0.00	
		-34.36 R	-26.43	321.50	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	1.63	7.93	1.63	7.93	HS 32.64	58.8
5C1T	2.86	8.77	2.86	8.77	0.00	343.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	30.17	390.83	103.9
bott	22.62		30.17		103.9

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. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-40.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.43 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	-85.00	0.0	0.00	0.00	0.00			
		-64.71 R	-49.78	291.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.58	1.37	11.41	1.56	HS 27.39	49.3
5C1T	27.12	3.48	24.60	3.97	0.00	417.2

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. 8.000

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	-26.31	26.44	-20.23	20.34	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.84	1.84	HS 36.79	66.2
5C1T	4.03	4.00	0.00	480.5

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. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-40.3

Rating Veh.	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 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	-85.00	0.0	0.00	0.00	0.00	
		-64.71 R	-49.78	291.50	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	11.80	1.43	11.80	1.43	HS 28.70	51.7
5C1T	25.45	3.64	25.45	3.64	0.00	437.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	30.17	390.83	103.9
bott	22.62		30.17		103.9

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. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 21.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	373.50	0.0	0.00	0.00	0.00		
		-33.69	L	-25.92	115.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
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	324.3

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. 8.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-13.12	13.12	-10.09	10.09	-12.03	12.11	-9.26	9.32
OPER	5C1T	-11.58	11.77	-8.91	9.05	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.33	5.31	HS 106.26	191.3
5C1T	10.07	9.87	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 21.5

Rating Veh.	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 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	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	373.50	0.0	0.00	0.00	0.00	
		-33.69 L	-25.92	115.50	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	1.62	8.10	1.62	8.10	HS 32.47	58.5
5C1T	2.82	8.98	2.82	8.98	0.00	338.5

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	114.362	114.362

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.59	390.83	105.1
bott	22.62		23.59		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. 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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	458.50	0.0	0.00	0.00	0.00			
		-61.73 R	-47.48	318.00	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	top fiber -bend	bottom 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	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. 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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value		
HS20	1.85	1.85	HS 36.89	66.4	
5C1T	4.05	4.11	0.00	485.8	

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. 9.000

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 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	458.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	318.00	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	9.59	1.46	9.59	1.46	HS 29.19	52.5
5C1T	20.75	3.88	20.75	3.88	0.00	465.5

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.847	106.847

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.59	390.83	105.1
bott	22.62		23.59		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. S01
Check Point I. D. 9.500Dead Load Moment 1.2
Superimposed Dead Load Moment 17.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	371.50	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	top fiber -bend	bottom 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	342.7

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. 9.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.23	5.36	HS 104.60	188.3
5C1T	9.42	10.64	0.00	999.0

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. 9.500Dead Load Moment 1.2
Superimposed Dead Load Moment 17.0

Rating Veh.	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 w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment Dis.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.36 R	72.58	226.50	0.0	212.50	
		-27.30 R	-21.00	258.00	0.0	235.00	0.00
OPER	5C1T	87.72 L	67.48	113.50	0.0	0.00	
		-37.81 R	-29.08	371.50	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	1.66	6.54	1.66	6.54
5C1T	2.98	7.87	2.98	7.87

Rating Value HS 33.23
Load Capacity 59.8
357.4

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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
2.14	35.20	35.20	2.861	136.964	136.964

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	50.67	467.60	101.9
bott	22.62		50.67		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	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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	-35.00	0.0	0.00	0.00	0.00			
		-76.72 R	-59.02	344.00	0.0	0.00	0.00	0.00		0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	14.80	1.25	11.54	1.78	HS 24.96	44.9
5C1T	31.92	2.80	24.89	3.99	0.00	336.0

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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.82	1.96	HS 36.49	65.7
5C1T	3.91	4.38	0.00	468.9

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. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-49.4

Rating Veh.	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 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	-35.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	344.00	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	11.93	1.31	11.93	1.31	HS 26.20	47.2
5C1T	25.72	2.94	25.72	2.94	0.00	352.8

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web		Dc	b max	b min	t	ry	
	Depth	Thk.						
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 Bending		Negative Bending		
Top	Bott.	Top	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. 10.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	150.00	82.81	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	94.285	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. 10.600Dead Load Moment 3.7
Superimposed Dead Load Moment 38.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
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	288.5

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. 10.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.18	6.93	HS 123.53	222.4
5C1T	11.62	11.87	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. 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		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
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 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	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	1.36	8.97	1.36	8.97	HS 27.11	48.8
5C1T	2.52	15.88	2.52	15.88	0.00	301.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
 Check Point I. D. 11.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	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. 11.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.74	11.210	150.00	82.81	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	94.285	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. 11.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	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	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
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	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

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	585.8

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. 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 w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment Dis.	Loc. of Conc. Load 1	Load 2
INV.	HS20	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
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 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

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	Span 2	Span 3	Span 4	Span 5	
	25.000	25.000	25.000	25.000	25.000	
	Span 6	Span 7	Span 8	Span 9	Span 10	
	25.000	25.000	25.000	25.000	25.000	

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	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. S02
 Check Point I. D. 1.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	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	0.00 R	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	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

Moment

Rating Veh.	Rating Factor				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

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	Rating Value	
HS20	34.86	2.35	HS 47.03	84.6	
5C1T	63.67	4.94	0.00	592.8	

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. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	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 w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Live Load Dis.	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 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. S02
 Check Point I. D. 1.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 1.400Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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	

Moment

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
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	296.0

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. 1.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.93	6.18	HS 123.50	222.3
5C1T	11.88	11.62	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.400

Dead Load Moment	Superimposed Dead Load Moment
3.7	30.8

Rating Veh.	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 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	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 top fiber		Factor bottom fiber		Rating Value	Load Capacity (tons)
	+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	309.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.	Dc	b max	b min	t	ry
21.0	19.76	0.400	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.924	106.924

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.55	390.83	105.8
bott	22.62		19.55		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. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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 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	285.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-94.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.35	1.29	11.21	1.48	HS 25.88	46.6
5C1T	26.63	2.92	24.17	3.34	0.00	350.7

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. 2.000

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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.99	1.84	HS 36.86	66.4	
5C1T	4.46	3.96	0.00	474.9	

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. 2.000

Dead Load Moment -4.5
Superimposed Dead Load Moment -40.0

Rating Veh.	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 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	285.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-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	11.59	1.36	11.59	1.36	HS 27.12	48.8
5C1T	25.00	3.06	25.00	3.06	0.00	367.5

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.924	106.924

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.55	390.83	105.8
bott	22.62		19.55		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. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	-121.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
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	346.9

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. 2.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.36	5.23	HS 104.60	188.3
5C1T	10.64	9.42	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh.	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 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	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	-121.50	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	361.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	114.539	114.539

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.02	390.83	104.8
bott	22.62		25.02		104.8

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. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	-208.50	0.0	0.00	0.00	0.00		
		-61.54	L	-47.34	-69.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	459.7

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. 3.000

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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.88	HS 37.52	67.5
5C1T	4.18	4.12	0.00	494.1

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. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-30.0

Rating Veh.	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 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 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	-208.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	-69.00	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	9.38	1.50	9.38	1.50	HS 30.05	54.1
5C1T	20.30	4.01	20.30	4.01	0.00	480.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.02	390.83	104.8
bott	22.62		25.02		104.8

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. 3.500Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	-123.50	0.0	0.00	0.00	0.00			
		-33.69 R	-25.92	134.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.78	7.70	1.58	8.56	HS 31.61	56.9
5C1T	3.10	8.55	2.75	9.49	0.00	329.6

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. 3.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-11.77	11.58	-9.05	8.91	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.37	191.5
5C1T	9.88	10.06	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.500Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh.	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 w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment Dis.	Loc. of Conc. Load 1	Load 2
INV.	HS20	94.67 R	72.82	76.50	0.0	62.50	
		-22.43 R	-17.25	108.00	0.0	85.00	0.00
OPER	5C1T	90.81 L	69.86	-123.50	0.0	0.00	
		-33.69 R	-25.92	134.50	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	1.65	7.99	1.65	7.99	HS 32.98	59.4
5C1T	2.87	8.86	2.87	8.86	0.00	343.8

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.56	390.83	105.1
bott	22.62		23.56		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. 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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.43 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	335.00	0.0	0.00	0.00	0.00			
		-64.62 R	-49.71	193.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.30	1.42	11.13	1.61	HS 28.33	51.0
5C1T	26.51	3.60	24.00	4.09	0.00	432.0

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. 4.000

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	26.31	-20.34	20.23	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.87	HS 37.44	67.4
5C1T	4.07	4.10	0.00	488.9

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. 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 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 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	335.00	0.0	0.00	0.00	0.00	
		-64.62 R	-49.71	193.00	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	3.77	24.84	3.77	0.00	451.9

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.	Dc	b max	b min	t	ry
21.0	19.76	0.400	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.56	390.83	105.1
bott	22.62		23.56		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. S02
Check Point I. D. 4.500Dead Load Moment 1.6
Superimposed Dead Load Moment 16.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	89.93 R	69.18	273.50	0.0	0.00	0.00	0.00			
		-34.36 L	-26.43	-71.50	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	top fiber -bend	bottom 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	334.3

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. 4.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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/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	-11.64	11.66	-8.95	8.97	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.31	191.4
5C1T	10.01	9.97	0.00	999.0

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. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	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 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	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	89.93 R	69.18	273.50	0.0	0.00	0.00	0.00	
		-34.36 L	-26.43	-71.50	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	1.66	7.83	1.66	7.83	HS 33.11	59.6
5C1T	2.90	8.66	2.90	8.66	0.00	348.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		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. 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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	360.00	0.0	0.00	0.00	0.00			
		-63.99 R	-49.22	218.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.07	1.42	10.92	1.62	HS 28.43	51.2
5C1T	26.40	3.65	23.89	4.15	0.00	437.8

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. 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	26.26	-20.18	20.20	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.88	1.87	HS 37.48	67.5	
5C1T	4.11	4.11	0.00	492.9	

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. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh.	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 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	360.00	0.0	0.00	0.00	0.00	
		-63.99 R	-49.22	218.00	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	11.31	1.49	11.31	1.49	HS 29.74	53.5
5C1T	24.73	3.82	24.73	3.82	0.00	458.0

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		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. S02
Check Point I. D. 5.500Dead Load Moment 1.6
Superimposed Dead Load Moment 16.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-73.50	0.0	0.00	0.00	0.00			
		-34.25 L	-26.34	40.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.79	7.58	1.59	8.42	HS 31.72	57.1
5C1T	3.14	8.38	2.78	9.32	0.00	333.8

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. 5.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-116.4	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	12.09	-9.31	9.30
OPER	5C1T	-11.66	11.65	-8.97	8.96	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.35	191.4
5C1T	9.98	9.99	0.00	999.0

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. 5.500

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 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	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	-73.50	0.0	0.00	0.00	0.00	
		-34.25 L	-26.34	40.50	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	1.65	7.86	1.65	7.86	HS 33.08	59.5
5C1T	2.90	8.70	2.90	8.70	0.00	348.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		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. 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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	-135.00	0.0	0.00	0.00	0.00			
		-64.25 L	-49.42	7.00	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.14	1.42	10.98	1.61	HS 28.39	51.1
5C1T	26.48	3.63	23.96	4.13	0.00	435.6

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. 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.87	HS 37.48	67.5
5C1T	4.10	4.10	0.00	492.5

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. 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 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 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	-135.00	0.0	0.00	0.00	0.00	
		-64.25 L	-49.42	7.00	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	11.37	1.49	11.37	1.49	HS 29.70	53.5
5C1T	24.81	3.80	24.81	3.80	0.00	455.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		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. S02
Check Point I. D. 6.500Dead Load Moment 1.6
Superimposed Dead Load Moment 16.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	323.50	0.0	0.00	0.00	0.00			
		-34.25 R	-26.34	209.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.79	7.58	1.59	8.42	HS 31.72	57.1
5C1T	3.14	8.38	2.78	9.32	0.00	333.8

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. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-116.4	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	-11.65	11.66	-8.96	8.97	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.33	191.4
5C1T	10.00	9.97	0.00	999.0

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. 6.500

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 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	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	323.50	0.0	0.00	0.00	0.00	
		-34.25 R	-26.34	209.50	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	1.65	7.86	1.65	7.86	HS 33.08	59.5
5C1T	2.90	8.70	2.90	8.70	0.00	348.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.56	390.83	105.1
bott	22.62		23.56		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. 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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	408.50	0.0	0.00	0.00	0.00			
		-64.03 R	-49.26	266.50	0.0	0.00	0.00	0.00		0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.07	1.42	10.92	1.62	HS 28.43	51.2
5C1T	26.24	3.65	23.74	4.15	0.00	437.5

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	-26.26	26.23	-20.20	20.18	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.87	1.88	HS 37.48		67.5
5C1T	4.11	4.11	0.00		492.9

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. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-3.2	-32.0

Rating Veh.	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 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 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	408.50	0.0	0.00	0.00	0.00	
		-64.03 R	-49.26	266.50	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	11.31	1.49	11.31	1.49	HS 29.74	53.5
5C1T	24.58	3.81	24.58	3.81	0.00	457.7

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.56	390.83	105.1
bott	22.62		23.56		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. S02
Check Point I. D. 7.500Dead Load Moment 1.6
Superimposed Dead Load Moment 16.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	89.93 L	69.18	-23.50	0.0	0.00	0.00	0.00			
		-34.36 R	-26.43	321.50	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	top fiber -bend	bottom 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	334.3

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. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-13.12	13.12	-10.10	10.10	-12.10	12.08	-9.31	9.29
OPER	5C1T	-11.66	11.64	-8.97	8.95	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.37	191.5
5C1T	9.98	10.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.5

Rating Veh.	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 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	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	89.93 L	69.18	-23.50	0.0	0.00	0.00	0.00	
		-34.36 R	-26.43	321.50	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	1.66	7.83	1.66	7.83	HS 33.11	59.6
5C1T	2.90	8.66	2.90	8.66	0.00	348.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.0	19.76	0.400		9.86	8.24	8.24	0.62	1.77
				9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.02	390.83	104.8
bott	22.62		25.02		104.8

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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.43 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	-85.00	0.0	0.00	0.00	0.00			
		-64.71 R	-49.78	291.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.30	1.42	11.13	1.61	HS 28.33	51.0
5C1T	26.51	3.60	24.00	4.09	0.00	431.4

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. 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	-26.31	26.44	-20.23	20.34	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.87	1.87	HS 37.44		67.4
5C1T	4.10	4.07	0.00		488.9

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. 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	-85.00	0.0	0.00	0.00	0.00	
		-64.71 R	-49.78	291.50	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	11.52	1.48	11.52	1.48	HS 29.64	53.3
5C1T	24.84	3.76	24.84	3.76	0.00	451.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 8.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.02	390.83	104.8
bott	22.62		25.02		104.8

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. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	373.50	0.0	0.00	0.00	0.00			
		-33.69 L	-25.92	115.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.78	7.70	1.58	8.56	HS 31.61	56.9
5C1T	3.10	8.55	2.75	9.49	0.00	329.6

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. 8.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	11.77	-8.91	9.05	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.33	5.31	HS 106.25	191.3
5C1T	10.07	9.87	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 17.5

Rating Veh.	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 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	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	373.50	0.0	0.00	0.00	0.00	
		-33.69 L	-25.92	115.50	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	1.65	7.99	1.65	7.99	HS 32.98	59.4
5C1T	2.87	8.86	2.87	8.86	0.00	343.8

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.0	19.76	0.400		9.86	8.24	8.24	0.62	1.77
				9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	114.539	114.539

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.55	390.83	105.8
bott	22.62		19.55		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. 9.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	458.50	0.0	0.00	0.00	0.00		
		-61.73	R	-47.48	318.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	458.3

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. 9.000

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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.88	HS 37.52	67.5
5C1T	4.12	4.18	0.00	494.1

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. 9.000

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 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	458.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	318.00	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	9.38	1.50	9.38	1.50	HS 30.05	54.1
5C1T	20.30	3.99	20.30	3.99	0.00	479.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.	Dc	b max	b min	t	ry
21.0	19.76	0.400	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.924	106.924

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.55	390.83	105.8
bott	22.62		19.55		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. 9.500Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	371.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
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	346.9

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. 9.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.24	5.36	HS 104.72	188.5
5C1T	9.43	10.63	0.00	999.0

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. 9.500

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 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	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	371.50	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	1.68	6.47	1.68	6.47	HS 33.62	60.5
5C1T	3.01	7.79	3.01	7.79	0.00	361.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web		Dc	b max	b min	t	ry	
	Depth	Thk.						
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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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
2.14	35.20	35.20	2.861	137.062	137.062

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	42.06	467.60	103.1
bott	22.62		42.06		103.1

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. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-40.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	-35.00	0.0	0.00	0.00	0.00		0.00	
		-76.72 R	-59.02	344.00	0.0	0.00	0.00	0.00		0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	14.47	1.30	11.21	1.83	HS 26.05	46.9
5C1T	31.19	2.92	24.17	4.11	0.00	350.7

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. 10.000

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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.99	HS 37.16	66.9
5C1T	3.98	4.46	0.00	477.5

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. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-40.0

Rating Veh.	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	-35.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	344.00	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	11.59	1.37	11.59	1.37	HS 27.29	49.1
5C1T	25.00	3.06	25.00	3.06	0.00	367.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 10.600

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

Non-Composite Structural Steel Section Properties:

Section Height	Web		Dc	b max	b min	t	ry	
	Depth	Thk.						
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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 10.600Dead Load Moment 3.7
Superimposed Dead Load Moment 30.8

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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	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.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	296.0

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. 10.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.18	6.93	HS 123.50	222.3
5C1T	11.62	11.88	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
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		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 w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment Dis.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.61 R	98.93	254.00	0.0	240.00	
		-25.02 L	-19.25	192.00	0.0	215.00	0.00
OPER	5C1T	115.53 L	88.87	141.00	0.0	0.00	
		-23.55 L	-18.11	116.00	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	1.39	8.79	1.39	8.79	HS 27.78	50.0
5C1T	2.58	15.57	2.58	15.57	0.00	309.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web		Dc	b max	b min	t	ry	
	Depth	Thk.						
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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 11.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	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	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
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	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

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. 11.000

Dead 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.	Rat.	Truck Live Load Shear				Lane Live Load Shear			
Typ.	Veh.	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	Load
	(-)	(+)	Value	Capacity
				(tons)
HS20	2.35	33.80	HS 47.03	84.6
5C1T	4.94	999.00	0.00	592.8

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. 11.000

Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	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 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	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 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

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	Span 2	Span 3	Span 4	Span 5	
	25.000	25.000	25.000	25.000	25.000	
	Span 6	Span 7	Span 8	Span 9	Span 10	
	25.000	25.000	25.000	25.000	25.000	

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	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	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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web		Dc	b max	b min	t	ry	
	Depth	Thk.						
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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	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	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
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.	Rating Factor				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

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	35.04	2.34	HS 46.75	84.2	
5C1T	64.00	4.91	0.00	589.3	

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. 1.000

Dead 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 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	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 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. S03
 Check Point I. D. 1.400

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

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.2	19.76	0.460		9.86	8.30	8.30	0.74	1.81
				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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 1.400Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	

Moment

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
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	292.2

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. 1.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.93	6.18	HS 123.51	222.3
5C1T	11.88	11.62	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. 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		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 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	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	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	305.5

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.944	106.944

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.63	390.83	105.4
bott	22.62		21.63		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	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 Moment Superimposed Dead Load Moment
 -4.5 -44.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	285.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-94.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.52	1.27	11.38	1.45	HS 25.34	45.6
5C1T	27.00	2.86	24.53	3.28	0.00	343.4

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. 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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.97	1.83	HS 36.53	65.8	
5C1T	4.42	3.92	0.00	470.6	

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. 2.000

Dead Load Moment Superimposed Dead Load Moment
-4.5 -44.7

Rating Veh.	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 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 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	285.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-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	11.76	1.33	11.76	1.33	HS 26.58	47.8
5C1T	25.36	3.00	25.36	3.00	0.00	360.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 2.500

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

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.	Dc	b max	b min	t	ry
21.0	19.76	0.400	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.944	106.944

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.63	390.83	105.4
bott	22.62		21.63		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	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. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-121.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	1.81	6.27	1.60	6.97	HS 32.05	57.7
5C1T	3.24	7.55	2.87	8.39	0.00	344.7

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. 2.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) Shear
0.1	0.0	0.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	Capacity for LL+I (+)
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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.36	5.23	HS 104.56	188.2
5C1T	10.65	9.42	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. 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		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 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	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	-121.50	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	359.4

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	114.531	114.531

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.66	390.83	104.4
bott	22.62		27.66		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. S03
 Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-208.50	0.0	0.00	0.00	0.00		
		-61.54	L	-47.34	-69.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	452.8

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. 3.000

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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.87	1.86	HS 37.21	67.0	
5C1T	4.14	4.08	0.00	490.0	

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. 3.000

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 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	-208.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	-69.00	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	9.48	1.48	9.48	1.48	HS 29.62	53.3
5C1T	20.52	3.95	20.52	3.95	0.00	473.8

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.66	390.83	104.4
bott	22.62		27.66		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. S03
Check Point I. D. 3.500Dead Load Moment 1.7
Superimposed Dead Load Moment 19.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	-123.50	0.0	0.00	0.00	0.00			
		-33.69 R	-25.92	134.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	326.9

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-11.77	11.58	-9.05	8.91	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.36	191.4
5C1T	9.88	10.06	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500Dead 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 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	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	-123.50	0.0	0.00	0.00	0.00	
		-33.69 R	-25.92	134.50	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	1.64	8.04	1.64	8.04	HS 32.72	58.9
5C1T	2.84	8.92	2.84	8.92	0.00	341.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.05	390.83	104.6
bott	22.62		26.05		104.6

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	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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.43 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	335.00	0.0	0.00	0.00	0.00			
		-64.62 R	-49.71	193.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.44	1.39	11.27	1.59	HS 27.86	50.2
5C1T	26.82	3.54	24.30	4.04	0.00	424.9

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. 4.000

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	26.31	-20.34	20.23	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.12	66.8
5C1T	4.04	4.06	0.00	484.7

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. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-36.5

Rating Veh.	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 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	335.00	0.0	0.00	0.00	0.00	
		-64.62 R	-49.71	193.00	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	11.66	1.46	11.66	1.46	HS 29.17	52.5
5C1T	25.14	3.71	25.14	3.71	0.00	444.8

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.05	390.83	104.6
bott	22.62		26.05		104.6

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	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. 4.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	89.93 R	69.18	273.50	0.0	0.00	0.00	0.00			
		-34.36 L	-26.43	-71.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom 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	331.7

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. 4.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-11.64	11.66	-8.95	8.97	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.31	191.4
5C1T	10.01	9.97	0.00	999.0

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. 4.500

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 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	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	89.93 R	69.18	273.50	0.0	0.00	0.00	0.00	
		-34.36 L	-26.43	-71.50	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	1.64	7.88	1.64	7.88	HS 32.87	59.2
5C1T	2.88	8.72	2.88	8.72	0.00	346.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.46	390.83	104.6
bott	22.62		26.46		104.6

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	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 Moment	Superimposed Dead Load Moment
-3.2	-35.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	360.00	0.0	0.00	0.00	0.00			
		-63.99 R	-49.22	218.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.21	1.40	11.06	1.59	HS 27.97	50.3
5C1T	26.70	3.59	24.18	4.09	0.00	430.8

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. 5.000

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	26.26	-20.18	20.20	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.86	1.86	HS 37.17	66.9	
5C1T	4.08	4.07	0.00	488.7	

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. 5.000

Dead Load Moment Superimposed Dead Load Moment
-3.2 -35.7

Rating Veh.	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	360.00	0.0	0.00	0.00	0.00	
		-63.99 R	-49.22	218.00	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	3.76	25.03	3.76	0.00	451.0

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.46	390.83	104.6
bott	22.62		26.46		104.6

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	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. 5.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-73.50	0.0	0.00	0.00	0.00			
		-34.25 L	-26.34	40.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.78	7.63	1.57	8.47	HS 31.47	56.6
5C1T	3.12	8.44	2.76	9.37	0.00	331.2

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. 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	-13.12 13.12	-10.10 10.10			-12.10 12.09	-9.31 9.30		
OPER	5C1T	-11.66 11.65	-8.97 8.96			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	9.98	9.99	0.00	999.0

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. 5.500

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 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	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	-73.50	0.0	0.00	0.00	0.00	
		-34.25 L	-26.34	40.50	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	1.64	7.91	1.64	7.91	HS 32.83	59.1
5C1T	2.88	8.75	2.88	8.75	0.00	345.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.	Dc	b max	b min	t	ry
21.0	19.76	0.400	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.46	390.83	104.6
bott	22.62		26.46		104.6

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	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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42	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	-135.00	0.0	0.00	0.00	0.00		
		-64.25	L	-49.42	7.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.27	1.40	11.12	1.59	HS 27.93	50.3
5C1T	26.78	3.57	24.26	4.07	0.00	428.5

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. 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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.86	1.86	HS 37.16		66.9
5C1T	4.07	4.07	0.00		488.3

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. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-36.0

Rating Veh.	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 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 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	-135.00	0.0	0.00	0.00	0.00	
		-64.25 L	-49.42	7.00	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	11.51	1.46	11.51	1.46	HS 29.24	52.6
5C1T	25.10	3.74	25.10	3.74	0.00	448.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.46	390.83	104.6
bott	22.62		26.46		104.6

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	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. 6.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	323.50	0.0	0.00	0.00	0.00			
		-34.25 R	-26.34	209.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.78	7.63	1.57	8.47	HS 31.47	56.6
5C1T	3.12	8.44	2.76	9.37	0.00	331.2

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. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-116.4	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	-11.65	11.66	-8.96	8.97	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.33	191.4
5C1T	10.00	9.97	0.00	999.0

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. 6.500

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 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	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	323.50	0.0	0.00	0.00	0.00	
		-34.25 R	-26.34	209.50	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	1.64	7.91	1.64	7.91	HS 32.83	59.1
5C1T	2.88	8.75	2.88	8.75	0.00	345.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.05	390.83	104.6
bott	22.62		26.05		104.6

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	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 Moment	Superimposed Dead Load Moment
-3.2	-35.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	408.50	0.0	0.00	0.00	0.00			
		-64.03 R	-49.26	266.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.21	1.40	11.06	1.59	HS 27.97	50.3
5C1T	26.53	3.59	24.03	4.09	0.00	430.5

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. 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	-26.26	26.23	-20.20	20.18	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value		
HS20	1.86	1.86	HS 37.17	66.9	
5C1T	4.07	4.08	0.00	488.7	

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. 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 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 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	408.50	0.0	0.00	0.00	0.00	
		-64.03 R	-49.26	266.50	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	11.44	1.46	11.44	1.46	HS 29.28	52.7
5C1T	24.87	3.76	24.87	3.76	0.00	450.7

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.05	390.83	104.6
bott	22.62		26.05		104.6

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	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. 7.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	89.93 L	69.18	-23.50	0.0	0.00	0.00	0.00			
		-34.36 R	-26.43	321.50	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	top fiber -bend	bottom 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	331.7

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. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-13.12	13.12	-10.10	10.10	-12.10	12.08	-9.31	9.29
OPER	5C1T	-11.66	11.64	-8.97	8.95	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.38	191.5
5C1T	9.98	10.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. 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 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	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	89.93 L	69.18	-23.50	0.0	0.00	0.00	0.00	
		-34.36 R	-26.43	321.50	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	1.64	7.88	1.64	7.88	HS 32.87	59.2
5C1T	2.88	8.72	2.88	8.72	0.00	346.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.66	390.83	104.4
bott	22.62		27.66		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. 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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.43 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	-85.00	0.0	0.00	0.00	0.00			
		-64.71 R	-49.78	291.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.44	1.39	11.27	1.59	HS 27.86	50.2
5C1T	26.82	3.54	24.30	4.03	0.00	424.3

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. 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	-26.31	26.44	-20.23	20.34	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.12	66.8
5C1T	4.06	4.04	0.00	484.7

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. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.3	-36.5

Rating Veh.	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	-85.00	0.0	0.00	0.00	0.00	
		-64.71 R	-49.78	291.50	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	11.66	1.46	11.66	1.46	HS 29.17	52.5
5C1T	25.14	3.70	25.14	3.70	0.00	444.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.66	390.83	104.4
bott	22.62		27.66		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. 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	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	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	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	373.50	0.0	0.00	0.00	0.00		
		-33.69	L	-25.92	115.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
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	326.9

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-13.12	13.12	-10.09	10.09	-12.03	12.11	-9.26	9.32
OPER	5C1T	-11.58	11.77	-8.91	9.05	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.33	5.31	HS 106.24	191.2
5C1T	10.07	9.87	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 19.5

Rating Veh.	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 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	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	373.50	0.0	0.00	0.00	0.00	
		-33.69 L	-25.92	115.50	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	1.64	8.04	1.64	8.04	HS 32.72	58.9
5C1T	2.84	8.92	2.84	8.92	0.00	341.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	114.532	114.532

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.63	390.83	105.4
bott	22.62		21.63		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	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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	458.50	0.0	0.00	0.00	0.00			
		-61.73 R	-47.48	318.00	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	10.12	1.41	9.16	1.61	HS 28.31	51.0
5C1T	21.90	3.76	19.83	4.28	0.00	451.4

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. 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.87	HS 37.21	67.0
5C1T	4.08	4.14	0.00	490.0

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. 9.000

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 Live Load Moment Dis.	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
OPER	5C1T	15.39 R	11.84	458.50	0.0	0.00	0.00	0.00
		-61.73 R	-47.48	318.00	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	9.48	1.48	9.48	1.48
5C1T	20.52	3.94	20.52	3.94

HS	29.62	53.3
	0.00	472.3

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	84.66	49.40	24.64
bott	3.92	0.62	13.400	150.00	84.66		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.945	106.945

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.63	390.83	105.4
bott	22.62		21.63		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	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. 9.500Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	371.50	0.0	0.00	0.00	0.00		0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	1.81	6.27	1.60	6.97	HS 32.05	57.7
5C1T	3.24	7.55	2.87	8.39	0.00	344.7

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. 9.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.23	5.36	HS 104.67	188.4
5C1T	9.43	10.63	0.00	999.0

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. 9.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh.	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 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	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	371.50	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	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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.	Dc	b max	b min	t	ry
21.2	19.76	0.460	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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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
2.14	35.20	35.20	2.861	137.089	137.089

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	46.43	467.60	102.5
bott	22.62		46.43		102.5

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	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 Moment	Superimposed Dead Load Moment
-4.5	-44.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	-35.00	0.0	0.00	0.00	0.00		0.00	
		-76.72 R	-59.02	344.00	0.0	0.00	0.00	0.00		0.00	0.00

Moment

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	14.64	1.27	11.38	1.80	HS 25.50	45.9
5C1T	31.55	2.86	24.53	4.05	0.00	343.4

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. 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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.84	1.97	HS 36.83	66.3	
5C1T	3.94	4.42	0.00	473.2	

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. 10.000

Dead Load Moment	Superimposed Dead Load Moment
-4.5	-44.7

Rating Veh.	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 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	-35.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	344.00	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	11.76	1.34	11.76	1.34	HS 26.75	48.1
5C1T	25.36	3.00	25.36	3.00	0.00	360.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 10.600

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

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.2	19.76	0.460		9.86	8.30	8.30	0.74	1.81
				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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 10.600Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	292.2

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. 10.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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/imp. (+)	w/o imp. (-)	w/o imp. (+)	w/imp. (-)	w/imp. (+)	w/o 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.18	6.93	HS 123.51	222.3
5C1T	11.62	11.88	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. 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		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 w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment Dis.	Loc. of Conc. Load 1	Load 2
INV.	HS20	128.61 R	98.93	254.00	0.0	240.00	
		-25.02 L	-19.25	192.00	0.0	215.00	0.00
OPER	5C1T	115.53 L	88.87	141.00	0.0	0.00	
		-23.55 L	-18.11	116.00	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	1.37	8.88	1.37	8.88	HS 27.44	49.4
5C1T	2.55	15.73	2.55	15.73	0.00	305.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 11.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	Load Moment	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	0.00	
		0.00	R	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	0.0	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	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

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 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	589.3

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. 11.000

Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	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 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	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 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

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.	S04					Symmetry:
Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5	
	25.000	25.000	25.000	25.000	25.000	
	Span 6	Span 7	Span 8	Span 9	Span 10	
	25.000	25.000	25.000	25.000	25.000	

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	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	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. S04
 Check Point I. D. 1.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	Load Moment	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 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	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

Moment

Rating Veh.	Rating Factor				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

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. 1.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) Shear
0.7	0.0	6.9

Rat. Veh.	Shear Capacity VU	Available 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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value		
HS20	35.04	2.34	HS 46.75	84.2	
5C1T	64.00	4.91	0.00	589.3	

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. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	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 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	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 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. S04
 Check Point I. D. 1.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 1.400Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	292.2

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. 1.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-132.4	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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.93	6.18	HS 123.51	222.3
5C1T	11.88	11.62	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. 1.400

Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh.	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 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	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	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	305.5

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.0	19.76	0.400		9.86	8.24	8.24	0.62	1.77
				9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 2.000

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.944	106.944

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.63	390.83	105.4
bott	22.62		21.63		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	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. 2.000Dead Load Superimposed Dead Load
Moment Moment
-4.5 -44.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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 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	285.00	0.0	0.00	0.00	0.00			
		-76.72 L	-59.02	-94.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.52	1.27	11.38	1.45	HS 25.34	45.6
5C1T	27.00	2.86	24.53	3.28	0.00	343.4

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
-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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.97	1.83	HS 36.53	65.8	
5C1T	4.42	3.92	0.00	470.6	

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	-44.7

Rating Veh.	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 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 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	285.00	0.0	0.00	0.00	0.00	
		-76.72 L	-59.02	-94.00	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	11.76	1.33	11.76	1.33	HS 26.58	47.8
5C1T	25.36	3.00	25.36	3.00	0.00	360.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.0	19.76	0.400		9.86	8.24	8.24	0.62	1.77
				9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 2.500

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.944	106.944

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.63	390.83	105.4
bott	22.62		21.63		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	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 1.2
 Superimposed Dead Load Moment 15.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	Load Moment	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	-121.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.81	6.27	1.60	6.97	HS 32.05	57.7
5C1T	3.24	7.55	2.87	8.39	0.00	344.7

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. 2.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) Shear
0.1	0.0	0.5

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	for LL+I (+)
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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.36	5.23	HS 104.56	188.2
5C1T	10.65	9.42	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. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh.	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 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	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	-121.50	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	1.67	6.51	1.67	6.51	HS 33.42	60.2
5C1T	2.99	7.83	2.99	7.83	0.00	359.4

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 3.000

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	114.531	114.531

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.66	390.83	104.4
bott	22.62		27.66		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. S04
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	-208.50	0.0	0.00	0.00	0.00		
		-61.54	L	-47.34	-69.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	452.8

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	-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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.87	1.86	HS 37.21	67.0
5C1T	4.14	4.08	0.00	490.0

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 -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 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	-208.50	0.0	0.00	0.00	0.00	
		-61.54 L	-47.34	-69.00	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	9.48	1.48	9.48	1.48	HS 29.62	53.3
5C1T	20.52	3.95	20.52	3.95	0.00	473.8

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.	Dc	b max	b min	t	ry
21.0	19.76	0.400	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 3.500

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.66	390.83	104.4
bott	22.62		27.66		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. S04
Check Point I. D. 3.500Dead Load Moment 1.7
Superimposed Dead Load Moment 19.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	Load Moment	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	-123.50	0.0	0.00	0.00	0.00			
		-33.69 R	-25.92	134.50	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
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	326.9

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. 3.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-11.77	11.58	-9.05	8.91	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.36	191.4
5C1T	9.88	10.06	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. 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 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	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	-123.50	0.0	0.00	0.00	0.00	
		-33.69 R	-25.92	134.50	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	1.64	8.04	1.64	8.04	HS 32.72	58.9
5C1T	2.84	8.92	2.84	8.92	0.00	341.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 4.000

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.05	390.83	104.6
bott	22.62		26.05		104.6

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	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 Moment	Superimposed Dead Load Moment
-3.3	-36.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.43 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	335.00	0.0	0.00	0.00	0.00			
		-64.62 R	-49.71	193.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.44	1.39	11.27	1.59	HS 27.86	50.2
5C1T	26.82	3.54	24.30	4.04	0.00	424.9

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. 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	26.31	-20.34	20.23	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.86	HS 37.12	66.8
5C1T	4.04	4.06	0.00	484.7

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	-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 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	335.00	0.0	0.00	0.00	0.00	
		-64.62 R	-49.71	193.00	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	11.66	1.46	11.66	1.46	HS 29.17	52.5
5C1T	25.14	3.71	25.14	3.71	0.00	444.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
 Check Point I. D. 4.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 4.500

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.05	390.83	104.6
bott	22.62		26.05		104.6

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	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. 4.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	89.93 R	69.18	273.50	0.0	0.00	0.00	0.00			
		-34.36 L	-26.43	-71.50	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom 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	331.7

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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/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	-11.64	11.66	-8.95	8.97	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.31	191.4
5C1T	10.01	9.97	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. 4.500

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 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	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	89.93 R	69.18	273.50	0.0	0.00	0.00	0.00	
		-34.36 L	-26.43	-71.50	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	1.64	7.88	1.64	7.88	HS 32.87	59.2
5C1T	2.88	8.72	2.88	8.72	0.00	346.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 5.000

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.46	390.83	104.6
bott	22.62		26.46		104.6

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	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	-35.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	360.00	0.0	0.00	0.00	0.00			
		-63.99 R	-49.22	218.00	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	12.21	1.40	11.06	1.59	HS 27.97	50.3
5C1T	26.70	3.59	24.18	4.09	0.00	430.8

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	-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	26.26	-20.18	20.20	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.86	1.86	HS 37.17	66.9	
5C1T	4.08	4.07	0.00	488.7	

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	-35.7

Rating Veh.	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	360.00	0.0	0.00	0.00	0.00	
		-63.99 R	-49.22	218.00	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	11.44	1.46	11.44	1.46	HS 29.28	52.7
5C1T	25.03	3.76	25.03	3.76	0.00	451.0

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 5.500

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.46	390.83	104.6
bott	22.62		26.46		104.6

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	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. 5.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	-73.50	0.0	0.00	0.00	0.00			
		-34.25 L	-26.34	40.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.78	7.63	1.57	8.47	HS 31.47	56.6
5C1T	3.12	8.44	2.76	9.37	0.00	331.2

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. 5.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-12.10	12.09	-9.31	9.30
OPER	5C1T	-11.66	11.65	-8.97	8.96	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.35	191.4
5C1T	9.98	9.99	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. 5.500

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 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	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	-73.50	0.0	0.00	0.00	0.00	
		-34.25 L	-26.34	40.50	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	1.64	7.91	1.64	7.91	HS 32.83	59.1
5C1T	2.88	8.75	2.88	8.75	0.00	345.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.	Dc	b max	b min	t	ry
21.0	19.76	0.400	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 6.000

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.46	390.83	104.6
bott	22.62		26.46		104.6

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	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	-36.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42	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	-135.00	0.0	0.00	0.00	0.00		
		-64.25	L	-49.42	7.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	12.27	1.40	11.12	1.59	HS 27.93	50.3
5C1T	26.78	3.57	24.26	4.07	0.00	428.5

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
-0.8	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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.86	1.86	HS 37.16	66.9	
5C1T	4.07	4.07	0.00	488.3	

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	-36.0

Rating Veh.	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 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 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	-135.00	0.0	0.00	0.00	0.00	
		-64.25 L	-49.42	7.00	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	11.51	1.46	11.51	1.46	HS 29.24	52.6
5C1T	25.10	3.74	25.10	3.74	0.00	448.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 6.500

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.46	390.83	104.6
bott	22.62		26.46		104.6

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	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. 6.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	323.50	0.0	0.00	0.00	0.00			
		-34.25 R	-26.34	209.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.78	7.63	1.57	8.47	HS 31.47	56.6
5C1T	3.12	8.44	2.76	9.37	0.00	331.2

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. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-116.4	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	-11.65	11.66	-8.96	8.97	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.33	191.4
5C1T	10.00	9.97	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	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 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	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	323.50	0.0	0.00	0.00	0.00	
		-34.25 R	-26.34	209.50	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	1.64	7.91	1.64	7.91	HS 32.83	59.1
5C1T	2.88	8.75	2.88	8.75	0.00	345.6

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.0	19.76	0.400		9.86	8.24	8.24	0.62	1.77
				9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 7.000

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.05	390.83	104.6
bott	22.62		26.05		104.6

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	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	-35.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.42 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	408.50	0.0	0.00	0.00	0.00			
		-64.03 R	-49.26	266.50	0.0	0.00	0.00	0.00		0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.21	1.40	11.06	1.59	HS 27.97	50.3
5C1T	26.53	3.59	24.03	4.09	0.00	430.5

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	-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	-26.26	26.23	-20.20	20.18	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.86	1.86	HS 37.17	66.9	
5C1T	4.07	4.08	0.00	488.7	

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	-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 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	408.50	0.0	0.00	0.00	0.00	
		-64.03 R	-49.26	266.50	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	11.44	1.46	11.44	1.46	HS 29.28	52.7
5C1T	24.87	3.76	24.87	3.76	0.00	450.7

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
	0.00	0.00	0.00	
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 7.500

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.05	390.83	104.6
bott	22.62		26.05		104.6

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	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. 7.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	89.93	L	69.18	-23.50	0.0	0.00	0.00	0.00		
		-34.36	R	-26.43	321.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom 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	331.7

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. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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	-11.66	11.64	-8.97	8.95	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.32	5.32	HS 106.38	191.5
5C1T	9.98	10.00	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. 7.500

Dead Load Moment 1.6
 Superimposed Dead Load Moment 18.5

Rating Veh.	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 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	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	89.93 L	69.18	-23.50	0.0	0.00	0.00	0.00	
		-34.36 R	-26.43	321.50	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	1.64	7.88	1.64	7.88	HS 32.87	59.2
5C1T	2.88	8.72	2.88	8.72	0.00	346.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 8.000

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.66	390.83	104.4
bott	22.62		27.66		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. S04
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		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	16.43 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	-85.00	0.0	0.00	0.00	0.00			
		-64.71 R	-49.78	291.50	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	12.44	1.39	11.27	1.59	HS 27.86	50.2
5C1T	26.82	3.54	24.30	4.03	0.00	424.3

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	-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	-26.31	26.44	-20.23	20.34	0.00	0.00	0.00	0.00

Rating Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value		
HS20	1.86	1.86	HS 37.12	66.8	
5C1T	4.06	4.04	0.00	484.7	

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	-36.5

Rating Veh.	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	-85.00	0.0	0.00	0.00	0.00	
		-64.71 R	-49.78	291.50	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	11.66	1.46	11.66	1.46	HS 29.17	52.5
5C1T	25.14	3.70	25.14	3.70	0.00	444.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.0	19.76	0.400		9.86	8.24	8.24	0.62	1.77
				9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 8.500

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	114.938	114.938

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.66	390.83	104.4
bott	22.62		27.66		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. S04
Check Point I. D. 8.500Dead Load Moment 1.7
Superimposed Dead Load Moment 19.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	373.50	0.0	0.00	0.00	0.00		
		-33.69	L	-25.92	115.50	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
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	326.9

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. 8.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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/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	11.77	-8.91	9.05	0.00	0.00	0.00	0.00

Rating Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.33	5.31	HS 106.24	191.2
5C1T	10.07	9.87	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. 8.500

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 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	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	373.50	0.0	0.00	0.00	0.00	
		-33.69 L	-25.92	115.50	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	1.64	8.04	1.64	8.04	HS 32.72	58.9
5C1T	2.84	8.92	2.84	8.92	0.00	341.1

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 9.000

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	114.532	114.532

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.63	390.83	105.4
bott	22.62		21.63		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	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	-33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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	458.50	0.0	0.00	0.00	0.00		
		-61.73	R	-47.48	318.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	10.12	1.41	9.16	1.61	HS 28.31	51.0
5C1T	21.90	3.76	19.83	4.28	0.00	451.4

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. 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.86	1.87	HS 37.21	67.0
5C1T	4.08	4.14	0.00	490.0

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	-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	458.50	0.0	0.00	0.00	0.00	
		-61.73 R	-47.48	318.00	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	9.48	1.48	9.48	1.48	HS 29.62	53.3
5C1T	20.52	3.94	20.52	3.94	0.00	472.3

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		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 Bending		Negative Bending		
Top	Bott.	Top	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. 9.500

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.14	28.67	28.67	1.699	106.945	106.945

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.63	390.83	105.4
bott	22.62		21.63		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	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. 9.500Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	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	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	371.50	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	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.81	6.27	1.60	6.97	HS 32.05	57.7
5C1T	3.24	7.55	2.87	8.39	0.00	344.7

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. 9.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 Veh.	Shear			
	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.23	5.36	HS 104.67	188.4
5C1T	9.43	10.63	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. 9.500Dead Load Moment 1.2
Superimposed Dead Load Moment 15.5

Rating Veh.	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 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	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	371.50	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	1.67	6.51	1.67	6.51	HS 33.42	60.2
5C1T	2.99	7.83	2.99	7.83	0.00	359.4

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web		Dc	b max	b min	t	ry	
	Depth	Thk.						
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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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
2.14	35.20	35.20	2.861	137.089	137.089

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	46.43	467.60	102.5
bott	22.62		46.43		102.5

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	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 Moment	Superimposed Dead Load Moment
-4.5	-44.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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	-35.00	0.0	0.00	0.00	0.00		0.00	
		-76.72 R	-59.02	344.00	0.0	0.00	0.00	0.00		0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
HS20	14.64	1.27	11.38	1.80	HS 25.50	45.9
5C1T	31.55	2.86	24.53	4.05	0.00	343.4

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
-0.8	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 Veh.	Shear				Load Capacity (tons)
	Rating (-)	Factor (+)	Rating Value	HS	
HS20	1.84	1.97	HS 36.83	66.3	
5C1T	3.94	4.42	0.00	473.2	

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	-44.7

Rating Veh.	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 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	-35.00	0.0	0.00	0.00	0.00	
		-76.72 R	-59.02	344.00	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	11.76	1.34	11.76	1.34	HS 26.75	48.1
5C1T	25.36	3.00	25.36	3.00	0.00	360.2

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
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 10.600Dead Load Moment 3.7
Superimposed Dead Load Moment 34.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-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.	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	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.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber		bottom fiber			
	+bend	-bend	+bend	-bend		
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	292.2

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. 10.600

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.	103.3	-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 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	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 34.4

Rating Veh.	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 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	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	305.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S04
 Check Point I. D. 11.000

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

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Web Thk.		Dc	b max	b min	t	ry
21.2	19.76	0.460		9.86	8.30	8.30	0.74	1.81
				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 Bending		Negative Bending		
Top	Bott.	Top	Bott.	
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	150.00	82.81	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	94.285	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. 11.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	top fiber +bend	top fiber -bend	bottom 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.	Load Moment	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 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	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

Moment

Rating Veh.	Rating Factor				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

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 Shear	Superimposed Dead Load (-) Shear	Dead Load (+) 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 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	589.3

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. 11.000

Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	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 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	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 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