BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B01 Symmetry:

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

Range Length -- Non-Composite:

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

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	1.917	235.5	235.5	35.000	0.0
1	P	5.417	0.0	0.0	0.000	7.9
1	P	12.417	0.0	0.0	0.000	6.5
1	P	19.417	0.0	0.0	0.000	7.2
1	P	26.417	0.0	0.0	0.000	7.2
1	P	33.420	0.0	0.0	0.000	7.9

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) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	4500.	4500.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.38	0.840	top	16.71	16.55	16.55	1.44	3.77
			bott	16.71	16.55	16.55	1.44	3.77

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
53.80	10.50	7.25	11.2	5.8	60000.

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	76.50	76.50	18.15	18.15	17300.0	17300.0
n= 8	147.11	147.11	5.96	30.35	41651.7	17300.0
3n= 24	100.04	100.04	12.17	24.13	29136.8	17300.0

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	953.0	953.0	953.0	953.0	2927.29
n= 8	6992.8	1372.4	953.0	953.0	
3n= 24	2393.4	1207.4	953.0	953.0	

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	1.44	11.490	0.01	0.00	39.74	19.90
bott	7.85	1.44	11.490	84.00	22.26		19.90

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	543.97	543.97	39.540	0.000	1111.760

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	2927.29	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2498.21	2836.95	8.85	0.00	0.00	0.000	4758.26

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	536.7

MOMENT RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
48.9	237.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	2855.0C	-1572.5	2264.4	-1756.4C	2024.0	-1381.7	1569.8	-1523.1
OPER	4758.3C	-2620.8	3774.0	-2927.3C	3373.4	-2302.8	2616.3	-2538.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	851.34	R	654.87	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	HS20	851.34	R	654.87	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	2F1	485.59	R	373.53	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	3F1	679.55	R	522.73	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	4F1	713.59	R	548.92	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	5C1	660.67	R	508.21	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.38	999.00	1.84	999.00	HS 36.88	66.4
HS20	3.96	999.00	3.07	999.00	HS 61.46	110.6
2F1	6.95	999.00	5.39	999.00	0.00	80.8
3F1	4.96	999.00	3.85	999.00	0.00	88.6
4F1	4.73	999.00	3.67	999.00	0.00	99.0
5C1	5.11	999.00	3.96	999.00	0.00	158.4

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.0	-247.7	247.7
OPER	536.7	-412.8	412.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	2F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	3F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	4F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	0.00	999.0
3F1	999.00	999.00	0.00	999.0
4F1	999.00	999.00	0.00	999.0
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
48.9	237.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	10615.5	-1379.1	2233.5	-1379.1	10328.7	-1665.9	1946.7	-1665.9
OPER	17501.4	-2489.7	3531.3	-2489.7	17214.5	-2776.5	3244.5	-2776.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	851.34	R	654.87	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	HS20	851.34	R	654.87	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	2F1	485.59	R	373.53	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	3F1	679.55	R	522.73	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	4F1	713.59	R	548.92	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	5C1	660.67	R	508.21	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 top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.13	999.00	2.29	999.00	HS	45.73	82.3
HS20	20.22	999.00	3.81	999.00	HS	76.22	137.2
2F1	35.45	999.00	6.68	999.00		0.00	100.2
3F1	25.33	999.00	4.77	999.00		0.00	109.8
4F1	24.12	999.00	4.55	999.00		0.00	122.8

5C1	26.06	999.00	4.91	999.00	0.00	196.4

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

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

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	22.6
1	P	12.417	0.0	0.0	0.000	18.6
1	P	19.417	0.0	0.0	0.000	20.6
1	P	26.417	0.0	0.0	0.000	20.6
1	P	33.420	0.0	0.0	0.000	22.6

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	4500.	4500.	0.	0.

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

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

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	82.40	82.40	18.35	18.35	18900.0	18900.0
n= 8	235.31	235.31	1.71	34.98	55394.8	18900.0
3n= 24	133.37	133.37	8.57	28.13	40005.0	18900.0

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	1030.0	1030.0	1030.0	1030.0	3189.36
n= 8	32309.8	1583.4	1030.0	1030.0	
3n= 24	4670.0	1422.0	1030.0	1030.0	

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	7.85	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	0.000	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.44	5353.93	4.53	0.00	0.00	0.000	5751.78

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.4

MOMENT RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
52.7	577.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3451.1C	-1699.5	2612.6	-1913.6C	2276.6	-1685.4	1631.6	-1850.1
OPER	5751.8C	-2832.5	4354.4	-3189.4C	3794.3	-2809.0	2719.4	-3083.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	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
OPER	HS20	913.70	R	702.85	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
OPER	2F1	485.59	R	373.53	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	3F1	717.31	R	551.77	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	4F1	795.40	R	611.85	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
OPER	5C1	698.43	R	537.25	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.49	999.00	1.79	999.00	HS 35.71	64.3
HS20	4.15	999.00	2.98	999.00	HS 59.52	107.1
2F1	7.81	999.00	5.60	999.00	0.00	84.0
3F1	5.29	999.00	3.79	999.00	0.00	87.2
4F1	4.77	999.00	3.42	999.00	0.00	92.3
5C1	5.43	999.00	3.89	999.00	0.00	155.7

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	(+) 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 w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	2F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	3F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	4F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	0.00	999.0
3F1	999.00	999.00	0.00	999.0
4F1	999.00	999.00	0.00	999.0
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
52.7	577.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	47886.6	-1362.5	2677.7	-1362.5	47256.5	-1992.6	2047.6	-1992.6
OPER	79391.0	-2690.9	4042.8	-2690.9	78760.9	-3321.0	3412.7	-3321.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	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
OPER	HS20	913.70	R	702.85	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
OPER	2F1	485.59	R	373.53	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	3F1	717.31	R	551.77	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	4F1	795.40	R	611.85	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
OPER	5C1	698.43	R	537.25	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 top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	51.72	999.00	2.24	999.00	HS	44.82	80.7
HS20	86.20	999.00	3.73	999.00	HS	74.70	134.5
2F1	162.20	999.00	7.03	999.00		0.00	105.4
3F1	109.80	999.00	4.76	999.00		0.00	109.4
4F1	99.02	999.00	4.29	999.00		0.00	115.8

5C1	112.77	999.00	4.89	999.00	0.00	195.4

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

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

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	20.2
1	P	12.417	0.0	0.0	0.000	16.6
1	P	19.417	0.0	0.0	0.000	18.4
1	P	26.417	0.0	0.0	0.000	18.4
1	P	33.420	0.0	0.0	0.000	20.2

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	4500.	4500.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.38	0.840	top	16.71	16.55	16.55	1.44	3.77
			bott	16.71	16.55	16.55	1.44	3.77

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

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

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	76.50	76.50	18.15	18.15	17300.0	17300.0
n= 8	229.41	229.41	1.22	35.09	51609.6	17300.0
3n= 24	127.47	127.47	8.00	28.31	37507.9	17300.0

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	953.0	953.0	953.0	953.0	2927.29
n= 8	42261.6	1471.0	953.0	953.0	
3n= 24	4691.0	1324.9	953.0	953.0	

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	1.44	11.490	0.01	0.00	39.74	19.90
bott	7.85	1.44	11.490	84.00	22.26		19.90

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	543.97	543.97	39.540	0.000	1111.760

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	2927.29	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2498.21	5353.93	4.09	0.00	0.00	0.000	5324.92

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	536.7

MOMENT RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
48.9	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3195.0C	-1572.5	2427.1	-1756.4C	2117.8	-1549.4	1527.2	-1690.9
OPER	5324.9C	-2620.8	4045.2	-2927.3C	3529.7	-2582.3	2545.3	-2818.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70 R	702.85	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
OPER	HS20	913.70 R	702.85	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
OPER	2F1	485.59 R	373.53	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	3F1	717.31 R	551.77	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	4F1	795.40 R	611.85	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
OPER	5C1	698.43 R	537.25	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.32	999.00	1.67	999.00	HS 33.43	60.2
HS20	3.86	999.00	2.79	999.00	HS 55.71	100.3
2F1	7.27	999.00	5.24	999.00	0.00	78.6
3F1	4.92	999.00	3.55	999.00	0.00	81.6
4F1	4.44	999.00	3.20	999.00	0.00	86.4
5C1	5.05	999.00	3.64	999.00	0.00	145.8

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.0	-247.7	247.7
OPER	536.7	-412.8	412.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	2F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	3F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	4F1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	0.00	999.0
3F1	999.00	999.00	0.00	999.0
4F1	999.00	999.00	0.00	999.0
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
48.9	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	62712.3	-1267.3	2482.1	-1267.3	62145.9	-1833.6	1915.7	-1833.6
OPER	100566.3	-2489.7	3759.3	-2489.7	99999.9	-3056.1	3192.9	-3056.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	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
OPER	HS20	913.70	R	702.85	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
OPER	2F1	485.59	R	373.53	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	3F1	717.31	R	551.77	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	4F1	795.40	R	611.85	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
OPER	5C1	698.43	R	537.25	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 top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	68.02	999.00	2.10	999.00	HS	41.93	75.5
HS20	109.44	999.00	3.49	999.00	HS	69.89	125.8
2F1	205.93	999.00	6.57	999.00		0.00	98.6
3F1	139.41	999.00	4.45	999.00		0.00	102.4
4F1	125.72	999.00	4.01	999.00		0.00	108.4

5C1	143.18	999.00	4.57	999.00	0.00	182.9

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
Year of Construction 1959
Roadway Width 32.000
Number of Spans 8

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
23.917	23.917	23.917	23.917	23.917

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	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	23.917	1	0		0.0	0.0
2	1	23.917	1	0		0.0	0.0
3	1	23.917	1	0		0.0	0.0
4	1	23.917	1	0		0.0	0.0
5	1	23.917	1	0		0.0	0.0
6	1	23.917	1	0		0.0	0.0
7	1	23.917	1	0		0.0	0.0
8	1	23.917	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	0.000	765.0	765.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	765.0	765.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	765.0	765.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	765.0	765.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	765.0	765.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	765.0	765.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	765.0	765.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	765.0	765.0	23.917	0.0
8	P	11.958	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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.5	65.1
OPER	151.3	-124.2	108.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.08	31.19	-1.60	24.00	-2.12	24.40	-1.63	18.77
OPER	HS20	-2.08	31.19	-1.60	24.00	-2.12	24.40	-1.63	18.77
OPER	2F1	-1.46	18.50	-1.12	14.23	0.00	0.00	0.00	0.00
OPER	3F1	-2.10	25.38	-1.61	19.53	0.00	0.00	0.00	0.00
OPER	4F1	-2.24	26.15	-1.72	20.12	0.00	0.00	0.00	0.00
OPER	5C1	-1.97	24.68	-1.52	18.98	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	35.12	2.09	HS 41.75	75.1
HS20	58.54	3.48	HS 69.58	125.2
2F1	85.04	5.87	0.00	88.0
3F1	59.28	4.28	0.00	98.3
4F1	55.45	4.15	0.00	112.0
5C1	62.97	4.40	0.00	175.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0

5C1	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.4	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.0	252.3	-317.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06 L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20 R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	HS20	62.06 L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20 R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	2F1	37.81 R	29.09	12.39	0.0	0.00	0.00	0.00	
		-3.49 R	-2.69	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	51.17 R	39.36	16.39	0.0	0.00	0.00	0.00	
		-5.01 R	-3.86	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	51.90 R	39.92	20.39	0.0	0.00	0.00	0.00	
		-5.39 R	-4.15	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	49.68 R	38.22	18.39	0.0	0.00	0.00	0.00	
		-4.72 R	-3.63	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.75	32.92	2.44	36.61	HS 48.78	87.8
HS20	4.58	54.86	4.07	61.01	HS 81.30	146.3
2F1	7.52	81.60	6.67	90.75	0.00	100.1
3F1	5.55	56.88	4.93	63.26	0.00	113.4
4F1	5.48	52.86	4.86	58.79	0.00	131.2
5C1	5.72	60.42	5.08	67.20	0.00	203.1

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.3	66.3
OPER	151.3	-122.2	110.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.01	25.95	-2.31	19.96	-3.12	20.89	-2.40	16.07
OPER	HS20	-3.01	25.95	-2.31	19.96	-3.12	20.89	-2.40	16.07
OPER	2F1	-1.88	15.81	-1.45	12.16	0.00	0.00	0.00	0.00
OPER	3F1	-2.10	21.40	-1.61	16.46	0.00	0.00	0.00	0.00
OPER	4F1	-2.24	21.70	-1.72	16.69	0.00	0.00	0.00	0.00
OPER	5C1	-3.43	20.77	-2.64	15.98	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.53	2.56	HS 51.11	92.0
HS20	39.22	4.26	HS 85.18	153.3
2F1	65.02	6.99	0.00	104.8
3F1	58.33	5.16	0.00	118.8
4F1	54.56	5.09	0.00	137.5
5C1	35.62	5.32	0.00	212.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.2	-161.1	174.2	-161.1	157.8	-177.5	157.8	-177.5
OPER	279.4	-279.4	279.4	-279.4	263.0	-295.8	263.0	-295.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06	L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20	R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	HS20	62.06	L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20	R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	2F1	37.81	R	29.09	12.39	0.0	0.00	0.00	0.00	
		-3.49	R	-2.69	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	51.17	R	39.36	16.39	0.0	0.00	0.00	0.00	
		-5.01	R	-3.86	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	51.90	R	39.92	20.39	0.0	0.00	0.00	0.00	
		-5.39	R	-4.15	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	49.68	R	38.22	18.39	0.0	0.00	0.00	0.00	
		-4.72	R	-3.63	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.54	34.16	2.54	34.16	HS	50.86	91.5
HS20	4.24	56.93	4.24	56.93	HS	84.76	152.6
2F1	6.96	84.67	6.96	84.67		0.00	104.3
3F1	5.14	59.02	5.14	59.02		0.00	118.2
4F1	5.07	54.85	5.07	54.85		0.00	136.8

5C1	5.29	62.69	5.29	62.69	0.00	211.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

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

Dead Load Moment	Superimposed Dead Load Moment
2.1	26.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.6	-178.0	144.4	-197.2
OPER	300.6C	-268.7	268.7	-300.6C	272.6	-296.7	240.6	-328.7

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45 L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39 R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	HS20	100.45 L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39 R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	2F1	63.17 R	48.59	14.78	0.0	0.00	0.00	0.00	
		-6.99 R	-5.37	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.09 R	64.69	18.78	0.0	0.00	0.00	0.00	
		-10.02 R	-7.71	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	83.73 R	64.41	22.78	0.0	0.00	0.00	0.00	
		-10.79 R	-8.30	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	81.56 R	62.74	20.78	0.0	0.00	0.00	0.00	
		-9.44 R	-7.26	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.63	17.13	1.44	18.98	HS	28.74	51.7
HS20	2.71	28.55	2.39	31.63	HS	47.90	86.2
2F1	4.32	42.47	3.81	47.05		0.00	57.1
3F1	3.24	29.60	2.86	32.79		0.00	65.8
4F1	3.26	27.51	2.87	30.48		0.00	77.6
5C1	3.34	31.44	2.95	34.83		0.00	118.0

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.2	67.5
OPER	151.3	-120.3	112.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.98	21.00	-4.60	16.15	-5.74	17.56	-4.42	13.51
OPER	HS20	-5.98	21.00	-4.60	16.15	-5.74	17.56	-4.42	13.51
OPER	2F1	-3.74	13.21	-2.87	10.16	0.00	0.00	0.00	0.00
OPER	3F1	-3.70	17.58	-2.85	13.52	0.00	0.00	0.00	0.00
OPER	4F1	-3.05	17.51	-2.34	13.47	0.00	0.00	0.00	0.00
OPER	5C1	-5.30	17.05	-4.08	13.12	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	12.07	3.21	HS 64.28	115.7
HS20	20.12	5.36	HS 107.13	192.8
2F1	32.19	8.52	0.00	127.8
3F1	32.51	6.40	0.00	147.2
4F1	39.47	6.43	0.00	173.5
5C1	22.69	6.60	0.00	263.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.1	26.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	178.9	-156.4	178.9	-156.4	150.8	-184.5	150.8	-184.5
OPER	279.4	-279.4	279.4	-279.4	251.3	-307.5	251.3	-307.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39	R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	HS20	100.45	L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39	R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	2F1	63.17	R	48.59	14.78	0.0	0.00	0.00	0.00	
		-6.99	R	-5.37	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.09	R	64.69	18.78	0.0	0.00	0.00	0.00	
		-10.02	R	-7.71	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	83.73	R	64.41	22.78	0.0	0.00	0.00	0.00	
		-10.79	R	-8.30	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	81.56	R	62.74	20.78	0.0	0.00	0.00	0.00	
		-9.44	R	-7.26	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.50	17.75	1.50	17.75	HS	30.03	54.0
HS20	2.50	29.59	2.50	29.59	HS	50.04	90.1
2F1	3.98	44.01	3.98	44.01		0.00	59.7
3F1	2.99	30.67	2.99	30.67		0.00	68.7
4F1	3.00	28.51	3.00	28.51		0.00	81.0

5C1	3.08	32.58	3.08	32.58	0.00	123.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

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

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	159.4	-182.2	140.2	-201.4
OPER	300.6C	-268.7	268.7	-300.6C	265.7	-303.6	233.7	-335.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59	R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	HS20	117.89	L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59	R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	2F1	76.94	R	59.18	17.18	0.0	0.00	0.00	0.00	
		-10.48	R	-8.06	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.40	R	77.23	21.18	0.0	0.00	0.00	0.00	
		-15.03	R	-11.57	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	103.93	R	79.95	21.18	0.0	0.00	0.00	0.00	
		-16.18	R	-12.44	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	97.36	R	74.90	23.18	0.0	0.00	0.00	0.00	
		-14.15	R	-10.89	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.35	11.69	1.19	12.92	HS	23.79	42.8
HS20	2.25	19.48	1.98	21.53	HS	39.64	71.4
2F1	3.45	28.97	3.04	32.03		0.00	45.6
3F1	2.65	20.19	2.33	22.32		0.00	53.5
4F1	2.56	18.77	2.25	20.75		0.00	60.7
5C1	2.73	21.45	2.40	23.71		0.00	96.0

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-8.87	16.43	-6.82	12.64	-8.45	14.43	-6.50	11.10
OPER	HS20	-8.87	16.43	-6.82	12.64	-8.45	14.43	-6.50	11.10
OPER	2F1	-5.54	10.72	-4.27	8.25	0.00	0.00	0.00	0.00
OPER	3F1	-6.83	13.99	-5.25	10.76	0.00	0.00	0.00	0.00
OPER	4F1	-5.62	13.81	-4.33	10.62	0.00	0.00	0.00	0.00
OPER	5C1	-8.09	13.57	-6.22	10.44	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	8.00	4.18	HS 83.60	150.5
HS20	13.33	6.97	HS 139.34	250.8
2F1	21.33	10.68	0.00	160.1
3F1	17.32	8.18	0.00	188.1
4F1	21.03	8.29	0.00	223.8
5C1	14.62	8.44	0.00	337.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.4

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.6	-153.6	181.6	-153.6	146.7	-188.6	146.7	-188.6
OPER	279.4	-279.4	279.4	-279.4	244.4	-314.4	244.4	-314.4

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59	R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	HS20	117.89	L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59	R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	2F1	76.94	R	59.18	17.18	0.0	0.00	0.00	0.00	
		-10.48	R	-8.06	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.40	R	77.23	21.18	0.0	0.00	0.00	0.00	
		-15.03	R	-11.57	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	103.93	R	79.95	21.18	0.0	0.00	0.00	0.00	
		-16.18	R	-12.44	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	97.36	R	74.90	23.18	0.0	0.00	0.00	0.00	
		-14.15	R	-10.89	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.24	12.10	1.24	12.10	HS	24.88	44.8
HS20	2.07	20.17	2.07	20.17	HS	41.47	74.6
2F1	3.18	30.00	3.18	30.00		0.00	47.7
3F1	2.43	20.91	2.43	20.91		0.00	56.0
4F1	2.35	19.43	2.35	19.43		0.00	63.5

5C1	2.51	22.21	2.51	22.21	0.00	100.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	158.1	-183.5	138.9	-202.7
OPER	300.6C	-268.7	268.7	-300.6C	263.5	-305.8	231.5	-337.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	2F1	80.34	R	61.80	19.57	0.0	0.00	0.00	0.00	
		-13.97	R	-10.75	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	106.14	R	81.65	19.57	0.0	0.00	0.00	0.00	
		-20.05	R	-15.42	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	113.24	R	87.11	23.57	0.0	0.00	0.00	0.00	
		-21.57	R	-16.59	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	101.57	L	78.13	-37.43	0.0	0.00	0.00	0.00	
		-18.87	R	-14.52	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.34	8.83	1.18	9.75	HS	23.58	42.4
HS20	2.24	14.72	1.97	16.25	HS	39.30	70.7
2F1	3.28	21.89	2.88	24.18		0.00	43.2
3F1	2.48	15.26	2.18	16.85		0.00	50.2
4F1	2.33	14.18	2.04	15.66		0.00	55.2
5C1	2.59	16.21	2.28	17.90		0.00	91.2

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-11.85	12.31	-9.12	9.47	-11.20	11.52	-8.62	8.86
OPER	HS20	-11.85	12.31	-9.12	9.47	-11.20	11.52	-8.62	8.86
OPER	2F1	-7.28	8.40	-5.60	6.46	0.00	0.00	0.00	0.00
OPER	3F1	-9.87	10.69	-7.59	8.22	0.00	0.00	0.00	0.00
OPER	4F1	-8.99	10.58	-6.91	8.14	0.00	0.00	0.00	0.00
OPER	5C1	-10.98	10.62	-8.45	8.17	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.89	5.67	HS 113.48	204.3
HS20	9.81	9.46	HS 189.14	340.5
2F1	15.97	13.87	0.00	208.0
3F1	11.78	10.90	0.00	250.6
4F1	12.94	11.01	0.00	297.3
5C1	10.59	10.97	0.00	423.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	182.5	-152.8	182.5	-152.8	145.3	-189.9	145.3	-189.9
OPER	279.4	-279.4	279.4	-279.4	242.2	-316.6	242.2	-316.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	2F1	80.34	R	61.80	19.57	0.0	0.00	0.00	0.00	
		-13.97	R	-10.75	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	106.14	R	81.65	19.57	0.0	0.00	0.00	0.00	
		-20.05	R	-15.42	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	113.24	R	87.11	23.57	0.0	0.00	0.00	0.00	
		-21.57	R	-16.59	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	101.57	L	78.13	-37.43	0.0	0.00	0.00	0.00	
		-18.87	R	-14.52	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.23	9.14	1.23	9.14	HS	24.68	44.4
HS20	2.06	15.23	2.06	15.23	HS	41.13	74.0
2F1	3.02	22.66	3.02	22.66		0.00	45.2
3F1	2.28	15.79	2.28	15.79		0.00	52.5
4F1	2.14	14.68	2.14	14.68		0.00	57.8

5C1	2.38	16.77	2.38	16.77		0.00	95.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

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

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	159.6	-182.0	140.4	-201.2
OPER	300.6C	-268.7	268.7	-300.6C	266.0	-303.3	234.0	-335.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98	R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	HS20	113.58	L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98	R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	2F1	76.34	L	58.72	1.96	0.0	0.00	0.00	0.00	
		-17.47	R	-13.44	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	103.45	R	79.57	21.96	0.0	0.00	0.00	0.00	
		-25.06	R	-19.28	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	110.49	L	84.99	-2.04	0.0	0.00	0.00	0.00	
		-26.96	R	-20.74	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	98.72	L	75.94	-39.04	0.0	0.00	0.00	0.00	
		-23.59	R	-18.15	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.40	7.01	1.24	7.74	HS	24.72	44.5
HS20	2.34	11.67	2.06	12.90	HS	41.20	74.2
2F1	3.48	17.36	3.07	19.20		0.00	46.0
3F1	2.57	12.10	2.26	13.38		0.00	52.0
4F1	2.41	11.25	2.12	12.44		0.00	57.2
5C1	2.69	12.86	2.37	14.21		0.00	94.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

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

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.6	71.0
OPER	151.3	-114.3	118.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-15.37	9.50	-11.82	7.31	-13.95	8.87	-10.73	6.82
OPER	HS20	-15.37	9.50	-11.82	7.31	-13.95	8.87	-10.73	6.82
OPER	2F1	-9.69	6.27	-7.46	4.82	0.00	0.00	0.00	0.00
OPER	3F1	-12.78	7.72	-9.83	5.94	0.00	0.00	0.00	0.00
OPER	4F1	-12.69	7.00	-9.76	5.39	0.00	0.00	0.00	0.00
OPER	5C1	-13.24	8.24	-10.19	6.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	4.46	7.48	HS 89.27	160.7
HS20	7.44	12.47	HS 148.78	267.8
2F1	11.80	18.90	0.00	176.9
3F1	8.95	15.35	0.00	205.8
4F1	9.01	16.91	0.00	243.2
5C1	8.63	14.37	0.00	345.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.5	-153.8	181.5	-153.8	146.9	-188.4	146.9	-188.4
OPER	279.4	-279.4	279.4	-279.4	244.8	-314.0	244.8	-314.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98	R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	HS20	113.58	L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98	R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	2F1	76.34	L	58.72	1.96	0.0	0.00	0.00	0.00	
		-17.47	R	-13.44	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	103.45	R	79.57	21.96	0.0	0.00	0.00	0.00	
		-25.06	R	-19.28	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	110.49	L	84.99	-2.04	0.0	0.00	0.00	0.00	
		-26.96	R	-20.74	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	98.72	L	75.94	-39.04	0.0	0.00	0.00	0.00	
		-23.59	R	-18.15	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.29	7.25	1.29	7.25	HS	25.86	46.5
HS20	2.15	12.09	2.15	12.09	HS	43.10	77.6
2F1	3.21	17.98	3.21	17.98		0.00	48.1
3F1	2.37	12.53	2.37	12.53		0.00	54.4
4F1	2.21	11.65	2.21	11.65		0.00	59.8

5C1	2.48	13.31	2.48	13.31	0.00	99.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

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

Dead Load Moment	Superimposed Dead Load Moment
2.0	25.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	164.1	-177.5	144.9	-196.7
OPER	300.6C	-268.7	268.7	-300.6C	273.4	-295.9	241.4	-327.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37 L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18 R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	HS20	103.37 L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18 R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	2F1	71.28 L	54.83	4.35	0.0	0.00	0.00	0.00	
		-20.96 R	-16.12	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.46 L	69.58	4.35	0.0	0.00	0.00	0.00	
		-30.07 R	-23.13	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.53 L	74.25	0.35	0.0	0.00	0.00	0.00	
		-32.36 R	-24.89	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.45 L	69.58	2.35	0.0	0.00	0.00	0.00	
		-28.31 R	-21.78	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.59	5.69	1.40	6.31	HS 28.03	50.5
HS20	2.64	9.49	2.34	10.52	HS 46.71	84.1
2F1	3.84	14.12	3.39	15.64	0.00	50.8
3F1	3.02	9.84	2.67	10.90	0.00	61.4
4F1	2.83	9.14	2.50	10.13	0.00	67.5
5C1	3.02	10.45	2.67	11.58	0.00	106.8

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.4	72.3
OPER	151.3	-112.3	120.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.34	6.62	-14.11	5.09	-16.67	6.50	-12.83	5.00
OPER	HS20	-18.34	6.62	-14.11	5.09	-16.67	6.50	-12.83	5.00
OPER	2F1	-12.14	4.36	-9.34	3.36	0.00	0.00	0.00	0.00
OPER	3F1	-15.69	5.11	-12.07	3.93	0.00	0.00	0.00	0.00
OPER	4F1	-16.29	4.32	-12.53	3.33	0.00	0.00	0.00	0.00
OPER	5C1	-15.87	6.05	-12.21	4.66	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.67	10.91	HS 73.45	132.2
HS20	6.12	18.19	HS 122.41	220.3
2F1	9.24	27.61	0.00	138.7
3F1	7.16	23.58	0.00	164.6
4F1	6.89	27.86	0.00	186.1
5C1	7.07	19.90	0.00	282.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.0	25.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	178.5	-156.8	178.5	-156.8	151.3	-184.0	151.3	-184.0
OPER	279.4	-279.4	279.4	-279.4	252.2	-306.6	252.2	-306.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18	R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	HS20	103.37	L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18	R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	2F1	71.28	L	54.83	4.35	0.0	0.00	0.00	0.00	
		-20.96	R	-16.12	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.46	L	69.58	4.35	0.0	0.00	0.00	0.00	
		-30.07	R	-23.13	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.53	L	74.25	0.35	0.0	0.00	0.00	0.00	
		-32.36	R	-24.89	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.45	L	69.58	2.35	0.0	0.00	0.00	0.00	
		-28.31	R	-21.78	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.46	5.90	1.46	5.90	HS	29.28	52.7
HS20	2.44	9.84	2.44	9.84	HS	48.79	87.8
2F1	3.54	14.63	3.54	14.63		0.00	53.1
3F1	2.79	10.20	2.79	10.20		0.00	64.1
4F1	2.61	9.48	2.61	9.48		0.00	70.5

5C1	2.79	10.83	2.79	10.83	0.00	111.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

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

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88 L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37 R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	HS20	88.88 L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37 R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	2F1	57.25 L	44.04	6.74	0.0	0.00	0.00	0.00	
		-24.45 R	-18.81	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	72.90 L	56.08	2.74	0.0	0.00	0.00	0.00	
		-35.08 R	-26.99	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	73.89 L	56.84	2.74	0.0	0.00	0.00	0.00	
		-37.75 R	-29.04	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.15 R	57.80	63.74	0.0	0.00	0.00	0.00	
		-33.03 R	-25.40	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.68	1.71	5.21	HS 34.24	61.6
HS20	3.21	7.80	2.85	8.68	HS 57.06	102.7
2F1	4.99	11.60	4.43	12.91	0.00	66.4
3F1	3.92	8.09	3.48	9.00	0.00	80.0
4F1	3.87	7.52	3.43	8.36	0.00	92.7
5C1	3.80	8.59	3.38	9.56	0.00	135.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.2	73.5
OPER	151.3	-110.3	122.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.80	2.98	-17.54	2.29	-19.32	4.42	-14.86	3.40
OPER	HS20	-22.80	2.98	-17.54	2.29	-19.32	4.42	-14.86	3.40
OPER	2F1	-14.43	2.72	-11.10	2.09	0.00	0.00	0.00	0.00
OPER	3F1	-19.35	2.89	-14.88	2.22	0.00	0.00	0.00	0.00
OPER	4F1	-19.93	2.11	-15.33	1.62	0.00	0.00	0.00	0.00
OPER	5C1	-18.62	4.05	-14.33	3.12	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.90	16.61	HS 58.05	104.5
HS20	4.84	27.69	HS 96.75	174.2
2F1	7.64	45.09	0.00	114.6
3F1	5.70	42.40	0.00	131.1
4F1	5.53	58.14	0.00	149.4
5C1	5.92	30.20	0.00	236.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88	L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37	R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	HS20	88.88	L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37	R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	2F1	57.25	L	44.04	6.74	0.0	0.00	0.00	0.00	
		-24.45	R	-18.81	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	72.90	L	56.08	2.74	0.0	0.00	0.00	0.00	
		-35.08	R	-26.99	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	73.89	L	56.84	2.74	0.0	0.00	0.00	0.00	
		-37.75	R	-29.04	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.15	R	57.80	63.74	0.0	0.00	0.00	0.00	
		-33.03	R	-25.40	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	4.86	1.78	4.86	HS	35.69	64.2
HS20	2.97	8.10	2.97	8.10	HS	59.48	107.1
2F1	4.62	12.04	4.62	12.04		0.00	69.3
3F1	3.63	8.39	3.63	8.39		0.00	83.4
4F1	3.58	7.80	3.58	7.80		0.00	96.6

5C1	3.52	8.92	3.52	8.92	0.00	140.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

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

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44	L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57	R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	HS20	55.44	L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57	R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	2F1	36.13	L	27.79	9.13	0.0	0.00	0.00	0.00	
		-27.95	R	-21.50	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	43.45	L	33.43	5.13	0.0	0.00	0.00	0.00	
		-40.09	R	-30.84	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	39.68	L	30.52	1.13	0.0	0.00	0.00	0.00	
		-43.14	R	-33.19	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.33	R	40.25	66.13	0.0	0.00	0.00	0.00	
		-37.74	R	-29.03	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.27	3.85	2.93	4.31	HS	58.55	105.4
HS20	5.46	6.42	4.88	7.19	HS	97.58	175.6
2F1	8.37	9.55	7.49	10.69		0.00	112.3
3F1	6.96	6.66	6.22	7.45		0.00	143.2
4F1	7.62	6.18	6.82	6.93		0.00	167.0
5C1	5.78	7.07	5.17	7.92		0.00	206.8

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	74.7
OPER	151.3	-108.3	124.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.72	1.03	-21.32	0.79	-21.85	2.66	-16.81	2.05
OPER	HS20	-27.72	1.03	-21.32	0.79	-21.85	2.66	-16.81	2.05
OPER	2F1	-16.52	1.34	-12.71	1.03	0.00	0.00	0.00	0.00
OPER	3F1	-22.74	1.08	-17.49	0.83	0.00	0.00	0.00	0.00
OPER	4F1	-23.19	0.60	-17.84	0.46	0.00	0.00	0.00	0.00
OPER	5C1	-21.45	2.30	-16.50	1.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.34	28.04	HS 46.89	84.4
HS20	3.91	46.74	HS 78.15	140.7
2F1	6.56	93.05	0.00	98.4
3F1	4.76	115.55	0.00	109.6
4F1	4.67	207.28	0.00	126.1
5C1	5.05	54.06	0.00	202.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-166.5
OPER	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-277.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44	L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57	R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	HS20	55.44	L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57	R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	2F1	36.13	L	27.79	9.13	0.0	0.00	0.00	0.00	
		-27.95	R	-21.50	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	43.45	L	33.43	5.13	0.0	0.00	0.00	0.00	
		-40.09	R	-30.84	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	39.68	L	30.52	1.13	0.0	0.00	0.00	0.00	
		-43.14	R	-33.19	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.33	R	40.25	66.13	0.0	0.00	0.00	0.00	
		-37.74	R	-29.03	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.04	4.01	3.04	4.01	HS 60.88	109.6
HS20	5.07	6.68	5.07	6.68	HS 101.46	182.6
2F1	7.78	9.93	7.78	9.93	0.00	116.8
3F1	6.47	6.92	6.47	6.92	0.00	148.9
4F1	7.09	6.43	7.09	6.43	0.00	173.7

5C1	5.37	7.35	5.37	7.35	0.00	215.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 1.900 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-21.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	194.4	-147.1	175.3	-166.3
OPER	300.6C	-268.7	268.7	-300.6C	324.1	-245.2	292.1	-277.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48 R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85 R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	HS20	10.48 R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85 R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	2F1	10.13 L	7.79	11.53	0.0	0.00	0.00	0.00	
		-31.44 R	-24.18	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.09 R	9.30	67.40	0.0	0.00	0.00	0.00	
		-45.10 R	-34.70	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	12.85 R	9.88	71.40	0.0	0.00	0.00	0.00	
		-48.53 R	-37.33	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.75 R	18.27	68.53	0.0	0.00	0.00	0.00	
		-43.84 L	-33.72	-11.12	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.44	2.71	8.51	3.06	HS 54.18	97.5
HS20	15.74	4.51	14.19	5.10	HS 90.30	162.5
2F1	32.01	7.80	28.85	8.82	0.00	117.0
3F1	26.82	5.44	24.17	6.15	0.00	125.0
4F1	25.22	5.05	22.73	5.71	0.00	136.4
5C1	13.65	5.59	12.30	6.32	0.00	223.8

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.8	-9.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	75.8
OPER	151.3	-106.3	126.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.21	0.56	-24.77	0.43	-24.21	1.24	-18.62	0.95
OPER	HS20	-32.21	0.56	-24.77	0.43	-24.21	1.24	-18.62	0.95
OPER	2F1	-18.37	0.39	-14.13	0.30	0.00	0.00	0.00	0.00
OPER	3F1	-25.81	0.56	-19.86	0.43	0.00	0.00	0.00	0.00
OPER	4F1	-26.99	0.60	-20.76	0.46	0.00	0.00	0.00	0.00
OPER	5C1	-24.44	0.85	-18.80	0.65	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.98	61.26	HS 39.62	71.3
HS20	3.30	102.10	HS 66.04	118.9
2F1	5.79	322.96	0.00	86.9
3F1	4.12	225.12	0.00	94.8
4F1	3.94	210.57	0.00	106.4
5C1	4.35	149.04	0.00	174.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-21.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	158.3	-177.0	158.3	-177.0	181.7	-153.6	181.7	-153.6
OPER	279.4	-279.4	279.4	-279.4	302.8	-256.0	302.8	-256.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	10.48	R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85	R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	HS20	10.48	R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85	R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	2F1	10.13	L	7.79	11.53	0.0	0.00	0.00	0.00	
		-31.44	R	-24.18	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.09	R	9.30	67.40	0.0	0.00	0.00	0.00	
		-45.10	R	-34.70	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	12.85	R	9.88	71.40	0.0	0.00	0.00	0.00	
		-48.53	R	-37.33	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.75	R	18.27	68.53	0.0	0.00	0.00	0.00	
		-43.84	L	-33.72	-11.12	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.83	2.83	8.83	2.83	HS	56.56	101.8
HS20	14.71	4.71	14.71	4.71	HS	94.26	169.7
2F1	29.91	8.14	29.91	8.14		0.00	122.1
3F1	25.06	5.68	25.06	5.68		0.00	130.5
4F1	23.57	5.27	23.57	5.27		0.00	142.4

5C1	12.75	5.84	12.75	5.84		0.00	233.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 2.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	210.3	-131.3	191.1	-150.5
OPER	300.6C	-268.7	268.7	-300.6C	350.4	-218.9	318.4	-250.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	2F1	9.36	R	7.20	65.01	0.0	0.00	0.00	0.00	
		-46.29	L	-35.61	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.43	R	10.33	67.40	0.0	0.00	0.00	0.00	
		-68.97	R	-53.05	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.45	R	11.12	70.62	0.0	0.00	0.00	0.00	
		-82.51	R	-63.47	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	11.70	R	9.00	106.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	15.10	1.30	13.72	1.49	HS	26.03	46.8
HS20	25.17	2.17	22.87	2.49	HS	43.38	78.1
2F1	37.44	4.73	34.02	5.42		0.00	70.9
3F1	26.10	3.17	23.71	3.64		0.00	73.0
4F1	24.25	2.65	22.04	3.04		0.00	71.6
5C1	29.96	3.00	27.23	3.43		0.00	119.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	-0.9	-9.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-62.6	63.5
OPER	151.3	-104.4	105.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.21	33.50	-24.77	25.77	-24.21	26.13	-18.62	20.10
OPER	HS20	-32.21	33.50	-24.77	25.77	-24.21	26.13	-18.62	20.10
OPER	2F1	-18.37	19.03	-14.13	14.64	0.00	0.00	0.00	0.00
OPER	3F1	-25.81	26.83	-19.86	20.64	0.00	0.00	0.00	0.00
OPER	4F1	-26.99	28.20	-20.76	21.69	0.00	0.00	0.00	0.00
OPER	5C1	-24.44	25.99	-18.80	19.99	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.73	1.90	HS	34.61	62.3
HS20	2.88	3.16	HS	57.68	103.8
2F1	5.23	5.56		0.00	78.5
3F1	3.66	3.95		0.00	84.2
4F1	3.43	3.76		0.00	92.5
5C1	3.85	4.07		0.00	153.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	147.7	-187.6	147.7	-187.6	197.5	-137.8	197.5	-137.8
OPER	279.4	-279.4	279.4	-279.4	329.2	-229.6	329.2	-229.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	2F1	9.36	R	7.20	65.01	0.0	0.00	0.00	0.00	
		-46.29	L	-35.61	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.43	R	10.33	67.40	0.0	0.00	0.00	0.00	
		-68.97	R	-53.05	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.45	R	11.12	70.62	0.0	0.00	0.00	0.00	
		-82.51	R	-63.47	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	11.70	R	9.00	106.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.19	1.37	14.19	1.37	HS	27.31	49.1
HS20	23.65	2.28	23.65	2.28	HS	45.51	81.9
2F1	35.17	4.96	35.17	4.96		0.00	74.4
3F1	24.51	3.33	24.51	3.33		0.00	76.6
4F1	22.78	2.78	22.78	2.78		0.00	75.1

5C1	28.14	3.14	28.14	3.14	0.00	125.7

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 2.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	210.3	-131.3	191.1	-150.5
OPER	300.6C	-268.7	268.7	-300.6C	350.4	-218.9	318.4	-250.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	2F1	9.36	R	7.20	65.01	0.0	0.00	0.00	0.00	
		-46.29	L	-35.61	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.43	R	10.33	67.40	0.0	0.00	0.00	0.00	
		-68.97	R	-53.05	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.45	R	11.12	70.62	0.0	0.00	0.00	0.00	
		-82.51	R	-63.47	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	11.70	R	9.00	106.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	15.10	1.30	13.72	1.49	HS	26.03	46.8
HS20	25.17	2.17	22.87	2.49	HS	43.38	78.1
2F1	37.44	4.73	34.02	5.42		0.00	70.9
3F1	26.10	3.17	23.71	3.64		0.00	73.0
4F1	24.25	2.65	22.04	3.04		0.00	71.6
5C1	29.96	3.00	27.23	3.43		0.00	119.8

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	0.8	-11.1	9.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-62.6	63.5
OPER	151.3	-104.4	105.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-36.19	33.50	-27.84	25.77	-26.36	26.13	-20.28	20.10
OPER	HS20	-36.19	33.50	-27.84	25.77	-26.36	26.13	-20.28	20.10
OPER	2F1	-19.94	19.03	-15.34	14.64	0.00	0.00	0.00	0.00
OPER	3F1	-28.51	26.83	-21.93	20.64	0.00	0.00	0.00	0.00
OPER	4F1	-30.46	28.20	-23.43	21.69	0.00	0.00	0.00	0.00
OPER	5C1	-27.13	25.99	-20.87	19.99	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.73	1.90	HS 34.61	62.3
HS20	2.88	3.16	HS 57.68	103.8
2F1	5.23	5.56	0.00	78.5
3F1	3.66	3.95	0.00	84.2
4F1	3.43	3.76	0.00	92.5
5C1	3.85	4.07	0.00	153.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	147.7	-187.6	147.7	-187.6	197.5	-137.8	197.5	-137.8
OPER	279.4	-279.4	279.4	-279.4	329.2	-229.6	329.2	-229.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	2F1	9.36	R	7.20	65.01	0.0	0.00	0.00	0.00	
		-46.29	L	-35.61	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.43	R	10.33	67.40	0.0	0.00	0.00	0.00	
		-68.97	R	-53.05	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.45	R	11.12	70.62	0.0	0.00	0.00	0.00	
		-82.51	R	-63.47	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	11.70	R	9.00	106.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.19	1.37	14.19	1.37	HS	27.31	49.1
HS20	23.65	2.28	23.65	2.28	HS	45.51	81.9
2F1	35.17	4.96	35.17	4.96		0.00	74.4
3F1	24.51	3.33	24.51	3.33		0.00	76.6
4F1	22.78	2.78	22.78	2.78		0.00	75.1

5C1	28.14	3.14	28.14	3.14	0.00	125.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 2.100 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-25.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	196.6	-144.9	177.4	-164.1
OPER	300.6C	-268.7	268.7	-300.6C	327.7	-241.6	295.7	-273.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54	R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67	R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	HS20	19.54	R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67	R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	2F1	14.70	R	11.31	36.31	0.0	0.00	0.00	0.00	
		-40.42	L	-31.10	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.74	R	9.80	40.31	0.0	0.00	0.00	0.00	
		-57.83	L	-44.49	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.14	R	5.49	71.40	0.0	0.00	0.00	0.00	
		-61.98	L	-47.68	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	21.24	R	16.34	77.31	0.0	0.00	0.00	0.00	
		-53.16	L	-40.89	-2.43	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.19	2.14	8.30	2.42	HS	42.84	77.1
HS20	15.32	3.57	13.82	4.04	HS	71.39	128.5
2F1	22.30	5.98	20.12	6.77		0.00	89.6
3F1	25.73	4.18	23.22	4.73		0.00	96.1
4F1	45.91	3.90	41.43	4.41		0.00	105.2
5C1	15.43	4.55	13.93	5.15		0.00	181.8

SHEAR RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.9	64.7
OPER	151.3	-124.9	107.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.79	29.37	-2.15	22.59	-2.89	23.54	-2.22	18.11
OPER	HS20	-2.79	29.37	-2.15	22.59	-2.89	23.54	-2.22	18.11
OPER	2F1	-1.96	17.21	-1.51	13.24	0.00	0.00	0.00	0.00
OPER	3F1	-2.81	23.73	-2.16	18.25	0.00	0.00	0.00	0.00
OPER	4F1	-3.00	24.50	-2.31	18.84	0.00	0.00	0.00	0.00
OPER	5C1	-2.86	22.95	-2.20	17.65	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	25.95	2.20	HS	44.07	79.3
HS20	43.25	3.67	HS	73.45	132.2
2F1	63.81	6.27		0.00	94.0
3F1	44.48	4.55		0.00	104.6
4F1	41.61	4.40		0.00	118.9
5C1	43.65	4.70		0.00	188.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-25.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	156.8	-178.5	156.8	-178.5	183.9	-151.4	183.9	-151.4
OPER	279.4	-279.4	279.4	-279.4	306.5	-252.3	306.5	-252.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54	R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67	R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	HS20	19.54	R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67	R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	2F1	14.70	R	11.31	36.31	0.0	0.00	0.00	0.00	
		-40.42	L	-31.10	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.74	R	9.80	40.31	0.0	0.00	0.00	0.00	
		-57.83	L	-44.49	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.14	R	5.49	71.40	0.0	0.00	0.00	0.00	
		-61.98	L	-47.68	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	21.24	R	16.34	77.31	0.0	0.00	0.00	0.00	
		-53.16	L	-40.89	-2.43	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.60	2.24	8.60	2.24	HS	44.74	80.5
HS20	14.33	3.73	14.33	3.73	HS	74.57	134.2
2F1	20.85	6.24	20.85	6.24		0.00	93.6
3F1	24.06	4.36	24.06	4.36		0.00	100.3
4F1	42.93	4.07	42.93	4.07		0.00	109.9

5C1	14.43	4.75	14.43	4.75		0.00	189.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 2.200 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-8.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.8	-155.7	166.7	-174.9
OPER	300.6C	-268.7	268.7	-300.6C	309.7	-259.5	277.8	-291.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45 R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93 L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	HS20	59.45 R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93 L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	2F1	38.43 R	29.56	38.70	0.0	0.00	0.00	0.00	
		-34.55 L	-26.58	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	46.95 R	36.12	42.70	0.0	0.00	0.00	0.00	
		-49.43 L	-38.03	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	43.48 R	33.45	46.70	0.0	0.00	0.00	0.00	
		-52.98 L	-40.76	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	46.63 R	35.87	44.70	0.0	0.00	0.00	0.00	
		-46.11 L	-35.47	2.35	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.13	2.78	2.80	3.13	HS	55.68	100.2
HS20	5.21	4.64	4.67	5.21	HS	92.80	167.0
2F1	8.06	7.51	7.23	8.44		0.00	108.4
3F1	6.60	5.25	5.92	5.90		0.00	120.8
4F1	7.12	4.90	6.39	5.50		0.00	132.3
5C1	6.64	5.63	5.96	6.32		0.00	225.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	6.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	65.9
OPER	151.3	-122.9	109.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.79	24.68	-2.15	18.98	-4.29	20.73	-3.30	15.95
OPER	HS20	-2.79	24.68	-2.15	18.98	-4.29	20.73	-3.30	15.95
OPER	2F1	-1.96	14.96	-1.51	11.51	0.00	0.00	0.00	0.00
OPER	3F1	-2.81	20.22	-2.16	15.55	0.00	0.00	0.00	0.00
OPER	4F1	-3.00	20.97	-2.31	16.13	0.00	0.00	0.00	0.00
OPER	5C1	-4.45	19.53	-3.42	15.03	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	17.18	2.67	HS	53.41	96.1
HS20	28.64	4.45	HS	89.02	160.2
2F1	62.80	7.34		0.00	110.1
3F1	43.78	5.43		0.00	125.0
4F1	40.95	5.24		0.00	141.4
5C1	27.61	5.62		0.00	224.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-8.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.0	-171.3	164.0	-171.3	173.1	-162.2	173.1	-162.2
OPER	279.4	-279.4	279.4	-279.4	288.5	-270.3	288.5	-270.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45	R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93	L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	HS20	59.45	R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93	L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	2F1	38.43	R	29.56	38.70	0.0	0.00	0.00	0.00	
		-34.55	L	-26.58	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	46.95	R	36.12	42.70	0.0	0.00	0.00	0.00	
		-49.43	L	-38.03	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	43.48	R	33.45	46.70	0.0	0.00	0.00	0.00	
		-52.98	L	-40.76	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	46.63	R	35.87	44.70	0.0	0.00	0.00	0.00	
		-46.11	L	-35.47	2.35	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.91	2.90	2.91	2.90	HS	57.99	104.4
HS20	4.85	4.83	4.85	4.83	HS	96.65	174.0
2F1	7.51	7.82	7.51	7.82		0.00	112.6
3F1	6.14	5.47	6.14	5.47		0.00	125.8
4F1	6.64	5.10	6.64	5.10		0.00	137.7

5C1	6.19	5.86	6.19	5.86		0.00	234.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 2.300

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	177.9	-163.7	158.7	-182.9
OPER	300.6C	-268.7	268.7	-300.6C	296.5	-272.8	264.5	-304.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79	R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43	L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	HS20	83.79	R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43	L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	2F1	55.29	R	42.53	41.09	0.0	0.00	0.00	0.00	
		-28.68	L	-22.07	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	69.87	R	53.75	45.09	0.0	0.00	0.00	0.00	
		-41.04	L	-31.57	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	71.19	R	54.77	45.09	0.0	0.00	0.00	0.00	
		-43.98	L	-33.83	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	68.27	R	52.51	47.09	0.0	0.00	0.00	0.00	
		-42.18	L	-32.45	3.13	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.12	3.53	1.89	3.94	HS	37.88	68.2
HS20	3.54	5.88	3.16	6.56	HS	63.14	113.7
2F1	5.36	9.51	4.78	10.62		0.00	71.8
3F1	4.24	6.65	3.79	7.43		0.00	87.1
4F1	4.16	6.20	3.71	6.93		0.00	100.3
5C1	4.34	6.47	3.88	7.22		0.00	155.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 2.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	4.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.6	67.1
OPER	151.3	-120.9	111.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.15	20.51	-3.96	15.77	-6.59	17.81	-5.07	13.70
OPER	HS20	-5.15	20.51	-3.96	15.77	-6.59	17.81	-5.07	13.70
OPER	2F1	-3.63	12.57	-2.79	9.67	0.00	0.00	0.00	0.00
OPER	3F1	-3.81	16.60	-2.93	12.77	0.00	0.00	0.00	0.00
OPER	4F1	-3.00	17.14	-2.31	13.19	0.00	0.00	0.00	0.00
OPER	5C1	-6.32	16.06	-4.86	12.35	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	11.02	3.27	HS 65.44	117.8
HS20	18.36	5.45	HS 109.07	196.3
2F1	33.34	8.89	0.00	133.4
3F1	31.74	6.74	0.00	154.9
4F1	40.29	6.52	0.00	176.1
5C1	19.13	6.96	0.00	278.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.3	-166.0	169.3	-166.0	165.2	-170.1	165.2	-170.1
OPER	279.4	-279.4	279.4	-279.4	275.3	-283.5	275.3	-283.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79	R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43	L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	HS20	83.79	R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43	L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	2F1	55.29	R	42.53	41.09	0.0	0.00	0.00	0.00	
		-28.68	L	-22.07	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	69.87	R	53.75	45.09	0.0	0.00	0.00	0.00	
		-41.04	L	-31.57	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	71.19	R	54.77	45.09	0.0	0.00	0.00	0.00	
		-43.98	L	-33.83	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	68.27	R	52.51	47.09	0.0	0.00	0.00	0.00	
		-42.18	L	-32.45	3.13	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.97	3.66	1.97	3.66	HS	39.42	71.0
HS20	3.29	6.11	3.29	6.11	HS	65.71	118.3
2F1	4.98	9.89	4.98	9.89		0.00	74.7
3F1	3.94	6.91	3.94	6.91		0.00	90.6
4F1	3.87	6.45	3.87	6.45		0.00	104.4

5C1	4.03	6.72	4.03	6.72	0.00	161.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.8	-168.8	153.6	-188.0
OPER	300.6C	-268.7	268.7	-300.6C	288.0	-281.3	256.0	-313.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63 R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93 L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	HS20	92.63 R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93 L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	2F1	64.11 R	49.32	43.48	0.0	0.00	0.00	0.00	
		-22.81 L	-17.55	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.45 R	62.65	43.48	0.0	0.00	0.00	0.00	
		-32.64 L	-25.11	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	86.98 R	66.91	47.48	0.0	0.00	0.00	0.00	
		-34.98 L	-26.91	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	79.69 R	61.30	84.48	0.0	0.00	0.00	0.00	
		-38.85 L	-29.89	4.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	4.57	1.66	5.09	HS 33.16	59.7
HS20	3.11	7.62	2.76	8.48	HS 55.27	99.5
2F1	4.49	12.33	3.99	13.73	0.00	59.9
3F1	3.54	8.62	3.14	9.60	0.00	72.3
4F1	3.31	8.04	2.94	8.96	0.00	79.5
5C1	3.61	7.24	3.21	8.06	0.00	128.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 2.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	2.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.4	68.3
OPER	151.3	-118.9	113.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.55	17.12	-7.34	13.17	-9.16	14.86	-7.04	11.43
OPER	HS20	-9.55	17.12	-7.34	13.17	-9.16	14.86	-7.04	11.43
OPER	2F1	-5.72	10.14	-4.40	7.80	0.00	0.00	0.00	0.00
OPER	3F1	-6.70	13.03	-5.16	10.02	0.00	0.00	0.00	0.00
OPER	4F1	-5.60	13.13	-4.31	10.10	0.00	0.00	0.00	0.00
OPER	5C1	-8.43	13.38	-6.49	10.29	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.47	3.99	HS 79.76	143.6
HS20	12.46	6.65	HS 132.93	239.3
2F1	20.80	11.22	0.00	168.3
3F1	17.74	8.73	0.00	200.9
4F1	21.24	8.67	0.00	234.0
5C1	14.10	8.51	0.00	340.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.7	-162.6	172.7	-162.6	160.1	-175.2	160.1	-175.2
OPER	279.4	-279.4	279.4	-279.4	266.8	-292.0	266.8	-292.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63	R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93	L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	HS20	92.63	R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93	L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	2F1	64.11	R	49.32	43.48	0.0	0.00	0.00	0.00	
		-22.81	L	-17.55	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.45	R	62.65	43.48	0.0	0.00	0.00	0.00	
		-32.64	L	-25.11	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	86.98	R	66.91	47.48	0.0	0.00	0.00	0.00	
		-34.98	L	-26.91	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	79.69	R	61.30	84.48	0.0	0.00	0.00	0.00	
		-38.85	L	-29.89	4.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	4.74	1.73	4.74	HS	34.56	62.2
HS20	2.88	7.91	2.88	7.91	HS	57.59	103.7
2F1	4.16	12.80	4.16	12.80		0.00	62.4
3F1	3.28	8.95	3.28	8.95		0.00	75.3
4F1	3.07	8.35	3.07	8.35		0.00	82.8

5C1	3.35	7.52	3.35	7.52		0.00	133.9

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 2.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.3	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.1	252.2	-317.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69	L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43	L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	HS20	88.69	L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43	L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	2F1	64.71	L	49.77	25.88	0.0	0.00	0.00	0.00	
		-16.94	L	-13.03	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	85.89	R	66.07	45.88	0.0	0.00	0.00	0.00	
		-24.24	L	-18.65	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	89.18	R	68.60	49.88	0.0	0.00	0.00	0.00	
		-25.98	L	-19.99	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	84.06	R	64.66	86.88	0.0	0.00	0.00	0.00	
		-36.69	L	-28.23	4.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.92	6.24	1.71	6.94	HS	34.13	61.4
HS20	3.20	10.39	2.84	11.56	HS	56.88	102.4
2F1	4.39	16.82	3.90	18.71		0.00	58.5
3F1	3.31	11.76	2.94	13.08		0.00	67.5
4F1	3.19	10.97	2.83	12.20		0.00	76.4
5C1	3.38	7.77	3.00	8.64		0.00	120.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 2.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.6

Rat. Veh.	Shear Capacity VU	Available 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.52	13.48	-10.40	10.37	-11.93	11.97	-9.17	9.21
OPER	HS20	-13.52	13.48	-10.40	10.37	-11.93	11.97	-9.17	9.21
OPER	2F1	-8.01	7.76	-6.16	5.97	0.00	0.00	0.00	0.00
OPER	3F1	-9.93	9.63	-7.64	7.41	0.00	0.00	0.00	0.00
OPER	4F1	-9.46	9.05	-7.27	6.97	0.00	0.00	0.00	0.00
OPER	5C1	-10.75	11.02	-8.27	8.48	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.19	5.15	HS 103.04	185.5
HS20	8.65	8.59	HS 171.74	309.1
2F1	14.61	14.92	0.00	219.1
3F1	11.78	12.02	0.00	271.0
4F1	12.37	12.79	0.00	334.0
5C1	10.88	10.51	0.00	420.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.2	-161.1	174.2	-161.1	157.8	-177.5	157.8	-177.5
OPER	279.4	-279.4	279.4	-279.4	263.0	-295.8	263.0	-295.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	88.69	L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43	L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	HS20	88.69	L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43	L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	2F1	64.71	L	49.77	25.88	0.0	0.00	0.00	0.00	
		-16.94	L	-13.03	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	85.89	R	66.07	45.88	0.0	0.00	0.00	0.00	
		-24.24	L	-18.65	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	89.18	R	68.60	49.88	0.0	0.00	0.00	0.00	
		-25.98	L	-19.99	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	84.06	R	64.66	86.88	0.0	0.00	0.00	0.00	
		-36.69	L	-28.23	4.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	6.47	1.78	6.47	HS	35.58	64.0
HS20	2.96	10.78	2.96	10.78	HS	59.30	106.7
2F1	4.06	17.46	4.06	17.46		0.00	61.0
3F1	3.06	12.20	3.06	12.20		0.00	70.4
4F1	2.95	11.39	2.95	11.39		0.00	79.6

5C1	3.13	8.06	3.13	8.06	0.00	125.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.2	-170.4	152.0	-189.6
OPER	300.6C	-268.7	268.7	-300.6C	285.3	-284.0	253.3	-316.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93	L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85	R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	HS20	90.93	L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85	R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	2F1	63.46	L	48.82	28.27	0.0	0.00	0.00	0.00	
		-18.72	R	-14.40	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	80.32	L	61.78	28.27	0.0	0.00	0.00	0.00	
		-26.86	R	-20.66	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.78	L	65.98	24.27	0.0	0.00	0.00	0.00	
		-28.90	R	-22.23	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.90	L	62.23	26.27	0.0	0.00	0.00	0.00	
		-35.49	L	-27.30	5.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.88	6.12	1.67	6.81	HS	33.43	60.2
HS20	3.14	10.20	2.79	11.35	HS	55.72	100.3
2F1	4.50	15.17	3.99	16.88		0.00	59.9
3F1	3.55	10.57	3.15	11.76		0.00	72.5
4F1	3.33	9.83	2.95	10.93		0.00	79.7
5C1	3.53	8.00	3.13	8.90		0.00	125.3

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 2.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.0	70.7
OPER	151.3	-114.9	117.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-17.02	9.38	-13.09	7.21	-14.82	9.23	-11.40	7.10
OPER	HS20	-17.02	9.38	-13.09	7.21	-14.82	9.23	-11.40	7.10
OPER	2F1	-10.41	5.52	-8.01	4.25	0.00	0.00	0.00	0.00
OPER	3F1	-13.39	6.51	-10.30	5.01	0.00	0.00	0.00	0.00
OPER	4F1	-13.53	5.51	-10.41	4.24	0.00	0.00	0.00	0.00
OPER	5C1	-13.22	8.97	-10.17	6.90	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.05	7.54	HS 81.04	145.9
HS20	6.75	12.56	HS 135.07	243.1
2F1	11.04	21.34	0.00	165.5
3F1	8.58	18.10	0.00	197.4
4F1	8.49	21.37	0.00	229.4
5C1	8.69	13.13	0.00	347.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.8	-161.5	173.8	-161.5	158.4	-176.8	158.4	-176.8
OPER	279.4	-279.4	279.4	-279.4	264.1	-294.7	264.1	-294.7

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.93	L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85	R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	HS20	90.93	L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85	R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	2F1	63.46	L	48.82	28.27	0.0	0.00	0.00	0.00	
		-18.72	R	-14.40	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	80.32	L	61.78	28.27	0.0	0.00	0.00	0.00	
		-26.86	R	-20.66	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.78	L	65.98	24.27	0.0	0.00	0.00	0.00	
		-28.90	R	-22.23	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.90	L	62.23	26.27	0.0	0.00	0.00	0.00	
		-35.49	L	-27.30	5.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.35	1.74	6.35	HS	34.85	62.7
HS20	2.90	10.58	2.90	10.58	HS	58.08	104.5
2F1	4.16	15.74	4.16	15.74		0.00	62.4
3F1	3.29	10.97	3.29	10.97		0.00	75.6
4F1	3.08	10.20	3.08	10.20		0.00	83.1

5C1	3.26	8.31	3.26	8.31	0.00	130.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.2	-278.1	259.2	-310.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52 L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81 R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	HS20	81.52 L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81 R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	2F1	53.88 L	41.44	30.66	0.0	0.00	0.00	0.00	
		-23.40 R	-18.00	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.90 L	52.23	26.66	0.0	0.00	0.00	0.00	
		-33.57 R	-25.82	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	69.04 L	53.11	26.66	0.0	0.00	0.00	0.00	
		-36.12 R	-27.79	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.94 R	54.57	87.66	0.0	0.00	0.00	0.00	
		-35.87 R	-27.59	68.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.14	4.80	1.91	5.35	HS	38.15	68.7
HS20	3.57	7.99	3.18	8.91	HS	63.59	114.5
2F1	5.40	11.89	4.81	13.25		0.00	72.2
3F1	4.29	8.28	3.82	9.24		0.00	87.8
4F1	4.22	7.70	3.75	8.59		0.00	101.4
5C1	4.10	7.75	3.65	8.65		0.00	146.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 2.700

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.8	71.9
OPER	151.3	-112.9	119.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.39	4.89	-15.68	3.76	-17.75	6.71	-13.65	5.16
OPER	HS20	-20.39	4.89	-15.68	3.76	-17.75	6.71	-13.65	5.16
OPER	2F1	-12.84	3.50	-9.88	2.69	0.00	0.00	0.00	0.00
OPER	3F1	-16.99	3.74	-13.07	2.88	0.00	0.00	0.00	0.00
OPER	4F1	-17.49	3.74	-13.45	2.88	0.00	0.00	0.00	0.00
OPER	5C1	-16.15	7.02	-12.43	5.40	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.72	HS 66.47	119.6
HS20	5.54	17.86	HS 110.78	199.4
2F1	8.80	34.21	0.00	131.9
3F1	6.65	32.04	0.00	152.9
4F1	6.46	32.04	0.00	174.4
5C1	6.99	17.06	0.00	279.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.4	-163.8	171.4	-163.8	162.0	-173.3	162.0	-173.3
OPER	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-288.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52	L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81	R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	HS20	81.52	L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81	R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	2F1	53.88	L	41.44	30.66	0.0	0.00	0.00	0.00	
		-23.40	R	-18.00	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.90	L	52.23	26.66	0.0	0.00	0.00	0.00	
		-33.57	R	-25.82	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	69.04	L	53.11	26.66	0.0	0.00	0.00	0.00	
		-36.12	R	-27.79	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.94	R	54.57	87.66	0.0	0.00	0.00	0.00	
		-35.87	R	-27.59	68.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.99	4.98	1.99	4.98	HS	39.73	71.5
HS20	3.31	8.30	3.31	8.30	HS	66.22	119.2
2F1	5.01	12.35	5.01	12.35		0.00	75.1
3F1	3.97	8.60	3.97	8.60		0.00	91.4
4F1	3.91	8.00	3.91	8.00		0.00	105.6

5C1	3.81	8.05	3.81	8.05	0.00	152.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.5	161.8	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.42 L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77 R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	HS20	56.42 L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77 R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	2F1	36.49 L	28.07	33.05	0.0	0.00	0.00	0.00	
		-28.08 R	-21.60	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.04 L	33.87	29.05	0.0	0.00	0.00	0.00	
		-40.29 R	-30.99	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.32 L	31.01	25.05	0.0	0.00	0.00	0.00	
		-43.35 R	-33.35	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.75 R	40.58	90.05	0.0	0.00	0.00	0.00	
		-37.44 R	-28.80	69.40	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS	57.37	103.3
HS20	5.35	6.41	4.78	7.17	HS	95.61	172.1
2F1	8.27	9.53	7.39	10.67		0.00	110.9
3F1	6.85	6.64	6.13	7.43		0.00	140.9
4F1	7.48	6.17	6.69	6.91		0.00	166.6
5C1	5.72	7.15	5.11	8.00		0.00	204.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 2.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.6	73.1
OPER	151.3	-111.0	121.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.99	3.79	-19.22	2.92	-20.63	4.48	-15.87	3.45
OPER	HS20	-24.99	3.79	-19.22	2.92	-20.63	4.48	-15.87	3.45
OPER	2F1	-15.20	2.45	-11.69	1.89	0.00	0.00	0.00	0.00
OPER	3F1	-20.59	3.51	-15.84	2.70	0.00	0.00	0.00	0.00
OPER	4F1	-21.23	3.74	-16.33	2.88	0.00	0.00	0.00	0.00
OPER	5C1	-19.38	5.22	-14.91	4.02	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.66	16.32	HS 53.29	95.9
HS20	4.44	27.19	HS 88.82	159.9
2F1	7.30	49.62	0.00	109.5
3F1	5.39	34.69	0.00	124.0
4F1	5.23	32.57	0.00	141.1
5C1	5.72	23.31	0.00	229.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.42	L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77	R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	HS20	56.42	L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77	R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	2F1	36.49	L	28.07	33.05	0.0	0.00	0.00	0.00	
		-28.08	R	-21.60	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.04	L	33.87	29.05	0.0	0.00	0.00	0.00	
		-40.29	R	-30.99	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.32	L	31.01	25.05	0.0	0.00	0.00	0.00	
		-43.35	R	-33.35	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.75	R	40.58	90.05	0.0	0.00	0.00	0.00	
		-37.44	R	-28.80	69.40	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.65	107.4
HS20	4.97	6.66	4.97	6.66	HS	99.42	179.0
2F1	7.69	9.91	7.69	9.91		0.00	115.3
3F1	6.37	6.91	6.37	6.91		0.00	146.5
4F1	6.96	6.42	6.96	6.42		0.00	173.3

5C1	5.32	7.43	5.32	7.43	0.00	212.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.2	-151.4	171.0	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.0	-252.3	285.1	-284.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60 L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	HS20	16.01 L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60 L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	2F1	12.71 L	9.78	35.44	0.0	0.00	0.00	0.00	
		-32.76 R	-25.20	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.59 R	9.69	91.32	0.0	0.00	0.00	0.00	
		-47.00 R	-36.15	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.39 R	10.30	95.32	0.0	0.00	0.00	0.00	
		-50.57 R	-38.90	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.62 R	20.48	92.44	0.0	0.00	0.00	0.00	
		-41.17 R	-31.67	71.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.88	2.77	7.09	3.12	HS 55.45	99.8
HS20	13.14	4.62	11.81	5.21	HS 92.41	166.3
2F1	24.95	7.70	22.43	8.68	0.00	115.5
3F1	25.17	5.37	22.63	6.05	0.00	123.4
4F1	23.68	4.99	21.29	5.62	0.00	134.7
5C1	11.91	6.13	10.71	6.91	0.00	245.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 2.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.4	74.3
OPER	151.3	-109.0	123.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.62	3.97	-22.79	3.06	-23.37	3.74	-17.97	2.88
OPER	HS20	-29.62	3.97	-22.79	3.06	-23.37	3.74	-17.97	2.88
OPER	2F1	-17.40	2.45	-13.38	1.89	0.00	0.00	0.00	0.00
OPER	3F1	-24.05	3.51	-18.50	2.70	0.00	0.00	0.00	0.00
OPER	4F1	-24.80	3.76	-19.08	2.89	0.00	0.00	0.00	0.00
OPER	5C1	-22.61	3.62	-17.39	2.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.21	18.69	HS 44.15	79.5
HS20	3.68	31.15	HS 73.58	132.4
2F1	6.26	50.43	0.00	94.0
3F1	4.53	35.25	0.00	104.2
4F1	4.39	32.89	0.00	118.6
5C1	4.82	34.20	0.00	192.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.1	-174.2	161.1	-174.2	177.5	-157.8	177.5	-157.8
OPER	279.4	-279.4	279.4	-279.4	295.8	-263.0	295.8	-263.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.01	L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60	L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	HS20	16.01	L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60	L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	2F1	12.71	L	9.78	35.44	0.0	0.00	0.00	0.00	
		-32.76	R	-25.20	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.59	R	9.69	91.32	0.0	0.00	0.00	0.00	
		-47.00	R	-36.15	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.39	R	10.30	95.32	0.0	0.00	0.00	0.00	
		-50.57	R	-38.90	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.62	R	20.48	92.44	0.0	0.00	0.00	0.00	
		-41.17	R	-31.67	71.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.35	2.89	7.35	2.89	HS	57.81	104.1
HS20	12.26	4.82	12.26	4.82	HS	96.35	173.4
2F1	23.27	8.03	23.27	8.03		0.00	120.4
3F1	23.49	5.60	23.49	5.60		0.00	128.7
4F1	22.09	5.20	22.09	5.20		0.00	140.4

5C1	11.11	6.39	11.11	6.39		0.00	255.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
Member I. D. S01		2F1		
Check Point I. D. 3.000		3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.2	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	2F1	12.40 L	9.54	6.74	0.0	0.00	0.00	0.00	
		-38.26 L	-29.43	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.75 L	13.65	4.35	0.0	0.00	0.00	0.00	
		-61.95 R	-47.66	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	19.02 L	14.63	1.13	0.0	0.00	0.00	0.00	
		-72.40 R	-55.69	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	16.07 L	12.36	-35.04	0.0	0.00	0.00	0.00	
		-59.68 L	-45.91	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.07	1.46	9.12	1.66	HS	29.21	52.6
HS20	16.79	2.43	15.19	2.77	HS	48.69	87.6
2F1	27.17	6.07	24.59	6.91		0.00	91.0
3F1	18.99	3.75	17.19	4.26		0.00	86.2
4F1	17.72	3.21	16.04	3.65		0.00	86.6
5C1	20.98	3.89	18.99	4.43		0.00	155.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.2	64.0
OPER	151.3	-107.0	106.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.62	33.80	-22.79	26.00	-23.37	25.99	-17.97	20.00
OPER	HS20	-29.62	33.80	-22.79	26.00	-23.37	25.99	-17.97	20.00
OPER	2F1	-17.40	19.28	-13.38	14.83	0.00	0.00	0.00	0.00
OPER	3F1	-24.05	27.11	-18.50	20.85	0.00	0.00	0.00	0.00
OPER	4F1	-24.80	28.49	-19.08	21.92	0.00	0.00	0.00	0.00
OPER	5C1	-22.61	25.42	-17.39	19.55	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.80	68.0
HS20	3.15	3.15	HS 63.00	113.4
2F1	5.53	5.53	0.00	82.9
3F1	3.93	3.93	0.00	90.4
4F1	3.74	3.74	0.00	100.9
5C1	4.17	4.19	0.00	166.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-145.8
OPER	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-243.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	2F1	12.40	L	9.54	6.74	0.0	0.00	0.00	0.00	
		-38.26	L	-29.43	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.75	L	13.65	4.35	0.0	0.00	0.00	0.00	
		-61.95	R	-47.66	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	19.02	L	14.63	1.13	0.0	0.00	0.00	0.00	
		-72.40	R	-55.69	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	16.07	L	12.36	-35.04	0.0	0.00	0.00	0.00	
		-59.68	L	-45.91	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.44	1.53	9.44	1.53	HS	30.56	55.0
HS20	15.73	2.55	15.73	2.55	HS	50.94	91.7
2F1	25.46	6.35	25.46	6.35		0.00	95.3
3F1	17.80	3.92	17.80	3.92		0.00	90.2
4F1	16.60	3.36	16.60	3.36		0.00	90.6

5C1	19.66	4.07	19.66	4.07		0.00	162.8

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.2	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	2F1	12.40 L	9.54	6.74	0.0	0.00	0.00	0.00	
		-38.26 L	-29.43	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.75 L	13.65	4.35	0.0	0.00	0.00	0.00	
		-61.95 R	-47.66	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	19.02 L	14.63	1.13	0.0	0.00	0.00	0.00	
		-72.40 R	-55.69	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	16.07 L	12.36	-35.04	0.0	0.00	0.00	0.00	
		-59.68 L	-45.91	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.07	1.46	9.12	1.66	HS 29.21	52.6
HS20	16.79	2.43	15.19	2.77	HS 48.69	87.6
2F1	27.17	6.07	24.59	6.91	0.00	91.0
3F1	18.99	3.75	17.19	4.26	0.00	86.2
4F1	17.72	3.21	16.04	3.65	0.00	86.6
5C1	20.98	3.89	18.99	4.43	0.00	155.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-8.7	9.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.2	64.0
OPER	151.3	-107.0	106.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.97	33.80	-26.13	26.00	-25.86	25.99	-19.89	20.00
OPER	HS20	-33.97	33.80	-26.13	26.00	-25.86	25.99	-19.89	20.00
OPER	2F1	-19.34	19.28	-14.87	14.83	0.00	0.00	0.00	0.00
OPER	3F1	-27.22	27.11	-20.94	20.85	0.00	0.00	0.00	0.00
OPER	4F1	-28.64	28.49	-22.03	21.92	0.00	0.00	0.00	0.00
OPER	5C1	-25.68	25.42	-19.76	19.55	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.80	68.0
HS20	3.15	3.15	HS 63.00	113.4
2F1	5.53	5.53	0.00	82.9
3F1	3.93	3.93	0.00	90.4
4F1	3.74	3.74	0.00	100.9
5C1	4.17	4.19	0.00	166.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-145.8
OPER	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-243.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	2F1	12.40	L	9.54	6.74	0.0	0.00	0.00	0.00	
		-38.26	L	-29.43	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.75	L	13.65	4.35	0.0	0.00	0.00	0.00	
		-61.95	R	-47.66	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	19.02	L	14.63	1.13	0.0	0.00	0.00	0.00	
		-72.40	R	-55.69	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	16.07	L	12.36	-35.04	0.0	0.00	0.00	0.00	
		-59.68	L	-45.91	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.44	1.53	9.44	1.53	HS	30.56	55.0
HS20	15.73	2.55	15.73	2.55	HS	50.94	91.7
2F1	25.46	6.35	25.46	6.35		0.00	95.3
3F1	17.80	3.92	17.80	3.92		0.00	90.2
4F1	16.60	3.36	16.60	3.36		0.00	90.6

5C1	19.66	4.07	19.66	4.07		0.00	162.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.6	-151.9	170.4	-171.1
OPER	300.6C	-268.7	268.7	-300.6C	316.1	-253.2	284.1	-285.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56	R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60	R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	HS20	16.56	R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60	R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	2F1	13.04	R	10.03	60.23	0.0	0.00	0.00	0.00	
		-33.41	L	-25.70	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	15.50	L	11.92	4.35	0.0	0.00	0.00	0.00	
		-47.91	L	-36.86	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.47	L	12.67	0.35	0.0	0.00	0.00	0.00	
		-51.54	L	-39.65	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.46	L	22.66	3.23	0.0	0.00	0.00	0.00	
		-42.19	L	-32.46	24.66	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.61	2.73	6.84	3.08	HS	54.66	98.4
HS20	12.69	4.55	11.40	5.13	HS	91.09	164.0
2F1	24.24	7.58	21.79	8.54		0.00	113.7
3F1	20.40	5.28	18.33	5.95		0.00	121.6
4F1	19.19	4.91	17.25	5.53		0.00	132.7
5C1	10.73	6.00	9.64	6.76		0.00	240.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.100

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.5	65.1
OPER	151.3	-124.2	108.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.84	29.42	-2.19	22.63	-3.20	23.47	-2.46	18.05
OPER	HS20	-2.84	29.42	-2.19	22.63	-3.20	23.47	-2.46	18.05
OPER	2F1	-1.99	17.31	-1.53	13.32	0.00	0.00	0.00	0.00
OPER	3F1	-2.86	23.90	-2.20	18.38	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	24.62	-2.35	18.94	0.00	0.00	0.00	0.00
OPER	5C1	-2.90	22.35	-2.23	17.19	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	23.30	2.21	HS	44.29	79.7
HS20	38.84	3.69	HS	73.82	132.9
2F1	62.32	6.27		0.00	94.1
3F1	43.44	4.54		0.00	104.5
4F1	40.63	4.41		0.00	119.1
5C1	42.81	4.86		0.00	194.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.5	-173.8	161.5	-173.8	176.9	-158.4	176.9	-158.4
OPER	279.4	-279.4	279.4	-279.4	294.8	-264.0	294.8	-264.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56	R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60	R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	HS20	16.56	R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60	R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	2F1	13.04	R	10.03	60.23	0.0	0.00	0.00	0.00	
		-33.41	L	-25.70	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	15.50	L	11.92	4.35	0.0	0.00	0.00	0.00	
		-47.91	L	-36.86	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.47	L	12.67	0.35	0.0	0.00	0.00	0.00	
		-51.54	L	-39.65	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.46	L	22.66	3.23	0.0	0.00	0.00	0.00	
		-42.19	L	-32.46	24.66	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.10	2.85	7.10	2.85	HS	56.98	102.6
HS20	11.84	4.75	11.84	4.75	HS	94.96	170.9
2F1	22.61	7.90	22.61	7.90		0.00	118.5
3F1	19.03	5.51	19.03	5.51		0.00	126.7
4F1	17.91	5.12	17.91	5.12		0.00	138.3

5C1	10.01	6.26	10.01	6.26		0.00	250.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 3.200

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.7	160.7	-180.9
OPER	300.6C	-268.7	268.7	-300.6C	299.8	-269.5	267.8	-301.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	2F1	36.65	R	28.19	62.62	0.0	0.00	0.00	0.00	
		-28.56	L	-21.97	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.29	R	34.07	66.62	0.0	0.00	0.00	0.00	
		-40.96	L	-31.51	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.59	R	31.22	70.62	0.0	0.00	0.00	0.00	
		-44.06	L	-33.89	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	54.76	L	42.12	5.62	0.0	0.00	0.00	0.00	
		-38.13	L	-29.33	26.27	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.17	3.84	2.84	4.29	HS	56.71	102.1
HS20	5.29	6.39	4.73	7.15	HS	94.52	170.1
2F1	8.18	9.44	7.31	10.56		0.00	109.6
3F1	6.77	6.58	6.05	7.36		0.00	139.1
4F1	7.39	6.12	6.60	6.84		0.00	165.2
5C1	5.47	7.07	4.89	7.91		0.00	195.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.200

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.3	66.3
OPER	151.3	-122.2	110.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.84	24.77	-2.19	19.05	-4.45	20.70	-3.42	15.92
OPER	HS20	-2.84	24.77	-2.19	19.05	-4.45	20.70	-3.42	15.92
OPER	2F1	-1.99	15.09	-1.53	11.61	0.00	0.00	0.00	0.00
OPER	3F1	-2.86	20.41	-2.20	15.70	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	21.07	-2.35	16.21	0.00	0.00	0.00	0.00
OPER	5C1	-4.40	19.14	-3.38	14.72	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.49	2.68	HS 53.57	96.4
HS20	27.48	4.46	HS 89.28	160.7
2F1	61.32	7.33	0.00	109.9
3F1	42.74	5.42	0.00	124.6
4F1	39.98	5.25	0.00	141.7
5C1	27.78	5.78	0.00	231.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	168.0	-167.3	168.0	-167.3	167.1	-168.1	167.1	-168.1
OPER	279.4	-279.4	279.4	-279.4	278.6	-280.2	278.6	-280.2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	2F1	36.65	R	28.19	62.62	0.0	0.00	0.00	0.00	
		-28.56	L	-21.97	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.29	R	34.07	66.62	0.0	0.00	0.00	0.00	
		-40.96	L	-31.51	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.59	R	31.22	70.62	0.0	0.00	0.00	0.00	
		-44.06	L	-33.89	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	54.76	L	42.12	5.62	0.0	0.00	0.00	0.00	
		-38.13	L	-29.33	26.27	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.95	3.99	2.95	3.99	HS	58.99	106.2
HS20	4.92	6.65	4.92	6.65	HS	98.31	177.0
2F1	7.60	9.81	7.60	9.81		0.00	114.0
3F1	6.29	6.84	6.29	6.84		0.00	144.7
4F1	6.86	6.36	6.86	6.36		0.00	171.8

5C1	5.09	7.35	5.09	7.35	0.00	203.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.9	-168.6	153.8	-187.8
OPER	300.6C	-268.7	268.7	-300.6C	288.2	-281.0	256.3	-313.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57 R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99 L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	HS20	81.57 R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99 L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	2F1	53.74 R	41.34	65.01	0.0	0.00	0.00	0.00	
		-23.70 L	-18.23	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.68 R	52.06	69.01	0.0	0.00	0.00	0.00	
		-34.00 L	-26.15	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.84 R	52.96	69.01	0.0	0.00	0.00	0.00	
		-36.57 L	-28.13	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	71.91 L	55.32	8.01	0.0	0.00	0.00	0.00	
		-35.72 L	-27.48	27.05	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.12	4.82	1.88	5.37	HS 37.70	67.9
HS20	3.53	8.03	3.14	8.95	HS 62.83	113.1
2F1	5.36	11.86	4.77	13.20	0.00	71.5
3F1	4.26	8.27	3.79	9.21	0.00	87.1
4F1	4.19	7.68	3.72	8.56	0.00	100.5
5C1	4.01	7.87	3.56	8.76	0.00	142.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 3.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.1	67.5
OPER	151.3	-120.2	112.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.96	20.31	-3.81	15.63	-6.71	17.79	-5.16	13.69
OPER	HS20	-4.96	20.31	-3.81	15.63	-6.71	17.79	-5.16	13.69
OPER	2F1	-3.57	12.71	-2.74	9.78	0.00	0.00	0.00	0.00
OPER	3F1	-3.80	16.79	-2.93	12.92	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	17.29	-2.35	13.30	0.00	0.00	0.00	0.00
OPER	5C1	-6.20	15.99	-4.77	12.30	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	10.74	3.32	HS 66.47	119.7
HS20	17.91	5.54	HS 110.79	199.4
2F1	33.70	8.86	0.00	132.8
3F1	31.59	6.70	0.00	154.1
4F1	39.34	6.51	0.00	175.8
5C1	19.37	7.04	0.00	281.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.6	-162.7	172.6	-162.7	160.2	-175.1	160.2	-175.1
OPER	279.4	-279.4	279.4	-279.4	267.0	-291.8	267.0	-291.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57	R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99	L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	HS20	81.57	R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99	L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	2F1	53.74	R	41.34	65.01	0.0	0.00	0.00	0.00	
		-23.70	L	-18.23	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.68	R	52.06	69.01	0.0	0.00	0.00	0.00	
		-34.00	L	-26.15	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.84	R	52.96	69.01	0.0	0.00	0.00	0.00	
		-36.57	L	-28.13	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	71.91	L	55.32	8.01	0.0	0.00	0.00	0.00	
		-35.72	L	-27.48	27.05	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.96	5.00	1.96	5.00	HS	39.28	70.7
HS20	3.27	8.34	3.27	8.34	HS	65.47	117.8
2F1	4.97	12.31	4.97	12.31		0.00	74.5
3F1	3.94	8.58	3.94	8.58		0.00	90.7
4F1	3.88	7.98	3.88	7.98		0.00	104.7

5C1	3.71	8.17	3.71	8.17	0.00	148.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 3.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.9	-172.7	149.7	-191.9
OPER	300.6C	-268.7	268.7	-300.6C	281.4	-287.9	249.4	-319.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09	R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83	L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	HS20	91.09	R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83	L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	2F1	62.95	R	48.42	67.40	0.0	0.00	0.00	0.00	
		-18.85	L	-14.50	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.67	R	61.29	67.40	0.0	0.00	0.00	0.00	
		-27.04	L	-20.80	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.09	R	65.46	71.40	0.0	0.00	0.00	0.00	
		-29.09	L	-22.38	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.81	R	62.16	69.40	0.0	0.00	0.00	0.00	
		-33.88	L	-26.06	27.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.85	6.21	1.64	6.90	HS	32.86	59.1
HS20	3.09	10.34	2.74	11.49	HS	54.77	98.6
2F1	4.47	15.27	3.96	16.96		0.00	59.4
3F1	3.53	10.65	3.13	11.83		0.00	72.0
4F1	3.31	9.90	2.93	11.00		0.00	79.2
5C1	3.48	8.50	3.09	9.44		0.00	123.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.38	16.93	-7.22	13.02	-9.27	14.84	-7.13	11.41
OPER	HS20	-9.38	16.93	-7.22	13.02	-9.27	14.84	-7.13	11.41
OPER	2F1	-5.62	10.27	-4.32	7.90	0.00	0.00	0.00	0.00
OPER	3F1	-6.62	13.20	-5.09	10.15	0.00	0.00	0.00	0.00
OPER	4F1	-5.61	13.30	-4.31	10.23	0.00	0.00	0.00	0.00
OPER	5C1	-8.28	13.29	-6.37	10.22	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.56	4.06	HS 81.18	146.1
HS20	12.60	6.76	HS 135.29	243.5
2F1	21.04	11.15	0.00	167.3
3F1	17.85	8.68	0.00	199.5
4F1	21.09	8.61	0.00	232.5
5C1	14.28	8.62	0.00	344.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.3	-160.0	175.3	-160.0	156.1	-179.2	156.1	-179.2
OPER	279.4	-279.4	279.4	-279.4	260.2	-298.6	260.2	-298.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09	R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83	L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	HS20	91.09	R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83	L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	2F1	62.95	R	48.42	67.40	0.0	0.00	0.00	0.00	
		-18.85	L	-14.50	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.67	R	61.29	67.40	0.0	0.00	0.00	0.00	
		-27.04	L	-20.80	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.09	R	65.46	71.40	0.0	0.00	0.00	0.00	
		-29.09	L	-22.38	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.81	R	62.16	69.40	0.0	0.00	0.00	0.00	
		-33.88	L	-26.06	27.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.71	6.44	1.71	6.44	HS	34.28	61.7
HS20	2.86	10.73	2.86	10.73	HS	57.13	102.8
2F1	4.13	15.84	4.13	15.84		0.00	62.0
3F1	3.27	11.04	3.27	11.04		0.00	75.1
4F1	3.06	10.27	3.06	10.27		0.00	82.6

5C1	3.22	8.81	3.22	8.81	0.00	128.8

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I 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	-193.2
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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67 L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	HS20	87.89 L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67 L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	2F1	63.87 L	49.13	49.79	0.0	0.00	0.00	0.00	
		-14.00 L	-10.77	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.63 R	65.10	69.79	0.0	0.00	0.00	0.00	
		-20.08 L	-15.45	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	87.91 R	67.62	73.79	0.0	0.00	0.00	0.00	
		-21.60 L	-16.62	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.64 L	64.34	8.79	0.0	0.00	0.00	0.00	
		-33.11 L	-25.47	28.66	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	8.23	1.69	9.14	HS 33.77	60.8
HS20	3.18	13.72	2.82	15.24	HS 56.29	101.3
2F1	4.37	20.70	3.87	22.99	0.00	58.1
3F1	3.30	14.44	2.92	16.03	0.00	67.2
4F1	3.18	13.42	2.81	14.90	0.00	76.0
5C1	3.34	8.76	2.96	9.72	0.00	118.3

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-12.04	11.93	-9.26	9.18
OPER	HS20	-13.39	13.39	-10.30	10.30	-12.04	11.93	-9.26	9.18
OPER	2F1	-7.89	7.87	-6.07	6.05	0.00	0.00	0.00	0.00
OPER	3F1	-9.79	9.77	-7.53	7.52	0.00	0.00	0.00	0.00
OPER	4F1	-9.25	9.22	-7.12	7.10	0.00	0.00	0.00	0.00
OPER	5C1	-10.60	10.52	-8.15	8.10	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.21	5.22	HS 104.17	187.5
HS20	8.68	8.70	HS 173.61	312.5
2F1	14.74	14.80	0.00	221.1
3F1	11.87	11.92	0.00	273.1
4F1	12.56	12.63	0.00	339.2
5C1	10.97	11.07	0.00	438.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.2	-159.1	176.2	-159.1	154.9	-180.4	154.9	-180.4
OPER	279.4	-279.4	279.4	-279.4	258.1	-300.7	258.1	-300.7

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89	L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67	L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	HS20	87.89	L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67	L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	2F1	63.87	L	49.13	49.79	0.0	0.00	0.00	0.00	
		-14.00	L	-10.77	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.63	R	65.10	69.79	0.0	0.00	0.00	0.00	
		-20.08	L	-15.45	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	87.91	R	67.62	73.79	0.0	0.00	0.00	0.00	
		-21.60	L	-16.62	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.64	L	64.34	8.79	0.0	0.00	0.00	0.00	
		-33.11	L	-25.47	28.66	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.76	8.54	1.76	8.54	HS	35.24	63.4
HS20	2.94	14.23	2.94	14.23	HS	58.74	105.7
2F1	4.04	21.47	4.04	21.47		0.00	60.6
3F1	3.05	14.97	3.05	14.97		0.00	70.1
4F1	2.94	13.92	2.94	13.92		0.00	79.3

5C1	3.09	9.08	3.09	9.08		0.00	123.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.726

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 3.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.3	150.1	-191.5
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97 L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61 R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	HS20	90.97 L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61 R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	2F1	62.90 L	48.38	52.18	0.0	0.00	0.00	0.00	
		-18.56 R	-14.28	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.59 L	61.22	52.18	0.0	0.00	0.00	0.00	
		-26.63 R	-20.48	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.01 L	65.39	48.18	0.0	0.00	0.00	0.00	
		-28.65 R	-22.04	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.22 L	61.71	50.18	0.0	0.00	0.00	0.00	
		-33.50 R	-25.77	90.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.86	6.24	1.65	6.94	HS 33.00	59.4
HS20	3.10	10.40	2.75	11.56	HS 55.00	99.0
2F1	4.49	15.47	3.98	17.19	0.00	59.7
3F1	3.55	10.78	3.14	11.98	0.00	72.3
4F1	3.32	10.02	2.94	11.14	0.00	79.5
5C1	3.52	8.57	3.12	9.52	0.00	124.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.600

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.5	71.1
OPER	151.3	-114.2	118.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-16.92	9.37	-13.02	7.21	-14.95	9.16	-11.50	7.05
OPER	HS20	-16.92	9.37	-13.02	7.21	-14.95	9.16	-11.50	7.05
OPER	2F1	-10.29	5.60	-7.91	4.31	0.00	0.00	0.00	0.00
OPER	3F1	-13.23	6.61	-10.17	5.08	0.00	0.00	0.00	0.00
OPER	4F1	-13.33	5.60	-10.25	4.31	0.00	0.00	0.00	0.00
OPER	5C1	-13.30	8.25	-10.23	6.35	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.05	7.59	HS 81.00	145.8
HS20	6.75	12.65	HS 134.99	243.0
2F1	11.10	21.15	0.00	166.5
3F1	8.64	17.94	0.00	198.6
4F1	8.57	21.17	0.00	231.4
5C1	8.59	14.36	0.00	343.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.2	175.0	-160.2	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	260.9	-297.9	260.9	-297.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97	L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61	R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	HS20	90.97	L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61	R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	2F1	62.90	L	48.38	52.18	0.0	0.00	0.00	0.00	
		-18.56	R	-14.28	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.59	L	61.22	52.18	0.0	0.00	0.00	0.00	
		-26.63	R	-20.48	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.01	L	65.39	48.18	0.0	0.00	0.00	0.00	
		-28.65	R	-22.04	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.22	L	61.71	50.18	0.0	0.00	0.00	0.00	
		-33.50	R	-25.77	90.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.72	6.47	1.72	6.47	HS	34.42	62.0
HS20	2.87	10.79	2.87	10.79	HS	57.36	103.3
2F1	4.15	16.05	4.15	16.05		0.00	62.2
3F1	3.28	11.19	3.28	11.19		0.00	75.4
4F1	3.07	10.40	3.07	10.40		0.00	82.9

5C1	3.25	8.89	3.25	8.89	0.00	130.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.726

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.8	-167.8	154.6	-186.9
OPER	300.6C	-268.7	268.7	-300.6C	289.7	-279.6	257.7	-311.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69 R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	HS20	81.41 L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69 R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	2F1	53.64 L	41.26	54.58	0.0	0.00	0.00	0.00	
		-23.33 R	-17.94	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.54 L	51.95	50.58	0.0	0.00	0.00	0.00	
		-33.46 R	-25.74	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.69 L	52.84	50.58	0.0	0.00	0.00	0.00	
		-36.01 R	-27.70	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.64 R	54.34	111.58	0.0	0.00	0.00	0.00	
		-35.27 R	-27.13	92.53	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	4.84	1.90	5.39	HS 37.99	68.4
HS20	3.56	8.06	3.17	8.98	HS 63.32	114.0
2F1	5.40	11.99	4.80	13.36	0.00	72.1
3F1	4.29	8.35	3.82	9.31	0.00	87.8
4F1	4.22	7.76	3.75	8.65	0.00	101.3
5C1	4.10	7.93	3.65	8.84	0.00	145.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.700

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.3	72.3
OPER	151.3	-112.2	120.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.31	4.94	-15.62	3.80	-17.90	6.61	-13.77	5.08
OPER	HS20	-20.31	4.94	-15.62	3.80	-17.90	6.61	-13.77	5.08
OPER	2F1	-12.73	3.56	-9.79	2.74	0.00	0.00	0.00	0.00
OPER	3F1	-16.82	3.80	-12.94	2.92	0.00	0.00	0.00	0.00
OPER	4F1	-17.31	3.11	-13.32	2.39	0.00	0.00	0.00	0.00
OPER	5C1	-16.00	6.20	-12.31	4.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.94	HS 66.32	119.4
HS20	5.53	18.23	HS 110.54	199.0
2F1	8.82	33.87	0.00	132.3
3F1	6.67	31.72	0.00	153.5
4F1	6.48	38.76	0.00	175.0
5C1	7.01	19.43	0.00	280.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.0	-163.3	172.0	-163.3	161.1	-174.2	161.1	-174.2
OPER	279.4	-279.4	279.4	-279.4	268.5	-290.3	268.5	-290.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69	R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	HS20	81.41	L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69	R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	2F1	53.64	L	41.26	54.58	0.0	0.00	0.00	0.00	
		-23.33	R	-17.94	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.54	L	51.95	50.58	0.0	0.00	0.00	0.00	
		-33.46	R	-25.74	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.69	L	52.84	50.58	0.0	0.00	0.00	0.00	
		-36.01	R	-27.70	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.64	R	54.34	111.58	0.0	0.00	0.00	0.00	
		-35.27	R	-27.13	92.53	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.02	1.98	5.02	HS	39.57	71.2
HS20	3.30	8.37	3.30	8.37	HS	65.96	118.7
2F1	5.01	12.45	5.01	12.45		0.00	75.1
3F1	3.97	8.68	3.97	8.68		0.00	91.4
4F1	3.91	8.06	3.91	8.06		0.00	105.5

5C1	3.80	8.23	3.80	8.23	0.00	152.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.726

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01
Check Point I. D. 3.800
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78 R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	HS20	56.45 L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78 R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	2F1	36.51 L	28.09	56.97	0.0	0.00	0.00	0.00	
		-28.09 R	-21.61	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.08 L	33.91	52.97	0.0	0.00	0.00	0.00	
		-40.30 R	-31.00	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.37 L	31.05	48.97	0.0	0.00	0.00	0.00	
		-43.36 R	-33.36	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.78 R	40.60	113.97	0.0	0.00	0.00	0.00	
		-37.51 R	-28.85	93.32	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.39	103.3
HS20	5.35	6.40	4.78	7.16	HS 95.66	172.2
2F1	8.27	9.52	7.39	10.65	0.00	110.9
3F1	6.85	6.63	6.12	7.43	0.00	140.9
4F1	7.48	6.16	6.69	6.90	0.00	166.4
5C1	5.72	7.13	5.11	7.98	0.00	204.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.800

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.2	73.5
OPER	151.3	-110.3	122.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.79	2.86	-19.07	2.20	-20.80	4.35	-16.00	3.35
OPER	HS20	-24.79	2.86	-19.07	2.20	-20.80	4.35	-16.00	3.35
OPER	2F1	-15.11	2.03	-11.62	1.56	0.00	0.00	0.00	0.00
OPER	3F1	-20.43	2.91	-15.72	2.24	0.00	0.00	0.00	0.00
OPER	4F1	-21.09	3.11	-16.22	2.39	0.00	0.00	0.00	0.00
OPER	5C1	-19.23	4.42	-14.80	3.40	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.67	16.90	HS 53.37	96.1
HS20	4.45	28.16	HS 88.95	160.1
2F1	7.30	60.39	0.00	109.5
3F1	5.39	42.11	0.00	124.1
4F1	5.23	39.40	0.00	141.2
5C1	5.73	27.72	0.00	229.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-166.8
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-278.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78	R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	HS20	56.45	L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78	R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	2F1	36.51	L	28.09	56.97	0.0	0.00	0.00	0.00	
		-28.09	R	-21.61	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.08	L	33.91	52.97	0.0	0.00	0.00	0.00	
		-40.30	R	-31.00	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.37	L	31.05	48.97	0.0	0.00	0.00	0.00	
		-43.36	R	-33.36	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.78	R	40.60	113.97	0.0	0.00	0.00	0.00	
		-37.51	R	-28.85	93.32	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	3.99	2.98	3.99	HS	59.68	107.4
HS20	4.97	6.66	4.97	6.66	HS	99.46	179.0
2F1	7.69	9.90	7.69	9.90		0.00	115.3
3F1	6.37	6.90	6.37	6.90		0.00	146.5
4F1	6.95	6.41	6.95	6.41		0.00	173.1

5C1	5.32	7.41	5.32	7.41		0.00	212.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.726

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 3.900 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.4	-150.2	172.2	-169.4
OPER	300.6C	-268.7	268.7	-300.6C	319.0	-250.3	287.0	-282.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30	L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66	L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	HS20	16.30	L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66	L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	2F1	12.89	L	9.92	59.36	0.0	0.00	0.00	0.00	
		-32.86	R	-25.27	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.63	R	9.72	115.23	0.0	0.00	0.00	0.00	
		-47.14	R	-36.26	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.43	R	10.33	119.23	0.0	0.00	0.00	0.00	
		-50.72	R	-39.02	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.83	R	20.64	116.36	0.0	0.00	0.00	0.00	
		-41.47	R	-31.90	95.71	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.08	2.75	7.27	3.10	HS	54.95	98.9
HS20	13.47	4.58	12.12	5.16	HS	91.59	164.9
2F1	24.74	7.62	22.26	8.59		0.00	114.3
3F1	25.25	5.31	22.72	5.99		0.00	122.1
4F1	23.75	4.93	21.37	5.57		0.00	133.2
5C1	11.89	6.04	10.70	6.81		0.00	241.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	74.7
OPER	151.3	-108.3	124.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.44	2.99	-22.64	2.30	-23.57	3.15	-18.13	2.42
OPER	HS20	-29.44	2.99	-22.64	2.30	-23.57	3.15	-18.13	2.42
OPER	2F1	-17.33	2.03	-13.33	1.56	0.00	0.00	0.00	0.00
OPER	3F1	-23.92	2.91	-18.40	2.24	0.00	0.00	0.00	0.00
OPER	4F1	-24.65	3.13	-18.96	2.41	0.00	0.00	0.00	0.00
OPER	5C1	-22.48	2.94	-17.29	2.26	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.21	23.73	HS 44.14	79.4
HS20	3.68	39.55	HS 73.56	132.4
2F1	6.25	61.37	0.00	93.7
3F1	4.53	42.79	0.00	104.1
4F1	4.39	39.78	0.00	118.6
5C1	4.82	42.32	0.00	192.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.900

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.3	-175.0	160.3	-175.0	178.6	-156.6	178.6	-156.6
OPER	279.4	-279.4	279.4	-279.4	297.7	-261.1	297.7	-261.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30	L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66	L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	HS20	16.30	L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66	L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	2F1	12.89	L	9.92	59.36	0.0	0.00	0.00	0.00	
		-32.86	R	-25.27	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.63	R	9.72	115.23	0.0	0.00	0.00	0.00	
		-47.14	R	-36.26	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.43	R	10.33	119.23	0.0	0.00	0.00	0.00	
		-50.72	R	-39.02	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.83	R	20.64	116.36	0.0	0.00	0.00	0.00	
		-41.47	R	-31.90	95.71	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.54	2.87	7.54	2.87	HS	57.31	103.2
HS20	12.57	4.78	12.57	4.78	HS	95.52	171.9
2F1	23.09	7.95	23.09	7.95		0.00	119.2
3F1	23.57	5.54	23.57	5.54		0.00	127.4
4F1	22.17	5.15	22.17	5.15		0.00	139.0

5C1	11.10	6.30	11.10	6.30		0.00	251.8

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.726

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.1	185.2	-156.3
OPER	300.6C	-268.7	268.7	-300.6C	340.7	-228.6	308.7	-260.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	2F1	10.25	L	7.89	30.66	0.0	0.00	0.00	0.00	
		-37.68	L	-28.98	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.70	L	11.31	28.27	0.0	0.00	0.00	0.00	
		-61.48	R	-47.29	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.82	L	12.17	25.05	0.0	0.00	0.00	0.00	
		-71.69	R	-55.15	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.60	R	9.69	154.63	0.0	0.00	0.00	0.00	
		-59.77	L	-45.98	66.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.24	1.44	12.00	1.65	HS 28.87	52.0
HS20	22.07	2.41	20.00	2.74	HS 48.12	86.6
2F1	33.24	6.07	30.12	6.91	0.00	91.0
3F1	23.17	3.72	21.00	4.24	0.00	85.5
4F1	21.54	3.19	19.52	3.63	0.00	86.1
5C1	27.04	3.82	24.50	4.36	0.00	153.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	63.8
OPER	151.3	-106.3	106.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.44	33.80	-22.64	26.00	-23.57	26.06	-18.13	20.04
OPER	HS20	-29.44	33.80	-22.64	26.00	-23.57	26.06	-18.13	20.04
OPER	2F1	-17.33	19.29	-13.33	14.84	0.00	0.00	0.00	0.00
OPER	3F1	-23.92	27.12	-18.40	20.86	0.00	0.00	0.00	0.00
OPER	4F1	-24.65	28.50	-18.96	21.93	0.00	0.00	0.00	0.00
OPER	5C1	-22.48	25.56	-17.29	19.66	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS	37.73	67.9
HS20	3.14	3.15	HS	62.88	113.2
2F1	5.51	5.52		0.00	82.6
3F1	3.92	3.92		0.00	90.1
4F1	3.73	3.73		0.00	100.6
5C1	4.16	4.16		0.00	166.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.6	-183.7	151.6	-183.7	191.7	-143.6	191.7	-143.6
OPER	279.4	-279.4	279.4	-279.4	319.5	-239.3	319.5	-239.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	2F1	10.25	L	7.89	30.66	0.0	0.00	0.00	0.00	
		-37.68	L	-28.98	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.70	L	11.31	28.27	0.0	0.00	0.00	0.00	
		-61.48	R	-47.29	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.82	L	12.17	25.05	0.0	0.00	0.00	0.00	
		-71.69	R	-55.15	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.60	R	9.69	154.63	0.0	0.00	0.00	0.00	
		-59.77	L	-45.98	66.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.42	1.51	12.42	1.51	HS	30.23	54.4
HS20	20.69	2.52	20.69	2.52	HS	50.38	90.7
2F1	31.17	6.35	31.17	6.35		0.00	95.3
3F1	21.73	3.89	21.73	3.89		0.00	89.5
4F1	20.20	3.34	20.20	3.34		0.00	90.1

5C1	25.35	4.00	25.35	4.00	0.00	160.2

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.726

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.1	185.2	-156.3
OPER	300.6C	-268.7	268.7	-300.6C	340.7	-228.6	308.7	-260.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	2F1	10.25	L	7.89	30.66	0.0	0.00	0.00	0.00	
		-37.68	L	-28.98	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.70	L	11.31	28.27	0.0	0.00	0.00	0.00	
		-61.48	R	-47.29	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.82	L	12.17	25.05	0.0	0.00	0.00	0.00	
		-71.69	R	-55.15	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.60	R	9.69	154.63	0.0	0.00	0.00	0.00	
		-59.77	L	-45.98	66.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	13.24	1.44	12.00	1.65	HS	28.87	52.0
HS20	22.07	2.41	20.00	2.74	HS	48.12	86.6
2F1	33.24	6.07	30.12	6.91		0.00	91.0
3F1	23.17	3.72	21.00	4.24		0.00	85.5
4F1	21.54	3.19	19.52	3.63		0.00	86.1
5C1	27.04	3.82	24.50	4.36		0.00	153.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-9.3	9.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	63.8
OPER	151.3	-106.3	106.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.81	33.80	-26.01	26.00	-26.09	26.06	-20.07	20.04
OPER	HS20	-33.81	33.80	-26.01	26.00	-26.09	26.06	-20.07	20.04
OPER	2F1	-19.29	19.29	-14.84	14.84	0.00	0.00	0.00	0.00
OPER	3F1	-27.13	27.12	-20.87	20.86	0.00	0.00	0.00	0.00
OPER	4F1	-28.51	28.50	-21.93	21.93	0.00	0.00	0.00	0.00
OPER	5C1	-25.58	25.56	-19.68	19.66	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS	37.73	67.9
HS20	3.14	3.15	HS	62.88	113.2
2F1	5.51	5.52		0.00	82.6
3F1	3.92	3.92		0.00	90.1
4F1	3.73	3.73		0.00	100.6
5C1	4.16	4.16		0.00	166.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.6	-183.7	151.6	-183.7	191.7	-143.6	191.7	-143.6
OPER	279.4	-279.4	279.4	-279.4	319.5	-239.3	319.5	-239.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	2F1	10.25	L	7.89	30.66	0.0	0.00	0.00	0.00	
		-37.68	L	-28.98	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.70	L	11.31	28.27	0.0	0.00	0.00	0.00	
		-61.48	R	-47.29	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.82	L	12.17	25.05	0.0	0.00	0.00	0.00	
		-71.69	R	-55.15	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.60	R	9.69	154.63	0.0	0.00	0.00	0.00	
		-59.77	L	-45.98	66.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.42	1.51	12.42	1.51	HS	30.23	54.4
HS20	20.69	2.52	20.69	2.52	HS	50.38	90.7
2F1	31.17	6.35	31.17	6.35		0.00	95.3
3F1	21.73	3.89	21.73	3.89		0.00	89.5
4F1	20.20	3.34	20.20	3.34		0.00	90.1

5C1	25.35	4.00	25.35	4.00	0.00	160.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.830

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
Structure I. D. HAM500				
	HS20	HS20		
Member I. D. S01		2F1		
Check Point I. D. 4.100		3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-17.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.5	-150.0	172.3	-169.2
OPER	300.6C	-268.7	268.7	-300.6C	319.2	-250.1	287.2	-282.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.34	R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73	R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	HS20	16.34	R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73	R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	2F1	12.92	R	9.94	84.14	0.0	0.00	0.00	0.00	
		-32.90	L	-25.31	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.84	L	9.88	28.27	0.0	0.00	0.00	0.00	
		-47.20	L	-36.31	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.65	L	10.50	24.27	0.0	0.00	0.00	0.00	
		-50.79	L	-39.07	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	27.03	L	20.79	27.14	0.0	0.00	0.00	0.00	
		-41.54	L	-31.95	47.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.98	2.74	7.18	3.09	HS	54.83	98.7
HS20	13.29	4.57	11.96	5.15	HS	91.38	164.5
2F1	24.71	7.60	22.24	8.57		0.00	114.0
3F1	24.86	5.30	22.37	5.97		0.00	121.9
4F1	23.39	4.92	21.05	5.55		0.00	132.9
5C1	11.81	6.02	10.63	6.79		0.00	240.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 4.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.6	65.0
OPER	151.3	-124.4	108.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	29.42	-2.19	22.63	-3.15	23.54	-2.42	18.10
OPER	HS20	-2.85	29.42	-2.19	22.63	-3.15	23.54	-2.42	18.10
OPER	2F1	-2.00	17.32	-1.53	13.32	0.00	0.00	0.00	0.00
OPER	3F1	-2.86	23.91	-2.20	18.39	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	24.63	-2.35	18.95	0.00	0.00	0.00	0.00
OPER	5C1	-2.90	22.46	-2.23	17.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.72	2.21	HS 44.20	79.6
HS20	39.53	3.68	HS 73.67	132.6
2F1	62.33	6.26	0.00	93.9
3F1	43.45	4.53	0.00	104.3
4F1	40.64	4.40	0.00	118.8
5C1	42.83	4.82	0.00	193.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-17.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.2	-175.1	160.2	-175.1	178.8	-156.5	178.8	-156.5
OPER	279.4	-279.4	279.4	-279.4	298.0	-260.8	298.0	-260.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.34	R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73	R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	HS20	16.34	R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73	R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	2F1	12.92	R	9.94	84.14	0.0	0.00	0.00	0.00	
		-32.90	L	-25.31	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.84	L	9.88	28.27	0.0	0.00	0.00	0.00	
		-47.20	L	-36.31	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.65	L	10.50	24.27	0.0	0.00	0.00	0.00	
		-50.79	L	-39.07	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	27.03	L	20.79	27.14	0.0	0.00	0.00	0.00	
		-41.54	L	-31.95	47.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.45	2.86	7.45	2.86	HS	57.19	102.9
HS20	12.41	4.76	12.41	4.76	HS	95.31	171.6
2F1	23.07	7.93	23.07	7.93		0.00	118.9
3F1	23.21	5.53	23.21	5.53		0.00	127.1
4F1	21.83	5.14	21.83	5.14		0.00	138.6

5C1	11.02	6.28	11.02	6.28	0.00	251.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.830

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01
Check Point I. D. 4.200
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81	L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	HS20	56.47	R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81	L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	2F1	36.52	R	28.09	86.53	0.0	0.00	0.00	0.00	
		-28.12	L	-21.63	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.10	R	33.92	90.53	0.0	0.00	0.00	0.00	
		-40.35	L	-31.04	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.38	R	31.07	94.53	0.0	0.00	0.00	0.00	
		-43.42	L	-33.40	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.93	L	40.71	29.53	0.0	0.00	0.00	0.00	
		-37.55	L	-28.89	50.18	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.83	2.87	4.29	HS 57.48	103.5
HS20	5.36	6.38	4.79	7.15	HS 95.80	172.4
2F1	8.28	9.49	7.41	10.62	0.00	111.1
3F1	6.86	6.61	6.13	7.41	0.00	141.1
4F1	7.49	6.15	6.70	6.88	0.00	165.9
5C1	5.72	7.11	5.11	7.96	0.00	204.4

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 4.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.4	66.2
OPER	151.3	-122.4	110.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	24.77	-2.19	19.06	-4.38	20.77	-3.37	15.98
OPER	HS20	-2.85	24.77	-2.19	19.06	-4.38	20.77	-3.37	15.98
OPER	2F1	-2.00	15.10	-1.53	11.61	0.00	0.00	0.00	0.00
OPER	3F1	-2.86	20.42	-2.20	15.71	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	21.07	-2.35	16.21	0.00	0.00	0.00	0.00
OPER	5C1	-4.40	19.22	-3.38	14.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.75	2.67	HS 53.45	96.2
HS20	27.91	4.45	HS 89.09	160.4
2F1	61.34	7.31	0.00	109.6
3F1	42.76	5.40	0.00	124.3
4F1	39.99	5.24	0.00	141.4
5C1	27.85	5.74	0.00	229.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-166.5
OPER	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-277.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81	L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	HS20	56.47	R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81	L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	2F1	36.52	R	28.09	86.53	0.0	0.00	0.00	0.00	
		-28.12	L	-21.63	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.10	R	33.92	90.53	0.0	0.00	0.00	0.00	
		-40.35	L	-31.04	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.38	R	31.07	94.53	0.0	0.00	0.00	0.00	
		-43.42	L	-33.40	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.93	L	40.71	29.53	0.0	0.00	0.00	0.00	
		-37.55	L	-28.89	50.18	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.99	3.98	2.99	3.98	HS	59.76	107.6
HS20	4.98	6.64	4.98	6.64	HS	99.61	179.3
2F1	7.70	9.87	7.70	9.87		0.00	115.5
3F1	6.38	6.88	6.38	6.88		0.00	146.7
4F1	6.96	6.39	6.96	6.39		0.00	172.6

5C1	5.31	7.39	5.31	7.39	0.00	212.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.830

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 4.300 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
0.7	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.4	-278.9	258.4	-310.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71 L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	HS20	81.41 R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71 L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	2F1	53.63 R	41.25	88.93	0.0	0.00	0.00	0.00	
		-23.35 L	-17.96	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.52 R	51.94	92.93	0.0	0.00	0.00	0.00	
		-33.49 L	-25.76	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.68 R	52.83	92.93	0.0	0.00	0.00	0.00	
		-36.04 L	-27.72	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.71 L	54.39	31.93	0.0	0.00	0.00	0.00	
		-35.25 L	-27.12	50.97	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.82	1.90	5.37	HS 38.10	68.6
HS20	3.57	8.03	3.17	8.96	HS 63.49	114.3
2F1	5.42	11.94	4.82	13.31	0.00	72.3
3F1	4.30	8.33	3.83	9.28	0.00	88.0
4F1	4.23	7.74	3.76	8.62	0.00	101.6
5C1	4.11	7.91	3.65	8.82	0.00	146.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 4.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.2	67.4
OPER	151.3	-120.4	112.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.94	20.30	-3.80	15.62	-6.65	17.86	-5.11	13.74
OPER	HS20	-4.94	20.30	-3.80	15.62	-6.65	17.86	-5.11	13.74
OPER	2F1	-3.56	12.72	-2.74	9.78	0.00	0.00	0.00	0.00
OPER	3F1	-3.80	16.81	-2.93	12.93	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	17.30	-2.35	13.31	0.00	0.00	0.00	0.00
OPER	5C1	-6.20	16.00	-4.77	12.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.87	3.32	HS 66.40	119.5
HS20	18.11	5.53	HS 110.67	199.2
2F1	33.80	8.83	0.00	132.5
3F1	31.65	6.68	0.00	153.7
4F1	39.35	6.49	0.00	175.3
5C1	19.43	7.02	0.00	280.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.7	-163.6	171.7	-163.6	161.5	-173.8	161.5	-173.8
OPER	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-289.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71	L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	HS20	81.41	R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71	L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	2F1	53.63	R	41.25	88.93	0.0	0.00	0.00	0.00	
		-23.35	L	-17.96	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.52	R	51.94	92.93	0.0	0.00	0.00	0.00	
		-33.49	L	-25.76	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.68	R	52.83	92.93	0.0	0.00	0.00	0.00	
		-36.04	L	-27.72	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.71	L	54.39	31.93	0.0	0.00	0.00	0.00	
		-35.25	L	-27.12	50.97	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.01	1.98	5.01	HS	39.68	71.4
HS20	3.31	8.34	3.31	8.34	HS	66.13	119.0
2F1	5.02	12.40	5.02	12.40		0.00	75.3
3F1	3.99	8.65	3.99	8.65		0.00	91.7
4F1	3.92	8.04	3.92	8.04		0.00	105.8

5C1	3.81	8.22	3.81	8.22	0.00	152.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.830

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.9
OPER	300.6C	-268.7	268.7	-300.6C	283.1	-286.2	251.1	-318.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61	L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	HS20	90.98	R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61	L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	2F1	62.86	R	48.36	91.32	0.0	0.00	0.00	0.00	
		-18.57	L	-14.28	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.55	R	61.19	91.32	0.0	0.00	0.00	0.00	
		-26.64	L	-20.49	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	84.96	R	65.35	95.32	0.0	0.00	0.00	0.00	
		-28.67	L	-22.05	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.21	R	61.70	93.32	0.0	0.00	0.00	0.00	
		-33.52	L	-25.78	51.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.22	1.66	6.91	HS 33.12	59.6
HS20	3.11	10.37	2.76	11.52	HS 55.21	99.4
2F1	4.50	15.41	3.99	17.13	0.00	59.9
3F1	3.56	10.74	3.16	11.94	0.00	72.6
4F1	3.33	9.98	2.96	11.10	0.00	79.8
5C1	3.53	8.54	3.13	9.49	0.00	125.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 4.400

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	(+) Shear
0.2	0.0	1.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.6
OPER	151.3	-118.4	114.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.91	-7.21	13.01	-9.20	14.91	-7.08	11.47
OPER	HS20	-9.37	16.91	-7.21	13.01	-9.20	14.91	-7.08	11.47
OPER	2F1	-5.61	10.28	-4.32	7.91	0.00	0.00	0.00	0.00
OPER	3F1	-6.62	13.21	-5.09	10.16	0.00	0.00	0.00	0.00
OPER	4F1	-5.61	13.31	-4.31	10.24	0.00	0.00	0.00	0.00
OPER	5C1	-8.27	13.30	-6.36	10.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.58	4.05	HS 81.10	146.0
HS20	12.64	6.76	HS 135.16	243.3
2F1	21.10	11.12	0.00	166.8
3F1	17.90	8.65	0.00	199.0
4F1	21.12	8.59	0.00	231.8
5C1	14.32	8.60	0.00	343.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.2

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.6	-160.6	174.6	-160.6	157.1	-178.1	157.1	-178.1
OPER	279.4	-279.4	279.4	-279.4	261.9	-296.9	261.9	-296.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61	L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	HS20	90.98	R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61	L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	2F1	62.86	R	48.36	91.32	0.0	0.00	0.00	0.00	
		-18.57	L	-14.28	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.55	R	61.19	91.32	0.0	0.00	0.00	0.00	
		-26.64	L	-20.49	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	84.96	R	65.35	95.32	0.0	0.00	0.00	0.00	
		-28.67	L	-22.05	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.21	R	61.70	93.32	0.0	0.00	0.00	0.00	
		-33.52	L	-25.78	51.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.45	1.73	6.45	HS	34.54	62.2
HS20	2.88	10.76	2.88	10.76	HS	57.57	103.6
2F1	4.17	15.99	4.17	15.99		0.00	62.5
3F1	3.29	11.15	3.29	11.15		0.00	75.7
4F1	3.08	10.36	3.08	10.36		0.00	83.2

5C1	3.27	8.86	3.27	8.86	0.00	130.6

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	101.830

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		24.74		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.3	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	2F1	63.81 L	49.09	73.71	0.0	0.00	0.00	0.00	
		-13.79 L	-10.61	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.54 R	65.03	93.71	0.0	0.00	0.00	0.00	
		-19.79 L	-15.22	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	87.81 R	67.55	97.71	0.0	0.00	0.00	0.00	
		-21.29 L	-16.38	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	82.99 L	63.84	32.71	0.0	0.00	0.00	0.00	
		-32.87 L	-25.28	53.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.12	1.70	9.02	HS 33.96	61.1
HS20	3.19	13.53	2.83	15.03	HS 56.60	101.9
2F1	4.40	20.93	3.90	23.25	0.00	58.4
3F1	3.32	14.59	2.94	16.21	0.00	67.6
4F1	3.19	13.56	2.83	15.06	0.00	76.4
5C1	3.38	8.78	2.99	9.76	0.00	119.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 4.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-11.98	12.00	-9.21	9.23
OPER	HS20	-13.38	13.38	-10.29	10.29	-11.98	12.00	-9.21	9.23
OPER	2F1	-7.88	7.88	-6.06	6.06	0.00	0.00	0.00	0.00
OPER	3F1	-9.78	9.78	-7.52	7.52	0.00	0.00	0.00	0.00
OPER	4F1	-9.24	9.24	-7.11	7.10	0.00	0.00	0.00	0.00
OPER	5C1	-10.57	10.57	-8.13	8.13	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.21	HS 104.28	187.7
HS20	8.70	8.69	HS 173.79	312.8
2F1	14.78	14.76	0.00	221.4
3F1	11.90	11.89	0.00	273.5
4F1	12.61	12.59	0.00	340.0
5C1	11.02	11.01	0.00	440.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.7	-159.6	175.7	-159.6	155.6	-179.7	155.6	-179.7
OPER	279.4	-279.4	279.4	-279.4	259.3	-299.5	259.3	-299.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	87.83	L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50	L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	HS20	87.83	L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50	L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	2F1	63.81	L	49.09	73.71	0.0	0.00	0.00	0.00	
		-13.79	L	-10.61	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.54	R	65.03	93.71	0.0	0.00	0.00	0.00	
		-19.79	L	-15.22	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	87.81	R	67.55	97.71	0.0	0.00	0.00	0.00	
		-21.29	L	-16.38	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	82.99	L	63.84	32.71	0.0	0.00	0.00	0.00	
		-32.87	L	-25.28	53.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	8.42	1.77	8.42	HS	35.43	63.8
HS20	2.95	14.03	2.95	14.03	HS	59.05	106.3
2F1	4.06	21.71	4.06	21.71		0.00	61.0
3F1	3.07	15.14	3.07	15.14		0.00	70.5
4F1	2.95	14.07	2.95	14.07		0.00	79.7

5C1	3.12	9.11	3.12	9.11	0.00	125.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 4.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.7	-171.8	150.5	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	282.9	-286.4	250.9	-318.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59	R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	HS20	90.98	L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59	R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	2F1	62.86	L	48.35	76.10	0.0	0.00	0.00	0.00	
		-18.55	R	-14.27	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.54	L	61.18	76.10	0.0	0.00	0.00	0.00	
		-26.61	R	-20.47	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	84.95	L	65.35	72.10	0.0	0.00	0.00	0.00	
		-28.64	R	-22.03	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.17	L	61.67	74.10	0.0	0.00	0.00	0.00	
		-33.38	R	-25.68	114.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.87	6.23	1.65	6.92	HS	33.10	59.6
HS20	3.11	10.38	2.76	11.54	HS	55.16	99.3
2F1	4.50	15.44	3.99	17.16		0.00	59.9
3F1	3.56	10.76	3.15	11.96		0.00	72.6
4F1	3.33	10.00	2.95	11.12		0.00	79.7
5C1	3.53	8.58	3.13	9.54		0.00	125.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 4.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.6	71.0
OPER	151.3	-114.4	118.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-16.91	9.37	-13.01	7.21	-14.88	9.23	-11.45	7.10
OPER	HS20	-16.91	9.37	-13.01	7.21	-14.88	9.23	-11.45	7.10
OPER	2F1	-10.28	5.61	-7.91	4.32	0.00	0.00	0.00	0.00
OPER	3F1	-13.21	6.62	-10.16	5.09	0.00	0.00	0.00	0.00
OPER	4F1	-13.31	5.61	-10.24	4.31	0.00	0.00	0.00	0.00
OPER	5C1	-13.30	8.27	-10.23	6.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.58	HS 81.17	146.1
HS20	6.76	12.63	HS 135.29	243.5
2F1	11.13	21.09	0.00	167.0
3F1	8.66	17.89	0.00	199.1
4F1	8.59	21.11	0.00	232.0
5C1	8.60	14.31	0.00	344.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.5	174.7	-160.5	157.0	-178.3	157.0	-178.3
OPER	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-297.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.98	L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59	R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	HS20	90.98	L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59	R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	2F1	62.86	L	48.35	76.10	0.0	0.00	0.00	0.00	
		-18.55	R	-14.27	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.54	L	61.18	76.10	0.0	0.00	0.00	0.00	
		-26.61	R	-20.47	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	84.95	L	65.35	72.10	0.0	0.00	0.00	0.00	
		-28.64	R	-22.03	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.17	L	61.67	74.10	0.0	0.00	0.00	0.00	
		-33.38	R	-25.68	114.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.46	1.73	6.46	HS	34.51	62.1
HS20	2.88	10.77	2.88	10.77	HS	57.52	103.5
2F1	4.16	16.02	4.16	16.02		0.00	62.4
3F1	3.29	11.17	3.29	11.17		0.00	75.7
4F1	3.08	10.38	3.08	10.38		0.00	83.2

5C1	3.26	8.90	3.26	8.90	0.00	130.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 4.700 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.0	-167.6	154.8	-186.8
OPER	300.6C	-268.7	268.7	-300.6C	289.9	-279.3	258.0	-311.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69	R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	HS20	81.40	L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69	R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	2F1	53.62	L	41.25	78.49	0.0	0.00	0.00	0.00	
		-23.32	R	-17.94	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.51	L	51.93	74.49	0.0	0.00	0.00	0.00	
		-33.46	R	-25.74	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.67	L	52.82	74.49	0.0	0.00	0.00	0.00	
		-36.00	R	-27.69	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.62	R	54.32	135.49	0.0	0.00	0.00	0.00	
		-35.22	R	-27.10	116.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	2.14	4.83	1.90	5.39	HS	38.03	68.5
HS20	3.56	8.05	3.17	8.98	HS	63.38	114.1
2F1	5.41	11.98	4.81	13.35		0.00	72.2
3F1	4.30	8.35	3.82	9.31		0.00	87.9
4F1	4.22	7.76	3.76	8.65		0.00	101.4
5C1	4.11	7.93	3.65	8.84		0.00	146.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 4.700

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.5	72.2
OPER	151.3	-112.4	120.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.30	4.94	-15.62	3.80	-17.84	6.68	-13.72	5.14
OPER	HS20	-20.30	4.94	-15.62	3.80	-17.84	6.68	-13.72	5.14
OPER	2F1	-12.72	3.56	-9.78	2.74	0.00	0.00	0.00	0.00
OPER	3F1	-16.81	3.80	-12.93	2.93	0.00	0.00	0.00	0.00
OPER	4F1	-17.30	3.06	-13.31	2.36	0.00	0.00	0.00	0.00
OPER	5C1	-16.00	6.20	-12.31	4.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.81	HS 66.46	119.6
HS20	5.54	18.02	HS 110.77	199.4
2F1	8.84	33.77	0.00	132.6
3F1	6.69	31.63	0.00	153.9
4F1	6.50	39.27	0.00	175.5
5C1	7.03	19.42	0.00	281.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.9	-163.4	171.9	-163.4	161.2	-174.1	161.2	-174.1
OPER	279.4	-279.4	279.4	-279.4	268.7	-290.1	268.7	-290.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69	R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	HS20	81.40	L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69	R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	2F1	53.62	L	41.25	78.49	0.0	0.00	0.00	0.00	
		-23.32	R	-17.94	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.51	L	51.93	74.49	0.0	0.00	0.00	0.00	
		-33.46	R	-25.74	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.67	L	52.82	74.49	0.0	0.00	0.00	0.00	
		-36.00	R	-27.69	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.62	R	54.32	135.49	0.0	0.00	0.00	0.00	
		-35.22	R	-27.10	116.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.02	1.98	5.02	HS	39.61	71.3
HS20	3.30	8.36	3.30	8.36	HS	66.02	118.8
2F1	5.01	12.44	5.01	12.44		0.00	75.2
3F1	3.98	8.67	3.98	8.67		0.00	91.5
4F1	3.91	8.06	3.91	8.06		0.00	105.7

5C1	3.81	8.24	3.81	8.24	0.00	152.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.5	161.8	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78	R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	HS20	56.45	L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78	R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	2F1	36.51	L	28.09	80.88	0.0	0.00	0.00	0.00	
		-28.09	R	-21.61	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.08	L	33.91	76.88	0.0	0.00	0.00	0.00	
		-40.30	R	-31.00	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.37	L	31.05	72.88	0.0	0.00	0.00	0.00	
		-43.37	R	-33.36	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.79	R	40.61	137.88	0.0	0.00	0.00	0.00	
		-37.51	R	-28.86	117.23	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS	57.34	103.2
HS20	5.34	6.40	4.78	7.17	HS	95.57	172.0
2F1	8.26	9.52	7.39	10.66		0.00	110.8
3F1	6.84	6.64	6.12	7.43		0.00	140.7
4F1	7.47	6.17	6.68	6.91		0.00	166.6
5C1	5.72	7.13	5.11	7.99		0.00	204.4

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 4.800

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.3	73.4
OPER	151.3	-110.5	122.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.77	2.85	-19.06	2.19	-20.74	4.41	-15.96	3.40
OPER	HS20	-24.77	2.85	-19.06	2.19	-20.74	4.41	-15.96	3.40
OPER	2F1	-15.10	2.00	-11.61	1.54	0.00	0.00	0.00	0.00
OPER	3F1	-20.42	2.87	-15.71	2.20	0.00	0.00	0.00	0.00
OPER	4F1	-21.08	3.06	-16.21	2.36	0.00	0.00	0.00	0.00
OPER	5C1	-19.22	4.40	-14.79	3.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.67	16.62	HS 53.50	96.3
HS20	4.46	27.71	HS 89.17	160.5
2F1	7.32	61.22	0.00	109.7
3F1	5.41	42.67	0.00	124.4
4F1	5.24	39.92	0.00	141.5
5C1	5.75	27.81	0.00	229.8

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	HS20		
Member I. D.	S01		2F1		
Check Point I. D.	4.800		3F1		
			4F1		
			5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78	R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	HS20	56.45	L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78	R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	2F1	36.51	L	28.09	80.88	0.0	0.00	0.00	0.00	
		-28.09	R	-21.61	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.08	L	33.91	76.88	0.0	0.00	0.00	0.00	
		-40.30	R	-31.00	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.37	L	31.05	72.88	0.0	0.00	0.00	0.00	
		-43.37	R	-33.36	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.79	R	40.61	137.88	0.0	0.00	0.00	0.00	
		-37.51	R	-28.86	117.23	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.62	107.3
HS20	4.97	6.66	4.97	6.66	HS	99.37	178.9
2F1	7.68	9.91	7.68	9.91		0.00	115.2
3F1	6.36	6.91	6.36	6.91		0.00	146.3
4F1	6.95	6.42	6.95	6.42		0.00	173.3

5C1	5.31	7.42	5.31	7.42		0.00	212.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 4.900 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.0	-150.6	171.8	-169.8
OPER	300.6C	-268.7	268.7	-300.6C	318.3	-251.0	286.3	-283.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33	L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67	L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	HS20	16.33	L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67	L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	2F1	12.91	L	9.93	83.28	0.0	0.00	0.00	0.00	
		-32.87	R	-25.28	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.65	R	9.73	139.15	0.0	0.00	0.00	0.00	
		-47.15	R	-36.27	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.45	R	10.34	143.15	0.0	0.00	0.00	0.00	
		-50.74	R	-39.03	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.85	R	20.66	140.28	0.0	0.00	0.00	0.00	
		-41.49	R	-31.92	119.63	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.99	2.76	7.19	3.11	HS	55.11	99.2
HS20	13.32	4.59	11.98	5.18	HS	91.84	165.3
2F1	24.66	7.64	22.18	8.61		0.00	114.6
3F1	25.16	5.32	22.63	6.00		0.00	122.5
4F1	23.67	4.95	21.29	5.58		0.00	133.6
5C1	11.85	6.05	10.66	6.82		0.00	242.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 4.900

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.1	74.6
OPER	151.3	-108.5	124.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	2.97	-22.63	2.28	-23.51	3.18	-18.08	2.44
OPER	HS20	-29.42	2.97	-22.63	2.28	-23.51	3.18	-18.08	2.44
OPER	2F1	-17.32	2.00	-13.32	1.54	0.00	0.00	0.00	0.00
OPER	3F1	-23.91	2.87	-18.39	2.20	0.00	0.00	0.00	0.00
OPER	4F1	-24.64	3.08	-18.95	2.37	0.00	0.00	0.00	0.00
OPER	5C1	-22.47	2.91	-17.29	2.24	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.21	23.46	HS 44.24	79.6
HS20	3.69	39.10	HS 73.73	132.7
2F1	6.26	62.21	0.00	93.9
3F1	4.54	43.36	0.00	104.3
4F1	4.40	40.30	0.00	118.9
5C1	4.83	42.76	0.00	193.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.6	-174.7	160.6	-174.7	178.2	-157.1	178.2	-157.1
OPER	279.4	-279.4	279.4	-279.4	297.0	-261.8	297.0	-261.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.33	L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67	L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	HS20	16.33	L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67	L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	2F1	12.91	L	9.93	83.28	0.0	0.00	0.00	0.00	
		-32.87	R	-25.28	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.65	R	9.73	139.15	0.0	0.00	0.00	0.00	
		-47.15	R	-36.27	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.45	R	10.34	143.15	0.0	0.00	0.00	0.00	
		-50.74	R	-39.03	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.85	R	20.66	140.28	0.0	0.00	0.00	0.00	
		-41.49	R	-31.92	119.63	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.46	2.87	7.46	2.87	HS	57.46	103.4
HS20	12.43	4.79	12.43	4.79	HS	95.77	172.4
2F1	23.01	7.97	23.01	7.97		0.00	119.5
3F1	23.48	5.55	23.48	5.55		0.00	127.7
4F1	22.09	5.16	22.09	5.16		0.00	139.3

5C1	11.06	6.31	11.06	6.31	0.00	252.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01
Check Point I. D. 5.000
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	203.7	-137.9	184.5	-157.1
OPER	300.6C	-268.7	268.7	-300.6C	339.5	-229.8	307.5	-261.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	2F1	10.10	L	7.77	54.58	0.0	0.00	0.00	0.00	
		-37.64	L	-28.95	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.48	L	11.14	52.18	0.0	0.00	0.00	0.00	
		-61.44	R	-47.26	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.59	L	11.99	48.97	0.0	0.00	0.00	0.00	
		-71.64	R	-55.11	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.66	L	9.74	12.79	0.0	0.00	0.00	0.00	
		-59.77	R	-45.98	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.98	1.45	11.76	1.65	HS 29.03	52.3
HS20	21.64	2.42	19.60	2.76	HS 48.39	87.1
2F1	33.63	6.11	30.46	6.95	0.00	91.6
3F1	23.44	3.74	21.23	4.26	0.00	86.0
4F1	21.78	3.21	19.73	3.65	0.00	86.6
5C1	26.81	3.85	24.28	4.38	0.00	153.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-7.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.9	63.9
OPER	151.3	-106.5	106.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	33.80	-22.63	26.00	-23.51	26.03	-18.08	20.02
OPER	HS20	-29.42	33.80	-22.63	26.00	-23.51	26.03	-18.08	20.02
OPER	2F1	-17.32	19.29	-13.32	14.84	0.00	0.00	0.00	0.00
OPER	3F1	-23.91	27.12	-18.39	20.86	0.00	0.00	0.00	0.00
OPER	4F1	-24.64	28.50	-18.95	21.93	0.00	0.00	0.00	0.00
OPER	5C1	-22.47	25.57	-17.29	19.67	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.81	68.1
HS20	3.15	3.15	HS 63.02	113.4
2F1	5.52	5.52	0.00	82.8
3F1	3.93	3.93	0.00	90.3
4F1	3.74	3.74	0.00	100.9
5C1	4.16	4.16	0.00	166.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	152.1	-183.2	152.1	-183.2	191.0	-144.3	191.0	-144.3
OPER	279.4	-279.4	279.4	-279.4	318.3	-240.5	318.3	-240.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	2F1	10.10	L	7.77	54.58	0.0	0.00	0.00	0.00	
		-37.64	L	-28.95	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.48	L	11.14	52.18	0.0	0.00	0.00	0.00	
		-61.44	R	-47.26	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.59	L	11.99	48.97	0.0	0.00	0.00	0.00	
		-71.64	R	-55.11	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.66	L	9.74	12.79	0.0	0.00	0.00	0.00	
		-59.77	R	-45.98	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.17	1.52	12.17	1.52	HS	30.39	54.7
HS20	20.28	2.53	20.28	2.53	HS	50.65	91.2
2F1	31.52	6.39	31.52	6.39		0.00	95.9
3F1	21.97	3.91	21.97	3.91		0.00	90.0
4F1	20.42	3.36	20.42	3.36		0.00	90.7

5C1	25.13	4.02	25.13	4.02	0.00	161.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01
Check Point I. D. 5.000
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	203.7	-137.9	184.5	-157.1
OPER	300.6C	-268.7	268.7	-300.6C	339.5	-229.8	307.5	-261.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	2F1	10.10	L	7.77	54.58	0.0	0.00	0.00	0.00	
		-37.64	L	-28.95	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.48	L	11.14	52.18	0.0	0.00	0.00	0.00	
		-61.44	R	-47.26	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.59	L	11.99	48.97	0.0	0.00	0.00	0.00	
		-71.64	R	-55.11	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.66	L	9.74	12.79	0.0	0.00	0.00	0.00	
		-59.77	R	-45.98	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.98	1.45	11.76	1.65	HS	29.03	52.3
HS20	21.64	2.42	19.60	2.76	HS	48.39	87.1
2F1	33.63	6.11	30.46	6.95		0.00	91.6
3F1	23.44	3.74	21.23	4.26		0.00	86.0
4F1	21.78	3.21	19.73	3.65		0.00	86.6
5C1	26.81	3.85	24.28	4.38		0.00	153.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-9.1	9.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.9	63.9
OPER	151.3	-106.5	106.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.80	-26.00	26.00	-26.03	26.03	-20.02	20.02
OPER	HS20	-33.80	33.80	-26.00	26.00	-26.03	26.03	-20.02	20.02
OPER	2F1	-19.29	19.29	-14.84	14.84	0.00	0.00	0.00	0.00
OPER	3F1	-27.12	27.12	-20.86	20.86	0.00	0.00	0.00	0.00
OPER	4F1	-28.50	28.50	-21.93	21.93	0.00	0.00	0.00	0.00
OPER	5C1	-25.57	25.57	-19.67	19.67	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS	37.81	68.1
HS20	3.15	3.15	HS	63.02	113.4
2F1	5.52	5.52		0.00	82.8
3F1	3.93	3.93		0.00	90.3
4F1	3.74	3.74		0.00	100.9
5C1	4.16	4.16		0.00	166.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	152.1	-183.2	152.1	-183.2	191.0	-144.3	191.0	-144.3
OPER	279.4	-279.4	279.4	-279.4	318.3	-240.5	318.3	-240.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	2F1	10.10	L	7.77	54.58	0.0	0.00	0.00	0.00	
		-37.64	L	-28.95	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.48	L	11.14	52.18	0.0	0.00	0.00	0.00	
		-61.44	R	-47.26	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.59	L	11.99	48.97	0.0	0.00	0.00	0.00	
		-71.64	R	-55.11	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.66	L	9.74	12.79	0.0	0.00	0.00	0.00	
		-59.77	R	-45.98	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.17	1.52	12.17	1.52	HS	30.39	54.7
HS20	20.28	2.53	20.28	2.53	HS	50.65	91.2
2F1	31.52	6.39	31.52	6.39		0.00	95.9
3F1	21.97	3.91	21.97	3.91		0.00	90.0
4F1	20.42	3.36	20.42	3.36		0.00	90.7

5C1	25.13	4.02	25.13	4.02	0.00	161.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 5.100 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.0	-150.6	171.8	-169.8
OPER	300.6C	-268.7	268.7	-300.6C	318.3	-251.0	286.3	-283.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33	R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67	R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	HS20	16.33	R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67	R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	2F1	12.91	R	9.93	108.06	0.0	0.00	0.00	0.00	
		-32.87	L	-25.28	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.65	L	9.73	52.18	0.0	0.00	0.00	0.00	
		-47.15	L	-36.27	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.45	L	10.34	48.18	0.0	0.00	0.00	0.00	
		-50.74	L	-39.03	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.85	L	20.66	51.06	0.0	0.00	0.00	0.00	
		-41.49	L	-31.92	71.71	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.86	2.76	7.07	3.11	HS	55.11	99.2
HS20	13.10	4.59	11.78	5.18	HS	91.84	165.3
2F1	24.65	7.64	22.18	8.61		0.00	114.6
3F1	25.16	5.32	22.63	6.00		0.00	122.5
4F1	23.67	4.95	21.29	5.58		0.00	133.6
5C1	11.85	6.05	10.66	6.82		0.00	242.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 5.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.6	65.1
OPER	151.3	-124.3	108.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	29.42	-2.19	22.63	-3.18	23.51	-2.44	18.08
OPER	HS20	-2.85	29.42	-2.19	22.63	-3.18	23.51	-2.44	18.08
OPER	2F1	-2.00	17.32	-1.54	13.32	0.00	0.00	0.00	0.00
OPER	3F1	-2.87	23.91	-2.20	18.39	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	24.64	-2.36	18.95	0.00	0.00	0.00	0.00
OPER	5C1	-2.91	22.47	-2.24	17.29	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	23.46	2.21	HS	44.24	79.6
HS20	39.10	3.69	HS	73.73	132.7
2F1	62.21	6.26		0.00	93.9
3F1	43.36	4.54		0.00	104.3
4F1	40.56	4.40		0.00	118.9
5C1	42.76	4.83		0.00	193.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.6	-174.7	160.6	-174.7	178.2	-157.1	178.2	-157.1
OPER	279.4	-279.4	279.4	-279.4	297.0	-261.8	297.0	-261.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33	R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67	R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	HS20	16.33	R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67	R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	2F1	12.91	R	9.93	108.06	0.0	0.00	0.00	0.00	
		-32.87	L	-25.28	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.65	L	9.73	52.18	0.0	0.00	0.00	0.00	
		-47.15	L	-36.27	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.45	L	10.34	48.18	0.0	0.00	0.00	0.00	
		-50.74	L	-39.03	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.85	L	20.66	51.06	0.0	0.00	0.00	0.00	
		-41.49	L	-31.92	71.71	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.34	2.87	7.34	2.87	HS	57.46	103.4
HS20	12.23	4.79	12.23	4.79	HS	95.77	172.4
2F1	23.01	7.97	23.01	7.97		0.00	119.5
3F1	23.48	5.55	23.48	5.55		0.00	127.7
4F1	22.09	5.16	22.09	5.16		0.00	139.3

5C1	11.06	6.31	11.06	6.31	0.00	252.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 5.200 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.5	161.8	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79 L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	HS20	56.45 R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79 L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	2F1	36.51 R	28.09	110.45	0.0	0.00	0.00	0.00	
		-28.09 L	-21.61	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.08 R	33.91	114.45	0.0	0.00	0.00	0.00	
		-40.30 L	-31.00	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.37 R	31.05	118.45	0.0	0.00	0.00	0.00	
		-43.37 L	-33.36	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.79 L	40.61	53.45	0.0	0.00	0.00	0.00	
		-37.51 L	-28.86	74.10	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.34	103.2
HS20	5.34	6.40	4.78	7.17	HS 95.57	172.0
2F1	8.26	9.52	7.39	10.66	0.00	110.8
3F1	6.84	6.64	6.12	7.43	0.00	140.7
4F1	7.47	6.17	6.68	6.91	0.00	166.6
5C1	5.72	7.13	5.11	7.99	0.00	204.4

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.4	66.3
OPER	151.3	-122.3	110.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	24.77	-2.19	19.06	-4.41	20.74	-3.40	15.96
OPER	HS20	-2.85	24.77	-2.19	19.06	-4.41	20.74	-3.40	15.96
OPER	2F1	-2.00	15.10	-1.54	11.61	0.00	0.00	0.00	0.00
OPER	3F1	-2.87	20.42	-2.20	15.71	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	21.08	-2.36	16.21	0.00	0.00	0.00	0.00
OPER	5C1	-4.40	19.22	-3.38	14.79	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.62	2.67	HS 53.50	96.3
HS20	27.71	4.46	HS 89.17	160.5
2F1	61.22	7.32	0.00	109.7
3F1	42.67	5.41	0.00	124.4
4F1	39.92	5.24	0.00	141.5
5C1	27.81	5.75	0.00	229.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79	L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	HS20	56.45	R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79	L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	2F1	36.51	R	28.09	110.45	0.0	0.00	0.00	0.00	
		-28.09	L	-21.61	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.08	R	33.91	114.45	0.0	0.00	0.00	0.00	
		-40.30	L	-31.00	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.37	R	31.05	118.45	0.0	0.00	0.00	0.00	
		-43.37	L	-33.36	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.79	L	40.61	53.45	0.0	0.00	0.00	0.00	
		-37.51	L	-28.86	74.10	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.62	107.3
HS20	4.97	6.66	4.97	6.66	HS	99.37	178.9
2F1	7.68	9.91	7.68	9.91		0.00	115.2
3F1	6.36	6.91	6.36	6.91		0.00	146.3
4F1	6.95	6.42	6.95	6.42		0.00	173.3

5C1	5.31	7.42	5.31	7.42		0.00	212.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 5.300 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.0	-167.6	154.8	-186.8
OPER	300.6C	-268.7	268.7	-300.6C	289.9	-279.3	258.0	-311.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69	L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	HS20	81.40	R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69	L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	2F1	53.62	R	41.25	112.84	0.0	0.00	0.00	0.00	
		-23.32	L	-17.94	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.52	R	51.93	116.84	0.0	0.00	0.00	0.00	
		-33.46	L	-25.74	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.67	R	52.82	116.84	0.0	0.00	0.00	0.00	
		-36.00	L	-27.69	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.62	L	54.32	55.84	0.0	0.00	0.00	0.00	
		-35.22	L	-27.10	74.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.83	1.90	5.39	HS 38.03	68.5
HS20	3.56	8.05	3.17	8.98	HS 63.38	114.1
2F1	5.41	11.98	4.81	13.35	0.00	72.2
3F1	4.30	8.35	3.82	9.31	0.00	87.9
4F1	4.22	7.76	3.76	8.65	0.00	101.4
5C1	4.11	7.93	3.65	8.84	0.00	146.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.2	67.5
OPER	151.3	-120.3	112.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.94	20.30	-3.80	15.62	-6.68	17.84	-5.14	13.72
OPER	HS20	-4.94	20.30	-3.80	15.62	-6.68	17.84	-5.14	13.72
OPER	2F1	-3.56	12.72	-2.74	9.78	0.00	0.00	0.00	0.00
OPER	3F1	-3.80	16.81	-2.93	12.93	0.00	0.00	0.00	0.00
OPER	4F1	-3.06	17.30	-2.36	13.31	0.00	0.00	0.00	0.00
OPER	5C1	-6.20	16.00	-4.77	12.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	10.81	3.32	HS 66.46	119.6
HS20	18.02	5.54	HS 110.77	199.4
2F1	33.77	8.84	0.00	132.6
3F1	31.63	6.69	0.00	153.9
4F1	39.27	6.50	0.00	175.5
5C1	19.42	7.03	0.00	281.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.9	-163.4	171.9	-163.4	161.2	-174.1	161.2	-174.1
OPER	279.4	-279.4	279.4	-279.4	268.7	-290.1	268.7	-290.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69	L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	HS20	81.40	R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69	L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	2F1	53.62	R	41.25	112.84	0.0	0.00	0.00	0.00	
		-23.32	L	-17.94	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.52	R	51.93	116.84	0.0	0.00	0.00	0.00	
		-33.46	L	-25.74	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.67	R	52.82	116.84	0.0	0.00	0.00	0.00	
		-36.00	L	-27.69	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.62	L	54.32	55.84	0.0	0.00	0.00	0.00	
		-35.22	L	-27.10	74.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.02	1.98	5.02	HS	39.61	71.3
HS20	3.30	8.36	3.30	8.36	HS	66.02	118.8
2F1	5.01	12.44	5.01	12.44		0.00	75.2
3F1	3.98	8.67	3.98	8.67		0.00	91.5
4F1	3.91	8.06	3.91	8.06		0.00	105.7

5C1	3.81	8.24	3.81	8.24	0.00	152.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 5.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.7	-171.8	150.5	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	282.9	-286.4	250.9	-318.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59	L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	HS20	90.98	R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59	L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	2F1	62.86	R	48.35	115.23	0.0	0.00	0.00	0.00	
		-18.55	L	-14.27	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.54	R	61.18	115.23	0.0	0.00	0.00	0.00	
		-26.61	L	-20.47	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	84.95	R	65.35	119.23	0.0	0.00	0.00	0.00	
		-28.64	L	-22.03	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.17	R	61.67	117.23	0.0	0.00	0.00	0.00	
		-33.50	L	-25.77	75.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.23	1.65	6.92	HS 33.10	59.6
HS20	3.11	10.38	2.76	11.54	HS 55.16	99.3
2F1	4.50	15.44	3.99	17.16	0.00	59.9
3F1	3.56	10.76	3.15	11.96	0.00	72.6
4F1	3.33	10.00	2.95	11.12	0.00	79.7
5C1	3.53	8.55	3.13	9.50	0.00	125.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.6
OPER	151.3	-118.3	114.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.91	-7.21	13.01	-9.23	14.88	-7.10	11.45
OPER	HS20	-9.37	16.91	-7.21	13.01	-9.23	14.88	-7.10	11.45
OPER	2F1	-5.61	10.28	-4.32	7.91	0.00	0.00	0.00	0.00
OPER	3F1	-6.62	13.21	-5.09	10.16	0.00	0.00	0.00	0.00
OPER	4F1	-5.61	13.31	-4.31	10.24	0.00	0.00	0.00	0.00
OPER	5C1	-8.27	13.30	-6.36	10.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.58	4.06	HS 81.17	146.1
HS20	12.63	6.76	HS 135.29	243.5
2F1	21.09	11.13	0.00	167.0
3F1	17.89	8.66	0.00	199.1
4F1	21.11	8.59	0.00	232.0
5C1	14.31	8.60	0.00	344.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.5	174.7	-160.5	157.0	-178.3	157.0	-178.3
OPER	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-297.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59	L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	HS20	90.98	R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59	L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	2F1	62.86	R	48.35	115.23	0.0	0.00	0.00	0.00	
		-18.55	L	-14.27	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.54	R	61.18	115.23	0.0	0.00	0.00	0.00	
		-26.61	L	-20.47	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	84.95	R	65.35	119.23	0.0	0.00	0.00	0.00	
		-28.64	L	-22.03	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.17	R	61.67	117.23	0.0	0.00	0.00	0.00	
		-33.50	L	-25.77	75.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.46	1.73	6.46	HS	34.51	62.1
HS20	2.88	10.77	2.88	10.77	HS	57.52	103.5
2F1	4.16	16.02	4.16	16.02		0.00	62.4
3F1	3.29	11.17	3.29	11.17		0.00	75.7
4F1	3.08	10.38	3.08	10.38		0.00	83.2

5C1	3.26	8.87	3.26	8.87	0.00	130.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.326

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.3	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50 R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	HS20	87.83 R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50 R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	2F1	63.81 R	49.09	117.63	0.0	0.00	0.00	0.00	
		-13.79 R	-10.61	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.54 L	65.03	97.63	0.0	0.00	0.00	0.00	
		-19.79 R	-15.22	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	87.81 L	67.55	93.63	0.0	0.00	0.00	0.00	
		-21.29 R	-16.38	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	82.99 R	63.84	158.63	0.0	0.00	0.00	0.00	
		-32.87 R	-25.28	137.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.12	1.70	9.02	HS 33.96	61.1
HS20	3.19	13.53	2.83	15.03	HS 56.60	101.9
2F1	4.40	20.93	3.90	23.25	0.00	58.4
3F1	3.32	14.59	2.94	16.21	0.00	67.6
4F1	3.19	13.56	2.83	15.06	0.00	76.4
5C1	3.38	8.78	2.99	9.76	0.00	119.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-12.00	11.98	-9.23	9.21
OPER	HS20	-13.38	13.38	-10.29	10.29	-12.00	11.98	-9.23	9.21
OPER	2F1	-7.88	7.88	-6.06	6.06	0.00	0.00	0.00	0.00
OPER	3F1	-9.78	9.78	-7.52	7.52	0.00	0.00	0.00	0.00
OPER	4F1	-9.24	9.24	-7.10	7.11	0.00	0.00	0.00	0.00
OPER	5C1	-10.57	10.57	-8.13	8.13	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.22	HS 104.33	187.8
HS20	8.69	8.70	HS 173.89	313.0
2F1	14.77	14.77	0.00	221.6
3F1	11.90	11.90	0.00	273.6
4F1	12.60	12.60	0.00	340.1
5C1	11.01	11.01	0.00	440.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.7	-159.6	175.7	-159.6	155.6	-179.7	155.6	-179.7
OPER	279.4	-279.4	279.4	-279.4	259.3	-299.5	259.3	-299.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83	R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50	R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	HS20	87.83	R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50	R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	2F1	63.81	R	49.09	117.63	0.0	0.00	0.00	0.00	
		-13.79	R	-10.61	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.54	L	65.03	97.63	0.0	0.00	0.00	0.00	
		-19.79	R	-15.22	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	87.81	L	67.55	93.63	0.0	0.00	0.00	0.00	
		-21.29	R	-16.38	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	82.99	R	63.84	158.63	0.0	0.00	0.00	0.00	
		-32.87	R	-25.28	137.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	8.42	1.77	8.42	HS	35.43	63.8
HS20	2.95	14.04	2.95	14.04	HS	59.05	106.3
2F1	4.06	21.71	4.06	21.71		0.00	61.0
3F1	3.07	15.14	3.07	15.14		0.00	70.5
4F1	2.95	14.07	2.95	14.07		0.00	79.7

5C1	3.12	9.11	3.12	9.11	0.00	125.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	102.155

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.9
OPER	300.6C	-268.7	268.7	-300.6C	283.1	-286.2	251.1	-318.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60	R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	HS20	90.98	L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60	R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	2F1	62.86	L	48.36	100.02	0.0	0.00	0.00	0.00	
		-18.57	R	-14.28	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.55	L	61.19	100.02	0.0	0.00	0.00	0.00	
		-26.64	R	-20.49	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	84.96	L	65.35	96.02	0.0	0.00	0.00	0.00	
		-28.67	R	-22.05	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.21	L	61.70	98.02	0.0	0.00	0.00	0.00	
		-33.40	R	-25.69	138.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.22	1.66	6.91	HS 33.12	59.6
HS20	3.11	10.37	2.76	11.52	HS 55.21	99.4
2F1	4.50	15.41	3.99	17.13	0.00	59.9
3F1	3.56	10.74	3.16	11.94	0.00	72.6
4F1	3.33	9.98	2.96	11.10	0.00	79.8
5C1	3.53	8.57	3.13	9.52	0.00	125.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 5.600

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.6	71.1
OPER	151.3	-114.3	118.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-16.91	9.37	-13.01	7.21	-14.91	9.20	-11.47	7.08
OPER	HS20	-16.91	9.37	-13.01	7.21	-14.91	9.20	-11.47	7.08
OPER	2F1	-10.28	5.61	-7.91	4.32	0.00	0.00	0.00	0.00
OPER	3F1	-13.21	6.62	-10.16	5.09	0.00	0.00	0.00	0.00
OPER	4F1	-13.31	5.61	-10.24	4.31	0.00	0.00	0.00	0.00
OPER	5C1	-13.30	8.27	-10.23	6.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.05	7.58	HS 81.10	146.0
HS20	6.76	12.64	HS 135.16	243.3
2F1	11.12	21.10	0.00	166.8
3F1	8.65	17.90	0.00	199.0
4F1	8.59	21.12	0.00	231.8
5C1	8.60	14.32	0.00	343.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
Member I. D.	S01	2F1		
Check Point I. D.	5.600	3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.6	-160.6	174.6	-160.6	157.1	-178.1	157.1	-178.1
OPER	279.4	-279.4	279.4	-279.4	261.9	-296.9	261.9	-296.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60	R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	HS20	90.98	L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60	R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	2F1	62.86	L	48.36	100.02	0.0	0.00	0.00	0.00	
		-18.57	R	-14.28	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.55	L	61.19	100.02	0.0	0.00	0.00	0.00	
		-26.64	R	-20.49	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	84.96	L	65.35	96.02	0.0	0.00	0.00	0.00	
		-28.67	R	-22.05	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.21	L	61.70	98.02	0.0	0.00	0.00	0.00	
		-33.40	R	-25.69	138.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.45	1.73	6.45	HS	34.54	62.2
HS20	2.88	10.76	2.88	10.76	HS	57.57	103.6
2F1	4.17	15.99	4.17	15.99		0.00	62.5
3F1	3.29	11.15	3.29	11.15		0.00	75.7
4F1	3.08	10.36	3.08	10.36		0.00	83.2

5C1	3.27	8.89	3.27	8.89	0.00	130.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	102.155

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 5.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.4	-278.9	258.4	-310.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	81.41 L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71 R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	HS20	81.41 L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71 R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	2F1	53.63 L	41.25	102.41	0.0	0.00	0.00	0.00	
		-23.35 R	-17.96	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.52 L	51.94	98.41	0.0	0.00	0.00	0.00	
		-33.49 R	-25.76	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.68 L	52.83	98.41	0.0	0.00	0.00	0.00	
		-36.04 R	-27.72	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.71 R	54.39	159.41	0.0	0.00	0.00	0.00	
		-35.25 R	-27.12	140.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.82	1.90	5.37	HS 38.10	68.6
HS20	3.57	8.03	3.17	8.96	HS 63.49	114.3
2F1	5.42	11.94	4.82	13.31	0.00	72.3
3F1	4.30	8.33	3.83	9.28	0.00	88.0
4F1	4.23	7.74	3.76	8.62	0.00	101.6
5C1	4.11	7.91	3.65	8.82	0.00	146.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.4	72.2
OPER	151.3	-112.3	120.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.30	4.94	-15.62	3.80	-17.86	6.65	-13.74	5.11
OPER	HS20	-20.30	4.94	-15.62	3.80	-17.86	6.65	-13.74	5.11
OPER	2F1	-12.72	3.56	-9.78	2.74	0.00	0.00	0.00	0.00
OPER	3F1	-16.81	3.80	-12.93	2.93	0.00	0.00	0.00	0.00
OPER	4F1	-17.30	3.06	-13.31	2.35	0.00	0.00	0.00	0.00
OPER	5C1	-16.00	6.20	-12.31	4.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.87	HS 66.40	119.5
HS20	5.53	18.11	HS 110.67	199.2
2F1	8.83	33.80	0.00	132.5
3F1	6.68	31.65	0.00	153.7
4F1	6.49	39.35	0.00	175.3
5C1	7.02	19.43	0.00	280.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.7	-163.6	171.7	-163.6	161.5	-173.8	161.5	-173.8
OPER	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-289.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71	R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	HS20	81.41	L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71	R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	2F1	53.63	L	41.25	102.41	0.0	0.00	0.00	0.00	
		-23.35	R	-17.96	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.52	L	51.94	98.41	0.0	0.00	0.00	0.00	
		-33.49	R	-25.76	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.68	L	52.83	98.41	0.0	0.00	0.00	0.00	
		-36.04	R	-27.72	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.71	R	54.39	159.41	0.0	0.00	0.00	0.00	
		-35.25	R	-27.12	140.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.01	1.98	5.01	HS	39.68	71.4
HS20	3.31	8.34	3.31	8.34	HS	66.13	119.0
2F1	5.02	12.40	5.02	12.40		0.00	75.3
3F1	3.99	8.65	3.99	8.65		0.00	91.7
4F1	3.92	8.04	3.92	8.04		0.00	105.8

5C1	3.81	8.22	3.81	8.22	0.00	152.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	102.155

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 5.800 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81	R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	HS20	56.47	L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81	R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	2F1	36.52	L	28.09	104.80	0.0	0.00	0.00	0.00	
		-28.12	R	-21.63	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.10	L	33.92	100.80	0.0	0.00	0.00	0.00	
		-40.35	R	-31.04	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.38	L	31.07	96.80	0.0	0.00	0.00	0.00	
		-43.42	R	-33.40	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.93	R	40.71	161.80	0.0	0.00	0.00	0.00	
		-37.55	R	-28.89	141.15	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.21	3.83	2.87	4.29	HS	57.48	103.5
HS20	5.36	6.38	4.79	7.15	HS	95.80	172.4
2F1	8.28	9.49	7.41	10.62		0.00	111.1
3F1	6.86	6.61	6.13	7.41		0.00	141.1
4F1	7.49	6.15	6.70	6.88		0.00	165.9
5C1	5.72	7.11	5.11	7.96		0.00	204.4

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 5.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.2	73.4
OPER	151.3	-110.4	122.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.77	2.85	-19.06	2.19	-20.77	4.38	-15.98	3.37
OPER	HS20	-24.77	2.85	-19.06	2.19	-20.77	4.38	-15.98	3.37
OPER	2F1	-15.10	2.00	-11.61	1.53	0.00	0.00	0.00	0.00
OPER	3F1	-20.42	2.86	-15.71	2.20	0.00	0.00	0.00	0.00
OPER	4F1	-21.07	3.06	-16.21	2.35	0.00	0.00	0.00	0.00
OPER	5C1	-19.22	4.40	-14.78	3.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	2.67	16.75	HS	53.45	96.2
HS20	4.45	27.91	HS	89.09	160.4
2F1	7.31	61.34		0.00	109.6
3F1	5.40	42.76		0.00	124.3
4F1	5.24	39.99		0.00	141.4
5C1	5.74	27.85		0.00	229.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
Member I. D.		S01	2F1	
Check Point I. D.		5.800	3F1	
			4F1	
			5C1	

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-166.5
OPER	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-277.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81	R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	HS20	56.47	L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81	R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	2F1	36.52	L	28.09	104.80	0.0	0.00	0.00	0.00	
		-28.12	R	-21.63	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.10	L	33.92	100.80	0.0	0.00	0.00	0.00	
		-40.35	R	-31.04	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.38	L	31.07	96.80	0.0	0.00	0.00	0.00	
		-43.42	R	-33.40	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.93	R	40.71	161.80	0.0	0.00	0.00	0.00	
		-37.55	R	-28.89	141.15	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.99	3.98	2.99	3.98	HS	59.76	107.6
HS20	4.98	6.64	4.98	6.64	HS	99.61	179.3
2F1	7.70	9.87	7.70	9.87		0.00	115.5
3F1	6.38	6.88	6.38	6.88		0.00	146.7
4F1	6.96	6.39	6.96	6.39		0.00	172.6

5C1	5.31	7.39	5.31	7.39	0.00	212.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	102.155

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-17.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.5	-150.0	172.3	-169.2
OPER	300.6C	-268.7	268.7	-300.6C	319.2	-250.1	287.2	-282.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.34 L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73 L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	HS20	16.34 L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73 L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	2F1	12.92 L	9.94	107.19	0.0	0.00	0.00	0.00	
		-32.90 R	-25.31	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.84 R	9.88	163.07	0.0	0.00	0.00	0.00	
		-47.20 R	-36.31	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.65 R	10.50	167.07	0.0	0.00	0.00	0.00	
		-50.79 R	-39.07	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	27.03 R	20.79	164.19	0.0	0.00	0.00	0.00	
		-41.54 R	-31.95	143.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.11	2.74	7.30	3.09	HS	54.83	98.7
HS20	13.52	4.57	12.16	5.15	HS	91.38	164.5
2F1	24.71	7.60	22.24	8.57		0.00	114.0
3F1	24.86	5.30	22.37	5.97		0.00	121.9
4F1	23.39	4.92	21.05	5.55		0.00	132.9
5C1	11.81	6.02	10.63	6.79		0.00	240.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.900

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	74.6
OPER	151.3	-108.4	124.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	2.97	-22.63	2.28	-23.54	3.15	-18.10	2.42
OPER	HS20	-29.42	2.97	-22.63	2.28	-23.54	3.15	-18.10	2.42
OPER	2F1	-17.32	2.00	-13.32	1.53	0.00	0.00	0.00	0.00
OPER	3F1	-23.91	2.86	-18.39	2.20	0.00	0.00	0.00	0.00
OPER	4F1	-24.63	3.08	-18.95	2.37	0.00	0.00	0.00	0.00
OPER	5C1	-22.46	2.90	-17.28	2.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.21	23.72	HS 44.20	79.6
HS20	3.68	39.53	HS 73.67	132.6
2F1	6.26	62.33	0.00	93.9
3F1	4.53	43.45	0.00	104.3
4F1	4.40	40.38	0.00	118.8
5C1	4.82	42.83	0.00	193.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-17.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.2	-175.1	160.2	-175.1	178.8	-156.5	178.8	-156.5
OPER	279.4	-279.4	279.4	-279.4	298.0	-260.8	298.0	-260.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.34	L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73	L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	HS20	16.34	L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73	L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	2F1	12.92	L	9.94	107.19	0.0	0.00	0.00	0.00	
		-32.90	R	-25.31	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.84	R	9.88	163.07	0.0	0.00	0.00	0.00	
		-47.20	R	-36.31	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.65	R	10.50	167.07	0.0	0.00	0.00	0.00	
		-50.79	R	-39.07	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	27.03	R	20.79	164.19	0.0	0.00	0.00	0.00	
		-41.54	R	-31.95	143.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.57	2.86	7.57	2.86	HS	57.19	102.9
HS20	12.62	4.77	12.62	4.77	HS	95.31	171.6
2F1	23.07	7.93	23.07	7.93		0.00	118.9
3F1	23.21	5.53	23.21	5.53		0.00	127.1
4F1	21.83	5.14	21.83	5.14		0.00	138.6

5C1	11.02	6.28	11.02	6.28	0.00	251.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.89	28.67	28.67	1.699	999999.000	102.155

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 6.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.1	185.2	-156.3
OPER	300.6C	-268.7	268.7	-300.6C	340.7	-228.6	308.7	-260.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	2F1	10.25	R	7.89	160.68	0.0	0.00	0.00	0.00	
		-37.68	R	-28.98	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.70	R	11.31	163.07	0.0	0.00	0.00	0.00	
		-61.43	R	-47.26	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.82	R	12.17	166.28	0.0	0.00	0.00	0.00	
		-71.69	L	-55.15	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.09	R	9.30	204.07	0.0	0.00	0.00	0.00	
		-59.75	R	-45.96	124.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.24	1.44	12.00	1.65	HS	28.88	52.0
HS20	22.07	2.41	20.00	2.74	HS	48.13	86.6
2F1	33.24	6.07	30.12	6.91		0.00	91.0
3F1	23.17	3.72	21.00	4.24		0.00	85.6
4F1	21.54	3.19	19.52	3.63		0.00	86.1
5C1	28.17	3.83	25.53	4.36		0.00	153.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-7.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	63.8
OPER	151.3	-106.4	106.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.81	-22.63	26.01	-23.54	26.09	-18.10	20.07
OPER	HS20	-29.42	33.81	-22.63	26.01	-23.54	26.09	-18.10	20.07
OPER	2F1	-17.32	19.29	-13.32	14.84	0.00	0.00	0.00	0.00
OPER	3F1	-23.91	27.13	-18.39	20.87	0.00	0.00	0.00	0.00
OPER	4F1	-24.63	28.51	-18.95	21.93	0.00	0.00	0.00	0.00
OPER	5C1	-22.46	25.58	-17.28	19.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS	37.73	67.9
HS20	3.15	3.14	HS	62.88	113.2
2F1	5.52	5.51		0.00	82.6
3F1	3.92	3.92		0.00	90.1
4F1	3.73	3.73		0.00	100.6
5C1	4.16	4.16		0.00	166.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.6	-183.7	151.6	-183.7	191.7	-143.6	191.7	-143.6
OPER	279.4	-279.4	279.4	-279.4	319.5	-239.3	319.5	-239.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	2F1	10.25	R	7.89	160.68	0.0	0.00	0.00	0.00	
		-37.68	R	-28.98	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.70	R	11.31	163.07	0.0	0.00	0.00	0.00	
		-61.43	R	-47.26	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.82	R	12.17	166.28	0.0	0.00	0.00	0.00	
		-71.69	L	-55.15	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.09	R	9.30	204.07	0.0	0.00	0.00	0.00	
		-59.75	R	-45.96	124.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.42	1.51	12.42	1.51	HS	30.23	54.4
HS20	20.69	2.52	20.69	2.52	HS	50.39	90.7
2F1	31.17	6.35	31.17	6.35		0.00	95.3
3F1	21.73	3.90	21.73	3.90		0.00	89.6
4F1	20.20	3.34	20.20	3.34		0.00	90.1

5C1	26.42	4.01	26.42	4.01	0.00	160.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	102.047

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 6.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.1	185.2	-156.3
OPER	300.6C	-268.7	268.7	-300.6C	340.7	-228.6	308.7	-260.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	2F1	10.25	R	7.89	160.68	0.0	0.00	0.00	0.00	
		-37.68	R	-28.98	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.70	R	11.31	163.07	0.0	0.00	0.00	0.00	
		-61.43	R	-47.26	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.82	R	12.17	166.28	0.0	0.00	0.00	0.00	
		-71.69	L	-55.15	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.09	R	9.30	204.07	0.0	0.00	0.00	0.00	
		-59.75	R	-45.96	124.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.24	1.44	12.00	1.65	HS	28.88	52.0
HS20	22.07	2.41	20.00	2.74	HS	48.13	86.6
2F1	33.24	6.07	30.12	6.91		0.00	91.0
3F1	23.17	3.72	21.00	4.24		0.00	85.6
4F1	21.54	3.19	19.52	3.63		0.00	86.1
5C1	28.17	3.83	25.53	4.36		0.00	153.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-9.2	9.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	63.8
OPER	151.3	-106.4	106.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.81	-26.00	26.01	-26.06	26.09	-20.04	20.07
OPER	HS20	-33.80	33.81	-26.00	26.01	-26.06	26.09	-20.04	20.07
OPER	2F1	-19.29	19.29	-14.84	14.84	0.00	0.00	0.00	0.00
OPER	3F1	-27.12	27.13	-20.86	20.87	0.00	0.00	0.00	0.00
OPER	4F1	-28.50	28.51	-21.93	21.93	0.00	0.00	0.00	0.00
OPER	5C1	-25.56	25.58	-19.66	19.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS	37.73	67.9
HS20	3.15	3.14	HS	62.88	113.2
2F1	5.52	5.51		0.00	82.6
3F1	3.92	3.92		0.00	90.1
4F1	3.73	3.73		0.00	100.6
5C1	4.16	4.16		0.00	166.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

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

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.6	-183.7	151.6	-183.7	191.7	-143.6	191.7	-143.6
OPER	279.4	-279.4	279.4	-279.4	319.5	-239.3	319.5	-239.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	2F1	10.25	R	7.89	160.68	0.0	0.00	0.00	0.00	
		-37.68	R	-28.98	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.70	R	11.31	163.07	0.0	0.00	0.00	0.00	
		-61.43	R	-47.26	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.82	R	12.17	166.28	0.0	0.00	0.00	0.00	
		-71.69	L	-55.15	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	12.09	R	9.30	204.07	0.0	0.00	0.00	0.00	
		-59.75	R	-45.96	124.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.42	1.51	12.42	1.51	HS	30.23	54.4
HS20	20.69	2.52	20.69	2.52	HS	50.39	90.7
2F1	31.17	6.35	31.17	6.35		0.00	95.3
3F1	21.73	3.90	21.73	3.90		0.00	89.6
4F1	20.20	3.34	20.20	3.34		0.00	90.1

5C1	26.42	4.01	26.42	4.01	0.00	160.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	102.047

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 6.100 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.4	-150.2	172.2	-169.4
OPER	300.6C	-268.7	268.7	-300.6C	319.0	-250.3	287.0	-282.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30	R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66	R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	HS20	16.30	R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66	R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	2F1	12.89	R	9.92	131.98	0.0	0.00	0.00	0.00	
		-32.86	L	-25.27	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.63	L	9.72	76.10	0.0	0.00	0.00	0.00	
		-47.14	L	-36.26	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.43	L	10.33	72.10	0.0	0.00	0.00	0.00	
		-50.72	L	-39.02	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.83	L	20.64	74.98	0.0	0.00	0.00	0.00	
		-41.47	L	-31.90	95.63	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.95	2.75	7.15	3.10	HS	54.95	98.9
HS20	13.25	4.58	11.92	5.16	HS	91.59	164.9
2F1	24.74	7.62	22.26	8.59		0.00	114.3
3F1	25.25	5.31	22.72	5.99		0.00	122.1
4F1	23.75	4.93	21.37	5.57		0.00	133.2
5C1	11.89	6.04	10.70	6.81		0.00	241.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 6.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.7	65.0
OPER	151.3	-124.5	108.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.86	29.44	-2.20	22.64	-3.15	23.57	-2.42	18.13
OPER	HS20	-2.86	29.44	-2.20	22.64	-3.15	23.57	-2.42	18.13
OPER	2F1	-2.03	17.33	-1.56	13.33	0.00	0.00	0.00	0.00
OPER	3F1	-2.91	23.92	-2.24	18.40	0.00	0.00	0.00	0.00
OPER	4F1	-3.11	24.65	-2.39	18.96	0.00	0.00	0.00	0.00
OPER	5C1	-2.94	22.48	-2.26	17.29	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	23.73	2.21	HS	44.14	79.4
HS20	39.55	3.68	HS	73.56	132.4
2F1	61.37	6.25		0.00	93.7
3F1	42.79	4.53		0.00	104.1
4F1	40.04	4.39		0.00	118.6
5C1	42.32	4.82		0.00	192.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.3	-175.0	160.3	-175.0	178.6	-156.6	178.6	-156.6
OPER	279.4	-279.4	279.4	-279.4	297.7	-261.1	297.7	-261.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.30	R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66	R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	HS20	16.30	R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66	R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	2F1	12.89	R	9.92	131.98	0.0	0.00	0.00	0.00	
		-32.86	L	-25.27	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.63	L	9.72	76.10	0.0	0.00	0.00	0.00	
		-47.14	L	-36.26	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.43	L	10.33	72.10	0.0	0.00	0.00	0.00	
		-50.72	L	-39.02	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.83	L	20.64	74.98	0.0	0.00	0.00	0.00	
		-41.47	L	-31.90	95.63	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.42	2.87	7.42	2.87	HS	57.31	103.2
HS20	12.37	4.78	12.37	4.78	HS	95.52	171.9
2F1	23.09	7.95	23.09	7.95		0.00	119.2
3F1	23.57	5.54	23.57	5.54		0.00	127.4
4F1	22.17	5.15	22.17	5.15		0.00	139.0

5C1	11.10	6.30	11.10	6.30		0.00	251.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	102.047

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 6.200 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78	L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	HS20	56.45	R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78	L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	2F1	36.51	R	28.09	134.37	0.0	0.00	0.00	0.00	
		-28.09	L	-21.61	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.08	R	33.91	138.37	0.0	0.00	0.00	0.00	
		-40.30	L	-31.00	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.37	R	31.05	142.37	0.0	0.00	0.00	0.00	
		-43.37	L	-33.36	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.78	L	40.60	77.37	0.0	0.00	0.00	0.00	
		-37.51	L	-28.85	98.02	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS	57.39	103.3
HS20	5.35	6.40	4.78	7.16	HS	95.66	172.2
2F1	8.27	9.52	7.39	10.65		0.00	110.9
3F1	6.85	6.63	6.12	7.43		0.00	140.9
4F1	7.48	6.16	6.69	6.90		0.00	166.4
5C1	5.72	7.13	5.11	7.98		0.00	204.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 6.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.5	66.2
OPER	151.3	-122.5	110.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.86	24.79	-2.20	19.07	-4.35	20.80	-3.35	16.00
OPER	HS20	-2.86	24.79	-2.20	19.07	-4.35	20.80	-3.35	16.00
OPER	2F1	-2.03	15.11	-1.56	11.62	0.00	0.00	0.00	0.00
OPER	3F1	-2.91	20.43	-2.24	15.72	0.00	0.00	0.00	0.00
OPER	4F1	-3.11	21.09	-2.39	16.22	0.00	0.00	0.00	0.00
OPER	5C1	-4.42	19.23	-3.40	14.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.90	2.67	HS 53.37	96.1
HS20	28.16	4.45	HS 88.95	160.1
2F1	60.39	7.30	0.00	109.5
3F1	42.11	5.39	0.00	124.1
4F1	39.40	5.23	0.00	141.2
5C1	27.72	5.73	0.00	229.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-166.8
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-278.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78	L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	HS20	56.45	R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78	L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	2F1	36.51	R	28.09	134.37	0.0	0.00	0.00	0.00	
		-28.09	L	-21.61	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.08	R	33.91	138.37	0.0	0.00	0.00	0.00	
		-40.30	L	-31.00	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.37	R	31.05	142.37	0.0	0.00	0.00	0.00	
		-43.37	L	-33.36	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.78	L	40.60	77.37	0.0	0.00	0.00	0.00	
		-37.51	L	-28.85	98.02	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	3.99	2.98	3.99	HS	59.68	107.4
HS20	4.97	6.66	4.97	6.66	HS	99.46	179.0
2F1	7.69	9.90	7.69	9.90		0.00	115.3
3F1	6.37	6.90	6.37	6.90		0.00	146.5
4F1	6.95	6.41	6.95	6.41		0.00	173.1

5C1	5.32	7.41	5.32	7.41		0.00	212.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	102.047

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.8	-167.8	154.6	-186.9
OPER	300.6C	-268.7	268.7	-300.6C	289.7	-279.6	257.7	-311.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69 L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	HS20	81.41 R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69 L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	2F1	53.64 R	41.26	136.76	0.0	0.00	0.00	0.00	
		-23.33 L	-17.94	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.54 R	51.95	140.76	0.0	0.00	0.00	0.00	
		-33.46 L	-25.74	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.69 R	52.84	140.76	0.0	0.00	0.00	0.00	
		-36.01 L	-27.70	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.64 L	54.34	79.76	0.0	0.00	0.00	0.00	
		-35.27 L	-27.13	98.80	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	4.84	1.90	5.39	HS 37.99	68.4
HS20	3.56	8.06	3.17	8.98	HS 63.32	114.0
2F1	5.40	11.99	4.80	13.36	0.00	72.1
3F1	4.29	8.35	3.82	9.31	0.00	87.8
4F1	4.22	7.76	3.75	8.65	0.00	101.3
5C1	4.10	7.93	3.65	8.84	0.00	145.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.3	67.3
OPER	151.3	-120.5	112.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.94	20.31	-3.80	15.62	-6.61	17.90	-5.08	13.77
OPER	HS20	-4.94	20.31	-3.80	15.62	-6.61	17.90	-5.08	13.77
OPER	2F1	-3.56	12.73	-2.74	9.79	0.00	0.00	0.00	0.00
OPER	3F1	-3.80	16.82	-2.92	12.94	0.00	0.00	0.00	0.00
OPER	4F1	-3.11	17.31	-2.39	13.32	0.00	0.00	0.00	0.00
OPER	5C1	-6.20	16.00	-4.77	12.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.94	3.32	HS 66.32	119.4
HS20	18.23	5.53	HS 110.54	199.0
2F1	33.87	8.82	0.00	132.3
3F1	31.72	6.67	0.00	153.5
4F1	38.76	6.48	0.00	175.0
5C1	19.43	7.01	0.00	280.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.0	-163.3	172.0	-163.3	161.1	-174.2	161.1	-174.2
OPER	279.4	-279.4	279.4	-279.4	268.5	-290.3	268.5	-290.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69	L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	HS20	81.41	R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69	L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	2F1	53.64	R	41.26	136.76	0.0	0.00	0.00	0.00	
		-23.33	L	-17.94	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.54	R	51.95	140.76	0.0	0.00	0.00	0.00	
		-33.46	L	-25.74	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.69	R	52.84	140.76	0.0	0.00	0.00	0.00	
		-36.01	L	-27.70	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.64	L	54.34	79.76	0.0	0.00	0.00	0.00	
		-35.27	L	-27.13	98.80	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.02	1.98	5.02	HS	39.57	71.2
HS20	3.30	8.37	3.30	8.37	HS	65.96	118.7
2F1	5.01	12.45	5.01	12.45		0.00	75.1
3F1	3.97	8.68	3.97	8.68		0.00	91.4
4F1	3.91	8.06	3.91	8.06		0.00	105.5

5C1	3.80	8.23	3.80	8.23	0.00	152.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	102.047

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.3	150.1	-191.5
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97 R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61 L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	HS20	90.97 R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61 L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	2F1	62.90 R	48.38	139.15	0.0	0.00	0.00	0.00	
		-18.56 L	-14.28	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.59 R	61.22	139.15	0.0	0.00	0.00	0.00	
		-26.63 L	-20.48	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.01 R	65.39	143.15	0.0	0.00	0.00	0.00	
		-28.65 L	-22.04	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.22 R	61.71	141.15	0.0	0.00	0.00	0.00	
		-33.50 L	-25.77	100.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.86	6.24	1.65	6.94	HS 33.00	59.4
HS20	3.10	10.40	2.75	11.56	HS 55.00	99.0
2F1	4.49	15.47	3.98	17.19	0.00	59.7
3F1	3.55	10.78	3.14	11.98	0.00	72.3
4F1	3.32	10.02	2.94	11.14	0.00	79.5
5C1	3.52	8.57	3.12	9.52	0.00	124.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 6.400

2F1
3F1
4F1
5C1

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.5
OPER	151.3	-118.5	114.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.92	-7.21	13.02	-9.16	14.95	-7.05	11.50
OPER	HS20	-9.37	16.92	-7.21	13.02	-9.16	14.95	-7.05	11.50
OPER	2F1	-5.60	10.29	-4.31	7.91	0.00	0.00	0.00	0.00
OPER	3F1	-6.61	13.23	-5.08	10.17	0.00	0.00	0.00	0.00
OPER	4F1	-5.60	13.33	-4.31	10.25	0.00	0.00	0.00	0.00
OPER	5C1	-8.25	13.30	-6.35	10.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.59	4.05	HS 81.00	145.8
HS20	12.65	6.75	HS 134.99	243.0
2F1	21.15	11.10	0.00	166.5
3F1	17.94	8.64	0.00	198.6
4F1	21.17	8.57	0.00	231.4
5C1	14.36	8.59	0.00	343.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.2	175.0	-160.2	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	260.9	-297.9	260.9	-297.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97	R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61	L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	HS20	90.97	R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61	L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	2F1	62.90	R	48.38	139.15	0.0	0.00	0.00	0.00	
		-18.56	L	-14.28	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.59	R	61.22	139.15	0.0	0.00	0.00	0.00	
		-26.63	L	-20.48	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.01	R	65.39	143.15	0.0	0.00	0.00	0.00	
		-28.65	L	-22.04	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.22	R	61.71	141.15	0.0	0.00	0.00	0.00	
		-33.50	L	-25.77	100.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.72	6.47	1.72	6.47	HS	34.42	62.0
HS20	2.87	10.79	2.87	10.79	HS	57.36	103.3
2F1	4.15	16.05	4.15	16.05		0.00	62.2
3F1	3.28	11.19	3.28	11.19		0.00	75.4
4F1	3.07	10.40	3.07	10.40		0.00	82.9

5C1	3.25	8.89	3.25	8.89	0.00	130.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.88	28.67	28.67	1.699	999999.000	102.047

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.85		104.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I 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	-193.2
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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67 R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	HS20	87.89 R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67 R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	2F1	63.87 R	49.13	141.54	0.0	0.00	0.00	0.00	
		-14.00 R	-10.77	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.63 L	65.10	121.54	0.0	0.00	0.00	0.00	
		-20.08 R	-15.45	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	87.91 L	67.62	117.54	0.0	0.00	0.00	0.00	
		-21.60 R	-16.62	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.64 R	64.34	182.54	0.0	0.00	0.00	0.00	
		-33.11 R	-25.47	162.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	8.23	1.69	9.14	HS 33.77	60.8
HS20	3.18	13.72	2.82	15.24	HS 56.29	101.3
2F1	4.37	20.70	3.87	22.99	0.00	58.1
3F1	3.30	14.44	2.92	16.03	0.00	67.2
4F1	3.18	13.42	2.81	14.90	0.00	76.0
5C1	3.34	8.76	2.96	9.72	0.00	118.3

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-11.93	12.04	-9.18	9.26
OPER	HS20	-13.39	13.39	-10.30	10.30	-11.93	12.04	-9.18	9.26
OPER	2F1	-7.87	7.89	-6.05	6.07	0.00	0.00	0.00	0.00
OPER	3F1	-9.77	9.79	-7.52	7.53	0.00	0.00	0.00	0.00
OPER	4F1	-9.22	9.25	-7.10	7.12	0.00	0.00	0.00	0.00
OPER	5C1	-10.52	10.60	-8.10	8.15	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.20	HS 104.11	187.4
HS20	8.70	8.68	HS 173.52	312.3
2F1	14.81	14.73	0.00	221.0
3F1	11.93	11.86	0.00	272.9
4F1	12.64	12.56	0.00	339.0
5C1	11.08	10.96	0.00	438.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.2	-159.1	176.2	-159.1	154.9	-180.4	154.9	-180.4
OPER	279.4	-279.4	279.4	-279.4	258.1	-300.7	258.1	-300.7

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89	R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67	R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	HS20	87.89	R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67	R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	2F1	63.87	R	49.13	141.54	0.0	0.00	0.00	0.00	
		-14.00	R	-10.77	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.63	L	65.10	121.54	0.0	0.00	0.00	0.00	
		-20.08	R	-15.45	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	87.91	L	67.62	117.54	0.0	0.00	0.00	0.00	
		-21.60	R	-16.62	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.64	R	64.34	182.54	0.0	0.00	0.00	0.00	
		-33.11	R	-25.47	162.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.76	8.54	1.76	8.54	HS	35.24	63.4
HS20	2.94	14.23	2.94	14.23	HS	58.74	105.7
2F1	4.04	21.47	4.04	21.47		0.00	60.6
3F1	3.05	14.97	3.05	14.97		0.00	70.1
4F1	2.94	13.92	2.94	13.92		0.00	79.3

5C1	3.09	9.08	3.09	9.08		0.00	123.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 6.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.9	-172.7	149.7	-191.9
OPER	300.6C	-268.7	268.7	-300.6C	281.4	-287.9	249.4	-319.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09 L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83 R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	HS20	91.09 L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83 R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	2F1	62.95 L	48.42	123.93	0.0	0.00	0.00	0.00	
		-18.85 R	-14.50	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.67 L	61.29	123.93	0.0	0.00	0.00	0.00	
		-27.04 R	-20.80	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.09 L	65.46	119.93	0.0	0.00	0.00	0.00	
		-29.09 R	-22.38	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.81 L	62.16	121.93	0.0	0.00	0.00	0.00	
		-33.75 R	-25.96	162.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.85	6.21	1.64	6.90	HS 32.86	59.1
HS20	3.09	10.34	2.74	11.49	HS 54.77	98.6
2F1	4.47	15.27	3.96	16.96	0.00	59.4
3F1	3.53	10.65	3.13	11.83	0.00	72.0
4F1	3.31	9.90	2.93	11.00	0.00	79.2
5C1	3.48	8.53	3.09	9.48	0.00	123.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.5	118.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-16.93	9.38	-13.02	7.22	-14.84	9.27	-11.41	7.13
OPER	HS20	-16.93	9.38	-13.02	7.22	-14.84	9.27	-11.41	7.13
OPER	2F1	-10.27	5.62	-7.90	4.32	0.00	0.00	0.00	0.00
OPER	3F1	-13.20	6.62	-10.15	5.09	0.00	0.00	0.00	0.00
OPER	4F1	-13.30	5.61	-10.23	4.31	0.00	0.00	0.00	0.00
OPER	5C1	-13.29	8.28	-10.22	6.37	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.56	HS 81.18	146.1
HS20	6.76	12.60	HS 135.29	243.5
2F1	11.15	21.04	0.00	167.3
3F1	8.68	17.85	0.00	199.5
4F1	8.61	21.09	0.00	232.5
5C1	8.62	14.28	0.00	344.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.3	-160.0	175.3	-160.0	156.1	-179.2	156.1	-179.2
OPER	279.4	-279.4	279.4	-279.4	260.2	-298.6	260.2	-298.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09	L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83	R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	HS20	91.09	L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83	R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	2F1	62.95	L	48.42	123.93	0.0	0.00	0.00	0.00	
		-18.85	R	-14.50	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	79.67	L	61.29	123.93	0.0	0.00	0.00	0.00	
		-27.04	R	-20.80	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.09	L	65.46	119.93	0.0	0.00	0.00	0.00	
		-29.09	R	-22.38	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.81	L	62.16	121.93	0.0	0.00	0.00	0.00	
		-33.75	R	-25.96	162.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.71	6.44	1.71	6.44	HS	34.28	61.7
HS20	2.86	10.73	2.86	10.73	HS	57.13	102.8
2F1	4.13	15.84	4.13	15.84		0.00	62.0
3F1	3.27	11.04	3.27	11.04		0.00	75.1
4F1	3.06	10.27	3.06	10.27		0.00	82.6

5C1	3.22	8.85	3.22	8.85	0.00	128.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 6.700

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.9	-168.6	153.8	-187.8
OPER	300.6C	-268.7	268.7	-300.6C	288.2	-281.0	256.3	-313.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57 L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99 R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	HS20	81.57 L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99 R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	2F1	53.74 L	41.34	126.33	0.0	0.00	0.00	0.00	
		-23.70 R	-18.23	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.68 L	52.06	122.33	0.0	0.00	0.00	0.00	
		-34.00 R	-26.15	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.84 L	52.96	122.33	0.0	0.00	0.00	0.00	
		-36.57 R	-28.13	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	71.91 R	55.32	183.33	0.0	0.00	0.00	0.00	
		-35.72 R	-27.48	164.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.12	4.82	1.88	5.37	HS	37.70	67.9
HS20	3.53	8.03	3.14	8.95	HS	62.83	113.1
2F1	5.36	11.86	4.77	13.21		0.00	71.5
3F1	4.26	8.27	3.79	9.21		0.00	87.1
4F1	4.19	7.68	3.72	8.56		0.00	100.5
5C1	4.01	7.87	3.56	8.76		0.00	142.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 6.700

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.5	72.1
OPER	151.3	-112.5	120.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.31	4.96	-15.63	3.81	-17.79	6.71	-13.69	5.16
OPER	HS20	-20.31	4.96	-15.63	3.81	-17.79	6.71	-13.69	5.16
OPER	2F1	-12.71	3.57	-9.78	2.74	0.00	0.00	0.00	0.00
OPER	3F1	-16.79	3.80	-12.92	2.93	0.00	0.00	0.00	0.00
OPER	4F1	-17.29	3.06	-13.30	2.35	0.00	0.00	0.00	0.00
OPER	5C1	-15.99	6.20	-12.30	4.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.74	HS 66.47	119.7
HS20	5.54	17.91	HS 110.79	199.4
2F1	8.86	33.70	0.00	132.8
3F1	6.70	31.59	0.00	154.1
4F1	6.51	39.34	0.00	175.8
5C1	7.04	19.37	0.00	281.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.6	-162.7	172.6	-162.7	160.2	-175.1	160.2	-175.1
OPER	279.4	-279.4	279.4	-279.4	267.0	-291.8	267.0	-291.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57	L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99	R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	HS20	81.57	L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99	R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	2F1	53.74	L	41.34	126.33	0.0	0.00	0.00	0.00	
		-23.70	R	-18.23	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.68	L	52.06	122.33	0.0	0.00	0.00	0.00	
		-34.00	R	-26.15	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	68.84	L	52.96	122.33	0.0	0.00	0.00	0.00	
		-36.57	R	-28.13	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	71.91	R	55.32	183.33	0.0	0.00	0.00	0.00	
		-35.72	R	-27.48	164.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.96	5.00	1.96	5.00	HS	39.28	70.7
HS20	3.27	8.34	3.27	8.34	HS	65.47	117.8
2F1	4.97	12.31	4.97	12.31		0.00	74.5
3F1	3.94	8.58	3.94	8.58		0.00	90.7
4F1	3.88	7.98	3.88	7.98		0.00	104.7

5C1	3.71	8.17	3.71	8.17	0.00	148.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.7	160.7	-180.9
OPER	300.6C	-268.7	268.7	-300.6C	299.8	-269.5	267.8	-301.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15	R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	HS20	56.67	L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15	R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	2F1	36.65	L	28.19	128.72	0.0	0.00	0.00	0.00	
		-28.56	R	-21.97	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.29	L	34.07	124.72	0.0	0.00	0.00	0.00	
		-40.96	R	-31.51	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.59	L	31.22	120.72	0.0	0.00	0.00	0.00	
		-44.06	R	-33.89	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	54.76	R	42.12	185.72	0.0	0.00	0.00	0.00	
		-38.13	R	-29.33	165.07	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.17	3.84	2.84	4.29	HS	56.71	102.1
HS20	5.29	6.39	4.73	7.15	HS	94.52	170.1
2F1	8.18	9.44	7.31	10.56		0.00	109.6
3F1	6.77	6.58	6.05	7.36		0.00	139.1
4F1	7.39	6.12	6.60	6.84		0.00	165.2
5C1	5.47	7.07	4.89	7.91		0.00	195.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 6.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.3	73.3
OPER	151.3	-110.6	122.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.77	2.84	-19.05	2.19	-20.70	4.45	-15.92	3.42
OPER	HS20	-24.77	2.84	-19.05	2.19	-20.70	4.45	-15.92	3.42
OPER	2F1	-15.09	1.99	-11.61	1.53	0.00	0.00	0.00	0.00
OPER	3F1	-20.41	2.86	-15.70	2.20	0.00	0.00	0.00	0.00
OPER	4F1	-21.07	3.06	-16.21	2.35	0.00	0.00	0.00	0.00
OPER	5C1	-19.14	4.40	-14.72	3.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.68	16.49	HS 53.57	96.4
HS20	4.46	27.48	HS 89.28	160.7
2F1	7.33	61.32	0.00	109.9
3F1	5.42	42.74	0.00	124.6
4F1	5.25	39.98	0.00	141.7
5C1	5.78	27.78	0.00	231.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	168.0	-167.3	168.0	-167.3	167.1	-168.1	167.1	-168.1
OPER	279.4	-279.4	279.4	-279.4	278.6	-280.2	278.6	-280.2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.67	L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15	R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	HS20	56.67	L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15	R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	2F1	36.65	L	28.19	128.72	0.0	0.00	0.00	0.00	
		-28.56	R	-21.97	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.29	L	34.07	124.72	0.0	0.00	0.00	0.00	
		-40.96	R	-31.51	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.59	L	31.22	120.72	0.0	0.00	0.00	0.00	
		-44.06	R	-33.89	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	54.76	R	42.12	185.72	0.0	0.00	0.00	0.00	
		-38.13	R	-29.33	165.07	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.95	3.99	2.95	3.99	HS	58.99	106.2
HS20	4.92	6.65	4.92	6.65	HS	98.31	177.0
2F1	7.60	9.81	7.60	9.81		0.00	114.0
3F1	6.29	6.84	6.29	6.84		0.00	144.7
4F1	6.86	6.36	6.86	6.36		0.00	171.8

5C1	5.09	7.35	5.09	7.35	0.00	203.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.6	-151.9	170.4	-171.1
OPER	300.6C	-268.7	268.7	-300.6C	316.1	-253.2	284.1	-285.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56 L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60 L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	HS20	16.56 L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60 L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	2F1	13.04 L	10.03	131.11	0.0	0.00	0.00	0.00	
		-33.41 R	-25.70	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	15.50 R	11.92	186.98	0.0	0.00	0.00	0.00	
		-47.91 R	-36.86	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.47 R	12.67	190.98	0.0	0.00	0.00	0.00	
		-51.54 R	-39.65	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.46 R	22.66	188.11	0.0	0.00	0.00	0.00	
		-42.19 R	-32.46	166.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.73	2.73	6.95	3.08	HS 54.66	98.4
HS20	12.89	4.55	11.59	5.13	HS 91.09	164.0
2F1	24.24	7.58	21.79	8.54	0.00	113.7
3F1	20.40	5.28	18.33	5.95	0.00	121.6
4F1	19.19	4.91	17.25	5.53	0.00	132.7
5C1	10.73	6.00	9.64	6.76	0.00	240.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 6.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.1	74.5
OPER	151.3	-108.6	124.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	2.96	-22.63	2.28	-23.47	3.20	-18.05	2.46
OPER	HS20	-29.42	2.96	-22.63	2.28	-23.47	3.20	-18.05	2.46
OPER	2F1	-17.31	1.99	-13.32	1.53	0.00	0.00	0.00	0.00
OPER	3F1	-23.90	2.86	-18.38	2.20	0.00	0.00	0.00	0.00
OPER	4F1	-24.62	3.08	-18.94	2.37	0.00	0.00	0.00	0.00
OPER	5C1	-22.35	2.90	-17.19	2.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	2.21	23.30	HS	44.29	79.7
HS20	3.69	38.84	HS	73.82	132.9
2F1	6.27	62.32		0.00	94.1
3F1	4.54	43.44		0.00	104.5
4F1	4.41	40.37		0.00	119.1
5C1	4.86	42.81		0.00	194.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.5	-173.8	161.5	-173.8	176.9	-158.4	176.9	-158.4
OPER	279.4	-279.4	279.4	-279.4	294.8	-264.0	294.8	-264.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.56	L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60	L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	HS20	16.56	L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60	L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	2F1	13.04	L	10.03	131.11	0.0	0.00	0.00	0.00	
		-33.41	R	-25.70	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	15.50	R	11.92	186.98	0.0	0.00	0.00	0.00	
		-47.91	R	-36.86	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.47	R	12.67	190.98	0.0	0.00	0.00	0.00	
		-51.54	R	-39.65	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.46	R	22.66	188.11	0.0	0.00	0.00	0.00	
		-42.19	R	-32.46	166.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.22	2.85	7.22	2.85	HS	56.98	102.6
HS20	12.02	4.75	12.02	4.75	HS	94.96	170.9
2F1	22.61	7.90	22.61	7.90		0.00	118.5
3F1	19.03	5.51	19.03	5.51		0.00	126.7
4F1	17.91	5.12	17.91	5.12		0.00	138.3

5C1	10.01	6.26	10.01	6.26		0.00	250.3

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.2	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	2F1	12.40 R	9.54	184.59	0.0	0.00	0.00	0.00	
		-38.26 R	-29.43	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.75 R	13.65	186.98	0.0	0.00	0.00	0.00	
		-61.89 L	-47.61	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	19.02 R	14.63	190.20	0.0	0.00	0.00	0.00	
		-72.40 L	-55.69	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	16.07 R	12.36	226.38	0.0	0.00	0.00	0.00	
		-59.66 R	-45.89	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.07	1.46	9.12	1.66	HS	29.25	52.6
HS20	16.79	2.44	15.19	2.77	HS	48.74	87.7
2F1	27.17	6.07	24.59	6.91		0.00	91.1
3F1	19.00	3.75	17.19	4.27		0.00	86.3
4F1	17.72	3.21	16.04	3.65		0.00	86.6
5C1	20.98	3.89	18.99	4.43		0.00	155.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-7.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.0	64.2
OPER	151.3	-106.6	107.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.97	-22.63	26.13	-23.47	25.86	-18.05	19.89
OPER	HS20	-29.42	33.97	-22.63	26.13	-23.47	25.86	-18.05	19.89
OPER	2F1	-17.31	19.34	-13.32	14.87	0.00	0.00	0.00	0.00
OPER	3F1	-23.90	27.22	-18.38	20.94	0.00	0.00	0.00	0.00
OPER	4F1	-24.62	28.64	-18.94	22.03	0.00	0.00	0.00	0.00
OPER	5C1	-22.35	25.68	-17.19	19.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS	37.80	68.0
HS20	3.15	3.15	HS	63.00	113.4
2F1	5.53	5.53		0.00	82.9
3F1	3.93	3.93		0.00	90.4
4F1	3.74	3.74		0.00	100.9
5C1	4.19	4.17		0.00	166.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-145.8
OPER	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-243.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	2F1	12.40	R	9.54	184.59	0.0	0.00	0.00	0.00	
		-38.26	R	-29.43	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.75	R	13.65	186.98	0.0	0.00	0.00	0.00	
		-61.89	L	-47.61	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	19.02	R	14.63	190.20	0.0	0.00	0.00	0.00	
		-72.40	L	-55.69	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	16.07	R	12.36	226.38	0.0	0.00	0.00	0.00	
		-59.66	R	-45.89	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.44	1.53	9.44	1.53	HS	30.60	55.1
HS20	15.73	2.55	15.73	2.55	HS	51.00	91.8
2F1	25.46	6.35	25.46	6.35		0.00	95.3
3F1	17.80	3.93	17.80	3.93		0.00	90.3
4F1	16.60	3.36	16.60	3.36		0.00	90.6

5C1	19.66	4.07	19.66	4.07		0.00	162.9

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.225

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 7.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.2	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	2F1	12.40 R	9.54	184.59	0.0	0.00	0.00	0.00	
		-38.26 R	-29.43	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.75 R	13.65	186.98	0.0	0.00	0.00	0.00	
		-61.89 L	-47.61	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	19.02 R	14.63	190.20	0.0	0.00	0.00	0.00	
		-72.40 L	-55.69	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	16.07 R	12.36	226.38	0.0	0.00	0.00	0.00	
		-59.66 R	-45.89	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.07	1.46	9.12	1.66	HS 29.25	52.6
HS20	16.79	2.44	15.19	2.77	HS 48.74	87.7
2F1	27.17	6.07	24.59	6.91	0.00	91.1
3F1	19.00	3.75	17.19	4.27	0.00	86.3
4F1	17.72	3.21	16.04	3.65	0.00	86.6
5C1	20.98	3.89	18.99	4.43	0.00	155.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-9.0	8.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.0	64.2
OPER	151.3	-106.6	107.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-33.80	33.97	-26.00	26.13	-25.99	25.86	-20.00	19.89
OPER	HS20	-33.80	33.97	-26.00	26.13	-25.99	25.86	-20.00	19.89
OPER	2F1	-19.28	19.34	-14.83	14.87	0.00	0.00	0.00	0.00
OPER	3F1	-27.11	27.22	-20.85	20.94	0.00	0.00	0.00	0.00
OPER	4F1	-28.49	28.64	-21.92	22.03	0.00	0.00	0.00	0.00
OPER	5C1	-25.42	25.68	-19.55	19.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.80	68.0
HS20	3.15	3.15	HS 63.00	113.4
2F1	5.53	5.53	0.00	82.9
3F1	3.93	3.93	0.00	90.4
4F1	3.74	3.74	0.00	100.9
5C1	4.19	4.17	0.00	166.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-145.8
OPER	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-243.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	2F1	12.40	R	9.54	184.59	0.0	0.00	0.00	0.00	
		-38.26	R	-29.43	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.75	R	13.65	186.98	0.0	0.00	0.00	0.00	
		-61.89	L	-47.61	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	19.02	R	14.63	190.20	0.0	0.00	0.00	0.00	
		-72.40	L	-55.69	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	16.07	R	12.36	226.38	0.0	0.00	0.00	0.00	
		-59.66	R	-45.89	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.44	1.53	9.44	1.53	HS	30.60	55.1
HS20	15.73	2.55	15.73	2.55	HS	51.00	91.8
2F1	25.46	6.35	25.46	6.35		0.00	95.3
3F1	17.80	3.93	17.80	3.93		0.00	90.3
4F1	16.60	3.36	16.60	3.36		0.00	90.6

5C1	19.66	4.07	19.66	4.07		0.00	162.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.2	-151.4	171.0	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.0	-252.3	285.1	-284.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01	R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60	R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	HS20	16.01	R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60	R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	2F1	12.71	R	9.78	155.89	0.0	0.00	0.00	0.00	
		-32.76	L	-25.20	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.59	L	9.69	100.02	0.0	0.00	0.00	0.00	
		-47.00	L	-36.15	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.39	L	10.30	96.02	0.0	0.00	0.00	0.00	
		-50.57	L	-38.90	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.62	L	20.48	98.89	0.0	0.00	0.00	0.00	
		-41.17	L	-31.67	119.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.76	2.77	6.97	3.12	HS 55.44	99.8
HS20	12.93	4.62	11.62	5.21	HS 92.41	166.3
2F1	24.95	7.70	22.43	8.68	0.00	115.5
3F1	25.17	5.37	22.63	6.05	0.00	123.4
4F1	23.68	4.99	21.29	5.62	0.00	134.7
5C1	11.91	6.13	10.71	6.91	0.00	245.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 7.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.3	65.4
OPER	151.3	-123.8	109.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.79	29.62	-2.92	22.79	-3.74	23.37	-2.88	17.97
OPER	HS20	-3.79	29.62	-2.92	22.79	-3.74	23.37	-2.88	17.97
OPER	2F1	-2.45	17.40	-1.89	13.38	0.00	0.00	0.00	0.00
OPER	3F1	-3.51	24.05	-2.70	18.50	0.00	0.00	0.00	0.00
OPER	4F1	-3.74	24.80	-2.88	19.08	0.00	0.00	0.00	0.00
OPER	5C1	-3.62	22.61	-2.78	17.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	19.58	2.21	HS 44.15	79.5
HS20	32.63	3.68	HS 73.58	132.4
2F1	50.43	6.26	0.00	94.0
3F1	35.25	4.53	0.00	104.2
4F1	33.10	4.39	0.00	118.6
5C1	34.20	4.82	0.00	192.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.1	-174.2	161.1	-174.2	177.5	-157.8	177.5	-157.8
OPER	279.4	-279.4	279.4	-279.4	295.8	-263.0	295.8	-263.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.01	R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60	R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	HS20	16.01	R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60	R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	2F1	12.71	R	9.78	155.89	0.0	0.00	0.00	0.00	
		-32.76	L	-25.20	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.59	L	9.69	100.02	0.0	0.00	0.00	0.00	
		-47.00	L	-36.15	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	13.39	L	10.30	96.02	0.0	0.00	0.00	0.00	
		-50.57	L	-38.90	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.62	L	20.48	98.89	0.0	0.00	0.00	0.00	
		-41.17	L	-31.67	119.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.24	2.89	7.24	2.89	HS	57.81	104.1
HS20	12.06	4.82	12.06	4.82	HS	96.34	173.4
2F1	23.27	8.03	23.27	8.03		0.00	120.4
3F1	23.49	5.60	23.49	5.60		0.00	128.7
4F1	22.09	5.20	22.09	5.20		0.00	140.4

5C1	11.11	6.39	11.11	6.39		0.00	255.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.5	161.8	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.43	R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77	L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	HS20	56.43	R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77	L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	2F1	36.49	R	28.07	158.28	0.0	0.00	0.00	0.00	
		-28.08	L	-21.60	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.04	R	33.87	162.28	0.0	0.00	0.00	0.00	
		-40.29	L	-30.99	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.32	R	31.01	166.28	0.0	0.00	0.00	0.00	
		-43.35	L	-33.35	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.75	L	40.58	101.28	0.0	0.00	0.00	0.00	
		-37.44	L	-28.80	121.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS	57.37	103.3
HS20	5.35	6.41	4.78	7.17	HS	95.61	172.1
2F1	8.27	9.53	7.39	10.67		0.00	110.9
3F1	6.85	6.64	6.12	7.43		0.00	140.9
4F1	7.48	6.17	6.69	6.91		0.00	166.6
5C1	5.72	7.15	5.11	8.00		0.00	204.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 7.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.1	66.6
OPER	151.3	-121.8	111.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.79	24.99	-2.92	19.22	-4.48	20.63	-3.45	15.87
OPER	HS20	-3.79	24.99	-2.92	19.22	-4.48	20.63	-3.45	15.87
OPER	2F1	-2.45	15.20	-1.89	11.69	0.00	0.00	0.00	0.00
OPER	3F1	-3.51	20.59	-2.70	15.84	0.00	0.00	0.00	0.00
OPER	4F1	-3.74	21.23	-2.88	16.33	0.00	0.00	0.00	0.00
OPER	5C1	-5.22	19.38	-4.02	14.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	16.32	2.66	HS	53.29	95.9
HS20	27.19	4.44	HS	88.82	159.9
2F1	49.62	7.30		0.00	109.5
3F1	34.69	5.39		0.00	124.0
4F1	32.57	5.23		0.00	141.1
5C1	23.31	5.72		0.00	229.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.43	R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77	L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	HS20	56.43	R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77	L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	2F1	36.49	R	28.07	158.28	0.0	0.00	0.00	0.00	
		-28.08	L	-21.60	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	44.04	R	33.87	162.28	0.0	0.00	0.00	0.00	
		-40.29	L	-30.99	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	40.32	R	31.01	166.28	0.0	0.00	0.00	0.00	
		-43.35	L	-33.35	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.75	L	40.58	101.28	0.0	0.00	0.00	0.00	
		-37.44	L	-28.80	121.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.65	107.4
HS20	4.97	6.66	4.97	6.66	HS	99.42	179.0
2F1	7.69	9.91	7.69	9.91		0.00	115.3
3F1	6.37	6.91	6.37	6.91		0.00	146.5
4F1	6.96	6.42	6.96	6.42		0.00	173.3

5C1	5.32	7.43	5.32	7.43	0.00	212.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.2	-278.1	259.2	-310.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52 R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81 L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	HS20	81.52 R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81 L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	2F1	53.88 R	41.44	160.68	0.0	0.00	0.00	0.00	
		-23.40 L	-18.00	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.90 R	52.23	164.68	0.0	0.00	0.00	0.00	
		-33.57 L	-25.82	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	69.04 R	53.11	164.68	0.0	0.00	0.00	0.00	
		-36.12 L	-27.79	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.94 L	54.57	103.68	0.0	0.00	0.00	0.00	
		-35.87 L	-27.59	122.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.79	1.91	5.35	HS 38.15	68.7
HS20	3.57	7.99	3.18	8.91	HS 63.59	114.5
2F1	5.40	11.89	4.81	13.25	0.00	72.2
3F1	4.29	8.28	3.82	9.24	0.00	87.8
4F1	4.22	7.70	3.75	8.59	0.00	101.4
5C1	4.10	7.75	3.65	8.65	0.00	146.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 7.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	112.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.89	20.39	-3.76	15.68	-6.71	17.75	-5.16	13.65
OPER	HS20	-4.89	20.39	-3.76	15.68	-6.71	17.75	-5.16	13.65
OPER	2F1	-3.50	12.84	-2.69	9.88	0.00	0.00	0.00	0.00
OPER	3F1	-3.74	16.99	-2.88	13.07	0.00	0.00	0.00	0.00
OPER	4F1	-3.74	17.49	-2.88	13.45	0.00	0.00	0.00	0.00
OPER	5C1	-7.02	16.15	-5.40	12.43	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.72	3.32	HS 66.47	119.6
HS20	17.86	5.54	HS 110.78	199.4
2F1	34.21	8.80	0.00	131.9
3F1	32.04	6.65	0.00	152.9
4F1	32.04	6.46	0.00	174.4
5C1	17.06	6.99	0.00	279.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.4	-163.8	171.4	-163.8	162.0	-173.3	162.0	-173.3
OPER	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-288.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52	R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81	L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	HS20	81.52	R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81	L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	2F1	53.88	R	41.44	160.68	0.0	0.00	0.00	0.00	
		-23.40	L	-18.00	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	67.90	R	52.23	164.68	0.0	0.00	0.00	0.00	
		-33.57	L	-25.82	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	69.04	R	53.11	164.68	0.0	0.00	0.00	0.00	
		-36.12	L	-27.79	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	70.94	L	54.57	103.68	0.0	0.00	0.00	0.00	
		-35.87	L	-27.59	122.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.99	4.98	1.99	4.98	HS	39.73	71.5
HS20	3.31	8.30	3.31	8.30	HS	66.22	119.2
2F1	5.01	12.35	5.01	12.35		0.00	75.1
3F1	3.97	8.60	3.97	8.60		0.00	91.4
4F1	3.91	8.00	3.91	8.00		0.00	105.6

5C1	3.81	8.05	3.81	8.05	0.00	152.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 7.400

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.2	-170.4	152.0	-189.6
OPER	300.6C	-268.7	268.7	-300.6C	285.3	-284.0	253.3	-316.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93	R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85	L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	HS20	90.93	R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85	L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	2F1	63.46	R	48.82	163.07	0.0	0.00	0.00	0.00	
		-18.72	L	-14.40	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	80.32	R	61.78	163.07	0.0	0.00	0.00	0.00	
		-26.86	L	-20.66	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.78	R	65.98	167.07	0.0	0.00	0.00	0.00	
		-28.90	L	-22.23	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.90	R	62.23	165.07	0.0	0.00	0.00	0.00	
		-35.49	R	-27.30	185.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.88	6.12	1.67	6.81	HS	33.43	60.2
HS20	3.14	10.20	2.79	11.35	HS	55.72	100.3
2F1	4.50	15.17	3.99	16.88		0.00	59.9
3F1	3.55	10.57	3.15	11.76		0.00	72.5
4F1	3.33	9.83	2.95	10.93		0.00	79.7
5C1	3.53	8.00	3.13	8.90		0.00	125.3

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.400

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.7	69.0
OPER	151.3	-117.8	114.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.38	17.02	-7.21	13.09	-9.23	14.82	-7.10	11.40
OPER	HS20	-9.38	17.02	-7.21	13.09	-9.23	14.82	-7.10	11.40
OPER	2F1	-5.52	10.41	-4.25	8.01	0.00	0.00	0.00	0.00
OPER	3F1	-6.51	13.39	-5.01	10.30	0.00	0.00	0.00	0.00
OPER	4F1	-5.51	13.53	-4.24	10.41	0.00	0.00	0.00	0.00
OPER	5C1	-8.97	13.22	-6.90	10.17	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.54	4.05	HS 81.04	145.9
HS20	12.56	6.75	HS 135.07	243.1
2F1	21.34	11.04	0.00	165.5
3F1	18.10	8.58	0.00	197.4
4F1	21.37	8.49	0.00	229.4
5C1	13.13	8.69	0.00	347.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.8	-161.5	173.8	-161.5	158.4	-176.8	158.4	-176.8
OPER	279.4	-279.4	279.4	-279.4	264.1	-294.7	264.1	-294.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93	R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85	L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	HS20	90.93	R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85	L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	2F1	63.46	R	48.82	163.07	0.0	0.00	0.00	0.00	
		-18.72	L	-14.40	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	80.32	R	61.78	163.07	0.0	0.00	0.00	0.00	
		-26.86	L	-20.66	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	85.78	R	65.98	167.07	0.0	0.00	0.00	0.00	
		-28.90	L	-22.23	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.90	R	62.23	165.07	0.0	0.00	0.00	0.00	
		-35.49	R	-27.30	185.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.35	1.74	6.35	HS	34.85	62.7
HS20	2.90	10.58	2.90	10.58	HS	58.08	104.5
2F1	4.16	15.74	4.16	15.74		0.00	62.4
3F1	3.29	10.97	3.29	10.97		0.00	75.6
4F1	3.08	10.20	3.08	10.20		0.00	83.1

5C1	3.26	8.31	3.26	8.31	0.00	130.6

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.318

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.3	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.1	252.2	-317.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43 R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	HS20	88.69 R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43 R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	2F1	64.71 R	49.77	165.46	0.0	0.00	0.00	0.00	
		-16.94 R	-13.03	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	85.89 L	66.07	145.46	0.0	0.00	0.00	0.00	
		-24.24 R	-18.65	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	89.18 L	68.60	141.46	0.0	0.00	0.00	0.00	
		-25.98 R	-19.99	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	84.06 L	64.66	104.46	0.0	0.00	0.00	0.00	
		-36.69 R	-28.23	186.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	6.24	1.71	6.94	HS 34.13	61.4
HS20	3.20	10.39	2.84	11.56	HS 56.88	102.4
2F1	4.39	16.82	3.90	18.71	0.00	58.5
3F1	3.31	11.76	2.94	13.08	0.00	67.5
4F1	3.19	10.97	2.83	12.20	0.00	76.4
5C1	3.38	7.77	3.00	8.64	0.00	120.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.48	13.52	-10.37	10.40	-11.97	11.93	-9.21	9.17
OPER	HS20	-13.48	13.52	-10.37	10.40	-11.97	11.93	-9.21	9.17
OPER	2F1	-7.76	8.01	-5.97	6.16	0.00	0.00	0.00	0.00
OPER	3F1	-9.63	9.93	-7.41	7.64	0.00	0.00	0.00	0.00
OPER	4F1	-9.05	9.46	-6.97	7.27	0.00	0.00	0.00	0.00
OPER	5C1	-11.02	10.75	-8.48	8.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.16	5.19	HS 103.10	185.6
HS20	8.59	8.64	HS 171.83	309.3
2F1	14.93	14.60	0.00	219.0
3F1	12.03	11.77	0.00	270.8
4F1	12.79	12.36	0.00	333.8
5C1	10.51	10.88	0.00	420.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.2	-161.1	174.2	-161.1	157.8	-177.5	157.8	-177.5
OPER	279.4	-279.4	279.4	-279.4	263.0	-295.8	263.0	-295.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69	R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43	R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	HS20	88.69	R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43	R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	2F1	64.71	R	49.77	165.46	0.0	0.00	0.00	0.00	
		-16.94	R	-13.03	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	85.89	L	66.07	145.46	0.0	0.00	0.00	0.00	
		-24.24	R	-18.65	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	89.18	L	68.60	141.46	0.0	0.00	0.00	0.00	
		-25.98	R	-19.99	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	84.06	L	64.66	104.46	0.0	0.00	0.00	0.00	
		-36.69	R	-28.23	186.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	6.47	1.78	6.47	HS	35.58	64.0
HS20	2.96	10.78	2.96	10.78	HS	59.30	106.7
2F1	4.06	17.46	4.06	17.46		0.00	61.0
3F1	3.06	12.20	3.06	12.20		0.00	70.4
4F1	2.95	11.39	2.95	11.39		0.00	79.6

5C1	3.13	8.06	3.13	8.06	0.00	125.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 7.600

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.8	-168.8	153.6	-188.0
OPER	300.6C	-268.7	268.7	-300.6C	288.0	-281.3	256.0	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63 L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93 R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	HS20	92.63 L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93 R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	2F1	64.11 L	49.32	147.85	0.0	0.00	0.00	0.00	
		-22.81 R	-17.55	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.45 L	62.65	147.85	0.0	0.00	0.00	0.00	
		-32.64 R	-25.11	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	86.98 L	66.91	143.85	0.0	0.00	0.00	0.00	
		-34.98 R	-26.91	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	79.69 L	61.30	106.85	0.0	0.00	0.00	0.00	
		-38.85 R	-29.88	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	4.57	1.66	5.09	HS 33.16	59.7
HS20	3.11	7.62	2.76	8.48	HS 55.27	99.5
2F1	4.49	12.33	3.99	13.73	0.00	59.9
3F1	3.54	8.62	3.14	9.60	0.00	72.3
4F1	3.31	8.04	2.94	8.96	0.00	79.5
5C1	3.61	7.24	3.21	8.06	0.00	128.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 7.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-2.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.3	71.4
OPER	151.3	-113.8	118.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-17.12	9.55	-13.17	7.34	-14.86	9.16	-11.43	7.04
OPER	HS20	-17.12	9.55	-13.17	7.34	-14.86	9.16	-11.43	7.04
OPER	2F1	-10.14	5.72	-7.80	4.40	0.00	0.00	0.00	0.00
OPER	3F1	-13.03	6.70	-10.02	5.16	0.00	0.00	0.00	0.00
OPER	4F1	-13.13	5.60	-10.10	4.31	0.00	0.00	0.00	0.00
OPER	5C1	-13.38	8.43	-10.29	6.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.99	7.47	HS 79.76	143.6
HS20	6.65	12.46	HS 132.93	239.3
2F1	11.22	20.80	0.00	168.3
3F1	8.73	17.74	0.00	200.9
4F1	8.67	21.24	0.00	234.0
5C1	8.51	14.10	0.00	340.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.7	-162.6	172.7	-162.6	160.1	-175.2	160.1	-175.2
OPER	279.4	-279.4	279.4	-279.4	266.8	-292.0	266.8	-292.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63	L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93	R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	HS20	92.63	L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93	R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	2F1	64.11	L	49.32	147.85	0.0	0.00	0.00	0.00	
		-22.81	R	-17.55	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.45	L	62.65	147.85	0.0	0.00	0.00	0.00	
		-32.64	R	-25.11	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	86.98	L	66.91	143.85	0.0	0.00	0.00	0.00	
		-34.98	R	-26.91	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	79.69	L	61.30	106.85	0.0	0.00	0.00	0.00	
		-38.85	R	-29.88	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	4.74	1.73	4.74	HS	34.56	62.2
HS20	2.88	7.91	2.88	7.91	HS	57.59	103.7
2F1	4.16	12.80	4.16	12.80		0.00	62.4
3F1	3.28	8.95	3.28	8.95		0.00	75.3
4F1	3.07	8.35	3.07	8.35		0.00	82.8

5C1	3.35	7.52	3.35	7.52		0.00	133.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 7.700

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	177.9	-163.7	158.7	-182.9
OPER	300.6C	-268.7	268.7	-300.6C	296.5	-272.8	264.5	-304.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79	L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43	R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	HS20	83.79	L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43	R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	2F1	55.29	L	42.53	150.24	0.0	0.00	0.00	0.00	
		-28.68	R	-22.06	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	69.87	L	53.75	146.24	0.0	0.00	0.00	0.00	
		-41.04	R	-31.57	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	71.19	L	54.77	146.24	0.0	0.00	0.00	0.00	
		-43.98	R	-33.83	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	68.27	L	52.51	144.24	0.0	0.00	0.00	0.00	
		-42.18	R	-32.45	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.12	3.53	1.89	3.94	HS	37.88	68.2
HS20	3.54	5.88	3.16	6.56	HS	63.14	113.7
2F1	5.36	9.51	4.78	10.62		0.00	71.8
3F1	4.24	6.65	3.79	7.43		0.00	87.1
4F1	4.16	6.20	3.71	6.93		0.00	100.3
5C1	4.34	6.47	3.88	7.22		0.00	155.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 7.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-4.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.1	72.6
OPER	151.3	-111.8	120.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.51	5.15	-15.77	3.96	-17.81	6.59	-13.70	5.07
OPER	HS20	-20.51	5.15	-15.77	3.96	-17.81	6.59	-13.70	5.07
OPER	2F1	-12.57	3.63	-9.67	2.79	0.00	0.00	0.00	0.00
OPER	3F1	-16.60	3.81	-12.77	2.93	0.00	0.00	0.00	0.00
OPER	4F1	-17.14	3.00	-13.19	2.31	0.00	0.00	0.00	0.00
OPER	5C1	-16.06	6.32	-12.35	4.86	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.27	11.02	HS 65.44	117.8
HS20	5.45	18.36	HS 109.07	196.3
2F1	8.89	33.34	0.00	133.4
3F1	6.74	31.74	0.00	154.9
4F1	6.52	40.29	0.00	176.1
5C1	6.96	19.13	0.00	278.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.3	-166.0	169.3	-166.0	165.2	-170.1	165.2	-170.1
OPER	279.4	-279.4	279.4	-279.4	275.3	-283.5	275.3	-283.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	83.79	L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43	R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	HS20	83.79	L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43	R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	2F1	55.29	L	42.53	150.24	0.0	0.00	0.00	0.00	
		-28.68	R	-22.06	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	69.87	L	53.75	146.24	0.0	0.00	0.00	0.00	
		-41.04	R	-31.57	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	71.19	L	54.77	146.24	0.0	0.00	0.00	0.00	
		-43.98	R	-33.83	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	68.27	L	52.51	144.24	0.0	0.00	0.00	0.00	
		-42.18	R	-32.45	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.97	3.66	1.97	3.66	HS	39.42	71.0
HS20	3.29	6.11	3.29	6.11	HS	65.71	118.3
2F1	4.98	9.89	4.98	9.89		0.00	74.7
3F1	3.94	6.91	3.94	6.91		0.00	90.6
4F1	3.87	6.45	3.87	6.45		0.00	104.4

5C1	4.03	6.72	4.03	6.72	0.00	161.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-8.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.8	-155.7	166.7	-174.9
OPER	300.6C	-268.7	268.7	-300.6C	309.7	-259.5	277.8	-291.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45	L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93	R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	HS20	59.45	L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93	R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	2F1	38.43	L	29.56	152.63	0.0	0.00	0.00	0.00	
		-34.55	R	-26.58	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	46.95	L	36.12	148.63	0.0	0.00	0.00	0.00	
		-49.43	R	-38.03	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	43.48	L	33.45	144.63	0.0	0.00	0.00	0.00	
		-52.98	R	-40.76	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	46.63	L	35.87	146.63	0.0	0.00	0.00	0.00	
		-46.11	R	-35.47	188.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.13	2.78	2.80	3.13	HS	55.68	100.2
HS20	5.21	4.64	4.67	5.21	HS	92.80	167.0
2F1	8.06	7.51	7.23	8.44		0.00	108.4
3F1	6.60	5.25	5.92	5.90		0.00	120.8
4F1	7.12	4.90	6.39	5.50		0.00	132.3
5C1	6.64	5.63	5.96	6.32		0.00	225.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 7.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-6.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.9	73.7
OPER	151.3	-109.8	122.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.68	2.79	-18.98	2.15	-20.73	4.29	-15.95	3.30
OPER	HS20	-24.68	2.79	-18.98	2.15	-20.73	4.29	-15.95	3.30
OPER	2F1	-14.96	1.96	-11.51	1.51	0.00	0.00	0.00	0.00
OPER	3F1	-20.22	2.81	-15.55	2.16	0.00	0.00	0.00	0.00
OPER	4F1	-20.97	3.00	-16.13	2.31	0.00	0.00	0.00	0.00
OPER	5C1	-19.53	4.45	-15.03	3.42	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.67	17.18	HS 53.41	96.1
HS20	4.45	28.64	HS 89.02	160.2
2F1	7.34	62.80	0.00	110.1
3F1	5.43	43.78	0.00	125.0
4F1	5.24	40.95	0.00	141.4
5C1	5.62	27.61	0.00	224.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-8.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.0	-171.3	164.0	-171.3	173.1	-162.2	173.1	-162.2
OPER	279.4	-279.4	279.4	-279.4	288.5	-270.3	288.5	-270.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45	L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93	R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	HS20	59.45	L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93	R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	2F1	38.43	L	29.56	152.63	0.0	0.00	0.00	0.00	
		-34.55	R	-26.58	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	46.95	L	36.12	148.63	0.0	0.00	0.00	0.00	
		-49.43	R	-38.03	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	43.48	L	33.45	144.63	0.0	0.00	0.00	0.00	
		-52.98	R	-40.76	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	46.63	L	35.87	146.63	0.0	0.00	0.00	0.00	
		-46.11	R	-35.47	188.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.91	2.90	2.91	2.90	HS	57.99	104.4
HS20	4.85	4.83	4.85	4.83	HS	96.65	174.0
2F1	7.51	7.82	7.51	7.82		0.00	112.6
3F1	6.14	5.47	6.14	5.47		0.00	125.8
4F1	6.64	5.10	6.64	5.10		0.00	137.7

5C1	6.19	5.86	6.19	5.86		0.00	234.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-25.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	196.6	-144.9	177.4	-164.1
OPER	300.6C	-268.7	268.7	-300.6C	327.7	-241.6	295.7	-273.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54	L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67	L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	HS20	19.54	L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67	L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	2F1	14.70	L	11.31	155.03	0.0	0.00	0.00	0.00	
		-40.42	R	-31.10	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.74	L	9.80	151.03	0.0	0.00	0.00	0.00	
		-57.83	R	-44.48	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.14	L	5.49	119.93	0.0	0.00	0.00	0.00	
		-61.98	R	-47.68	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	21.24	L	16.34	114.03	0.0	0.00	0.00	0.00	
		-53.16	R	-40.89	193.77	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.37	2.14	8.45	2.42	HS	42.84	77.1
HS20	15.61	3.57	14.09	4.04	HS	71.39	128.5
2F1	22.30	5.98	20.12	6.77		0.00	89.6
3F1	25.73	4.18	23.22	4.73		0.00	96.1
4F1	45.91	3.90	41.43	4.41		0.00	105.2
5C1	15.43	4.55	13.93	5.15		0.00	181.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.900

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	74.9
OPER	151.3	-107.9	124.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.37	2.91	-22.59	2.24	-23.54	2.89	-18.11	2.22
OPER	HS20	-29.37	2.91	-22.59	2.24	-23.54	2.89	-18.11	2.22
OPER	2F1	-17.21	1.96	-13.24	1.51	0.00	0.00	0.00	0.00
OPER	3F1	-23.73	2.81	-18.25	2.16	0.00	0.00	0.00	0.00
OPER	4F1	-24.50	3.02	-18.84	2.32	0.00	0.00	0.00	0.00
OPER	5C1	-22.95	2.86	-17.65	2.20	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.20	25.74	HS 44.07	79.3
HS20	3.67	42.90	HS 73.45	132.2
2F1	6.27	63.81	0.00	94.0
3F1	4.55	44.48	0.00	104.6
4F1	4.40	41.34	0.00	118.9
5C1	4.70	43.65	0.00	188.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-25.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	156.8	-178.5	156.8	-178.5	183.9	-151.4	183.9	-151.4
OPER	279.4	-279.4	279.4	-279.4	306.5	-252.3	306.5	-252.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	19.54	L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67	L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	HS20	19.54	L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67	L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	2F1	14.70	L	11.31	155.03	0.0	0.00	0.00	0.00	
		-40.42	R	-31.10	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.74	L	9.80	151.03	0.0	0.00	0.00	0.00	
		-57.83	R	-44.48	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.14	L	5.49	119.93	0.0	0.00	0.00	0.00	
		-61.98	R	-47.68	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	21.24	L	16.34	114.03	0.0	0.00	0.00	0.00	
		-53.16	R	-40.89	193.77	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.76	2.24	8.76	2.24	HS	44.74	80.5
HS20	14.60	3.73	14.60	3.73	HS	74.57	134.2
2F1	20.85	6.24	20.85	6.24		0.00	93.6
3F1	24.06	4.36	24.06	4.36		0.00	100.3
4F1	42.93	4.07	42.93	4.07		0.00	109.9

5C1	14.43	4.75	14.43	4.75		0.00	189.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.96	28.67	28.67	1.699	999999.000	106.353

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		39.34		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	210.3	-131.3	191.1	-150.5
OPER	300.6C	-268.7	268.7	-300.6C	350.4	-218.9	318.4	-250.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	2F1	9.36	L	7.20	126.33	0.0	0.00	0.00	0.00	
		-46.29	R	-35.61	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.43	L	10.33	123.93	0.0	0.00	0.00	0.00	
		-68.97	L	-53.05	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.45	L	11.12	120.72	0.0	0.00	0.00	0.00	
		-82.31	L	-63.31	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	11.70	L	9.00	84.54	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	15.10	1.30	13.72	1.49	HS	26.04	46.9
HS20	25.17	2.17	22.87	2.49	HS	43.39	78.1
2F1	37.44	4.73	34.02	5.42		0.00	70.9
3F1	26.09	3.17	23.71	3.64		0.00	73.0
4F1	24.25	2.66	22.04	3.05		0.00	71.8
5C1	29.96	3.00	27.23	3.43		0.00	119.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.5	62.6
OPER	151.3	-105.9	104.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.37	36.19	-22.59	27.84	-23.54	26.36	-18.11	20.28
OPER	HS20	-29.37	36.19	-22.59	27.84	-23.54	26.36	-18.11	20.28
OPER	2F1	-17.21	19.94	-13.24	15.34	0.00	0.00	0.00	0.00
OPER	3F1	-23.73	28.51	-18.25	21.93	0.00	0.00	0.00	0.00
OPER	4F1	-24.50	30.46	-18.84	23.43	0.00	0.00	0.00	0.00
OPER	5C1	-22.95	27.13	-17.65	20.87	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.88	1.73	HS	34.61	62.3
HS20	3.13	2.88	HS	57.68	103.8
2F1	5.51	5.23		0.00	78.5
3F1	3.92	3.66		0.00	84.2
4F1	3.74	3.43		0.00	92.5
5C1	4.05	3.85		0.00	153.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	147.7	-187.6	147.7	-187.6	197.5	-137.8	197.5	-137.8
OPER	279.4	-279.4	279.4	-279.4	329.2	-229.6	329.2	-229.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	2F1	9.36	L	7.20	126.33	0.0	0.00	0.00	0.00	
		-46.29	R	-35.61	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.43	L	10.33	123.93	0.0	0.00	0.00	0.00	
		-68.97	L	-53.05	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.45	L	11.12	120.72	0.0	0.00	0.00	0.00	
		-82.31	L	-63.31	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	11.70	L	9.00	84.54	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.19	1.37	14.19	1.37	HS	27.31	49.2
HS20	23.64	2.28	23.64	2.28	HS	45.52	81.9
2F1	35.17	4.96	35.17	4.96		0.00	74.4
3F1	24.51	3.33	24.51	3.33		0.00	76.6
4F1	22.78	2.79	22.78	2.79		0.00	75.3

5C1	28.14	3.14	28.14	3.14	0.00	125.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	210.3	-131.3	191.1	-150.5
OPER	300.6C	-268.7	268.7	-300.6C	350.4	-218.9	318.4	-250.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	2F1	9.36	L	7.20	126.33	0.0	0.00	0.00	0.00	
		-46.29	R	-35.61	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.43	L	10.33	123.93	0.0	0.00	0.00	0.00	
		-68.97	L	-53.05	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.45	L	11.12	120.72	0.0	0.00	0.00	0.00	
		-82.31	L	-63.31	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	11.70	L	9.00	84.54	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	15.10	1.30	13.72	1.49	HS	26.04	46.9
HS20	25.17	2.17	22.87	2.49	HS	43.39	78.1
2F1	37.44	4.73	34.02	5.42		0.00	70.9
3F1	26.09	3.17	23.71	3.64		0.00	73.0
4F1	24.25	2.66	22.04	3.05		0.00	71.8
5C1	29.96	3.00	27.23	3.43		0.00	119.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-9.7	11.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.5	62.6
OPER	151.3	-105.9	104.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.82	36.19	-26.01	27.84	-26.13	26.36	-20.10	20.28
OPER	HS20	-33.82	36.19	-26.01	27.84	-26.13	26.36	-20.10	20.28
OPER	2F1	-19.23	19.94	-14.79	15.34	0.00	0.00	0.00	0.00
OPER	3F1	-26.99	28.51	-20.76	21.93	0.00	0.00	0.00	0.00
OPER	4F1	-28.34	30.46	-21.80	23.43	0.00	0.00	0.00	0.00
OPER	5C1	-26.15	27.13	-20.12	20.87	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.88	1.73	HS	34.61	62.3
HS20	3.13	2.88	HS	57.68	103.8
2F1	5.51	5.23		0.00	78.5
3F1	3.92	3.66		0.00	84.2
4F1	3.74	3.43		0.00	92.5
5C1	4.05	3.85		0.00	153.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	147.7	-187.6	147.7	-187.6	197.5	-137.8	197.5	-137.8
OPER	279.4	-279.4	279.4	-279.4	329.2	-229.6	329.2	-229.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	2F1	9.36	L	7.20	126.33	0.0	0.00	0.00	0.00	
		-46.29	R	-35.61	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.43	L	10.33	123.93	0.0	0.00	0.00	0.00	
		-68.97	L	-53.05	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.45	L	11.12	120.72	0.0	0.00	0.00	0.00	
		-82.31	L	-63.31	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	11.70	L	9.00	84.54	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.19	1.37	14.19	1.37	HS	27.31	49.2
HS20	23.64	2.28	23.64	2.28	HS	45.52	81.9
2F1	35.17	4.96	35.17	4.96		0.00	74.4
3F1	24.51	3.33	24.51	3.33		0.00	76.6
4F1	22.78	2.79	22.78	2.79		0.00	75.3

5C1	28.14	3.14	28.14	3.14	0.00	125.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 8.100 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-21.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	194.4	-147.1	175.3	-166.3
OPER	300.6C	-268.7	268.7	-300.6C	324.1	-245.2	292.1	-277.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48	L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85	L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	HS20	10.48	L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85	L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	2F1	10.13	R	7.79	179.81	0.0	0.00	0.00	0.00	
		-31.44	L	-24.18	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.09	L	9.30	123.93	0.0	0.00	0.00	0.00	
		-45.11	L	-34.70	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	12.85	L	9.88	119.93	0.0	0.00	0.00	0.00	
		-48.54	L	-37.33	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.75	L	18.27	122.81	0.0	0.00	0.00	0.00	
		-43.84	R	-33.72	202.46	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	9.27	2.71	8.35	3.06	HS	54.16	97.5
HS20	15.45	4.51	13.92	5.10	HS	90.27	162.5
2F1	32.01	7.80	28.85	8.82		0.00	117.0
3F1	26.82	5.44	24.17	6.15		0.00	125.0
4F1	25.22	5.05	22.73	5.71		0.00	136.4
5C1	13.65	5.59	12.30	6.32		0.00	223.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.100

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.8	0.0	9.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-75.8	63.8
OPER	151.3	-126.4	106.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-0.56	32.21	-0.43	24.77	-1.24	24.21	-0.95	18.62
OPER	HS20	-0.56	32.21	-0.43	24.77	-1.24	24.21	-0.95	18.62
OPER	2F1	-0.39	18.37	-0.30	14.13	0.00	0.00	0.00	0.00
OPER	3F1	-0.56	25.81	-0.43	19.86	0.00	0.00	0.00	0.00
OPER	4F1	-0.60	26.99	-0.46	20.76	0.00	0.00	0.00	0.00
OPER	5C1	-0.85	24.44	-0.65	18.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	61.26	1.98	HS	39.62	71.3
HS20	102.10	3.30	HS	66.04	118.9
2F1	322.96	5.79		0.00	86.9
3F1	225.12	4.12		0.00	94.8
4F1	210.57	3.94		0.00	106.4
5C1	149.03	4.35		0.00	174.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-21.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	158.3	-177.0	158.3	-177.0	181.7	-153.6	181.7	-153.6
OPER	279.4	-279.4	279.4	-279.4	302.8	-256.0	302.8	-256.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	10.48	L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85	L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	HS20	10.48	L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85	L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	2F1	10.13	R	7.79	179.81	0.0	0.00	0.00	0.00	
		-31.44	L	-24.18	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	12.09	L	9.30	123.93	0.0	0.00	0.00	0.00	
		-45.11	L	-34.70	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	12.85	L	9.88	119.93	0.0	0.00	0.00	0.00	
		-48.54	L	-37.33	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.75	L	18.27	122.81	0.0	0.00	0.00	0.00	
		-43.84	R	-33.72	202.46	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.66	2.83	8.66	2.83	HS	56.54	101.8
HS20	14.43	4.71	14.43	4.71	HS	94.23	169.6
2F1	29.91	8.14	29.91	8.14		0.00	122.1
3F1	25.06	5.68	25.06	5.68		0.00	130.5
4F1	23.57	5.27	23.57	5.27		0.00	142.4

5C1	12.75	5.84	12.75	5.84		0.00	233.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 8.200 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	2F1	36.13	R	27.79	182.20	0.0	0.00	0.00	0.00	
		-27.95	L	-21.50	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	43.45	R	33.43	186.20	0.0	0.00	0.00	0.00	
		-40.09	L	-30.84	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	39.68	R	30.52	190.20	0.0	0.00	0.00	0.00	
		-43.14	L	-33.19	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.33	L	40.25	125.20	0.0	0.00	0.00	0.00	
		-37.74	L	-29.03	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.27	3.85	2.93	4.31	HS 58.55	105.4
HS20	5.46	6.42	4.88	7.19	HS 97.58	175.6
2F1	8.37	9.55	7.49	10.69	0.00	112.3
3F1	6.96	6.66	6.22	7.45	0.00	143.2
4F1	7.62	6.18	6.82	6.93	0.00	167.0
5C1	5.78	7.07	5.17	7.92	0.00	206.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.200

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.7	65.0
OPER	151.3	-124.4	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-1.03	27.72	-0.79	21.32	-2.66	21.85	-2.05	16.81
OPER	HS20	-1.03	27.72	-0.79	21.32	-2.66	21.85	-2.05	16.81
OPER	2F1	-1.34	16.52	-1.03	12.71	0.00	0.00	0.00	0.00
OPER	3F1	-1.08	22.74	-0.83	17.49	0.00	0.00	0.00	0.00
OPER	4F1	-0.60	23.19	-0.46	17.84	0.00	0.00	0.00	0.00
OPER	5C1	-2.30	21.45	-1.77	16.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	28.04	2.34	HS 46.89	84.4
HS20	46.74	3.91	HS 78.15	140.7
2F1	93.05	6.56	0.00	98.4
3F1	115.55	4.76	0.00	109.6
4F1	207.28	4.67	0.00	126.1
5C1	54.06	5.05	0.00	202.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-166.5
OPER	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-277.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	2F1	36.13	R	27.79	182.20	0.0	0.00	0.00	0.00	
		-27.95	L	-21.50	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	43.45	R	33.43	186.20	0.0	0.00	0.00	0.00	
		-40.09	L	-30.84	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	39.68	R	30.52	190.20	0.0	0.00	0.00	0.00	
		-43.14	L	-33.19	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	52.33	L	40.25	125.20	0.0	0.00	0.00	0.00	
		-37.74	L	-29.03	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.04	4.01	3.04	4.01	HS	60.88	109.6
HS20	5.07	6.68	5.07	6.68	HS	101.46	182.6
2F1	7.78	9.93	7.78	9.93		0.00	116.8
3F1	6.47	6.92	6.47	6.92		0.00	148.9
4F1	7.09	6.43	7.09	6.43		0.00	173.7

5C1	5.37	7.35	5.37	7.35	0.00	215.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 8.300

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88 R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37 L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	HS20	88.88 R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37 L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	2F1	57.25 R	44.04	184.59	0.0	0.00	0.00	0.00	
		-24.45 L	-18.81	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	72.90 R	56.08	188.59	0.0	0.00	0.00	0.00	
		-35.08 L	-26.99	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	73.89 R	56.84	188.59	0.0	0.00	0.00	0.00	
		-37.75 L	-29.04	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.15 L	57.80	127.59	0.0	0.00	0.00	0.00	
		-33.03 L	-25.40	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.68	1.71	5.21	HS 34.24	61.6
HS20	3.21	7.80	2.85	8.68	HS 57.06	102.7
2F1	4.99	11.60	4.43	12.91	0.00	66.4
3F1	3.92	8.09	3.48	9.00	0.00	80.0
4F1	3.87	7.52	3.43	8.36	0.00	92.7
5C1	3.80	8.59	3.38	9.56	0.00	135.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 8.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.5	66.2
OPER	151.3	-122.4	110.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.98	22.80	-2.29	17.54	-4.42	19.32	-3.40	14.86
OPER	HS20	-2.98	22.80	-2.29	17.54	-4.42	19.32	-3.40	14.86
OPER	2F1	-2.72	14.43	-2.09	11.10	0.00	0.00	0.00	0.00
OPER	3F1	-2.89	19.35	-2.22	14.88	0.00	0.00	0.00	0.00
OPER	4F1	-2.11	19.93	-1.62	15.33	0.00	0.00	0.00	0.00
OPER	5C1	-4.05	18.62	-3.12	14.33	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	16.61	2.90	HS	58.05	104.5
HS20	27.69	4.84	HS	96.75	174.2
2F1	45.09	7.64		0.00	114.6
3F1	42.40	5.70		0.00	131.1
4F1	58.14	5.53		0.00	149.4
5C1	30.20	5.92		0.00	236.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88	R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37	L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	HS20	88.88	R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37	L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	2F1	57.25	R	44.04	184.59	0.0	0.00	0.00	0.00	
		-24.45	L	-18.81	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	72.90	R	56.08	188.59	0.0	0.00	0.00	0.00	
		-35.08	L	-26.99	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	73.89	R	56.84	188.59	0.0	0.00	0.00	0.00	
		-37.75	L	-29.04	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.15	L	57.80	127.59	0.0	0.00	0.00	0.00	
		-33.03	L	-25.40	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	4.86	1.78	4.86	HS	35.69	64.2
HS20	2.97	8.10	2.97	8.10	HS	59.48	107.1
2F1	4.62	12.04	4.62	12.04		0.00	69.3
3F1	3.63	8.39	3.63	8.39		0.00	83.4
4F1	3.58	7.80	3.58	7.80		0.00	96.6

5C1	3.52	8.92	3.52	8.92	0.00	140.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 8.400

Dead Load Moment	Superimposed Dead Load Moment
2.0	25.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	164.1	-177.5	144.9	-196.7
OPER	300.6C	-268.7	268.7	-300.6C	273.4	-295.9	241.4	-327.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18	L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	HS20	103.37	R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18	L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	2F1	71.28	R	54.83	186.98	0.0	0.00	0.00	0.00	
		-20.96	L	-16.12	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.46	R	69.58	186.98	0.0	0.00	0.00	0.00	
		-30.07	L	-23.13	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.53	R	74.25	190.98	0.0	0.00	0.00	0.00	
		-32.36	L	-24.89	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.45	R	69.58	188.98	0.0	0.00	0.00	0.00	
		-28.31	L	-21.78	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.59	5.69	1.40	6.31	HS	28.03	50.5
HS20	2.64	9.49	2.34	10.52	HS	46.71	84.1
2F1	3.84	14.12	3.39	15.64		0.00	50.8
3F1	3.02	9.84	2.67	10.90		0.00	61.4
4F1	2.83	9.14	2.50	10.13		0.00	67.5
5C1	3.02	10.45	2.67	11.58		0.00	106.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 8.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.3	67.4
OPER	151.3	-120.5	112.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-6.62	18.34	-5.09	14.11	-6.50	16.67	-5.00	12.83
OPER	HS20	-6.62	18.34	-5.09	14.11	-6.50	16.67	-5.00	12.83
OPER	2F1	-4.36	12.14	-3.36	9.34	0.00	0.00	0.00	0.00
OPER	3F1	-5.11	15.69	-3.93	12.07	0.00	0.00	0.00	0.00
OPER	4F1	-4.32	16.29	-3.33	12.53	0.00	0.00	0.00	0.00
OPER	5C1	-6.05	15.87	-4.66	12.21	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.91	3.67	HS 73.45	132.2
HS20	18.19	6.12	HS 122.41	220.3
2F1	27.61	9.24	0.00	138.7
3F1	23.58	7.16	0.00	164.6
4F1	27.86	6.89	0.00	186.1
5C1	19.90	7.07	0.00	282.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.0	25.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	178.5	-156.8	178.5	-156.8	151.3	-184.0	151.3	-184.0
OPER	279.4	-279.4	279.4	-279.4	252.2	-306.6	252.2	-306.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18	L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	HS20	103.37	R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18	L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	2F1	71.28	R	54.83	186.98	0.0	0.00	0.00	0.00	
		-20.96	L	-16.12	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.46	R	69.58	186.98	0.0	0.00	0.00	0.00	
		-30.07	L	-23.13	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.53	R	74.25	190.98	0.0	0.00	0.00	0.00	
		-32.36	L	-24.89	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.45	R	69.58	188.98	0.0	0.00	0.00	0.00	
		-28.31	L	-21.78	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.46	5.90	1.46	5.90	HS	29.28	52.7
HS20	2.44	9.84	2.44	9.84	HS	48.79	87.8
2F1	3.54	14.63	3.54	14.63		0.00	53.1
3F1	2.79	10.20	2.79	10.20		0.00	64.1
4F1	2.61	9.48	2.61	9.48		0.00	70.5

5C1	2.79	10.83	2.79	10.83	0.00	111.5

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.72	28.67	28.67	1.699	999999.000	93.215

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		6.18		108.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 8.500 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	159.6	-182.0	140.4	-201.2
OPER	300.6C	-268.7	268.7	-300.6C	266.0	-303.3	234.0	-335.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98	L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	HS20	113.58	R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98	L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	2F1	76.34	R	58.72	189.38	0.0	0.00	0.00	0.00	
		-17.47	L	-13.44	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	103.45	L	79.57	169.38	0.0	0.00	0.00	0.00	
		-25.06	L	-19.28	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	110.49	R	84.99	193.38	0.0	0.00	0.00	0.00	
		-26.96	L	-20.74	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	98.72	R	75.94	230.38	0.0	0.00	0.00	0.00	
		-23.59	L	-18.15	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.40	7.01	1.24	7.74	HS	24.72	44.5
HS20	2.34	11.67	2.06	12.90	HS	41.20	74.2
2F1	3.48	17.36	3.07	19.19		0.00	46.0
3F1	2.57	12.10	2.26	13.38		0.00	52.0
4F1	2.41	11.25	2.12	12.43		0.00	57.2
5C1	2.69	12.86	2.37	14.21		0.00	94.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S01
Check Point I. D. 8.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.6
OPER	151.3	-118.5	114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.50	15.37	-7.31	11.82	-8.87	13.95	-6.82	10.73
OPER	HS20	-9.50	15.37	-7.31	11.82	-8.87	13.95	-6.82	10.73
OPER	2F1	-6.27	9.69	-4.82	7.46	0.00	0.00	0.00	0.00
OPER	3F1	-7.72	12.78	-5.94	9.83	0.00	0.00	0.00	0.00
OPER	4F1	-7.00	12.69	-5.39	9.76	0.00	0.00	0.00	0.00
OPER	5C1	-8.24	13.24	-6.34	10.19	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.48	4.46	HS 89.21	160.6
HS20	12.47	7.43	HS 148.69	267.6
2F1	18.91	11.79	0.00	176.8
3F1	15.35	8.94	0.00	205.6
4F1	16.92	9.00	0.00	243.1
5C1	14.38	8.63	0.00	345.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.5	-153.8	181.5	-153.8	146.9	-188.4	146.9	-188.4
OPER	279.4	-279.4	279.4	-279.4	244.8	-314.0	244.8	-314.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98	L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	HS20	113.58	R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98	L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	2F1	76.34	R	58.72	189.38	0.0	0.00	0.00	0.00	
		-17.47	L	-13.44	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	103.45	L	79.57	169.38	0.0	0.00	0.00	0.00	
		-25.06	L	-19.28	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	110.49	R	84.99	193.38	0.0	0.00	0.00	0.00	
		-26.96	L	-20.74	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	98.72	R	75.94	230.38	0.0	0.00	0.00	0.00	
		-23.59	L	-18.15	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.29	7.25	1.29	7.25	HS	25.86	46.5
HS20	2.15	12.09	2.15	12.09	HS	43.10	77.6
2F1	3.21	17.98	3.21	17.98		0.00	48.1
3F1	2.37	12.53	2.37	12.53		0.00	54.4
4F1	2.21	11.65	2.21	11.65		0.00	59.8

5C1	2.48	13.31	2.48	13.31	0.00	99.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	158.1	-183.5	138.9	-202.7
OPER	300.6C	-268.7	268.7	-300.6C	263.5	-305.8	231.5	-337.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	2F1	80.34	L	61.80	171.77	0.0	0.00	0.00	0.00	
		-13.97	L	-10.75	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	106.14	L	81.65	171.77	0.0	0.00	0.00	0.00	
		-20.05	L	-15.42	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	113.24	L	87.11	167.77	0.0	0.00	0.00	0.00	
		-21.57	L	-16.59	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	101.57	R	78.13	228.77	0.0	0.00	0.00	0.00	
		-18.87	L	-14.52	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.34	8.83	1.18	9.75	HS 23.58	42.4
HS20	2.24	14.72	1.97	16.25	HS 39.30	70.7
2F1	3.28	21.89	2.88	24.18	0.00	43.2
3F1	2.48	15.26	2.18	16.85	0.00	50.2
4F1	2.33	14.18	2.04	15.66	0.00	55.2
5C1	2.59	16.21	2.28	17.90	0.00	91.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	(+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-12.31	11.85	-9.47	9.12	-11.52	11.20	-8.86	8.62
OPER	HS20	-12.31	11.85	-9.47	9.12	-11.52	11.20	-8.86	8.62
OPER	2F1	-8.40	7.28	-6.46	5.60	0.00	0.00	0.00	0.00
OPER	3F1	-10.69	9.87	-8.22	7.59	0.00	0.00	0.00	0.00
OPER	4F1	-10.58	8.99	-8.14	6.91	0.00	0.00	0.00	0.00
OPER	5C1	-10.62	10.73	-8.17	8.26	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.67	5.89	HS 113.48	204.3
HS20	9.46	9.81	HS 189.14	340.5
2F1	13.87	15.97	0.00	208.0
3F1	10.90	11.78	0.00	250.6
4F1	11.01	12.94	0.00	297.3
5C1	10.97	10.84	0.00	433.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	182.5	-152.8	182.5	-152.8	145.3	-189.9	145.3	-189.9
OPER	279.4	-279.4	279.4	-279.4	242.2	-316.6	242.2	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	2F1	80.34	L	61.80	171.77	0.0	0.00	0.00	0.00	
		-13.97	L	-10.75	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	106.14	L	81.65	171.77	0.0	0.00	0.00	0.00	
		-20.05	L	-15.42	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	113.24	L	87.11	167.77	0.0	0.00	0.00	0.00	
		-21.57	L	-16.59	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	101.57	R	78.13	228.77	0.0	0.00	0.00	0.00	
		-18.87	L	-14.52	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.23	9.14	1.23	9.14	HS	24.68	44.4
HS20	2.06	15.23	2.06	15.23	HS	41.13	74.0
2F1	3.02	22.66	3.02	22.66		0.00	45.2
3F1	2.28	15.79	2.28	15.79		0.00	52.5
4F1	2.14	14.68	2.14	14.68		0.00	57.8

5C1	2.38	16.77	2.38	16.77		0.00	95.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 8.700

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	159.4	-182.2	140.2	-201.4
OPER	300.6C	-268.7	268.7	-300.6C	265.7	-303.6	233.7	-335.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	2F1	76.94	L	59.18	174.16	0.0	0.00	0.00	0.00	
		-10.48	L	-8.06	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.40	L	77.23	170.16	0.0	0.00	0.00	0.00	
		-15.04	L	-11.57	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	103.93	L	79.95	170.16	0.0	0.00	0.00	0.00	
		-16.18	L	-12.44	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	97.36	L	74.90	168.16	0.0	0.00	0.00	0.00	
		-14.15	L	-10.89	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.35	11.69	1.19	12.92	HS	23.79	42.8
HS20	2.25	19.48	1.98	21.53	HS	39.64	71.4
2F1	3.45	28.97	3.04	32.03		0.00	45.6
3F1	2.65	20.19	2.33	22.32		0.00	53.5
4F1	2.56	18.77	2.25	20.75		0.00	60.7
5C1	2.73	21.45	2.40	23.71		0.00	96.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S01
Check Point I. D. 8.700

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.5	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-16.43	8.87	-12.64	6.82	-14.43	8.45	-11.10	6.50
OPER	HS20	-16.43	8.87	-12.64	6.82	-14.43	8.45	-11.10	6.50
OPER	2F1	-10.72	5.54	-8.25	4.27	0.00	0.00	0.00	0.00
OPER	3F1	-13.99	6.83	-10.76	5.25	0.00	0.00	0.00	0.00
OPER	4F1	-13.81	5.62	-10.62	4.33	0.00	0.00	0.00	0.00
OPER	5C1	-13.57	8.09	-10.44	6.22	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.18	8.00	HS 83.60	150.5
HS20	6.97	13.33	HS 139.34	250.8
2F1	10.68	21.33	0.00	160.1
3F1	8.18	17.32	0.00	188.1
4F1	8.29	21.03	0.00	223.8
5C1	8.44	14.62	0.00	337.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.6	-153.6	181.6	-153.6	146.7	-188.6	146.7	-188.6
OPER	279.4	-279.4	279.4	-279.4	244.4	-314.4	244.4	-314.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	2F1	76.94	L	59.18	174.16	0.0	0.00	0.00	0.00	
		-10.48	L	-8.06	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.40	L	77.23	170.16	0.0	0.00	0.00	0.00	
		-15.04	L	-11.57	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	103.93	L	79.95	170.16	0.0	0.00	0.00	0.00	
		-16.18	L	-12.44	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	97.36	L	74.90	168.16	0.0	0.00	0.00	0.00	
		-14.15	L	-10.89	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.24	12.10	1.24	12.10	HS	24.88	44.8
HS20	2.07	20.17	2.07	20.17	HS	41.47	74.6
2F1	3.18	30.00	3.18	30.00		0.00	47.7
3F1	2.43	20.91	2.43	20.91		0.00	56.0
4F1	2.35	19.43	2.35	19.43		0.00	63.5

5C1	2.51	22.21	2.51	22.21	0.00	100.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 8.800

Dead Load Moment	Superimposed Dead Load Moment
2.1	26.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.6	-178.0	144.4	-197.2
OPER	300.6C	-268.7	268.7	-300.6C	272.6	-296.7	240.6	-328.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45 R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39 L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	HS20	100.45 R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39 L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	2F1	63.17 L	48.59	176.55	0.0	0.00	0.00	0.00	
		-6.99 L	-5.37	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.09 L	64.69	172.55	0.0	0.00	0.00	0.00	
		-10.02 L	-7.71	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	83.73 L	64.41	168.55	0.0	0.00	0.00	0.00	
		-10.79 L	-8.30	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	81.56 L	62.74	170.55	0.0	0.00	0.00	0.00	
		-9.44 L	-7.26	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.63	17.13	1.44	18.98	HS 28.74	51.7
HS20	2.71	28.55	2.39	31.63	HS 47.90	86.2
2F1	4.32	42.47	3.81	47.04	0.00	57.1
3F1	3.24	29.60	2.86	32.79	0.00	65.8
4F1	3.26	27.51	2.87	30.48	0.00	77.6
5C1	3.34	31.44	2.95	34.83	0.00	118.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S01
Check Point I. D. 8.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.5	72.2
OPER	151.3	-112.5	120.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-21.00	5.98	-16.15	4.60	-17.56	5.74	-13.51	4.42
OPER	HS20	-21.00	5.98	-16.15	4.60	-17.56	5.74	-13.51	4.42
OPER	2F1	-13.21	3.74	-10.16	2.87	0.00	0.00	0.00	0.00
OPER	3F1	-17.58	3.70	-13.52	2.85	0.00	0.00	0.00	0.00
OPER	4F1	-17.51	3.05	-13.47	2.34	0.00	0.00	0.00	0.00
OPER	5C1	-17.05	5.30	-13.12	4.08	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.21	12.07	HS 64.28	115.7
HS20	5.36	20.12	HS 107.13	192.8
2F1	8.52	32.19	0.00	127.8
3F1	6.40	32.51	0.00	147.2
4F1	6.43	39.47	0.00	173.5
5C1	6.60	22.69	0.00	263.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.1	26.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	178.9	-156.4	178.9	-156.4	150.8	-184.5	150.8	-184.5
OPER	279.4	-279.4	279.4	-279.4	251.3	-307.5	251.3	-307.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	100.45	R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39	L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	HS20	100.45	R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39	L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	2F1	63.17	L	48.59	176.55	0.0	0.00	0.00	0.00	
		-6.99	L	-5.37	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	84.09	L	64.69	172.55	0.0	0.00	0.00	0.00	
		-10.02	L	-7.71	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	83.73	L	64.41	168.55	0.0	0.00	0.00	0.00	
		-10.79	L	-8.30	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	81.56	L	62.74	170.55	0.0	0.00	0.00	0.00	
		-9.44	L	-7.26	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.50	17.75	1.50	17.75	HS	30.03	54.0
HS20	2.50	29.59	2.50	29.59	HS	50.04	90.1
2F1	3.98	44.01	3.98	44.01		0.00	59.7
3F1	2.99	30.67	2.99	30.67		0.00	68.7
4F1	3.00	28.51	3.00	28.51		0.00	81.0

5C1	3.08	32.58	3.08	32.58	0.00	123.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S01 2F1
Check Point I. D. 8.900 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.4	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.0	252.3	-317.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06 R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20 L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	HS20	62.06 R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20 L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	2F1	37.81 L	29.09	178.94	0.0	0.00	0.00	0.00	
		-3.49 L	-2.69	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	51.17 L	39.36	174.94	0.0	0.00	0.00	0.00	
		-5.01 L	-3.86	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	51.90 L	39.92	170.94	0.0	0.00	0.00	0.00	
		-5.39 L	-4.15	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	49.68 L	38.22	172.94	0.0	0.00	0.00	0.00	
		-4.72 L	-3.63	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.75	32.92	2.44	36.61	HS 48.78	87.8
HS20	4.58	54.86	4.07	61.01	HS 81.30	146.3
2F1	7.52	81.60	6.67	90.75	0.00	100.1
3F1	5.55	56.88	4.93	63.26	0.00	113.4
4F1	5.48	52.86	4.86	58.79	0.00	131.2
5C1	5.72	60.42	5.08	67.20	0.00	203.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.900

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.3	73.3
OPER	151.3	-110.5	122.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-25.95	3.01	-19.96	2.31	-20.89	3.12	-16.07	2.40
OPER	HS20	-25.95	3.01	-19.96	2.31	-20.89	3.12	-16.07	2.40
OPER	2F1	-15.81	1.88	-12.16	1.45	0.00	0.00	0.00	0.00
OPER	3F1	-21.40	2.10	-16.46	1.61	0.00	0.00	0.00	0.00
OPER	4F1	-21.70	2.24	-16.69	1.72	0.00	0.00	0.00	0.00
OPER	5C1	-20.77	3.43	-15.98	2.64	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.56	23.53	HS 51.11	92.0
HS20	4.26	39.22	HS 85.18	153.3
2F1	6.99	65.02	0.00	104.8
3F1	5.16	58.33	0.00	118.8
4F1	5.09	54.56	0.00	137.5
5C1	5.32	35.62	0.00	212.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.2	-161.1	174.2	-161.1	157.8	-177.5	157.8	-177.5
OPER	279.4	-279.4	279.4	-279.4	263.0	-295.8	263.0	-295.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06	R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20	L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	HS20	62.06	R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20	L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	2F1	37.81	L	29.09	178.94	0.0	0.00	0.00	0.00	
		-3.49	L	-2.69	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	51.17	L	39.36	174.94	0.0	0.00	0.00	0.00	
		-5.01	L	-3.86	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	51.90	L	39.92	170.94	0.0	0.00	0.00	0.00	
		-5.39	L	-4.15	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	49.68	L	38.22	172.94	0.0	0.00	0.00	0.00	
		-4.72	L	-3.63	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.54	34.16	2.54	34.16	HS	50.86	91.5
HS20	4.24	56.93	4.24	56.93	HS	84.76	152.6
2F1	6.96	84.67	6.96	84.67		0.00	104.3
3F1	5.14	59.02	5.14	59.02		0.00	118.2
4F1	5.07	54.85	5.07	54.85		0.00	136.8

5C1	5.29	62.69	5.29	62.69	0.00	211.7

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S01
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.1	70.2
OPER	151.3	-108.5	117.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-31.19	0.00	-24.00	0.00	-24.40	2.12	-18.77	1.63
OPER	HS20	-31.19	0.00	-24.00	0.00	-24.40	2.12	-18.77	1.63
OPER	2F1	-18.50	0.00	-14.23	0.00	0.00	0.00	0.00	0.00
OPER	3F1	-25.38	0.00	-19.53	0.00	0.00	0.00	0.00	0.00
OPER	4F1	-26.15	0.00	-20.12	0.00	0.00	0.00	0.00	0.00
OPER	5C1	-24.68	0.00	-18.98	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.09	33.07	HS 41.75	75.1
HS20	3.48	55.12	HS 69.58	125.2
2F1	5.87	999.00	0.00	88.0
3F1	4.28	999.00	0.00	98.3
4F1	4.15	999.00	0.00	112.0
5C1	4.40	999.00	0.00	175.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0

5C1	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 8

Live Load Distribution Factor 1.272

Second Live Load Dist. Factor 1.272
Comments:

Member I. D. S02 Symmetry:

Span Length:

Span 1	Span 2	Span 3	Span 4	Span 5
23.917	23.917	23.917	23.917	23.917

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	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	23.917	1	0		0.0	0.0
2	1	23.917	1	0		0.0	0.0
3	1	23.917	1	0		0.0	0.0
4	1	23.917	1	0		0.0	0.0
5	1	23.917	1	0		0.0	0.0
6	1	23.917	1	0		0.0	0.0
7	1	23.917	1	0		0.0	0.0
8	1	23.917	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	0.000	615.0	615.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	615.0	615.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	615.0	615.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	615.0	615.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	615.0	615.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	615.0	615.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	615.0	615.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	615.0	615.0	23.917	0.0
8	P	11.958	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) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02 2F1
Check Point I. D. 1.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 1.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	66.0
OPER	151.3	-122.8	109.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.32	34.71	-1.78	26.70	-2.36	27.16	-1.82	20.89
OPER	HS20	-2.32	34.71	-1.78	26.70	-2.36	27.16	-1.82	20.89
OPER	2F1	-1.63	20.59	-1.25	15.84	0.00	0.00	0.00	0.00
OPER	3F1	-2.33	28.25	-1.79	21.73	0.00	0.00	0.00	0.00
OPER	4F1	-2.49	29.10	-1.92	22.39	0.00	0.00	0.00	0.00
OPER	5C1	-2.20	27.46	-1.69	21.13	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	31.20	1.90	HS	38.00	68.4
HS20	52.01	3.17	HS	63.33	114.0
2F1	75.56	5.34		0.00	80.1
3F1	52.67	3.89		0.00	89.5
4F1	49.26	3.78		0.00	102.0
5C1	55.95	4.00		0.00	160.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0

5C1	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. 1.100

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 1.100

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.3	-169.3	153.1	-188.5
OPER	300.6C	-268.7	268.7	-300.6C	287.2	-282.1	255.2	-314.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	69.06 L	53.12	-11.61	0.0	43.62	33.55	2.39	
		-5.78 R	-4.45	56.70	0.0	-4.40	-3.39	33.48	0.00
OPER	HS20	69.06 L	53.12	-11.61	0.0	43.62	33.55	2.39	
		-5.78 R	-4.45	56.70	0.0	-4.40	-3.39	33.48	0.00
OPER	2F1	42.08 R	32.37	12.39	0.0	0.00	0.00	0.00	
		-3.89 R	-2.99	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	56.95 R	43.80	16.39	0.0	0.00	0.00	0.00	
		-5.58 R	-4.29	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	57.76 R	44.43	20.39	0.0	0.00	0.00	0.00	
		-6.00 R	-4.62	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	55.29 R	42.53	18.39	0.0	0.00	0.00	0.00	
		-5.25 R	-4.04	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.49	29.27	2.22	32.59	HS 44.34	79.8
HS20	4.16	48.79	3.69	54.32	HS 73.90	133.0
2F1	6.82	72.57	6.06	80.80	0.00	91.0
3F1	5.04	50.59	4.48	56.32	0.00	103.1
4F1	4.97	47.01	4.42	52.34	0.00	119.3
5C1	5.19	53.74	4.61	59.83	0.00	184.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.100

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.7	66.9
OPER	151.3	-121.2	111.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.35	28.88	-2.58	22.21	-3.47	23.25	-2.67	17.88
OPER	HS20	-3.35	28.88	-2.58	22.21	-3.47	23.25	-2.67	17.88
OPER	2F1	-2.09	17.59	-1.61	13.53	0.00	0.00	0.00	0.00
OPER	3F1	-2.33	23.81	-1.79	18.32	0.00	0.00	0.00	0.00
OPER	4F1	-2.49	24.15	-1.92	18.58	0.00	0.00	0.00	0.00
OPER	5C1	-3.82	23.12	-2.94	17.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	20.97	2.32	HS 46.36	83.4
HS20	34.94	3.86	HS 77.26	139.1
2F1	57.93	6.34	0.00	95.1
3F1	51.97	4.68	0.00	107.7
4F1	48.62	4.62	0.00	124.7
5C1	31.74	4.82	0.00	193.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.0	-162.2	173.0	-162.2	159.6	-175.7	159.6	-175.7
OPER	279.4	-279.4	279.4	-279.4	265.9	-292.9	265.9	-292.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	69.06	L	53.12	-11.61	0.0	43.62	33.55	2.39	
		-5.78	R	-4.45	56.70	0.0	-4.40	-3.39	33.48	0.00
OPER	HS20	69.06	L	53.12	-11.61	0.0	43.62	33.55	2.39	
		-5.78	R	-4.45	56.70	0.0	-4.40	-3.39	33.48	0.00
OPER	2F1	42.08	R	32.37	12.39	0.0	0.00	0.00	0.00	
		-3.89	R	-2.99	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	56.95	R	43.80	16.39	0.0	0.00	0.00	0.00	
		-5.58	R	-4.29	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	57.76	R	44.43	20.39	0.0	0.00	0.00	0.00	
		-6.00	R	-4.62	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	55.29	R	42.53	18.39	0.0	0.00	0.00	0.00	
		-5.25	R	-4.04	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.31	30.39	2.31	30.39	HS	46.21	83.2
HS20	3.85	50.65	3.85	50.65	HS	77.01	138.6
2F1	6.32	75.34	6.32	75.34		0.00	94.8
3F1	4.67	52.51	4.67	52.51		0.00	107.4
4F1	4.60	48.80	4.60	48.80		0.00	124.3

5C1	4.81	55.78	4.81	55.78	0.00	192.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.1	21.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	166.5	-175.0	147.3	-194.2
OPER	300.6C	-268.7	268.7	-300.6C	277.5	-291.7	245.6	-323.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	111.79 L	85.99	-9.22	0.0	74.30	57.16	4.78	
		-11.56 R	-8.90	56.70	0.0	-8.81	-6.77	33.48	0.00
OPER	HS20	111.79 L	85.99	-9.22	0.0	74.30	57.16	4.78	
		-11.56 R	-8.90	56.70	0.0	-8.81	-6.77	33.48	0.00
OPER	2F1	70.29 R	54.07	14.78	0.0	0.00	0.00	0.00	
		-7.78 R	-5.98	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	93.58 R	71.99	18.78	0.0	0.00	0.00	0.00	
		-11.15 R	-8.58	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	93.18 R	71.68	22.78	0.0	0.00	0.00	0.00	
		-12.00 R	-9.23	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.77 R	69.82	20.78	0.0	0.00	0.00	0.00	
		-10.50 R	-8.08	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.49	15.14	1.32	16.80	HS 26.36	47.4
HS20	2.48	25.23	2.20	27.99	HS 43.93	79.1
2F1	3.95	37.52	3.49	41.64	0.00	52.4
3F1	2.97	26.16	2.62	29.02	0.00	60.4
4F1	2.98	24.31	2.63	26.97	0.00	71.2
5C1	3.06	27.78	2.70	30.83	0.00	108.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 1.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	2.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.7	67.9
OPER	151.3	-119.6	113.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-6.65	23.37	-5.12	17.98	-6.39	19.54	-4.92	15.03
OPER	HS20	-6.65	23.37	-5.12	17.98	-6.39	19.54	-4.92	15.03
OPER	2F1	-4.16	14.70	-3.20	11.30	0.00	0.00	0.00	0.00
OPER	3F1	-4.12	19.56	-3.17	15.05	0.00	0.00	0.00	0.00
OPER	4F1	-3.39	19.48	-2.61	14.99	0.00	0.00	0.00	0.00
OPER	5C1	-5.90	18.98	-4.54	14.60	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	10.78	2.90	HS	58.11	104.6
HS20	17.98	4.84	HS	96.84	174.3
2F1	28.76	7.70		0.00	115.5
3F1	29.05	5.78		0.00	133.0
4F1	35.27	5.81		0.00	156.8
5C1	20.27	5.96		0.00	238.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.1	21.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.9	-158.4	176.9	-158.4	153.8	-181.5	153.8	-181.5
OPER	279.4	-279.4	279.4	-279.4	256.3	-302.5	256.3	-302.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	111.79	L	85.99	-9.22	0.0	74.30	57.16	4.78	
		-11.56	R	-8.90	56.70	0.0	-8.81	-6.77	33.48	0.00
OPER	HS20	111.79	L	85.99	-9.22	0.0	74.30	57.16	4.78	
		-11.56	R	-8.90	56.70	0.0	-8.81	-6.77	33.48	0.00
OPER	2F1	70.29	R	54.07	14.78	0.0	0.00	0.00	0.00	
		-7.78	R	-5.98	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	93.58	R	71.99	18.78	0.0	0.00	0.00	0.00	
		-11.15	R	-8.58	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	93.18	R	71.68	22.78	0.0	0.00	0.00	0.00	
		-12.00	R	-9.23	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.77	R	69.82	20.78	0.0	0.00	0.00	0.00	
		-10.50	R	-8.08	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.38	15.69	1.38	15.69	HS	27.51	49.5
HS20	2.29	26.16	2.29	26.16	HS	45.86	82.5
2F1	3.65	38.90	3.65	38.90		0.00	54.7
3F1	2.74	27.12	2.74	27.12		0.00	63.0
4F1	2.75	25.20	2.75	25.20		0.00	74.3

5C1	2.82	28.81	2.82	28.81	0.00	112.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.300

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 1.300

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.1	-178.5	143.9	-197.7
OPER	300.6C	-268.7	268.7	-300.6C	271.8	-297.5	239.8	-329.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.19 L	100.92	-6.82	0.0	94.42	72.63	7.18	
		-17.35 R	-13.34	56.70	0.0	-13.21	-10.16	33.48	0.00
OPER	HS20	131.19 L	100.92	-6.82	0.0	94.42	72.63	7.18	
		-17.35 R	-13.34	56.70	0.0	-13.21	-10.16	33.48	0.00
OPER	2F1	85.62 R	65.86	17.18	0.0	0.00	0.00	0.00	
		-11.66 R	-8.97	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	111.73 R	85.95	21.18	0.0	0.00	0.00	0.00	
		-16.73 R	-12.87	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	115.66 R	88.97	21.18	0.0	0.00	0.00	0.00	
		-18.00 R	-13.85	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	108.35 R	83.35	23.18	0.0	0.00	0.00	0.00	
		-15.75 R	-12.12	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.24	10.29	1.10	11.40	HS 21.94	39.5
HS20	2.07	17.15	1.83	18.99	HS 36.56	65.8
2F1	3.17	25.51	2.80	28.25	0.00	42.0
3F1	2.43	17.78	2.15	19.69	0.00	49.4
4F1	2.35	16.52	2.07	18.30	0.00	56.0
5C1	2.51	18.89	2.21	20.92	0.00	88.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.300

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.8	68.9
OPER	151.3	-118.0	114.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.87	18.28	-7.59	14.06	-9.40	16.05	-7.23	12.35
OPER	HS20	-9.87	18.28	-7.59	14.06	-9.40	16.05	-7.23	12.35
OPER	2F1	-6.17	11.93	-4.75	9.18	0.00	0.00	0.00	0.00
OPER	3F1	-7.60	15.57	-5.84	11.98	0.00	0.00	0.00	0.00
OPER	4F1	-6.26	15.37	-4.81	11.82	0.00	0.00	0.00	0.00
OPER	5C1	-9.00	15.10	-6.92	11.62	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.17	3.77	HS 75.33	135.6
HS20	11.95	6.28	HS 125.55	226.0
2F1	19.12	9.62	0.00	144.3
3F1	15.52	7.37	0.00	169.5
4F1	18.85	7.47	0.00	201.7
5C1	13.10	7.60	0.00	304.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.2	-156.1	179.2	-156.1	150.3	-184.9	150.3	-184.9
OPER	279.4	-279.4	279.4	-279.4	250.6	-308.2	250.6	-308.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	131.19	L	100.92	-6.82	0.0	94.42	72.63	7.18	
		-17.35	R	-13.34	56.70	0.0	-13.21	-10.16	33.48	0.00
OPER	HS20	131.19	L	100.92	-6.82	0.0	94.42	72.63	7.18	
		-17.35	R	-13.34	56.70	0.0	-13.21	-10.16	33.48	0.00
OPER	2F1	85.62	R	65.86	17.18	0.0	0.00	0.00	0.00	
		-11.66	R	-8.97	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	111.73	R	85.95	21.18	0.0	0.00	0.00	0.00	
		-16.73	R	-12.87	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	115.66	R	88.97	21.18	0.0	0.00	0.00	0.00	
		-18.00	R	-13.85	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	108.35	R	83.35	23.18	0.0	0.00	0.00	0.00	
		-15.75	R	-12.12	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.15	10.66	1.15	10.66	HS	22.92	41.3
HS20	1.91	17.77	1.91	17.77	HS	38.20	68.8
2F1	2.93	26.43	2.93	26.43		0.00	43.9
3F1	2.24	18.42	2.24	18.42		0.00	51.6
4F1	2.17	17.12	2.17	17.12		0.00	58.5

5C1	2.31	19.57	2.31	19.57	0.00	92.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

Rating Types and Vehicles
INV. HS20
OPER HS20
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	162.0	-179.6	142.8	-198.8
OPER	300.6C	-268.7	268.7	-300.6C	270.0	-299.3	238.0	-331.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09	L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13	R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	HS20	131.09	L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13	R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	2F1	89.41	R	68.77	19.57	0.0	0.00	0.00	0.00	
		-15.55	R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12	R	90.86	19.57	0.0	0.00	0.00	0.00	
		-22.31	R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02	R	96.94	23.57	0.0	0.00	0.00	0.00	
		-24.01	R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03	L	86.95	-37.43	0.0	0.00	0.00	0.00	
		-21.00	R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.24	7.76	1.09	8.60	HS 21.78	39.2
HS20	2.06	12.94	1.82	14.32	HS 36.31	65.4
2F1	3.02	19.25	2.66	21.31	0.00	39.9
3F1	2.29	13.42	2.02	14.85	0.00	46.3
4F1	2.14	12.47	1.89	13.80	0.00	51.0
5C1	2.39	14.25	2.11	15.78	0.00	84.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 1.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.19	13.70	-10.15	10.54	-12.46	12.82	-9.59	9.86
OPER	HS20	-13.19	13.70	-10.15	10.54	-12.46	12.82	-9.59	9.86
OPER	2F1	-8.10	9.35	-6.23	7.19	0.00	0.00	0.00	0.00
OPER	3F1	-10.98	11.89	-8.45	9.15	0.00	0.00	0.00	0.00
OPER	4F1	-10.00	11.77	-7.70	9.05	0.00	0.00	0.00	0.00
OPER	5C1	-12.22	11.82	-9.40	9.09	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.29	5.10	HS 101.94	183.5
HS20	8.82	8.49	HS 169.90	305.8
2F1	14.36	12.45	0.00	186.8
3F1	10.59	9.79	0.00	225.1
4F1	11.63	9.89	0.00	267.0
5C1	9.52	9.85	0.00	380.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.9	-155.4	179.9	-155.4	149.2	-186.1	149.2	-186.1
OPER	279.4	-279.4	279.4	-279.4	248.7	-310.1	248.7	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09	L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13	R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	HS20	131.09	L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13	R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	2F1	89.41	R	68.77	19.57	0.0	0.00	0.00	0.00	
		-15.55	R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12	R	90.86	19.57	0.0	0.00	0.00	0.00	
		-22.31	R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02	R	96.94	23.57	0.0	0.00	0.00	0.00	
		-24.01	R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03	L	86.95	-37.43	0.0	0.00	0.00	0.00	
		-21.00	R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.14	8.04	1.14	8.04	HS	22.77	41.0
HS20	1.90	13.41	1.90	13.41	HS	37.95	68.3
2F1	2.78	19.94	2.78	19.94		0.00	41.7
3F1	2.11	13.90	2.11	13.90		0.00	48.4
4F1	1.97	12.92	1.97	12.92		0.00	53.3

5C1	2.20	14.77	2.20	14.77	0.00	88.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 1.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.2	-178.4	144.0	-197.6
OPER	300.6C	-268.7	268.7	-300.6C	272.0	-297.3	240.0	-329.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	126.40 L	97.23	-16.04	0.0	101.45	78.03	11.96	
		-28.91 R	-22.24	56.70	0.0	-22.01	-16.93	33.48	0.00
OPER	HS20	126.40 L	97.23	-16.04	0.0	101.45	78.03	11.96	
		-28.91 R	-22.24	56.70	0.0	-22.01	-16.93	33.48	0.00
OPER	2F1	84.95 L	65.35	1.96	0.0	0.00	0.00	0.00	
		-19.44 R	-14.95	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	115.12 R	88.55	21.96	0.0	0.00	0.00	0.00	
		-27.89 R	-21.45	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	122.96 L	94.59	-2.04	0.0	0.00	0.00	0.00	
		-30.01 R	-23.08	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	109.86 L	84.51	-39.04	0.0	0.00	0.00	0.00	
		-26.25 R	-20.19	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.29	6.17	1.14	6.83	HS 22.78	41.0
HS20	2.15	10.28	1.90	11.39	HS 37.97	68.3
2F1	3.20	15.30	2.83	16.94	0.00	42.4
3F1	2.36	10.66	2.09	11.81	0.00	47.9
4F1	2.21	9.91	1.95	10.97	0.00	52.7
5C1	2.48	11.33	2.18	12.54	0.00	87.4

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.5	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.8
OPER	151.3	-114.7	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-17.10	10.57	-13.16	8.13	-15.53	9.87	-11.95	7.59
OPER	HS20	-17.10	10.57	-13.16	8.13	-15.53	9.87	-11.95	7.59
OPER	2F1	-10.79	6.97	-8.30	5.36	0.00	0.00	0.00	0.00
OPER	3F1	-14.22	8.59	-10.94	6.61	0.00	0.00	0.00	0.00
OPER	4F1	-14.12	7.79	-10.87	6.00	0.00	0.00	0.00	0.00
OPER	5C1	-14.74	9.17	-11.34	7.05	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	4.03	6.70	HS 80.50	144.9
HS20	6.71	11.16	HS 134.17	241.5
2F1	10.64	16.92	0.00	159.6
3F1	8.07	13.74	0.00	185.6
4F1	8.12	15.14	0.00	219.3
5C1	7.79	12.87	0.00	311.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.1	-156.2	179.1	-156.2	150.4	-184.8	150.4	-184.8
OPER	279.4	-279.4	279.4	-279.4	250.7	-308.1	250.7	-308.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	126.40	L	97.23	-16.04	0.0	101.45	78.03	11.96	
		-28.91	R	-22.24	56.70	0.0	-22.01	-16.93	33.48	0.00
OPER	HS20	126.40	L	97.23	-16.04	0.0	101.45	78.03	11.96	
		-28.91	R	-22.24	56.70	0.0	-22.01	-16.93	33.48	0.00
OPER	2F1	84.95	L	65.35	1.96	0.0	0.00	0.00	0.00	
		-19.44	R	-14.95	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	115.12	R	88.55	21.96	0.0	0.00	0.00	0.00	
		-27.89	R	-21.45	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	122.96	L	94.59	-2.04	0.0	0.00	0.00	0.00	
		-30.01	R	-23.08	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	109.86	L	84.51	-39.04	0.0	0.00	0.00	0.00	
		-26.25	R	-20.19	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.19	6.39	1.19	6.39	HS	23.80	42.8
HS20	1.98	10.66	1.98	10.66	HS	39.67	71.4
2F1	2.95	15.85	2.95	15.85		0.00	44.3
3F1	2.18	11.05	2.18	11.05		0.00	50.1
4F1	2.04	10.27	2.04	10.27		0.00	55.1

5C1	2.28	11.73	2.28	11.73	0.00	91.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.0	20.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	166.9	-174.7	147.7	-193.9
OPER	300.6C	-268.7	268.7	-300.6C	278.2	-291.1	246.2	-323.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.03	L	88.49	-13.65	0.0	90.18	69.37	14.35	
		-34.69	R	-26.69	56.70	0.0	-26.42	-20.32	33.48	0.00
OPER	HS20	115.03	L	88.49	-13.65	0.0	90.18	69.37	14.35	
		-34.69	R	-26.69	56.70	0.0	-26.42	-20.32	33.48	0.00
OPER	2F1	79.32	L	61.01	4.35	0.0	0.00	0.00	0.00	
		-23.33	R	-17.94	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.67	L	77.44	4.35	0.0	0.00	0.00	0.00	
		-33.46	R	-25.74	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	107.42	L	82.63	0.35	0.0	0.00	0.00	0.00	
		-36.01	R	-27.70	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	100.66	L	77.43	2.35	0.0	0.00	0.00	0.00	
		-31.50	R	-24.23	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.45	5.03	1.28	5.59	HS	25.68	46.2
HS20	2.42	8.39	2.14	9.31	HS	42.80	77.0
2F1	3.51	12.48	3.10	13.85		0.00	46.6
3F1	2.76	8.70	2.44	9.66		0.00	56.2
4F1	2.59	8.09	2.29	8.97		0.00	61.9
5C1	2.76	9.24	2.45	10.26		0.00	97.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 1.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.8	71.9
OPER	151.3	-113.0	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.41	7.37	-15.70	5.67	-18.56	7.23	-14.27	5.56
OPER	HS20	-20.41	7.37	-15.70	5.67	-18.56	7.23	-14.27	5.56
OPER	2F1	-13.51	4.85	-10.40	3.73	0.00	0.00	0.00	0.00
OPER	3F1	-17.46	5.68	-13.43	4.37	0.00	0.00	0.00	0.00
OPER	4F1	-18.13	4.81	-13.95	3.70	0.00	0.00	0.00	0.00
OPER	5C1	-17.66	6.74	-13.59	5.18	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	9.75	HS 66.41	119.5
HS20	5.53	16.25	HS 110.68	199.2
2F1	8.36	24.67	0.00	125.4
3F1	6.47	21.07	0.00	148.8
4F1	6.23	24.89	0.00	168.2
5C1	6.39	17.78	0.00	255.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.0	20.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.6	-158.7	176.6	-158.7	154.2	-181.1	154.2	-181.1
OPER	279.4	-279.4	279.4	-279.4	256.9	-301.9	256.9	-301.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.03	L	88.49	-13.65	0.0	90.18	69.37	14.35	
		-34.69	R	-26.69	56.70	0.0	-26.42	-20.32	33.48	0.00
OPER	HS20	115.03	L	88.49	-13.65	0.0	90.18	69.37	14.35	
		-34.69	R	-26.69	56.70	0.0	-26.42	-20.32	33.48	0.00
OPER	2F1	79.32	L	61.01	4.35	0.0	0.00	0.00	0.00	
		-23.33	R	-17.94	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.67	L	77.44	4.35	0.0	0.00	0.00	0.00	
		-33.46	R	-25.74	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	107.42	L	82.63	0.35	0.0	0.00	0.00	0.00	
		-36.01	R	-27.70	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	100.66	L	77.43	2.35	0.0	0.00	0.00	0.00	
		-31.50	R	-24.23	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.34	5.22	1.34	5.22	HS	26.80	48.2
HS20	2.23	8.70	2.23	8.70	HS	44.67	80.4
2F1	3.24	12.94	3.24	12.94		0.00	48.6
3F1	2.55	9.02	2.55	9.02		0.00	58.7
4F1	2.39	8.38	2.39	8.38		0.00	64.6

5C1	2.55	9.58	2.55	9.58		0.00	102.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.700

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 1.700

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.9	-168.6	153.8	-187.8
OPER	300.6C	-268.7	268.7	-300.6C	288.2	-281.1	256.3	-313.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.91 L	76.08	-11.26	0.0	72.00	55.39	16.74	
		-40.48 R	-31.14	56.70	0.0	-32.23	-24.79	33.48	81.32
OPER	HS20	98.91 L	76.08	-11.26	0.0	72.00	55.39	16.74	
		-40.48 R	-31.14	56.70	0.0	-32.23	-24.79	33.48	81.32
OPER	2F1	63.71 L	49.01	6.74	0.0	0.00	0.00	0.00	
		-27.21 R	-20.93	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.13 L	62.41	2.74	0.0	0.00	0.00	0.00	
		-39.04 R	-30.03	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	82.23 L	63.25	2.74	0.0	0.00	0.00	0.00	
		-42.01 R	-32.32	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.63 R	64.33	63.74	0.0	0.00	0.00	0.00	
		-36.75 R	-28.27	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	4.17	1.55	4.64	HS 31.09	56.0
HS20	2.91	6.94	2.59	7.73	HS 51.82	93.3
2F1	4.52	10.33	4.02	11.50	0.00	60.3
3F1	3.55	7.20	3.16	8.02	0.00	72.6
4F1	3.51	6.69	3.12	7.45	0.00	84.1
5C1	3.45	7.65	3.06	8.52	0.00	122.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S02
Check Point I. D. 1.700

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-4.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.8	72.8
OPER	151.3	-111.3	121.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-25.37	3.32	-19.52	2.55	-21.50	4.92	-16.54	3.79
OPER	HS20	-25.37	3.32	-19.52	2.55	-21.50	4.92	-16.54	3.79
OPER	2F1	-16.06	3.02	-12.35	2.32	0.00	0.00	0.00	0.00
OPER	3F1	-21.53	3.21	-16.56	2.47	0.00	0.00	0.00	0.00
OPER	4F1	-22.18	2.34	-17.06	1.80	0.00	0.00	0.00	0.00
OPER	5C1	-20.73	4.51	-15.94	3.47	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.63	14.80	HS 52.66	94.8
HS20	4.39	24.67	HS 87.77	158.0
2F1	6.93	40.17	0.00	104.0
3F1	5.17	37.78	0.00	118.9
4F1	5.02	51.79	0.00	135.5
5C1	5.37	26.91	0.00	214.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.6	-162.7	172.6	-162.7	160.2	-175.1	160.2	-175.1
OPER	279.4	-279.4	279.4	-279.4	267.0	-291.8	267.0	-291.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.91	L	76.08	-11.26	0.0	72.00	55.39	16.74	
		-40.48	R	-31.14	56.70	0.0	-32.23	-24.79	33.48	81.32
OPER	HS20	98.91	L	76.08	-11.26	0.0	72.00	55.39	16.74	
		-40.48	R	-31.14	56.70	0.0	-32.23	-24.79	33.48	81.32
OPER	2F1	63.71	L	49.01	6.74	0.0	0.00	0.00	0.00	
		-27.21	R	-20.93	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.13	L	62.41	2.74	0.0	0.00	0.00	0.00	
		-39.04	R	-30.03	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	82.23	L	63.25	2.74	0.0	0.00	0.00	0.00	
		-42.01	R	-32.32	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.63	R	64.33	63.74	0.0	0.00	0.00	0.00	
		-36.75	R	-28.27	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.62	4.32	1.62	4.32	HS	32.39	58.3
HS20	2.70	7.21	2.70	7.21	HS	53.99	97.2
2F1	4.19	10.72	4.19	10.72		0.00	62.9
3F1	3.29	7.47	3.29	7.47		0.00	75.7
4F1	3.25	6.95	3.25	6.95		0.00	87.7

5C1	3.19	7.94	3.19	7.94		0.00	127.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.3	-160.3	162.1	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.2	-267.1	270.2	-299.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	61.69 L	47.46	-8.87	0.0	47.01	36.16	19.13	
		-46.26 R	-35.58	56.70	0.0	-36.90	-28.39	33.48	81.32
OPER	HS20	61.69 L	47.46	-8.87	0.0	47.01	36.16	19.13	
		-46.26 R	-35.58	56.70	0.0	-36.90	-28.39	33.48	81.32
OPER	2F1	40.21 L	30.93	9.13	0.0	0.00	0.00	0.00	
		-31.10 R	-23.92	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	48.36 L	37.20	5.13	0.0	0.00	0.00	0.00	
		-44.62 R	-34.32	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.16 L	33.97	1.13	0.0	0.00	0.00	0.00	
		-48.01 R	-36.93	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.23 R	44.79	66.13	0.0	0.00	0.00	0.00	
		-42.00 R	-32.31	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.94	3.46	2.63	3.88	HS 52.56	94.6
HS20	4.90	5.77	4.38	6.47	HS 87.60	157.7
2F1	7.52	8.59	6.72	9.62	0.00	100.8
3F1	6.25	5.99	5.59	6.70	0.00	128.5
4F1	6.84	5.56	6.12	6.23	0.00	150.2
5C1	5.19	6.36	4.64	7.12	0.00	185.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S02
Check Point I. D. 1.800

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.8	73.8
OPER	151.3	-109.7	123.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-30.85	1.15	-23.73	0.88	-24.31	2.96	-18.70	2.28
OPER	HS20	-30.85	1.15	-23.73	0.88	-24.31	2.96	-18.70	2.28
OPER	2F1	-18.38	1.49	-14.14	1.14	0.00	0.00	0.00	0.00
OPER	3F1	-25.31	1.20	-19.47	0.92	0.00	0.00	0.00	0.00
OPER	4F1	-25.80	0.67	-19.85	0.51	0.00	0.00	0.00	0.00
OPER	5C1	-23.87	2.56	-18.36	1.97	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.13	24.92	HS 42.68	76.8
HS20	3.56	41.53	HS 71.14	128.0
2F1	5.97	82.67	0.00	89.5
3F1	4.34	102.65	0.00	99.7
4F1	4.25	184.15	0.00	114.8
5C1	4.60	48.03	0.00	183.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.7	168.6	-166.7
OPER	279.4	-279.4	279.4	-279.4	280.9	-277.9	280.9	-277.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	61.69	L	47.46	-8.87	0.0	47.01	36.16	19.13	
		-46.26	R	-35.58	56.70	0.0	-36.90	-28.39	33.48	81.32
OPER	HS20	61.69	L	47.46	-8.87	0.0	47.01	36.16	19.13	
		-46.26	R	-35.58	56.70	0.0	-36.90	-28.39	33.48	81.32
OPER	2F1	40.21	L	30.93	9.13	0.0	0.00	0.00	0.00	
		-31.10	R	-23.92	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	48.36	L	37.20	5.13	0.0	0.00	0.00	0.00	
		-44.62	R	-34.32	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.16	L	33.97	1.13	0.0	0.00	0.00	0.00	
		-48.01	R	-36.93	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.23	R	44.79	66.13	0.0	0.00	0.00	0.00	
		-42.00	R	-32.31	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.73	3.60	2.73	3.60	HS	54.65	98.4
HS20	4.55	6.01	4.55	6.01	HS	91.08	163.9
2F1	6.99	8.93	6.99	8.93		0.00	104.8
3F1	5.81	6.23	5.81	6.23		0.00	133.6
4F1	6.36	5.79	6.36	5.79		0.00	156.3

5C1	4.82	6.61	4.82	6.61	0.00	193.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-17.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.0	-149.6	172.8	-168.8
OPER	300.6C	-268.7	268.7	-300.6C	320.0	-249.3	288.0	-281.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.67 R	8.97	85.40	0.0	22.91	17.62	21.53	
		-59.93 R	-46.10	42.70	0.0	-60.44	-46.49	33.48	9.57
OPER	HS20	11.67 R	8.97	85.40	0.0	22.91	17.62	21.53	
		-59.93 R	-46.10	42.70	0.0	-60.44	-46.49	33.48	9.57
OPER	2F1	11.27 L	8.67	11.53	0.0	0.00	0.00	0.00	
		-34.99 R	-26.91	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.45 R	10.35	67.40	0.0	0.00	0.00	0.00	
		-50.20 R	-38.61	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.30 R	11.00	71.40	0.0	0.00	0.00	0.00	
		-54.01 R	-41.55	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.43 R	20.33	68.53	0.0	0.00	0.00	0.00	
		-48.78 L	-37.53	-11.12	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.38	2.47	7.54	2.79	HS 49.50	89.1
HS20	13.97	4.12	12.57	4.65	HS 82.49	148.5
2F1	28.40	7.12	25.56	8.04	0.00	106.9
3F1	23.79	4.97	21.41	5.60	0.00	114.2
4F1	22.38	4.61	20.14	5.21	0.00	124.6
5C1	12.11	5.11	10.90	5.77	0.00	204.4

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S02
Check Point I. D. 1.900

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.8	-7.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	74.8
OPER	151.3	-108.1	124.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-35.84	0.62	-27.57	0.48	-26.94	1.38	-20.72	1.06
OPER	HS20	-35.84	0.62	-27.57	0.48	-26.94	1.38	-20.72	1.06
OPER	2F1	-20.44	0.44	-15.72	0.34	0.00	0.00	0.00	0.00
OPER	3F1	-28.72	0.62	-22.10	0.48	0.00	0.00	0.00	0.00
OPER	4F1	-30.04	0.67	-23.11	0.51	0.00	0.00	0.00	0.00
OPER	5C1	-27.19	0.94	-20.92	0.73	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.81	54.28	HS 36.20	65.2
HS20	3.02	90.47	HS 60.33	108.6
2F1	5.29	286.15	0.00	79.3
3F1	3.76	199.46	0.00	86.6
4F1	3.60	186.57	0.00	97.2
5C1	3.98	132.05	0.00	159.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-17.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	159.9	-175.4	159.9	-175.4	179.3	-156.0	179.3	-156.0
OPER	279.4	-279.4	279.4	-279.4	298.8	-260.0	298.8	-260.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	11.67	R	8.97	85.40	0.0	22.91	17.62	21.53	
		-59.93	R	-46.10	42.70	0.0	-60.44	-46.49	33.48	9.57
OPER	HS20	11.67	R	8.97	85.40	0.0	22.91	17.62	21.53	
		-59.93	R	-46.10	42.70	0.0	-60.44	-46.49	33.48	9.57
OPER	2F1	11.27	L	8.67	11.53	0.0	0.00	0.00	0.00	
		-34.99	R	-26.91	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.45	R	10.35	67.40	0.0	0.00	0.00	0.00	
		-50.20	R	-38.61	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.30	R	11.00	71.40	0.0	0.00	0.00	0.00	
		-54.01	R	-41.55	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.43	R	20.33	68.53	0.0	0.00	0.00	0.00	
		-48.78	L	-37.53	-11.12	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.82	2.58	7.82	2.58	HS	51.63	92.9
HS20	13.04	4.30	13.04	4.30	HS	86.05	154.9
2F1	26.51	7.43	26.51	7.43		0.00	111.5
3F1	22.21	5.18	22.21	5.18		0.00	119.1
4F1	20.89	4.81	20.89	4.81		0.00	130.0

5C1	11.31	5.33	11.31	5.33	0.00	213.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42	R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52	L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75	R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82	R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29	R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	13.23	1.22	11.99	1.39	HS	24.32	43.8
HS20	22.05	2.03	19.99	2.31	HS	40.53	73.0
2F1	32.80	4.42	29.73	5.04		0.00	66.3
3F1	22.86	2.96	20.73	3.38		0.00	68.2
4F1	21.25	2.48	19.26	2.83		0.00	66.9
5C1	26.25	2.80	23.79	3.19		0.00	112.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	-0.9	-7.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.9	64.6
OPER	151.3	-106.5	107.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-35.84	37.28	-27.57	28.68	-26.94	29.08	-20.72	22.37
OPER	HS20	-35.84	37.28	-27.57	28.68	-26.94	29.08	-20.72	22.37
OPER	2F1	-20.44	21.18	-15.72	16.29	0.00	0.00	0.00	0.00
OPER	3F1	-28.72	29.85	-22.10	22.96	0.00	0.00	0.00	0.00
OPER	4F1	-30.04	31.38	-23.11	24.14	0.00	0.00	0.00	0.00
OPER	5C1	-27.19	28.92	-20.92	22.25	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.59	1.73	HS	31.73	57.1
HS20	2.64	2.89	HS	52.88	95.2
2F1	4.80	5.09		0.00	72.0
3F1	3.36	3.61		0.00	77.2
4F1	3.14	3.43		0.00	84.8
5C1	3.53	3.73		0.00	141.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-143.0
OPER	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-238.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42	R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52	L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75	R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82	R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29	R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.41	1.27	12.41	1.27	HS	25.47	45.8
HS20	20.68	2.12	20.68	2.12	HS	42.45	76.4
2F1	30.76	4.63	30.76	4.63		0.00	69.4
3F1	21.44	3.11	21.44	3.11		0.00	71.4
4F1	19.93	2.60	19.93	2.60		0.00	70.1

5C1	24.62	2.93	24.62	2.93	0.00	117.3

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42	R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52	L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75	R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82	R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29	R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.23	1.22	11.99	1.39	HS	24.32	43.8
HS20	22.05	2.03	19.99	2.31	HS	40.53	73.0
2F1	32.80	4.42	29.73	5.04		0.00	66.3
3F1	22.86	2.96	20.73	3.38		0.00	68.2
4F1	21.25	2.48	19.26	2.83		0.00	66.9
5C1	26.25	2.80	23.79	3.19		0.00	112.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	0.8	-9.0	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.9	64.6
OPER	151.3	-106.5	107.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-40.27	37.28	-30.98	28.68	-29.34	29.08	-22.57	22.37
OPER	HS20	-40.27	37.28	-30.98	28.68	-29.34	29.08	-22.57	22.37
OPER	2F1	-22.19	21.18	-17.07	16.29	0.00	0.00	0.00	0.00
OPER	3F1	-31.72	29.85	-24.40	22.96	0.00	0.00	0.00	0.00
OPER	4F1	-33.90	31.38	-26.07	24.14	0.00	0.00	0.00	0.00
OPER	5C1	-30.19	28.92	-23.23	22.25	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.59	1.73	HS	31.73	57.1
HS20	2.64	2.89	HS	52.88	95.2
2F1	4.80	5.09		0.00	72.0
3F1	3.36	3.61		0.00	77.2
4F1	3.14	3.43		0.00	84.8
5C1	3.53	3.73		0.00	141.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-143.0
OPER	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-238.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42	R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52	L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75	R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82	R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29	R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.41	1.27	12.41	1.27	HS	25.47	45.8
HS20	20.68	2.12	20.68	2.12	HS	42.45	76.4
2F1	30.76	4.63	30.76	4.63		0.00	69.4
3F1	21.44	3.11	21.44	3.11		0.00	71.4
4F1	19.93	2.60	19.93	2.60		0.00	70.1

5C1	24.62	2.93	24.62	2.93	0.00	117.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02
Check Point I. D. 2.100
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-20.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	193.8	-147.8	174.6	-167.0
OPER	300.6C	-268.7	268.7	-300.6C	323.0	-246.3	291.0	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.74 R	16.72	54.31	0.0	23.81	18.31	26.31	
		-75.31 R	-57.93	33.13	0.0	-62.54	-48.11	14.35	38.27
OPER	HS20	21.74 R	16.72	54.31	0.0	23.81	18.31	26.31	
		-75.31 R	-57.93	33.13	0.0	-62.54	-48.11	14.35	38.27
OPER	2F1	16.36 R	12.58	36.31	0.0	0.00	0.00	0.00	
		-44.99 L	-34.61	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.18 R	10.91	40.31	0.0	0.00	0.00	0.00	
		-64.36 L	-49.51	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.94 R	6.11	71.40	0.0	0.00	0.00	0.00	
		-68.98 L	-53.06	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.63 R	18.18	77.31	0.0	0.00	0.00	0.00	
		-59.16 L	-45.50	-2.43	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.14	1.96	7.34	2.22	HS 39.24	70.6
HS20	13.57	3.27	12.23	3.69	HS 65.41	117.7
2F1	19.75	5.47	17.79	6.19	0.00	82.1
3F1	22.78	3.83	20.53	4.32	0.00	88.0
4F1	40.66	3.57	36.63	4.03	0.00	96.4
5C1	13.67	4.16	12.31	4.70	0.00	166.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 2.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.0	65.6
OPER	151.3	-123.4	109.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.11	32.69	-2.39	25.14	-3.21	26.19	-2.47	20.15
OPER	HS20	-3.11	32.69	-2.39	25.14	-3.21	26.19	-2.47	20.15
OPER	2F1	-2.18	19.16	-1.68	14.73	0.00	0.00	0.00	0.00
OPER	3F1	-3.12	26.41	-2.40	20.31	0.00	0.00	0.00	0.00
OPER	4F1	-3.34	27.26	-2.57	20.97	0.00	0.00	0.00	0.00
OPER	5C1	-3.18	25.54	-2.45	19.65	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	23.04	2.01	HS	40.15	72.3
HS20	38.40	3.35	HS	66.92	120.5
2F1	56.65	5.71		0.00	85.6
3F1	39.49	4.14		0.00	95.3
4F1	36.94	4.01		0.00	108.3
5C1	38.76	4.28		0.00	171.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-20.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	158.7	-176.6	158.7	-176.6	181.1	-154.2	181.1	-154.2
OPER	279.4	-279.4	279.4	-279.4	301.8	-257.0	301.8	-257.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.74	R	16.72	54.31	0.0	23.81	18.31	26.31	
		-75.31	R	-57.93	33.13	0.0	-62.54	-48.11	14.35	38.27
OPER	HS20	21.74	R	16.72	54.31	0.0	23.81	18.31	26.31	
		-75.31	R	-57.93	33.13	0.0	-62.54	-48.11	14.35	38.27
OPER	2F1	16.36	R	12.58	36.31	0.0	0.00	0.00	0.00	
		-44.99	L	-34.61	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.18	R	10.91	40.31	0.0	0.00	0.00	0.00	
		-64.36	L	-49.51	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.94	R	6.11	71.40	0.0	0.00	0.00	0.00	
		-68.98	L	-53.06	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.63	R	18.18	77.31	0.0	0.00	0.00	0.00	
		-59.16	L	-45.50	-2.43	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.61	2.05	7.61	2.05	HS	40.96	73.7
HS20	12.68	3.41	12.68	3.41	HS	68.26	122.9
2F1	18.45	5.71	18.45	5.71		0.00	85.7
3F1	21.29	3.99	21.29	3.99		0.00	91.9
4F1	37.99	3.73	37.99	3.73		0.00	100.6

5C1	12.77	4.34	12.77	4.34	0.00	173.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-6.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	184.9	-156.7	165.7	-175.8
OPER	300.6C	-268.7	268.7	-300.6C	308.2	-261.1	276.2	-293.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.16	R	50.89	56.70	0.0	45.53	35.02	28.70	
		-62.25	L	-47.88	-8.87	0.0	-42.47	-32.67	14.35	38.27
OPER	HS20	66.16	R	50.89	56.70	0.0	45.53	35.02	28.70	
		-62.25	L	-47.88	-8.87	0.0	-42.47	-32.67	14.35	38.27
OPER	2F1	42.76	R	32.90	38.70	0.0	0.00	0.00	0.00	
		-38.45	L	-29.58	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	52.25	R	40.20	42.70	0.0	0.00	0.00	0.00	
		-55.01	L	-42.32	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	48.39	R	37.22	46.70	0.0	0.00	0.00	0.00	
		-58.96	L	-45.36	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	51.89	R	39.92	44.70	0.0	0.00	0.00	0.00	
		-51.32	L	-39.47	2.35	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.80	2.52	2.51	2.83	HS	50.10	90.2
HS20	4.66	4.20	4.18	4.71	HS	83.50	150.3
2F1	7.21	6.79	6.46	7.62		0.00	96.9
3F1	5.90	4.75	5.29	5.33		0.00	109.2
4F1	6.37	4.43	5.71	4.97		0.00	119.6
5C1	5.94	5.09	5.32	5.71		0.00	203.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	4.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.1	66.6
OPER	151.3	-121.8	111.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.11	27.47	-2.39	21.13	-4.78	23.07	-3.67	17.75
OPER	HS20	-3.11	27.47	-2.39	21.13	-4.78	23.07	-3.67	17.75
OPER	2F1	-2.18	16.65	-1.68	12.81	0.00	0.00	0.00	0.00
OPER	3F1	-3.12	22.50	-2.40	17.31	0.00	0.00	0.00	0.00
OPER	4F1	-3.34	23.34	-2.57	17.95	0.00	0.00	0.00	0.00
OPER	5C1	-4.95	21.74	-3.81	16.72	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.30	2.42	HS 48.49	87.3
HS20	25.49	4.04	HS 80.82	145.5
2F1	55.91	6.66	0.00	100.0
3F1	38.97	4.93	0.00	113.5
4F1	36.45	4.76	0.00	128.4
5C1	24.58	5.11	0.00	204.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-6.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.6	-170.7	164.6	-170.7	172.2	-163.1	172.2	-163.1
OPER	279.4	-279.4	279.4	-279.4	287.0	-271.8	287.0	-271.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.16	R	50.89	56.70	0.0	45.53	35.02	28.70	
		-62.25	L	-47.88	-8.87	0.0	-42.47	-32.67	14.35	38.27
OPER	HS20	66.16	R	50.89	56.70	0.0	45.53	35.02	28.70	
		-62.25	L	-47.88	-8.87	0.0	-42.47	-32.67	14.35	38.27
OPER	2F1	42.76	R	32.90	38.70	0.0	0.00	0.00	0.00	
		-38.45	L	-29.58	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	52.25	R	40.20	42.70	0.0	0.00	0.00	0.00	
		-55.01	L	-42.32	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	48.39	R	37.22	46.70	0.0	0.00	0.00	0.00	
		-58.96	L	-45.36	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	51.89	R	39.92	44.70	0.0	0.00	0.00	0.00	
		-51.32	L	-39.47	2.35	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.60	2.62	2.60	2.62	HS	52.05	93.7
HS20	4.34	4.37	4.34	4.37	HS	86.74	156.1
2F1	6.71	7.07	6.71	7.07		0.00	100.7
3F1	5.49	4.94	5.49	4.94		0.00	113.7
4F1	5.93	4.61	5.93	4.61		0.00	124.5

5C1	5.53	5.30	5.53	5.30		0.00	211.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 2.300

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	178.4	-163.2	159.2	-182.4
OPER	300.6C	-268.7	268.7	-300.6C	297.3	-272.0	265.3	-304.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	93.24 R	71.73	59.09	0.0	67.74	52.11	31.09	
		-51.67 L	-39.75	-8.87	0.0	-37.40	-28.77	14.35	0.00
OPER	HS20	93.24 R	71.73	59.09	0.0	67.74	52.11	31.09	
		-51.67 L	-39.75	-8.87	0.0	-37.40	-28.77	14.35	0.00
OPER	2F1	61.53 R	47.33	41.09	0.0	0.00	0.00	0.00	
		-31.92 L	-24.56	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	77.76 R	59.81	45.09	0.0	0.00	0.00	0.00	
		-45.67 L	-35.13	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	79.23 R	60.95	45.09	0.0	0.00	0.00	0.00	
		-48.95 L	-37.65	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.97 R	58.44	47.09	0.0	0.00	0.00	0.00	
		-46.94 L	-36.11	3.13	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	3.16	1.71	3.53	HS 34.14	61.4
HS20	3.19	5.26	2.85	5.88	HS 56.90	102.4
2F1	4.83	8.52	4.31	9.52	0.00	64.7
3F1	3.82	5.96	3.41	6.66	0.00	78.5
4F1	3.75	5.56	3.35	6.21	0.00	90.4
5C1	3.91	5.80	3.49	6.48	0.00	139.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 2.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.1	67.6
OPER	151.3	-120.1	112.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.73	22.82	-4.41	17.55	-7.33	19.82	-5.64	15.24
OPER	HS20	-5.73	22.82	-4.41	17.55	-7.33	19.82	-5.64	15.24
OPER	2F1	-4.04	13.99	-3.10	10.76	0.00	0.00	0.00	0.00
OPER	3F1	-4.24	18.48	-3.26	14.21	0.00	0.00	0.00	0.00
OPER	4F1	-3.34	19.08	-2.57	14.68	0.00	0.00	0.00	0.00
OPER	5C1	-7.03	17.87	-5.41	13.75	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	9.83	2.96	HS	59.22	106.6
HS20	16.39	4.93	HS	98.69	177.6
2F1	29.77	8.05		0.00	120.7
3F1	28.34	6.09		0.00	140.2
4F1	35.97	5.90		0.00	159.4
5C1	17.08	6.30		0.00	252.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.0	-166.3	169.0	-166.3	165.6	-169.7	165.6	-169.7
OPER	279.4	-279.4	279.4	-279.4	276.0	-282.8	276.0	-282.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	93.24	R	71.73	59.09	0.0	67.74	52.11	31.09	
		-51.67	L	-39.75	-8.87	0.0	-37.40	-28.77	14.35	0.00
OPER	HS20	93.24	R	71.73	59.09	0.0	67.74	52.11	31.09	
		-51.67	L	-39.75	-8.87	0.0	-37.40	-28.77	14.35	0.00
OPER	2F1	61.53	R	47.33	41.09	0.0	0.00	0.00	0.00	
		-31.92	L	-24.56	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	77.76	R	59.81	45.09	0.0	0.00	0.00	0.00	
		-45.67	L	-35.13	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	79.23	R	60.95	45.09	0.0	0.00	0.00	0.00	
		-48.95	L	-37.65	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.97	R	58.44	47.09	0.0	0.00	0.00	0.00	
		-46.94	L	-36.11	3.13	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	3.28	1.78	3.28	HS	35.52	63.9
HS20	2.96	5.47	2.96	5.47	HS	59.20	106.6
2F1	4.49	8.86	4.49	8.86		0.00	67.3
3F1	3.55	6.19	3.55	6.19		0.00	81.6
4F1	3.48	5.78	3.48	5.78		0.00	94.1

5C1	3.63	6.02	3.63	6.02	0.00	145.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.1	-167.5	154.9	-186.7
OPER	300.6C	-268.7	268.7	-300.6C	290.2	-279.1	258.2	-311.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.09 R	79.30	61.48	0.0	80.84	62.18	33.48	
		-41.10 L	-31.61	-8.87	0.0	-32.32	-24.87	14.35	0.00
OPER	HS20	103.09 R	79.30	61.48	0.0	80.84	62.18	33.48	
		-41.10 L	-31.61	-8.87	0.0	-32.32	-24.87	14.35	0.00
OPER	2F1	71.35 R	54.88	43.48	0.0	0.00	0.00	0.00	
		-25.39 L	-19.53	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.64 R	69.72	43.48	0.0	0.00	0.00	0.00	
		-36.32 L	-27.94	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.79 R	74.46	47.48	0.0	0.00	0.00	0.00	
		-38.93 L	-29.95	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	88.69 R	68.22	84.48	0.0	0.00	0.00	0.00	
		-43.24 L	-33.26	4.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.69	4.07	1.50	4.54	HS 30.06	54.1
HS20	2.82	6.79	2.51	7.57	HS 50.09	90.2
2F1	4.07	10.99	3.62	12.25	0.00	54.3
3F1	3.20	7.68	2.85	8.56	0.00	65.5
4F1	3.00	7.17	2.67	7.99	0.00	72.0
5C1	3.27	6.45	2.91	7.20	0.00	116.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.5
OPER	151.3	-118.5	114.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.63	19.05	-8.17	14.66	-10.19	16.54	-7.84	12.72
OPER	HS20	-10.63	19.05	-8.17	14.66	-10.19	16.54	-7.84	12.72
OPER	2F1	-6.36	11.29	-4.90	8.68	0.00	0.00	0.00	0.00
OPER	3F1	-7.46	14.50	-5.74	11.16	0.00	0.00	0.00	0.00
OPER	4F1	-6.23	14.61	-4.79	11.24	0.00	0.00	0.00	0.00
OPER	5C1	-9.39	14.89	-7.22	11.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.69	3.60	HS 71.94	129.5
HS20	11.15	5.99	HS 119.89	215.8
2F1	18.62	10.12	0.00	151.8
3F1	15.88	7.88	0.00	181.2
4F1	19.01	7.82	0.00	211.0
5C1	12.63	7.67	0.00	306.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.8	-163.5	171.8	-163.5	161.4	-173.9	161.4	-173.9
OPER	279.4	-279.4	279.4	-279.4	268.9	-289.9	268.9	-289.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.09	R	79.30	61.48	0.0	80.84	62.18	33.48	
		-41.10	L	-31.61	-8.87	0.0	-32.32	-24.87	14.35	0.00
OPER	HS20	103.09	R	79.30	61.48	0.0	80.84	62.18	33.48	
		-41.10	L	-31.61	-8.87	0.0	-32.32	-24.87	14.35	0.00
OPER	2F1	71.35	R	54.88	43.48	0.0	0.00	0.00	0.00	
		-25.39	L	-19.53	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.64	R	69.72	43.48	0.0	0.00	0.00	0.00	
		-36.32	L	-27.94	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.79	R	74.46	47.48	0.0	0.00	0.00	0.00	
		-38.93	L	-29.95	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	88.69	R	68.22	84.48	0.0	0.00	0.00	0.00	
		-43.24	L	-33.26	4.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	4.23	1.57	4.23	HS	31.31	56.4
HS20	2.61	7.05	2.61	7.05	HS	52.18	93.9
2F1	3.77	11.42	3.77	11.42		0.00	56.5
3F1	2.97	7.98	2.97	7.98		0.00	68.2
4F1	2.78	7.45	2.78	7.45		0.00	75.0

5C1	3.03	6.70	3.03	6.70		0.00	121.3

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 2.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.2	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	287.0	-282.3	255.0	-314.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	2F1	72.01 L	55.39	25.88	0.0	0.00	0.00	0.00	
		-18.86 L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 R	73.53	45.88	0.0	0.00	0.00	0.00	
		-26.98 L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 R	76.34	49.88	0.0	0.00	0.00	0.00	
		-28.91 L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 R	71.96	86.88	0.0	0.00	0.00	0.00	
		-40.83 L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.55	1.55	6.18	HS 31.00	55.8
HS20	2.91	9.25	2.58	10.30	HS 51.67	93.0
2F1	3.99	14.97	3.54	16.67	0.00	53.1
3F1	3.00	10.47	2.67	11.65	0.00	61.4
4F1	2.89	9.76	2.57	10.87	0.00	69.4
5C1	3.07	6.91	2.73	7.70	0.00	109.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S02
Check Point I. D. 2.500

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	(+) Shear
0.0	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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-15.05	15.01	-11.58	11.54	-13.27	13.32	-10.21	10.25
OPER	HS20	-15.05	15.01	-11.58	11.54	-13.27	13.32	-10.21	10.25
OPER	2F1	-8.91	8.64	-6.86	6.64	0.00	0.00	0.00	0.00
OPER	3F1	-11.05	10.72	-8.50	8.25	0.00	0.00	0.00	0.00
OPER	4F1	-10.52	10.08	-8.10	7.75	0.00	0.00	0.00	0.00
OPER	5C1	-11.96	12.26	-9.20	9.43	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	4.66	4.63	HS 92.64	166.8
HS20	7.77	7.72	HS 154.41	277.9
2F1	13.12	13.41	0.00	196.8
3F1	10.58	10.81	0.00	243.3
4F1	11.11	11.50	0.00	299.9
5C1	9.77	9.45	0.00	377.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.1	-162.2	173.1	-162.2	159.5	-175.8	159.5	-175.8
OPER	279.4	-279.4	279.4	-279.4	265.8	-293.0	265.8	-293.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	98.70	L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52	L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	HS20	98.70	L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52	L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	2F1	72.01	L	55.39	25.88	0.0	0.00	0.00	0.00	
		-18.86	L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59	R	73.53	45.88	0.0	0.00	0.00	0.00	
		-26.98	L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25	R	76.34	49.88	0.0	0.00	0.00	0.00	
		-28.91	L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55	R	71.96	86.88	0.0	0.00	0.00	0.00	
		-40.83	L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.62	5.76	1.62	5.76	HS	32.31	58.2
HS20	2.69	9.60	2.69	9.60	HS	53.85	96.9
2F1	3.69	15.54	3.69	15.54		0.00	55.4
3F1	2.78	10.86	2.78	10.86		0.00	63.9
4F1	2.68	10.14	2.68	10.14		0.00	72.3

5C1	2.84	7.18	2.84	7.18	0.00	113.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.8	-168.8	153.6	-188.0
OPER	300.6C	-268.7	268.7	-300.6C	288.0	-281.3	256.0	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.20	L	77.84	10.27	0.0	81.04	62.34	38.27	
		-30.99	R	-23.84	80.62	0.0	-28.44	-21.88	57.40	0.00
OPER	HS20	101.20	L	77.84	10.27	0.0	81.04	62.34	38.27	
		-30.99	R	-23.84	80.62	0.0	-28.44	-21.88	57.40	0.00
OPER	2F1	70.62	L	54.33	28.27	0.0	0.00	0.00	0.00	
		-20.83	R	-16.03	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	89.38	L	68.76	28.27	0.0	0.00	0.00	0.00	
		-29.89	R	-22.99	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	95.46	L	73.43	24.27	0.0	0.00	0.00	0.00	
		-32.16	R	-24.74	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.03	L	69.26	26.27	0.0	0.00	0.00	0.00	
		-39.49	L	-30.38	5.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.71	5.45	1.52	6.07	HS	30.36	54.6
HS20	2.85	9.08	2.53	10.11	HS	50.59	91.1
2F1	4.08	13.50	3.62	15.04		0.00	54.4
3F1	3.22	9.41	2.86	10.48		0.00	65.9
4F1	3.02	8.75	2.68	9.74		0.00	72.4
5C1	3.20	7.12	2.84	7.93		0.00	113.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 2.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.1	70.6
OPER	151.3	-115.1	117.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.94	10.44	-14.57	8.03	-16.49	10.27	-12.69	7.90
OPER	HS20	-18.94	10.44	-14.57	8.03	-16.49	10.27	-12.69	7.90
OPER	2F1	-11.59	6.14	-8.91	4.73	0.00	0.00	0.00	0.00
OPER	3F1	-14.90	7.24	-11.46	5.57	0.00	0.00	0.00	0.00
OPER	4F1	-15.05	6.14	-11.58	4.72	0.00	0.00	0.00	0.00
OPER	5C1	-14.71	9.99	-11.31	7.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.65	6.76	HS 72.97	131.3
HS20	6.08	11.27	HS 121.61	218.9
2F1	9.94	19.14	0.00	149.1
3F1	7.73	16.24	0.00	177.7
4F1	7.65	19.16	0.00	206.5
5C1	7.83	11.77	0.00	313.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.7	-162.6	172.7	-162.6	160.0	-175.2	160.0	-175.2
OPER	279.4	-279.4	279.4	-279.4	266.7	-292.1	266.7	-292.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.20	L	77.84	10.27	0.0	81.04	62.34	38.27	
		-30.99	R	-23.84	80.62	0.0	-28.44	-21.88	57.40	0.00
OPER	HS20	101.20	L	77.84	10.27	0.0	81.04	62.34	38.27	
		-30.99	R	-23.84	80.62	0.0	-28.44	-21.88	57.40	0.00
OPER	2F1	70.62	L	54.33	28.27	0.0	0.00	0.00	0.00	
		-20.83	R	-16.03	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	89.38	L	68.76	28.27	0.0	0.00	0.00	0.00	
		-29.89	R	-22.99	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	95.46	L	73.43	24.27	0.0	0.00	0.00	0.00	
		-32.16	R	-24.74	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.03	L	69.26	26.27	0.0	0.00	0.00	0.00	
		-39.49	L	-30.38	5.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.58	5.66	1.58	5.66	HS	31.63	56.9
HS20	2.64	9.43	2.64	9.43	HS	52.72	94.9
2F1	3.78	14.02	3.78	14.02		0.00	56.7
3F1	2.98	9.77	2.98	9.77		0.00	68.6
4F1	2.79	9.08	2.79	9.08		0.00	75.4

5C1	2.96	7.40	2.96	7.40	0.00	118.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.7	-165.9	156.5	-185.1
OPER	300.6C	-268.7	268.7	-300.6C	292.8	-276.4	260.9	-308.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.72 L	69.78	12.66	0.0	68.31	52.54	40.66	
		-38.73 R	-29.80	80.62	0.0	-31.77	-24.44	57.40	0.00
OPER	HS20	90.72 L	69.78	12.66	0.0	68.31	52.54	40.66	
		-38.73 R	-29.80	80.62	0.0	-31.77	-24.44	57.40	0.00
OPER	2F1	59.96 L	46.12	30.66	0.0	0.00	0.00	0.00	
		-26.04 R	-20.03	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.56 L	58.12	26.66	0.0	0.00	0.00	0.00	
		-37.36 R	-28.74	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.83 L	59.10	26.66	0.0	0.00	0.00	0.00	
		-40.20 R	-30.92	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.95 R	60.73	87.66	0.0	0.00	0.00	0.00	
		-39.92 R	-30.70	68.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	4.28	1.73	4.78	HS 34.51	62.1
HS20	3.23	7.14	2.88	7.96	HS 57.51	103.5
2F1	4.88	10.61	4.35	11.84	0.00	65.3
3F1	3.88	7.40	3.45	8.26	0.00	79.4
4F1	3.81	6.88	3.39	7.67	0.00	91.7
5C1	3.71	6.93	3.30	7.73	0.00	132.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 2.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-2.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.1	71.5
OPER	151.3	-113.5	119.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.69	5.44	-17.45	4.18	-19.75	7.46	-15.20	5.74
OPER	HS20	-22.69	5.44	-17.45	4.18	-19.75	7.46	-15.20	5.74
OPER	2F1	-14.29	3.90	-10.99	3.00	0.00	0.00	0.00	0.00
OPER	3F1	-18.91	4.16	-14.54	3.20	0.00	0.00	0.00	0.00
OPER	4F1	-19.46	4.16	-14.97	3.20	0.00	0.00	0.00	0.00
OPER	5C1	-17.98	7.82	-13.83	6.01	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.00	9.59	HS 60.04	108.1
HS20	5.00	15.98	HS 100.07	180.1
2F1	7.94	30.59	0.00	119.2
3F1	6.01	28.65	0.00	138.1
4F1	5.83	28.65	0.00	157.5
5C1	6.32	15.25	0.00	252.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	170.8	-164.5	170.8	-164.5	163.0	-172.3	163.0	-172.3
OPER	279.4	-279.4	279.4	-279.4	271.6	-287.2	271.6	-287.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.72	L	69.78	12.66	0.0	68.31	52.54	40.66	
		-38.73	R	-29.80	80.62	0.0	-31.77	-24.44	57.40	0.00
OPER	HS20	90.72	L	69.78	12.66	0.0	68.31	52.54	40.66	
		-38.73	R	-29.80	80.62	0.0	-31.77	-24.44	57.40	0.00
OPER	2F1	59.96	L	46.12	30.66	0.0	0.00	0.00	0.00	
		-26.04	R	-20.03	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.56	L	58.12	26.66	0.0	0.00	0.00	0.00	
		-37.36	R	-28.74	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.83	L	59.10	26.66	0.0	0.00	0.00	0.00	
		-40.20	R	-30.92	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.95	R	60.73	87.66	0.0	0.00	0.00	0.00	
		-39.92	R	-30.70	68.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.80	4.45	1.80	4.45	HS	35.93	64.7
HS20	2.99	7.41	2.99	7.41	HS	59.88	107.8
2F1	4.53	11.03	4.53	11.03		0.00	67.9
3F1	3.59	7.69	3.59	7.69		0.00	82.7
4F1	3.54	7.14	3.54	7.14		0.00	95.5

5C1	3.44	7.20	3.44	7.20		0.00	137.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.6	-267.7	269.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.79	L	48.30	15.05	0.0	47.65	36.66	43.05	
		-46.48	R	-35.76	80.62	0.0	-37.04	-28.49	57.40	105.23
OPER	HS20	62.79	L	48.30	15.05	0.0	47.65	36.66	43.05	
		-46.48	R	-35.76	80.62	0.0	-37.04	-28.49	57.40	105.23
OPER	2F1	40.60	L	31.23	33.05	0.0	0.00	0.00	0.00	
		-31.25	R	-24.04	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.01	L	37.70	29.05	0.0	0.00	0.00	0.00	
		-44.83	R	-34.49	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.87	L	34.51	25.05	0.0	0.00	0.00	0.00	
		-48.24	R	-37.11	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.70	R	45.16	90.05	0.0	0.00	0.00	0.00	
		-41.67	R	-32.05	69.40	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.88	3.46	2.58	3.87	HS	51.52	92.7
HS20	4.80	5.76	4.29	6.45	HS	85.87	154.6
2F1	7.43	8.57	6.64	9.59		0.00	99.6
3F1	6.15	5.97	5.50	6.68		0.00	126.5
4F1	6.72	5.55	6.01	6.21		0.00	149.8
5C1	5.14	6.43	4.59	7.19		0.00	183.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 2.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.1	72.5
OPER	151.3	-111.9	120.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.81	4.22	-21.39	3.25	-22.96	4.98	-17.66	3.83
OPER	HS20	-27.81	4.22	-21.39	3.25	-22.96	4.98	-17.66	3.83
OPER	2F1	-16.92	2.73	-13.01	2.10	0.00	0.00	0.00	0.00
OPER	3F1	-22.91	3.91	-17.62	3.01	0.00	0.00	0.00	0.00
OPER	4F1	-23.62	4.16	-18.17	3.20	0.00	0.00	0.00	0.00
OPER	5C1	-21.57	5.81	-16.59	4.47	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.41	14.55	HS 48.30	86.9
HS20	4.03	24.24	HS 80.49	144.9
2F1	6.62	44.24	0.00	99.2
3F1	4.88	30.92	0.00	112.3
4F1	4.74	29.04	0.00	127.9
5C1	5.19	20.78	0.00	207.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.3	-168.0	167.3	-168.0	168.2	-167.1	168.2	-167.1
OPER	279.4	-279.4	279.4	-279.4	280.3	-278.5	280.3	-278.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.79	L	48.30	15.05	0.0	47.65	36.66	43.05	
		-46.48	R	-35.76	80.62	0.0	-37.04	-28.49	57.40	105.23
OPER	HS20	62.79	L	48.30	15.05	0.0	47.65	36.66	43.05	
		-46.48	R	-35.76	80.62	0.0	-37.04	-28.49	57.40	105.23
OPER	2F1	40.60	L	31.23	33.05	0.0	0.00	0.00	0.00	
		-31.25	R	-24.04	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.01	L	37.70	29.05	0.0	0.00	0.00	0.00	
		-44.83	R	-34.49	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.87	L	34.51	25.05	0.0	0.00	0.00	0.00	
		-48.24	R	-37.11	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.70	R	45.16	90.05	0.0	0.00	0.00	0.00	
		-41.67	R	-32.05	69.40	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.58	96.4
HS20	4.47	5.99	4.47	5.99	HS	89.29	160.7
2F1	6.90	8.91	6.90	8.91		0.00	103.6
3F1	5.72	6.21	5.72	6.21		0.00	131.6
4F1	6.25	5.77	6.25	5.77		0.00	155.8

5C1	4.78	6.68	4.78	6.68	0.00	191.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.900

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.5	-153.1	169.3	-172.2
OPER	300.6C	-268.7	268.7	-300.6C	314.2	-255.1	282.2	-287.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	17.82	L	13.70	17.44	0.0	26.86	20.66	45.44	
		-60.76	L	-46.74	38.62	0.0	-56.30	-43.31	57.40	35.88
OPER	HS20	17.82	L	13.70	17.44	0.0	26.86	20.66	45.44	
		-60.76	L	-46.74	38.62	0.0	-56.30	-43.31	57.40	35.88
OPER	2F1	14.14	L	10.88	35.44	0.0	0.00	0.00	0.00	
		-36.46	R	-28.05	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.02	R	10.78	91.32	0.0	0.00	0.00	0.00	
		-52.30	R	-40.23	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.90	R	11.46	95.32	0.0	0.00	0.00	0.00	
		-56.28	R	-43.29	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.62	R	22.79	92.44	0.0	0.00	0.00	0.00	
		-45.81	R	-35.24	71.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.02	2.52	6.30	2.84	HS	50.38	90.7
HS20	11.70	4.20	10.51	4.72	HS	83.97	151.1
2F1	22.22	7.00	19.95	7.87		0.00	105.0
3F1	22.42	4.88	20.14	5.49		0.00	112.2
4F1	21.09	4.53	18.94	5.10		0.00	122.4
5C1	10.61	5.57	9.53	6.27		0.00	222.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 2.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.2	73.5
OPER	151.3	-110.3	122.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.97	4.42	-25.36	3.40	-26.00	4.17	-20.00	3.20
OPER	HS20	-32.97	4.42	-25.36	3.40	-26.00	4.17	-20.00	3.20
OPER	2F1	-19.36	2.73	-14.89	2.10	0.00	0.00	0.00	0.00
OPER	3F1	-26.76	3.91	-20.58	3.01	0.00	0.00	0.00	0.00
OPER	4F1	-27.60	4.19	-21.23	3.22	0.00	0.00	0.00	0.00
OPER	5C1	-25.16	4.03	-19.36	3.10	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.01	16.62	HS 40.15	72.3
HS20	3.35	27.70	HS 66.91	120.4
2F1	5.70	44.83	0.00	85.5
3F1	4.12	31.34	0.00	94.8
4F1	3.99	29.24	0.00	107.9
5C1	4.38	30.41	0.00	175.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.2	-173.1	162.2	-173.1	175.8	-159.5	175.8	-159.5
OPER	279.4	-279.4	279.4	-279.4	293.0	-265.8	293.0	-265.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	17.82	L	13.70	17.44	0.0	26.86	20.66	45.44	
		-60.76	L	-46.74	38.62	0.0	-56.30	-43.31	57.40	35.88
OPER	HS20	17.82	L	13.70	17.44	0.0	26.86	20.66	45.44	
		-60.76	L	-46.74	38.62	0.0	-56.30	-43.31	57.40	35.88
OPER	2F1	14.14	L	10.88	35.44	0.0	0.00	0.00	0.00	
		-36.46	R	-28.05	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.02	R	10.78	91.32	0.0	0.00	0.00	0.00	
		-52.30	R	-40.23	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.90	R	11.46	95.32	0.0	0.00	0.00	0.00	
		-56.28	R	-43.29	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.62	R	22.79	92.44	0.0	0.00	0.00	0.00	
		-45.81	R	-35.24	71.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.55	2.62	6.55	2.62	HS	52.51	94.5
HS20	10.91	4.38	10.91	4.38	HS	87.51	157.5
2F1	20.71	7.29	20.71	7.29		0.00	109.4
3F1	20.90	5.08	20.90	5.08		0.00	116.9
4F1	19.66	4.72	19.66	4.72		0.00	127.5

5C1	9.89	5.80	9.89	5.80	0.00	232.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80	L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58	L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95	R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57	R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42	L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.88	1.35	8.02	1.53	HS	26.97	48.5
HS20	14.80	2.25	13.37	2.55	HS	44.95	80.9
2F1	23.95	5.60	21.64	6.36		0.00	84.1
3F1	16.75	3.46	15.12	3.92		0.00	79.6
4F1	15.62	2.96	14.11	3.36		0.00	80.0
5C1	18.49	3.59	16.70	4.07		0.00	143.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load (-) Shear	Dead Load (+) Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-0.7	-5.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.2	65.0
OPER	151.3	-108.7	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.97	37.61	-25.36	28.93	-26.00	28.93	-20.00	22.25
OPER	HS20	-32.97	37.61	-25.36	28.93	-26.00	28.93	-20.00	22.25
OPER	2F1	-19.36	21.46	-14.89	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-26.76	30.17	-20.58	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-27.60	31.71	-21.23	24.39	0.00	0.00	0.00	0.00
OPER	5C1	-25.16	28.29	-19.36	21.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.73	1.73	HS 34.50	62.1
HS20	2.88	2.88	HS 57.49	103.5
2F1	5.05	5.05	0.00	75.7
3F1	3.59	3.59	0.00	82.5
4F1	3.41	3.42	0.00	92.0
5C1	3.80	3.83	0.00	152.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-149.6
OPER	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-249.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80	L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58	L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95	R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57	R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42	L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.31	1.41	8.31	1.41	HS	28.19	50.7
HS20	13.85	2.35	13.85	2.35	HS	46.98	84.6
2F1	22.42	5.86	22.42	5.86		0.00	87.9
3F1	15.67	3.62	15.67	3.62		0.00	83.2
4F1	14.62	3.10	14.62	3.10		0.00	83.6

5C1	17.31	3.75	17.31	3.75		0.00	150.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80	L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58	L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95	R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57	R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42	L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.88	1.35	8.02	1.53	HS	26.97	48.5
HS20	14.80	2.25	13.37	2.55	HS	44.95	80.9
2F1	23.95	5.60	21.64	6.36		0.00	84.1
3F1	16.75	3.46	15.12	3.92		0.00	79.6
4F1	15.62	2.96	14.11	3.36		0.00	80.0
5C1	18.49	3.59	16.70	4.07		0.00	143.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.0	7.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.2	65.0
OPER	151.3	-108.7	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.80	37.61	-29.08	28.93	-28.78	28.93	-22.14	22.25
OPER	HS20	-37.80	37.61	-29.08	28.93	-28.78	28.93	-22.14	22.25
OPER	2F1	-21.52	21.46	-16.55	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-30.29	30.17	-23.30	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-31.88	31.71	-24.52	24.39	0.00	0.00	0.00	0.00
OPER	5C1	-28.58	28.29	-21.99	21.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.73	1.73	HS	34.50	62.1
HS20	2.88	2.88	HS	57.49	103.5
2F1	5.05	5.05		0.00	75.7
3F1	3.59	3.59		0.00	82.5
4F1	3.41	3.42		0.00	92.0
5C1	3.80	3.83		0.00	152.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-149.6
OPER	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-249.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80	L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58	L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95	R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57	R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42	L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.31	1.41	8.31	1.41	HS	28.19	50.7
HS20	13.85	2.35	13.85	2.35	HS	46.98	84.6
2F1	22.42	5.86	22.42	5.86		0.00	87.9
3F1	15.67	3.62	15.67	3.62		0.00	83.2
4F1	14.62	3.10	14.62	3.10		0.00	83.6

5C1	17.31	3.75	17.31	3.75		0.00	150.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-11.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.0	-153.5	168.8	-172.7
OPER	300.6C	-268.7	268.7	-300.6C	313.4	-255.9	281.4	-287.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.42	R	14.17	78.23	0.0	27.72	21.33	50.23	
		-61.87	R	-47.59	57.05	0.0	-56.08	-43.14	38.27	59.79
OPER	HS20	18.42	R	14.17	78.23	0.0	27.72	21.33	50.23	
		-61.87	R	-47.59	57.05	0.0	-56.08	-43.14	38.27	59.79
OPER	2F1	14.51	R	11.16	60.23	0.0	0.00	0.00	0.00	
		-37.18	L	-28.60	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.24	L	13.27	4.35	0.0	0.00	0.00	0.00	
		-53.32	L	-41.02	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	18.32	L	14.10	0.35	0.0	0.00	0.00	0.00	
		-57.36	L	-44.12	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	32.79	L	25.22	3.23	0.0	0.00	0.00	0.00	
		-46.95	L	-36.12	24.66	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	6.78	2.48	6.09	2.79	HS	49.63	89.3
HS20	11.30	4.14	10.15	4.65	HS	82.72	148.9
2F1	21.60	6.88	19.40	7.74		0.00	103.2
3F1	18.17	4.80	16.32	5.40		0.00	110.4
4F1	17.10	4.46	15.36	5.02		0.00	120.5
5C1	9.56	5.45	8.58	6.13		0.00	218.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	66.0
OPER	151.3	-122.8	110.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	32.74	-2.43	25.18	-3.56	26.12	-2.74	20.09
OPER	HS20	-3.17	32.74	-2.43	25.18	-3.56	26.12	-2.74	20.09
OPER	2F1	-2.22	19.27	-1.71	14.82	0.00	0.00	0.00	0.00
OPER	3F1	-3.18	26.59	-2.45	20.46	0.00	0.00	0.00	0.00
OPER	4F1	-3.40	27.40	-2.62	21.08	0.00	0.00	0.00	0.00
OPER	5C1	-3.23	24.87	-2.48	19.13	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	20.71	2.02	HS	40.30	72.5
HS20	34.51	3.36	HS	67.17	120.9
2F1	55.38	5.71		0.00	85.6
3F1	38.60	4.14		0.00	95.1
4F1	36.11	4.01		0.00	108.4
5C1	38.04	4.42		0.00	176.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-11.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.5	-172.7	162.5	-172.7	175.3	-160.0	175.3	-160.0
OPER	279.4	-279.4	279.4	-279.4	292.2	-266.6	292.2	-266.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.42	R	14.17	78.23	0.0	27.72	21.33	50.23	
		-61.87	R	-47.59	57.05	0.0	-56.08	-43.14	38.27	59.79
OPER	HS20	18.42	R	14.17	78.23	0.0	27.72	21.33	50.23	
		-61.87	R	-47.59	57.05	0.0	-56.08	-43.14	38.27	59.79
OPER	2F1	14.51	R	11.16	60.23	0.0	0.00	0.00	0.00	
		-37.18	L	-28.60	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.24	L	13.27	4.35	0.0	0.00	0.00	0.00	
		-53.32	L	-41.02	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	18.32	L	14.10	0.35	0.0	0.00	0.00	0.00	
		-57.36	L	-44.12	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	32.79	L	25.22	3.23	0.0	0.00	0.00	0.00	
		-46.95	L	-36.12	24.66	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.32	2.59	6.32	2.59	HS	51.71	93.1
HS20	10.54	4.31	10.54	4.31	HS	86.19	155.1
2F1	20.14	7.17	20.14	7.17		0.00	107.6
3F1	16.94	5.00	16.94	5.00		0.00	115.0
4F1	15.94	4.65	15.94	4.65		0.00	125.5

5C1	8.91	5.68	8.91	5.68	0.00	227.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02
Check Point I. D. 3.200
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	300.0	-269.3	268.0	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.06	R	48.51	80.62	0.0	47.85	36.81	52.62	
		-46.91	L	-36.08	15.05	0.0	-35.33	-27.18	38.27	69.36
OPER	HS20	63.06	R	48.51	80.62	0.0	47.85	36.81	52.62	
		-46.91	L	-36.08	15.05	0.0	-35.33	-27.18	38.27	69.36
OPER	2F1	40.79	R	31.37	62.62	0.0	0.00	0.00	0.00	
		-31.78	L	-24.44	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.29	R	37.91	66.62	0.0	0.00	0.00	0.00	
		-45.58	L	-35.06	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	45.17	R	34.75	70.62	0.0	0.00	0.00	0.00	
		-49.03	L	-37.71	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	60.94	L	46.87	5.62	0.0	0.00	0.00	0.00	
		-42.43	L	-32.64	26.27	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.85	3.44	2.55	3.85	HS	51.00	91.8
HS20	4.76	5.74	4.25	6.42	HS	84.99	153.0
2F1	7.36	8.48	6.57	9.48		0.00	98.6
3F1	6.09	5.91	5.44	6.61		0.00	125.1
4F1	6.64	5.49	5.93	6.14		0.00	148.3
5C1	4.92	6.35	4.40	7.10		0.00	175.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.200

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.7	66.9
OPER	151.3	-121.2	111.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	27.56	-2.43	21.20	-4.95	23.04	-3.81	17.72
OPER	HS20	-3.17	27.56	-2.43	21.20	-4.95	23.04	-3.81	17.72
OPER	2F1	-2.22	16.79	-1.71	12.92	0.00	0.00	0.00	0.00
OPER	3F1	-3.18	22.71	-2.45	17.47	0.00	0.00	0.00	0.00
OPER	4F1	-3.40	23.44	-2.62	18.03	0.00	0.00	0.00	0.00
OPER	5C1	-4.90	21.30	-3.77	16.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	14.69	2.43	HS	48.58	87.4
HS20	24.48	4.05	HS	80.96	145.7
2F1	54.65	6.64		0.00	99.7
3F1	38.09	4.91		0.00	113.0
4F1	35.63	4.76		0.00	128.5
5C1	24.75	5.24		0.00	209.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.9	-167.4	167.9	-167.4	167.2	-168.0	167.2	-168.0
OPER	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-280.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.06	R	48.51	80.62	0.0	47.85	36.81	52.62	
		-46.91	L	-36.08	15.05	0.0	-35.33	-27.18	38.27	69.36
OPER	HS20	63.06	R	48.51	80.62	0.0	47.85	36.81	52.62	
		-46.91	L	-36.08	15.05	0.0	-35.33	-27.18	38.27	69.36
OPER	2F1	40.79	R	31.37	62.62	0.0	0.00	0.00	0.00	
		-31.78	L	-24.44	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.29	R	37.91	66.62	0.0	0.00	0.00	0.00	
		-45.58	L	-35.06	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	45.17	R	34.75	70.62	0.0	0.00	0.00	0.00	
		-49.03	L	-37.71	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	60.94	L	46.87	5.62	0.0	0.00	0.00	0.00	
		-42.43	L	-32.64	26.27	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.65	3.58	2.65	3.58	HS	53.04	95.5
HS20	4.42	5.97	4.42	5.97	HS	88.40	159.1
2F1	6.83	8.81	6.83	8.81		0.00	102.5
3F1	5.66	6.14	5.66	6.14		0.00	130.1
4F1	6.17	5.71	6.17	5.71		0.00	154.2

5C1	4.57	6.60	4.57	6.60	0.00	183.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.4	-278.9	258.5	-310.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.77	R	69.83	83.01	0.0	69.19	53.22	55.01	
		-38.94	L	-29.95	15.05	0.0	-31.05	-23.89	38.27	0.00
OPER	HS20	90.77	R	69.83	83.01	0.0	69.19	53.22	55.01	
		-38.94	L	-29.95	15.05	0.0	-31.05	-23.89	38.27	0.00
OPER	2F1	59.80	R	46.00	65.01	0.0	0.00	0.00	0.00	
		-26.38	L	-20.29	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.32	R	57.94	69.01	0.0	0.00	0.00	0.00	
		-37.84	L	-29.11	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.61	R	58.93	69.01	0.0	0.00	0.00	0.00	
		-40.70	L	-31.31	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.03	L	61.56	8.01	0.0	0.00	0.00	0.00	
		-39.75	L	-30.58	27.05	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.92	4.30	1.71	4.79	HS	34.17	61.5
HS20	3.20	7.16	2.85	7.98	HS	56.94	102.5
2F1	4.86	10.57	4.32	11.78		0.00	64.8
3F1	3.86	7.37	3.43	8.22		0.00	78.9
4F1	3.79	6.85	3.37	7.64		0.00	91.1
5C1	3.63	7.01	3.23	7.82		0.00	129.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 3.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	2.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.7	67.9
OPER	151.3	-119.6	113.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.52	22.61	-4.24	17.39	-7.47	19.80	-5.75	15.23
OPER	HS20	-5.52	22.61	-4.24	17.39	-7.47	19.80	-5.75	15.23
OPER	2F1	-3.97	14.14	-3.05	10.88	0.00	0.00	0.00	0.00
OPER	3F1	-4.23	18.69	-3.26	14.37	0.00	0.00	0.00	0.00
OPER	4F1	-3.40	19.24	-2.62	14.80	0.00	0.00	0.00	0.00
OPER	5C1	-6.91	17.80	-5.31	13.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.60	3.00	HS 60.08	108.1
HS20	16.00	5.01	HS 100.14	180.2
2F1	30.11	8.00	0.00	120.1
3F1	28.23	6.06	0.00	139.3
4F1	35.15	5.88	0.00	158.9
5C1	17.31	6.36	0.00	254.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.7	-163.6	171.7	-163.6	161.5	-173.8	161.5	-173.8
OPER	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-289.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.77	R	69.83	83.01	0.0	69.19	53.22	55.01	
		-38.94	L	-29.95	15.05	0.0	-31.05	-23.89	38.27	0.00
OPER	HS20	90.77	R	69.83	83.01	0.0	69.19	53.22	55.01	
		-38.94	L	-29.95	15.05	0.0	-31.05	-23.89	38.27	0.00
OPER	2F1	59.80	R	46.00	65.01	0.0	0.00	0.00	0.00	
		-26.38	L	-20.29	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.32	R	57.94	69.01	0.0	0.00	0.00	0.00	
		-37.84	L	-29.11	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.61	R	58.93	69.01	0.0	0.00	0.00	0.00	
		-40.70	L	-31.31	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.03	L	61.56	8.01	0.0	0.00	0.00	0.00	
		-39.75	L	-30.58	27.05	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	4.46	1.78	4.46	HS	35.59	64.1
HS20	2.97	7.44	2.97	7.44	HS	59.31	106.8
2F1	4.50	10.98	4.50	10.98		0.00	67.5
3F1	3.57	7.65	3.57	7.65		0.00	82.2
4F1	3.51	7.11	3.51	7.11		0.00	94.9

5C1	3.36	7.29	3.36	7.29		0.00	134.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02
Check Point I. D. 3.400
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
1.4	14.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.9	-170.7	151.7	-189.9
OPER	300.6C	-268.7	268.7	-300.6C	284.8	-284.5	252.8	-316.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.38 R	77.98	85.40	0.0	81.95	63.04	57.40	
		-30.97 L	-23.82	15.05	0.0	-27.28	-20.99	38.27	0.00
OPER	HS20	101.38 R	77.98	85.40	0.0	81.95	63.04	57.40	
		-30.97 L	-23.82	15.05	0.0	-27.28	-20.99	38.27	0.00
OPER	2F1	70.05 R	53.88	67.40	0.0	0.00	0.00	0.00	
		-20.98 L	-16.14	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.66 R	68.20	67.40	0.0	0.00	0.00	0.00	
		-30.09 L	-23.15	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.70 R	72.84	71.40	0.0	0.00	0.00	0.00	
		-32.37 L	-24.90	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.93 R	69.18	69.40	0.0	0.00	0.00	0.00	
		-37.70 L	-29.00	27.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.68	5.51	1.50	6.13	HS 29.92	53.9
HS20	2.81	9.19	2.49	10.22	HS 49.87	89.8
2F1	4.07	13.56	3.61	15.09	0.00	54.1
3F1	3.21	9.45	2.85	10.52	0.00	65.6
4F1	3.01	8.79	2.67	9.78	0.00	72.1
5C1	3.17	7.55	2.81	8.40	0.00	112.4

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 3.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.8	68.9
OPER	151.3	-117.9	114.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.44	18.84	-8.03	14.49	-10.31	16.51	-7.93	12.70
OPER	HS20	-10.44	18.84	-8.03	14.49	-10.31	16.51	-7.93	12.70
OPER	2F1	-6.25	11.43	-4.81	8.79	0.00	0.00	0.00	0.00
OPER	3F1	-7.37	14.69	-5.67	11.30	0.00	0.00	0.00	0.00
OPER	4F1	-6.24	14.80	-4.80	11.39	0.00	0.00	0.00	0.00
OPER	5C1	-9.22	14.79	-7.09	11.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.78	3.66	HS 73.13	131.6
HS20	11.30	6.09	HS 121.89	219.4
2F1	18.86	10.05	0.00	150.7
3F1	16.00	7.82	0.00	179.8
4F1	18.90	7.76	0.00	209.4
5C1	12.80	7.76	0.00	310.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	14.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.0	-161.3	174.0	-161.3	158.1	-177.2	158.1	-177.2
OPER	279.4	-279.4	279.4	-279.4	263.5	-295.3	263.5	-295.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.38	R	77.98	85.40	0.0	81.95	63.04	57.40	
		-30.97	L	-23.82	15.05	0.0	-27.28	-20.99	38.27	0.00
OPER	HS20	101.38	R	77.98	85.40	0.0	81.95	63.04	57.40	
		-30.97	L	-23.82	15.05	0.0	-27.28	-20.99	38.27	0.00
OPER	2F1	70.05	R	53.88	67.40	0.0	0.00	0.00	0.00	
		-20.98	L	-16.14	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.66	R	68.20	67.40	0.0	0.00	0.00	0.00	
		-30.09	L	-23.15	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.70	R	72.84	71.40	0.0	0.00	0.00	0.00	
		-32.37	L	-24.90	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.93	R	69.18	69.40	0.0	0.00	0.00	0.00	
		-37.70	L	-29.00	27.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	5.72	1.56	5.72	HS	31.20	56.2
HS20	2.60	9.53	2.60	9.53	HS	51.99	93.6
2F1	3.76	14.07	3.76	14.07		0.00	56.4
3F1	2.97	9.81	2.97	9.81		0.00	68.4
4F1	2.78	9.12	2.78	9.12		0.00	75.1

5C1	2.93	7.83	2.93	7.83	0.00	117.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.8	-171.8	150.6	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	283.0	-286.3	251.0	-318.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	2F1	71.08 L	54.68	49.79	0.0	0.00	0.00	0.00	
		-15.58 L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 R	72.45	69.79	0.0	0.00	0.00	0.00	
		-22.35 L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 R	75.25	73.79	0.0	0.00	0.00	0.00	
		-24.04 L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 L	71.60	8.79	0.0	0.00	0.00	0.00	
		-36.84 L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	7.31	1.54	8.12	HS 30.79	55.4
HS20	2.89	12.18	2.57	13.54	HS 51.32	92.4
2F1	3.98	18.37	3.53	20.42	0.00	53.0
3F1	3.01	12.81	2.66	14.24	0.00	61.3
4F1	2.89	11.91	2.57	13.24	0.00	69.3
5C1	3.04	7.77	2.70	8.64	0.00	107.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 3.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-14.90	14.90	-11.46	11.46	-13.40	13.28	-10.31	10.22
OPER	HS20	-14.90	14.90	-11.46	11.46	-13.40	13.28	-10.31	10.22
OPER	2F1	-8.78	8.76	-6.75	6.74	0.00	0.00	0.00	0.00
OPER	3F1	-10.90	10.87	-8.38	8.36	0.00	0.00	0.00	0.00
OPER	4F1	-10.30	10.26	-7.92	7.90	0.00	0.00	0.00	0.00
OPER	5C1	-11.79	11.71	-9.07	9.01	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.68	4.69	HS 93.65	168.6
HS20	7.80	7.81	HS 156.09	281.0
2F1	13.25	13.30	0.00	198.8
3F1	10.67	10.71	0.00	245.5
4F1	11.30	11.34	0.00	305.0
5C1	9.86	9.94	0.00	394.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.6	174.7	-160.6	157.0	-178.2	157.0	-178.2
OPER	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-297.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81	L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00	L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	HS20	97.81	L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00	L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	2F1	71.08	L	54.68	49.79	0.0	0.00	0.00	0.00	
		-15.58	L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19	R	72.45	69.79	0.0	0.00	0.00	0.00	
		-22.35	L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83	R	75.25	73.79	0.0	0.00	0.00	0.00	
		-24.04	L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08	L	71.60	8.79	0.0	0.00	0.00	0.00	
		-36.84	L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.61	7.58	1.61	7.58	HS	32.11	57.8
HS20	2.68	12.64	2.68	12.64	HS	53.52	96.3
2F1	3.68	19.06	3.68	19.06		0.00	55.2
3F1	2.78	13.29	2.78	13.29		0.00	63.9
4F1	2.68	12.35	2.68	12.35		0.00	72.2

5C1	2.81	8.06	2.81	8.06	0.00	112.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	97.990

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 3.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.2	-170.3	152.0	-189.5
OPER	300.6C	-268.7	268.7	-300.6C	285.4	-283.9	253.4	-315.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24 L	77.88	34.18	0.0	81.67	62.82	62.18	
		-30.72 R	-23.63	104.53	0.0	-27.30	-21.00	81.32	0.00
OPER	HS20	101.24 L	77.88	34.18	0.0	81.67	62.82	62.18	
		-30.72 R	-23.63	104.53	0.0	-27.30	-21.00	81.32	0.00
OPER	2F1	70.00 L	53.84	52.18	0.0	0.00	0.00	0.00	
		-20.65 R	-15.89	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.57 L	68.13	52.18	0.0	0.00	0.00	0.00	
		-29.63 R	-22.79	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.60 L	72.77	48.18	0.0	0.00	0.00	0.00	
		-31.89 R	-24.53	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.27 L	68.67	50.18	0.0	0.00	0.00	0.00	
		-37.28 R	-28.68	90.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.69	5.55	1.50	6.17	HS 30.03	54.1
HS20	2.82	9.24	2.50	10.28	HS 50.06	90.1
2F1	4.08	13.75	3.62	15.29	0.00	54.3
3F1	3.22	9.58	2.86	10.66	0.00	65.8
4F1	3.02	8.90	2.68	9.91	0.00	72.3
5C1	3.20	7.61	2.84	8.47	0.00	113.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 3.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.83	10.43	-14.48	8.02	-16.63	10.20	-12.80	7.84
OPER	HS20	-18.83	10.43	-14.48	8.02	-16.63	10.20	-12.80	7.84
OPER	2F1	-11.45	6.24	-8.81	4.80	0.00	0.00	0.00	0.00
OPER	3F1	-14.72	7.35	-11.32	5.66	0.00	0.00	0.00	0.00
OPER	4F1	-14.83	6.23	-11.41	4.79	0.00	0.00	0.00	0.00
OPER	5C1	-14.80	9.18	-11.38	7.06	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.65	6.80	HS 73.01	131.4
HS20	6.08	11.33	HS 121.68	219.0
2F1	10.01	18.95	0.00	150.1
3F1	7.78	16.07	0.00	179.0
4F1	7.72	18.97	0.00	208.5
5C1	7.74	12.87	0.00	309.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.5	173.7	-161.5	158.5	-176.8	158.5	-176.8
OPER	279.4	-279.4	279.4	-279.4	264.1	-294.7	264.1	-294.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	L	77.88	34.18	0.0	81.67	62.82	62.18	
		-30.72	R	-23.63	104.53	0.0	-27.30	-21.00	81.32	0.00
OPER	HS20	101.24	L	77.88	34.18	0.0	81.67	62.82	62.18	
		-30.72	R	-23.63	104.53	0.0	-27.30	-21.00	81.32	0.00
OPER	2F1	70.00	L	53.84	52.18	0.0	0.00	0.00	0.00	
		-20.65	R	-15.89	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.57	L	68.13	52.18	0.0	0.00	0.00	0.00	
		-29.63	R	-22.79	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.60	L	72.77	48.18	0.0	0.00	0.00	0.00	
		-31.89	R	-24.53	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.27	L	68.67	50.18	0.0	0.00	0.00	0.00	
		-37.28	R	-28.68	90.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	5.76	1.57	5.76	HS	31.31	56.4
HS20	2.61	9.59	2.61	9.59	HS	52.18	93.9
2F1	3.77	14.27	3.77	14.27		0.00	56.6
3F1	2.98	9.94	2.98	9.94		0.00	68.6
4F1	2.79	9.24	2.79	9.24		0.00	75.4

5C1	2.96	7.90	2.96	7.90	0.00	118.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	97.990

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.0	-166.6	155.8	-185.8
OPER	300.6C	-268.7	268.7	-300.6C	291.6	-277.6	259.7	-309.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59 L	69.69	36.58	0.0	68.64	52.80	64.58	
		-38.61 R	-29.70	104.53	0.0	-31.24	-24.03	81.32	0.00
OPER	HS20	90.59 L	69.69	36.58	0.0	68.64	52.80	64.58	
		-38.61 R	-29.70	104.53	0.0	-31.24	-24.03	81.32	0.00
OPER	2F1	59.69 L	45.91	54.58	0.0	0.00	0.00	0.00	
		-25.96 R	-19.97	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.16 L	57.82	50.58	0.0	0.00	0.00	0.00	
		-37.24 R	-28.65	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.44 L	58.80	50.58	0.0	0.00	0.00	0.00	
		-40.07 R	-30.82	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.61 R	60.47	111.58	0.0	0.00	0.00	0.00	
		-39.25 R	-30.19	92.53	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.93	4.32	1.72	4.81	HS	34.39	61.9
HS20	3.22	7.19	2.87	8.02	HS	57.32	103.2
2F1	4.89	10.70	4.35	11.93		0.00	65.3
3F1	3.88	7.46	3.45	8.31		0.00	79.5
4F1	3.82	6.93	3.40	7.73		0.00	91.7
5C1	3.71	7.07	3.30	7.89		0.00	132.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 3.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.8	71.9
OPER	151.3	-112.9	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.60	5.50	-17.38	4.23	-19.92	7.36	-15.32	5.66
OPER	HS20	-22.60	5.50	-17.38	4.23	-19.92	7.36	-15.32	5.66
OPER	2F1	-14.16	3.96	-10.89	3.05	0.00	0.00	0.00	0.00
OPER	3F1	-18.72	4.23	-14.40	3.25	0.00	0.00	0.00	0.00
OPER	4F1	-19.27	3.46	-14.82	2.66	0.00	0.00	0.00	0.00
OPER	5C1	-17.81	6.90	-13.70	5.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.00	9.77	HS 59.97	108.0
HS20	5.00	16.28	HS 99.96	179.9
2F1	7.97	30.25	0.00	119.6
3F1	6.03	28.33	0.00	138.8
4F1	5.86	34.63	0.00	158.3
5C1	6.34	17.36	0.00	253.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.2	-164.0	171.2	-164.0	162.2	-173.0	162.2	-173.0
OPER	279.4	-279.4	279.4	-279.4	270.4	-288.4	270.4	-288.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.59	L	69.69	36.58	0.0	68.64	52.80	64.58	
		-38.61	R	-29.70	104.53	0.0	-31.24	-24.03	81.32	0.00
OPER	HS20	90.59	L	69.69	36.58	0.0	68.64	52.80	64.58	
		-38.61	R	-29.70	104.53	0.0	-31.24	-24.03	81.32	0.00
OPER	2F1	59.69	L	45.91	54.58	0.0	0.00	0.00	0.00	
		-25.96	R	-19.97	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.16	L	57.82	50.58	0.0	0.00	0.00	0.00	
		-37.24	R	-28.65	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.44	L	58.80	50.58	0.0	0.00	0.00	0.00	
		-40.07	R	-30.82	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.61	R	60.47	111.58	0.0	0.00	0.00	0.00	
		-39.25	R	-30.19	92.53	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.48	1.79	4.48	HS	35.82	64.5
HS20	2.98	7.47	2.98	7.47	HS	59.70	107.5
2F1	4.53	11.11	4.53	11.11		0.00	68.0
3F1	3.60	7.74	3.60	7.74		0.00	82.7
4F1	3.54	7.20	3.54	7.20		0.00	95.5

5C1	3.44	7.35	3.44	7.35	0.00	137.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	97.990

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02
Check Point I. D. 3.800
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82	L	48.32	38.97	0.0	47.60	36.62	66.97	
		-46.50	R	-35.77	104.53	0.0	-37.14	-28.57	81.32	129.15
OPER	HS20	62.82	L	48.32	38.97	0.0	47.60	36.62	66.97	
		-46.50	R	-35.77	104.53	0.0	-37.14	-28.57	81.32	129.15
OPER	2F1	40.63	L	31.26	56.97	0.0	0.00	0.00	0.00	
		-31.26	R	-24.05	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.05	L	37.73	52.97	0.0	0.00	0.00	0.00	
		-44.85	R	-34.50	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.92	L	34.55	48.97	0.0	0.00	0.00	0.00	
		-48.26	R	-37.12	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.74	R	45.18	113.97	0.0	0.00	0.00	0.00	
		-41.74	R	-32.11	93.32	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.87	HS 51.54	92.8
HS20	4.80	5.75	4.30	6.44	HS 85.90	154.6
2F1	7.43	8.56	6.64	9.58	0.00	99.6
3F1	6.15	5.97	5.50	6.68	0.00	126.5
4F1	6.72	5.54	6.01	6.21	0.00	149.7
5C1	5.14	6.41	4.59	7.18	0.00	183.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 3.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-4.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.8	72.9
OPER	151.3	-111.3	121.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.59	3.19	-21.22	2.45	-23.15	4.84	-17.81	3.72
OPER	HS20	-27.59	3.19	-21.22	2.45	-23.15	4.84	-17.81	3.72
OPER	2F1	-16.81	2.26	-12.93	1.74	0.00	0.00	0.00	0.00
OPER	3F1	-22.74	3.24	-17.49	2.49	0.00	0.00	0.00	0.00
OPER	4F1	-23.46	3.46	-18.05	2.66	0.00	0.00	0.00	0.00
OPER	5C1	-21.40	4.92	-16.47	3.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.42	15.05	HS 48.42	87.2
HS20	4.03	25.08	HS 80.71	145.3
2F1	6.62	53.79	0.00	99.3
3F1	4.89	37.51	0.00	112.6
4F1	4.74	35.10	0.00	128.1
5C1	5.20	24.69	0.00	208.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82	L	48.32	38.97	0.0	47.60	36.62	66.97	
		-46.50	R	-35.77	104.53	0.0	-37.14	-28.57	81.32	129.15
OPER	HS20	62.82	L	48.32	38.97	0.0	47.60	36.62	66.97	
		-46.50	R	-35.77	104.53	0.0	-37.14	-28.57	81.32	129.15
OPER	2F1	40.63	L	31.26	56.97	0.0	0.00	0.00	0.00	
		-31.26	R	-24.05	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.05	L	37.73	52.97	0.0	0.00	0.00	0.00	
		-44.85	R	-34.50	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.92	L	34.55	48.97	0.0	0.00	0.00	0.00	
		-48.26	R	-37.12	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.74	R	45.18	113.97	0.0	0.00	0.00	0.00	
		-41.74	R	-32.11	93.32	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.59	96.5
HS20	4.47	5.98	4.47	5.98	HS	89.32	160.8
2F1	6.91	8.90	6.91	8.90		0.00	103.6
3F1	5.72	6.20	5.72	6.20		0.00	131.5
4F1	6.24	5.77	6.24	5.77		0.00	155.7

5C1	4.78	6.67	4.78	6.67	0.00	191.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.900

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	97.990

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02
Check Point I. D. 3.900
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.5	-152.1	170.3	-171.3
OPER	300.6C	-268.7	268.7	-300.6C	315.8	-253.5	283.8	-285.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.14	L	13.96	41.36	0.0	26.36	20.27	69.36	
		-60.83	L	-46.79	62.53	0.0	-56.80	-43.69	81.32	59.79
OPER	HS20	18.14	L	13.96	41.36	0.0	26.36	20.27	69.36	
		-60.83	L	-46.79	62.53	0.0	-56.80	-43.69	81.32	59.79
OPER	2F1	14.35	L	11.04	59.36	0.0	0.00	0.00	0.00	
		-36.56	R	-28.13	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.06	R	10.81	115.23	0.0	0.00	0.00	0.00	
		-52.46	R	-40.35	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.94	R	11.50	119.23	0.0	0.00	0.00	0.00	
		-56.45	R	-43.42	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.85	R	22.96	116.36	0.0	0.00	0.00	0.00	
		-46.15	R	-35.50	95.71	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.19	2.50	6.46	2.82	HS	50.01	90.0
HS20	11.98	4.17	10.77	4.69	HS	83.35	150.0
2F1	22.01	6.93	19.78	7.81		0.00	104.0
3F1	22.47	4.83	20.19	5.44		0.00	111.1
4F1	21.13	4.49	18.99	5.06		0.00	121.3
5C1	10.58	5.49	9.51	6.19		0.00	219.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.900

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.8	73.8
OPER	151.3	-109.7	123.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.76	3.33	-25.20	2.56	-26.23	3.50	-20.17	2.69
OPER	HS20	-32.76	3.33	-25.20	2.56	-26.23	3.50	-20.17	2.69
OPER	2F1	-19.28	2.26	-14.83	1.74	0.00	0.00	0.00	0.00
OPER	3F1	-26.62	3.24	-20.48	2.49	0.00	0.00	0.00	0.00
OPER	4F1	-27.43	3.48	-21.10	2.68	0.00	0.00	0.00	0.00
OPER	5C1	-25.02	3.27	-19.25	2.52	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	2.01	21.08	HS	40.19	72.3
HS20	3.35	35.13	HS	66.98	120.6
2F1	5.69	54.51		0.00	85.3
3F1	4.12	38.01		0.00	94.8
4F1	4.00	35.33		0.00	108.0
5C1	4.39	37.60		0.00	175.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.6	-173.7	161.6	-173.7	176.7	-158.5	176.7	-158.5
OPER	279.4	-279.4	279.4	-279.4	294.6	-264.2	294.6	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.14	L	13.96	41.36	0.0	26.36	20.27	69.36	
		-60.83	L	-46.79	62.53	0.0	-56.80	-43.69	81.32	59.79
OPER	HS20	18.14	L	13.96	41.36	0.0	26.36	20.27	69.36	
		-60.83	L	-46.79	62.53	0.0	-56.80	-43.69	81.32	59.79
OPER	2F1	14.35	L	11.04	59.36	0.0	0.00	0.00	0.00	
		-36.56	R	-28.13	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.06	R	10.81	115.23	0.0	0.00	0.00	0.00	
		-52.46	R	-40.35	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.94	R	11.50	119.23	0.0	0.00	0.00	0.00	
		-56.45	R	-43.42	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.85	R	22.96	116.36	0.0	0.00	0.00	0.00	
		-46.15	R	-35.50	95.71	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.71	2.61	6.71	2.61	HS	52.13	93.8
HS20	11.18	4.34	11.18	4.34	HS	86.88	156.4
2F1	20.53	7.23	20.53	7.23		0.00	108.4
3F1	20.95	5.04	20.95	5.04		0.00	115.9
4F1	19.71	4.68	19.71	4.68		0.00	126.4

5C1	9.87	5.73	9.87	5.73	0.00	229.0

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	97.990

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02
Check Point I. D. 4.000
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41	L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93	L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42	R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78	R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02	R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52	L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	11.65	1.34	10.54	1.52	HS	26.74	48.1
HS20	19.42	2.23	17.56	2.53	HS	44.57	80.2
2F1	29.25	5.62	26.45	6.38		0.00	84.3
3F1	20.39	3.44	18.44	3.91		0.00	79.2
4F1	18.96	2.95	17.14	3.35		0.00	79.7
5C1	23.80	3.54	21.51	4.02		0.00	141.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.8	64.9
OPER	151.3	-108.1	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.76	37.61	-25.20	28.93	-26.23	29.00	-20.17	22.31
OPER	HS20	-32.76	37.61	-25.20	28.93	-26.23	29.00	-20.17	22.31
OPER	2F1	-19.28	21.47	-14.83	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-26.62	30.18	-20.48	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-27.43	31.72	-21.10	24.40	0.00	0.00	0.00	0.00
OPER	5C1	-25.02	28.44	-19.25	21.88	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.72	1.73	HS	34.47	62.1
HS20	2.87	2.88	HS	57.45	103.4
2F1	5.03	5.04		0.00	75.5
3F1	3.58	3.58		0.00	82.3
4F1	3.41	3.41		0.00	92.0
5C1	3.80	3.80		0.00	151.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-147.8
OPER	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-246.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41	L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93	L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42	R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78	R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02	R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52	L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.91	1.40	10.91	1.40	HS	27.96	50.3
HS20	18.19	2.33	18.19	2.33	HS	46.60	83.9
2F1	27.39	5.88	27.39	5.88		0.00	88.1
3F1	19.10	3.60	19.10	3.60		0.00	82.8
4F1	17.75	3.09	17.75	3.09		0.00	83.4

5C1	22.28	3.70	22.28	3.70	0.00	148.1

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor: Positive Bending	Negative Bending	Hybrid Yield Strength: Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area: Gross	Net	Neutral Axis: Top	Bott.	Moment of Inertia: Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus: Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	97.990

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02 2F1
Check Point I. D. 4.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41	L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93	L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42	R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78	R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02	R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52	L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	11.65	1.34	10.54	1.52	HS	26.74	48.1
HS20	19.42	2.23	17.56	2.53	HS	44.57	80.2
2F1	29.25	5.62	26.45	6.38		0.00	84.3
3F1	20.39	3.44	18.44	3.91		0.00	79.2
4F1	18.96	2.95	17.14	3.35		0.00	79.7
5C1	23.80	3.54	21.51	4.02		0.00	141.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-7.5	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.8	64.9
OPER	151.3	-108.1	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.62	37.61	-28.94	28.93	-29.03	29.00	-22.33	22.31
OPER	HS20	-37.62	37.61	-28.94	28.93	-29.03	29.00	-22.33	22.31
OPER	2F1	-21.47	21.47	-16.52	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-30.19	30.18	-23.22	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-31.73	31.72	-24.41	24.40	0.00	0.00	0.00	0.00
OPER	5C1	-28.47	28.44	-21.90	21.88	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.72	1.73	HS	34.47	62.1
HS20	2.87	2.88	HS	57.45	103.4
2F1	5.03	5.04		0.00	75.5
3F1	3.58	3.58		0.00	82.3
4F1	3.41	3.41		0.00	92.0
5C1	3.80	3.80		0.00	151.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-147.8
OPER	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-246.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41	L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93	L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42	R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78	R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02	R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52	L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.91	1.40	10.91	1.40	HS	27.96	50.3
HS20	18.19	2.33	18.19	2.33	HS	46.60	83.9
2F1	27.39	5.88	27.39	5.88		0.00	88.1
3F1	19.10	3.60	19.10	3.60		0.00	82.8
4F1	17.75	3.09	17.75	3.09		0.00	83.4

5C1	22.28	3.70	22.28	3.70	0.00	148.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.032

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.6	-152.0	170.4	-171.2
OPER	300.6C	-268.7	268.7	-300.6C	316.0	-253.3	284.0	-285.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.19	R	13.99	102.14	0.0	26.72	20.56	74.14	
		-60.91	R	-46.85	80.97	0.0	-56.91	-43.78	62.18	83.71
OPER	HS20	18.19	R	13.99	102.14	0.0	26.72	20.56	74.14	
		-60.91	R	-46.85	80.97	0.0	-56.91	-43.78	62.18	83.71
OPER	2F1	14.38	R	11.06	84.14	0.0	0.00	0.00	0.00	
		-36.62	L	-28.17	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.29	L	10.99	28.27	0.0	0.00	0.00	0.00	
		-52.53	L	-40.41	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.19	L	11.68	24.27	0.0	0.00	0.00	0.00	
		-56.52	L	-43.48	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	30.08	L	23.14	27.14	0.0	0.00	0.00	0.00	
		-46.23	L	-35.56	47.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.09	2.49	6.38	2.81	HS	49.90	89.8
HS20	11.82	4.16	10.63	4.68	HS	83.17	149.7
2F1	21.98	6.92	19.76	7.79		0.00	103.8
3F1	22.12	4.82	19.88	5.43		0.00	110.9
4F1	20.80	4.48	18.70	5.05		0.00	121.0
5C1	10.51	5.48	9.44	6.17		0.00	219.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 4.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.8	65.9
OPER	151.3	-123.0	109.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	32.74	-2.44	25.19	-3.50	26.19	-2.69	20.15
OPER	HS20	-3.17	32.74	-2.44	25.19	-3.50	26.19	-2.69	20.15
OPER	2F1	-2.22	19.28	-1.71	14.83	0.00	0.00	0.00	0.00
OPER	3F1	-3.19	26.61	-2.45	20.47	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	27.41	-2.62	21.09	0.00	0.00	0.00	0.00
OPER	5C1	-3.23	25.00	-2.49	19.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	21.07	2.01	HS	40.24	72.4
HS20	35.12	3.35	HS	67.06	120.7
2F1	55.38	5.70		0.00	85.4
3F1	38.60	4.13		0.00	94.9
4F1	36.11	4.01		0.00	108.1
5C1	38.05	4.39		0.00	175.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.5	-173.8	161.5	-173.8	176.9	-158.4	176.9	-158.4
OPER	279.4	-279.4	279.4	-279.4	294.8	-264.0	294.8	-264.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.19	R	13.99	102.14	0.0	26.72	20.56	74.14	
		-60.91	R	-46.85	80.97	0.0	-56.91	-43.78	62.18	83.71
OPER	HS20	18.19	R	13.99	102.14	0.0	26.72	20.56	74.14	
		-60.91	R	-46.85	80.97	0.0	-56.91	-43.78	62.18	83.71
OPER	2F1	14.38	R	11.06	84.14	0.0	0.00	0.00	0.00	
		-36.62	L	-28.17	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.29	L	10.99	28.27	0.0	0.00	0.00	0.00	
		-52.53	L	-40.41	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.19	L	11.68	24.27	0.0	0.00	0.00	0.00	
		-56.52	L	-43.48	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	30.08	L	23.14	27.14	0.0	0.00	0.00	0.00	
		-46.23	L	-35.56	47.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.62	2.60	6.62	2.60	HS	52.02	93.6
HS20	11.03	4.34	11.03	4.34	HS	86.70	156.1
2F1	20.50	7.21	20.50	7.21		0.00	108.2
3F1	20.63	5.03	20.63	5.03		0.00	115.6
4F1	19.41	4.67	19.41	4.67		0.00	126.1

5C1	9.80	5.71	9.80	5.71	0.00	228.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.032

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.3	-160.3	162.1	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.2	-267.1	270.2	-299.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.84	R	48.34	104.53	0.0	46.93	36.10	76.53	
		-46.53	L	-35.79	38.97	0.0	-37.66	-28.97	62.18	14.35
OPER	HS20	62.84	R	48.34	104.53	0.0	46.93	36.10	76.53	
		-46.53	L	-35.79	38.97	0.0	-37.66	-28.97	62.18	14.35
OPER	2F1	40.65	R	31.27	86.53	0.0	0.00	0.00	0.00	
		-31.30	L	-24.08	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.07	R	37.75	90.53	0.0	0.00	0.00	0.00	
		-44.90	L	-34.54	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.94	R	34.57	94.53	0.0	0.00	0.00	0.00	
		-48.32	L	-37.17	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.90	L	45.31	29.53	0.0	0.00	0.00	0.00	
		-41.79	L	-32.15	50.18	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.88	3.44	2.58	3.86	HS 51.60	92.9
HS20	4.81	5.74	4.30	6.43	HS 86.00	154.8
2F1	7.43	8.53	6.65	9.56	0.00	99.7
3F1	6.16	5.95	5.51	6.66	0.00	126.6
4F1	6.72	5.53	6.01	6.19	0.00	149.3
5C1	5.13	6.39	4.59	7.16	0.00	183.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	4.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.8
OPER	151.3	-121.3	111.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	27.57	-2.44	21.21	-4.88	23.12	-3.75	17.78
OPER	HS20	-3.17	27.57	-2.44	21.21	-4.88	23.12	-3.75	17.78
OPER	2F1	-2.22	16.80	-1.71	12.92	0.00	0.00	0.00	0.00
OPER	3F1	-3.19	22.73	-2.45	17.48	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	23.45	-2.62	18.04	0.00	0.00	0.00	0.00
OPER	5C1	-4.89	21.39	-3.76	16.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	14.92	2.42	HS 48.49	87.3
HS20	24.86	4.04	HS 80.82	145.5
2F1	54.65	6.63	0.00	99.5
3F1	38.09	4.90	0.00	112.7
4F1	35.63	4.75	0.00	128.3
5C1	24.81	5.21	0.00	208.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.200

Rating Types and Vehicles
INV. HS20
OPER HS20
POST 2F1
SPEC 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.7	168.6	-166.7
OPER	279.4	-279.4	279.4	-279.4	280.9	-277.9	280.9	-277.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	62.84	R	48.34	104.53	0.0	46.93	36.10	76.53	
		-46.53	L	-35.79	38.97	0.0	-37.66	-28.97	62.18	14.35
OPER	HS20	62.84	R	48.34	104.53	0.0	46.93	36.10	76.53	
		-46.53	L	-35.79	38.97	0.0	-37.66	-28.97	62.18	14.35
OPER	2F1	40.65	R	31.27	86.53	0.0	0.00	0.00	0.00	
		-31.30	L	-24.08	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.07	R	37.75	90.53	0.0	0.00	0.00	0.00	
		-44.90	L	-34.54	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.94	R	34.57	94.53	0.0	0.00	0.00	0.00	
		-48.32	L	-37.17	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.90	L	45.31	29.53	0.0	0.00	0.00	0.00	
		-41.79	L	-32.15	50.18	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.58	2.68	3.58	HS	53.65	96.6
HS20	4.47	5.97	4.47	5.97	HS	89.42	161.0
2F1	6.91	8.88	6.91	8.88		0.00	103.7
3F1	5.72	6.19	5.72	6.19		0.00	131.7
4F1	6.25	5.75	6.25	5.75		0.00	155.3

5C1	4.77	6.65	4.77	6.65	0.00	190.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.032

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 4.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.3	-166.2	156.2	-185.4
OPER	300.6C	-268.7	268.7	-300.6C	292.2	-277.0	260.3	-309.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.60	R	69.69	106.93	0.0	68.40	52.62	78.93	
		-38.62	L	-29.71	38.97	0.0	-31.49	-24.22	62.18	0.00
OPER	HS20	90.60	R	69.69	106.93	0.0	68.40	52.62	78.93	
		-38.62	L	-29.71	38.97	0.0	-31.49	-24.22	62.18	0.00
OPER	2F1	59.68	R	45.91	88.93	0.0	0.00	0.00	0.00	
		-25.98	L	-19.99	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.15	R	57.80	92.93	0.0	0.00	0.00	0.00	
		-37.27	L	-28.67	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.43	R	58.79	92.93	0.0	0.00	0.00	0.00	
		-40.11	L	-30.85	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.69	L	60.53	31.93	0.0	0.00	0.00	0.00	
		-39.23	L	-30.18	50.97	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.30	1.72	4.80	HS 34.47	62.1
HS20	3.23	7.17	2.87	8.00	HS 57.45	103.4
2F1	4.90	10.66	4.36	11.89	0.00	65.4
3F1	3.89	7.43	3.46	8.29	0.00	79.7
4F1	3.82	6.91	3.40	7.70	0.00	91.9
5C1	3.71	7.06	3.31	7.88	0.00	132.3

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.8	67.8
OPER	151.3	-119.7	113.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.50	22.59	-4.23	17.38	-7.40	19.88	-5.69	15.29
OPER	HS20	-5.50	22.59	-4.23	17.38	-7.40	19.88	-5.69	15.29
OPER	2F1	-3.97	14.15	-3.05	10.89	0.00	0.00	0.00	0.00
OPER	3F1	-4.23	18.70	-3.26	14.39	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	19.25	-2.62	14.81	0.00	0.00	0.00	0.00
OPER	5C1	-6.90	17.80	-5.30	13.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.71	3.00	HS 60.03	108.1
HS20	16.18	5.00	HS 100.06	180.1
2F1	30.19	7.99	0.00	119.8
3F1	28.28	6.04	0.00	139.0
4F1	35.15	5.87	0.00	158.5
5C1	17.36	6.35	0.00	253.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.0	-164.3	171.0	-164.3	162.6	-172.7	162.6	-172.7
OPER	279.4	-279.4	279.4	-279.4	271.0	-287.8	271.0	-287.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.60	R	69.69	106.93	0.0	68.40	52.62	78.93	
		-38.62	L	-29.71	38.97	0.0	-31.49	-24.22	62.18	0.00
OPER	HS20	90.60	R	69.69	106.93	0.0	68.40	52.62	78.93	
		-38.62	L	-29.71	38.97	0.0	-31.49	-24.22	62.18	0.00
OPER	2F1	59.68	R	45.91	88.93	0.0	0.00	0.00	0.00	
		-25.98	L	-19.99	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.15	R	57.80	92.93	0.0	0.00	0.00	0.00	
		-37.27	L	-28.67	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.43	R	58.79	92.93	0.0	0.00	0.00	0.00	
		-40.11	L	-30.85	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.69	L	60.53	31.93	0.0	0.00	0.00	0.00	
		-39.23	L	-30.18	50.97	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.47	1.79	4.47	HS	35.90	64.6
HS20	2.99	7.45	2.99	7.45	HS	59.83	107.7
2F1	4.54	11.08	4.54	11.08		0.00	68.1
3F1	3.61	7.72	3.61	7.72		0.00	82.9
4F1	3.55	7.18	3.55	7.18		0.00	95.7

5C1	3.44	7.34	3.44	7.34	0.00	137.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.400

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.032

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.7	-169.9	152.5	-189.1
OPER	300.6C	-268.7	268.7	-300.6C	286.2	-283.1	254.2	-315.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.25	R	77.89	109.32	0.0	81.33	62.56	81.32	
		-30.72	L	-23.63	38.97	0.0	-27.62	-21.24	62.18	0.00
OPER	HS20	101.25	R	77.89	109.32	0.0	81.33	62.56	81.32	
		-30.72	L	-23.63	38.97	0.0	-27.62	-21.24	62.18	0.00
OPER	2F1	69.96	R	53.81	91.32	0.0	0.00	0.00	0.00	
		-20.67	L	-15.90	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	R	68.09	91.32	0.0	0.00	0.00	0.00	
		-29.65	L	-22.81	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.55	R	72.73	95.32	0.0	0.00	0.00	0.00	
		-31.90	L	-24.54	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.26	R	68.67	93.32	0.0	0.00	0.00	0.00	
		-37.30	L	-28.69	51.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.70	5.53	1.51	6.15	HS	30.13	54.2
HS20	2.83	9.22	2.51	10.26	HS	50.21	90.4
2F1	4.09	13.70	3.63	15.25		0.00	54.5
3F1	3.23	9.55	2.87	10.63		0.00	66.0
4F1	3.03	8.88	2.69	9.88		0.00	72.6
5C1	3.21	7.59	2.85	8.45		0.00	113.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 4.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.43	18.82	-8.02	14.48	-10.24	16.59	-7.88	12.76
OPER	HS20	-10.43	18.82	-8.02	14.48	-10.24	16.59	-7.88	12.76
OPER	2F1	-6.25	11.44	-4.80	8.80	0.00	0.00	0.00	0.00
OPER	3F1	-7.36	14.70	-5.66	11.31	0.00	0.00	0.00	0.00
OPER	4F1	-6.24	14.81	-4.80	11.40	0.00	0.00	0.00	0.00
OPER	5C1	-9.20	14.80	-7.08	11.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.80	3.65	HS 73.09	131.6
HS20	11.32	6.09	HS 121.81	219.3
2F1	18.91	10.02	0.00	150.3
3F1	16.04	7.80	0.00	179.3
4F1	18.93	7.74	0.00	208.9
5C1	12.83	7.75	0.00	309.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.4	-161.9	173.4	-161.9	159.0	-176.3	159.0	-176.3
OPER	279.4	-279.4	279.4	-279.4	264.9	-293.9	264.9	-293.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.25	R	77.89	109.32	0.0	81.33	62.56	81.32	
		-30.72	L	-23.63	38.97	0.0	-27.62	-21.24	62.18	0.00
OPER	HS20	101.25	R	77.89	109.32	0.0	81.33	62.56	81.32	
		-30.72	L	-23.63	38.97	0.0	-27.62	-21.24	62.18	0.00
OPER	2F1	69.96	R	53.81	91.32	0.0	0.00	0.00	0.00	
		-20.67	L	-15.90	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	R	68.09	91.32	0.0	0.00	0.00	0.00	
		-29.65	L	-22.81	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.55	R	72.73	95.32	0.0	0.00	0.00	0.00	
		-31.90	L	-24.54	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.26	R	68.67	93.32	0.0	0.00	0.00	0.00	
		-37.30	L	-28.69	51.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	5.74	1.57	5.74	HS	31.40	56.5
HS20	2.62	9.57	2.62	9.57	HS	52.33	94.2
2F1	3.79	14.22	3.79	14.22		0.00	56.8
3F1	2.99	9.91	2.99	9.91		0.00	68.8
4F1	2.80	9.21	2.80	9.21		0.00	75.7

5C1	2.97	7.88	2.97	7.88	0.00	118.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.81	28.67	28.67	1.699	999999.000	98.032

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		12.52		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	2F1	71.01 L	54.63	73.71	0.0	0.00	0.00	0.00	
		-15.35 L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 R	72.37	93.71	0.0	0.00	0.00	0.00	
		-22.02 L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 R	75.17	97.71	0.0	0.00	0.00	0.00	
		-23.69 L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 L	71.05	32.71	0.0	0.00	0.00	0.00	
		-36.58 L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	7.21	1.55	8.02	HS 30.94	55.7
HS20	2.90	12.02	2.58	13.36	HS 51.56	92.8
2F1	4.00	18.59	3.55	20.67	0.00	53.2
3F1	3.02	12.96	2.68	14.41	0.00	61.6
4F1	2.91	12.04	2.58	13.39	0.00	69.6
5C1	3.08	7.80	2.73	8.68	0.00	109.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
Member I. D.	S02	2F1		
Check Point I. D.	4.500	3F1		
		4F1		
		5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-14.89	14.89	-11.46	11.46	-13.33	13.36	-10.25	10.28
OPER	HS20	-14.89	14.89	-11.46	11.46	-13.33	13.36	-10.25	10.28
OPER	2F1	-8.77	8.77	-6.74	6.74	0.00	0.00	0.00	0.00
OPER	3F1	-10.89	10.88	-8.37	8.37	0.00	0.00	0.00	0.00
OPER	4F1	-10.28	10.28	-7.91	7.91	0.00	0.00	0.00	0.00
OPER	5C1	-11.76	11.76	-9.05	9.05	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.69	4.68	HS 93.68	168.6
HS20	7.82	7.81	HS 156.14	281.0
2F1	13.29	13.26	0.00	198.9
3F1	10.70	10.68	0.00	245.7
4F1	11.33	11.31	0.00	305.4
5C1	9.90	9.89	0.00	395.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-177.6
OPER	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-296.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	97.75	L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82	L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	HS20	97.75	L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82	L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	2F1	71.01	L	54.63	73.71	0.0	0.00	0.00	0.00	
		-15.35	L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09	R	72.37	93.71	0.0	0.00	0.00	0.00	
		-22.02	L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73	R	75.17	97.71	0.0	0.00	0.00	0.00	
		-23.69	L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36	L	71.05	32.71	0.0	0.00	0.00	0.00	
		-36.58	L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.61	7.48	1.61	7.48	HS	32.26	58.1
HS20	2.69	12.47	2.69	12.47	HS	53.76	96.8
2F1	3.70	19.29	3.70	19.29		0.00	55.5
3F1	2.79	13.44	2.79	13.44		0.00	64.2
4F1	2.69	12.49	2.69	12.49		0.00	72.6

5C1	2.85	8.09	2.85	8.09	0.00	113.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 4.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.6	-170.0	152.4	-189.2
OPER	300.6C	-268.7	268.7	-300.6C	286.0	-283.3	254.0	-315.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24 L	77.88	58.10	0.0	81.41	62.62	86.10	
		-30.70 R	-23.62	128.45	0.0	-27.53	-21.17	105.23	0.00
OPER	HS20	101.24 L	77.88	58.10	0.0	81.41	62.62	86.10	
		-30.70 R	-23.62	128.45	0.0	-27.53	-21.17	105.23	0.00
OPER	2F1	69.95 L	53.81	76.10	0.0	0.00	0.00	0.00	
		-20.64 R	-15.88	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52 L	68.09	76.10	0.0	0.00	0.00	0.00	
		-29.62 R	-22.78	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.54 L	72.72	72.10	0.0	0.00	0.00	0.00	
		-31.87 R	-24.51	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.22 L	68.63	74.10	0.0	0.00	0.00	0.00	
		-37.15 R	-28.58	114.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.70	5.54	1.50	6.16	HS 30.10	54.2
HS20	2.83	9.23	2.51	10.27	HS 50.17	90.3
2F1	4.09	13.72	3.63	15.27	0.00	54.5
3F1	3.23	9.57	2.87	10.65	0.00	66.0
4F1	3.03	8.89	2.69	9.89	0.00	72.5
5C1	3.20	7.63	2.85	8.49	0.00	113.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 4.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.8
OPER	151.3	-114.7	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.82	10.43	-14.48	8.02	-16.56	10.27	-12.74	7.90
OPER	HS20	-18.82	10.43	-14.48	8.02	-16.56	10.27	-12.74	7.90
OPER	2F1	-11.44	6.24	-8.80	4.80	0.00	0.00	0.00	0.00
OPER	3F1	-14.70	7.36	-11.31	5.66	0.00	0.00	0.00	0.00
OPER	4F1	-14.82	6.24	-11.40	4.80	0.00	0.00	0.00	0.00
OPER	5C1	-14.80	9.20	-11.38	7.08	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.66	6.79	HS 73.14	131.7
HS20	6.09	11.32	HS 121.90	219.4
2F1	10.03	18.90	0.00	150.4
3F1	7.80	16.03	0.00	179.4
4F1	7.74	18.92	0.00	209.1
5C1	7.75	12.82	0.00	310.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.5	-161.8	173.5	-161.8	158.8	-176.4	158.8	-176.4
OPER	279.4	-279.4	279.4	-279.4	264.7	-294.1	264.7	-294.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	L	77.88	58.10	0.0	81.41	62.62	86.10	
		-30.70	R	-23.62	128.45	0.0	-27.53	-21.17	105.23	0.00
OPER	HS20	101.24	L	77.88	58.10	0.0	81.41	62.62	86.10	
		-30.70	R	-23.62	128.45	0.0	-27.53	-21.17	105.23	0.00
OPER	2F1	69.95	L	53.81	76.10	0.0	0.00	0.00	0.00	
		-20.64	R	-15.88	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	L	68.09	76.10	0.0	0.00	0.00	0.00	
		-29.62	R	-22.78	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.54	L	72.72	72.10	0.0	0.00	0.00	0.00	
		-31.87	R	-24.51	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.22	L	68.63	74.10	0.0	0.00	0.00	0.00	
		-37.15	R	-28.58	114.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	5.75	1.57	5.75	HS	31.38	56.5
HS20	2.62	9.58	2.62	9.58	HS	52.30	94.1
2F1	3.78	14.24	3.78	14.24		0.00	56.8
3F1	2.99	9.93	2.99	9.93		0.00	68.8
4F1	2.80	9.23	2.80	9.23		0.00	75.6

5C1	2.97	7.91	2.97	7.91	0.00	118.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.1	-166.5	155.9	-185.7
OPER	300.6C	-268.7	268.7	-300.6C	291.8	-277.4	259.9	-309.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59 L	69.68	60.49	0.0	68.55	52.73	88.49	
		-38.60 R	-29.69	128.45	0.0	-31.32	-24.09	105.23	0.00
OPER	HS20	90.59 L	69.68	60.49	0.0	68.55	52.73	88.49	
		-38.60 R	-29.69	128.45	0.0	-31.32	-24.09	105.23	0.00
OPER	2F1	59.67 L	45.90	78.49	0.0	0.00	0.00	0.00	
		-25.95 R	-19.96	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.13 L	57.80	74.49	0.0	0.00	0.00	0.00	
		-37.23 R	-28.64	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.41 L	58.78	74.49	0.0	0.00	0.00	0.00	
		-40.07 R	-30.82	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.59 R	60.46	135.49	0.0	0.00	0.00	0.00	
		-39.20 R	-30.15	116.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.31	1.72	4.81	HS 34.42	62.0
HS20	3.22	7.19	2.87	8.02	HS 57.37	103.3
2F1	4.89	10.69	4.36	11.92	0.00	65.3
3F1	3.88	7.45	3.46	8.31	0.00	79.5
4F1	3.82	6.93	3.40	7.72	0.00	91.8
5C1	3.71	7.08	3.31	7.89	0.00	132.3

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 4.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.9	71.8
OPER	151.3	-113.1	119.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.59	5.50	-17.38	4.23	-19.85	7.43	-15.27	5.72
OPER	HS20	-22.59	5.50	-17.38	4.23	-19.85	7.43	-15.27	5.72
OPER	2F1	-14.15	3.96	-10.89	3.05	0.00	0.00	0.00	0.00
OPER	3F1	-18.70	4.23	-14.39	3.26	0.00	0.00	0.00	0.00
OPER	4F1	-19.25	3.41	-14.81	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-17.80	6.90	-13.69	5.30	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.00	9.66	HS 60.08	108.1
HS20	5.01	16.10	HS 100.13	180.2
2F1	7.99	30.18	0.00	119.9
3F1	6.05	28.26	0.00	139.1
4F1	5.88	35.09	0.00	158.6
5C1	6.35	17.35	0.00	254.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.2	-164.1	171.2	-164.1	162.4	-172.9	162.4	-172.9
OPER	279.4	-279.4	279.4	-279.4	270.6	-288.2	270.6	-288.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59	L	69.68	60.49	0.0	68.55	52.73	88.49	
		-38.60	R	-29.69	128.45	0.0	-31.32	-24.09	105.23	0.00
OPER	HS20	90.59	L	69.68	60.49	0.0	68.55	52.73	88.49	
		-38.60	R	-29.69	128.45	0.0	-31.32	-24.09	105.23	0.00
OPER	2F1	59.67	L	45.90	78.49	0.0	0.00	0.00	0.00	
		-25.95	R	-19.96	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.13	L	57.80	74.49	0.0	0.00	0.00	0.00	
		-37.23	R	-28.64	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.41	L	58.78	74.49	0.0	0.00	0.00	0.00	
		-40.07	R	-30.82	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.59	R	60.46	135.49	0.0	0.00	0.00	0.00	
		-39.20	R	-30.15	116.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.48	1.79	4.48	HS	35.85	64.5
HS20	2.99	7.47	2.99	7.47	HS	59.75	107.5
2F1	4.53	11.10	4.53	11.10		0.00	68.0
3F1	3.60	7.74	3.60	7.74		0.00	82.8
4F1	3.54	7.19	3.54	7.19		0.00	95.6

5C1	3.44	7.35	3.44	7.35	0.00	137.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.6	-267.7	269.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82 L	48.33	62.88	0.0	47.68	36.68	90.88	
		-46.50 R	-35.77	128.45	0.0	-37.09	-28.53	105.23	153.07
OPER	HS20	62.82 L	48.33	62.88	0.0	47.68	36.68	90.88	
		-46.50 R	-35.77	128.45	0.0	-37.09	-28.53	105.23	153.07
OPER	2F1	40.63 L	31.26	80.88	0.0	0.00	0.00	0.00	
		-31.26 R	-24.05	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.06 L	37.74	76.88	0.0	0.00	0.00	0.00	
		-44.85 R	-34.50	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.93 L	34.56	72.88	0.0	0.00	0.00	0.00	
		-48.26 R	-37.13	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.75 R	45.19	137.88	0.0	0.00	0.00	0.00	
		-41.75 R	-32.11	117.23	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.87	HS 51.50	92.7
HS20	4.80	5.76	4.29	6.45	HS 85.83	154.5
2F1	7.42	8.56	6.64	9.59	0.00	99.5
3F1	6.15	5.97	5.50	6.68	0.00	126.4
4F1	6.71	5.55	6.00	6.21	0.00	149.8
5C1	5.13	6.41	4.59	7.18	0.00	183.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S02
Check Point I. D. 4.800

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.9	72.8
OPER	151.3	-111.5	121.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.57	3.17	-21.21	2.44	-23.09	4.91	-17.76	3.78
OPER	HS20	-27.57	3.17	-21.21	2.44	-23.09	4.91	-17.76	3.78
OPER	2F1	-16.80	2.22	-12.93	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-22.73	3.19	-17.48	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-23.45	3.41	-18.04	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-21.39	4.89	-16.46	3.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.43	14.81	HS 48.52	87.3
HS20	4.04	24.69	HS 80.87	145.6
2F1	6.64	54.54	0.00	99.5
3F1	4.91	38.02	0.00	112.8
4F1	4.75	35.56	0.00	128.3
5C1	5.21	24.78	0.00	208.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.3	-168.0	167.3	-168.0	168.2	-167.1	168.2	-167.1
OPER	279.4	-279.4	279.4	-279.4	280.3	-278.5	280.3	-278.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	62.82	L	48.33	62.88	0.0	47.68	36.68	90.88	
		-46.50	R	-35.77	128.45	0.0	-37.09	-28.53	105.23	153.07
OPER	HS20	62.82	L	48.33	62.88	0.0	47.68	36.68	90.88	
		-46.50	R	-35.77	128.45	0.0	-37.09	-28.53	105.23	153.07
OPER	2F1	40.63	L	31.26	80.88	0.0	0.00	0.00	0.00	
		-31.26	R	-24.05	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.06	L	37.74	76.88	0.0	0.00	0.00	0.00	
		-44.85	R	-34.50	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.93	L	34.56	72.88	0.0	0.00	0.00	0.00	
		-48.26	R	-37.13	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.75	R	45.19	137.88	0.0	0.00	0.00	0.00	
		-41.75	R	-32.11	117.23	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.55	96.4
HS20	4.46	5.99	4.46	5.99	HS	89.25	160.6
2F1	6.90	8.91	6.90	8.91		0.00	103.5
3F1	5.72	6.21	5.72	6.21		0.00	131.4
4F1	6.24	5.77	6.24	5.77		0.00	155.8

5C1	4.77	6.67	4.77	6.67	0.00	190.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.1	-152.5	169.9	-171.6
OPER	300.6C	-268.7	268.7	-300.6C	315.2	-254.1	283.2	-286.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.17 L	13.98	65.28	0.0	26.60	20.46	93.28	
		-60.84 L	-46.80	86.45	0.0	-56.56	-43.51	105.23	83.71
OPER	HS20	18.17 L	13.98	65.28	0.0	26.60	20.46	93.28	
		-60.84 L	-46.80	86.45	0.0	-56.56	-43.51	105.23	83.71
OPER	2F1	14.37 L	11.05	83.28	0.0	0.00	0.00	0.00	
		-36.57 R	-28.13	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.08 R	10.83	139.15	0.0	0.00	0.00	0.00	
		-52.47 R	-40.36	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.96 R	11.51	143.15	0.0	0.00	0.00	0.00	
		-56.46 R	-43.43	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.88 R	22.99	140.28	0.0	0.00	0.00	0.00	
		-46.17 R	-35.52	119.63	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.11	2.51	6.39	2.82	HS 50.12	90.2
HS20	11.85	4.18	10.65	4.70	HS 83.53	150.4
2F1	21.94	6.95	19.72	7.82	0.00	104.2
3F1	22.39	4.84	20.12	5.45	0.00	111.4
4F1	21.06	4.50	18.93	5.07	0.00	121.5
5C1	10.55	5.50	9.48	6.20	0.00	220.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.900

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.9	73.7
OPER	151.3	-109.9	122.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.74	3.30	-25.19	2.54	-26.16	3.54	-20.12	2.72
OPER	HS20	-32.74	3.30	-25.19	2.54	-26.16	3.54	-20.12	2.72
OPER	2F1	-19.28	2.22	-14.83	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-26.61	3.19	-20.47	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-27.42	3.43	-21.09	2.64	0.00	0.00	0.00	0.00
OPER	5C1	-25.01	3.23	-19.24	2.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.01	20.85	HS 40.26	72.5
HS20	3.36	34.74	HS 67.11	120.8
2F1	5.70	55.27	0.00	85.5
3F1	4.13	38.53	0.00	95.0
4F1	4.01	35.81	0.00	108.2
5C1	4.39	37.99	0.00	175.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.8	-173.5	161.8	-173.5	176.4	-158.9	176.4	-158.9
OPER	279.4	-279.4	279.4	-279.4	294.0	-264.8	294.0	-264.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.17	L	13.98	65.28	0.0	26.60	20.46	93.28	
		-60.84	L	-46.80	86.45	0.0	-56.56	-43.51	105.23	83.71
OPER	HS20	18.17	L	13.98	65.28	0.0	26.60	20.46	93.28	
		-60.84	L	-46.80	86.45	0.0	-56.56	-43.51	105.23	83.71
OPER	2F1	14.37	L	11.05	83.28	0.0	0.00	0.00	0.00	
		-36.57	R	-28.13	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.08	R	10.83	139.15	0.0	0.00	0.00	0.00	
		-52.47	R	-40.36	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.96	R	11.51	143.15	0.0	0.00	0.00	0.00	
		-56.46	R	-43.43	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.88	R	22.99	140.28	0.0	0.00	0.00	0.00	
		-46.17	R	-35.52	119.63	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.63	2.61	6.63	2.61	HS	52.24	94.0
HS20	11.05	4.35	11.05	4.35	HS	87.06	156.7
2F1	20.46	7.24	20.46	7.24		0.00	108.6
3F1	20.89	5.05	20.89	5.05		0.00	116.1
4F1	19.65	4.69	19.65	4.69		0.00	126.6

5C1	9.84	5.74	9.84	5.74	0.00	229.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	199.6	-142.0	180.4	-161.2
OPER	300.6C	-268.7	268.7	-300.6C	332.7	-236.6	300.7	-268.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24	L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89	L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12	L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38	R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34	L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72	R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09	L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52	R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.43	1.34	10.33	1.52	HS 26.86	48.4
HS20	19.05	2.24	17.22	2.54	HS 44.77	80.6
2F1	29.61	5.65	26.76	6.41	0.00	84.7
3F1	20.64	3.46	18.66	3.93	0.00	79.6
4F1	19.18	2.97	17.34	3.37	0.00	80.1
5C1	23.61	3.56	21.34	4.04	0.00	142.3

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-5.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.9
OPER	151.3	-108.2	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.74	37.61	-25.19	28.93	-26.16	28.97	-20.12	22.28
OPER	HS20	-32.74	37.61	-25.19	28.93	-26.16	28.97	-20.12	22.28
OPER	2F1	-19.28	21.47	-14.83	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-26.61	30.18	-20.47	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-27.42	31.72	-21.09	24.40	0.00	0.00	0.00	0.00
OPER	5C1	-25.01	28.46	-19.24	21.89	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.73	1.73	HS 34.54	62.2
HS20	2.88	2.88	HS 57.56	103.6
2F1	5.04	5.04	0.00	75.6
3F1	3.59	3.59	0.00	82.5
4F1	3.41	3.41	0.00	92.1
5C1	3.80	3.80	0.00	152.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

Rating Types and Vehicles
INV. HS20
OPER HS20
POST 2F1
SPEC 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.8	-180.5	154.8	-180.5	186.9	-148.4	186.9	-148.4
OPER	279.4	-279.4	279.4	-279.4	311.4	-247.4	311.4	-247.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24	L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89	L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12	L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38	R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34	L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72	R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09	L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52	R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.70	1.40	10.70	1.40	HS	28.08	50.6
HS20	17.83	2.34	17.83	2.34	HS	46.81	84.3
2F1	27.72	5.91	27.72	5.91		0.00	88.6
3F1	19.32	3.62	19.32	3.62		0.00	83.2
4F1	17.96	3.10	17.96	3.10		0.00	83.8

5C1	22.10	3.72	22.10	3.72		0.00	148.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02
Check Point I. D. 5.000
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	199.6	-142.0	180.4	-161.2
OPER	300.6C	-268.7	268.7	-300.6C	332.7	-236.6	300.7	-268.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24	L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89	L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12	L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38	R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34	L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72	R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09	L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52	R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.43	1.34	10.33	1.52	HS 26.86	48.4
HS20	19.05	2.24	17.22	2.54	HS 44.77	80.6
2F1	29.61	5.65	26.76	6.41	0.00	84.7
3F1	20.64	3.46	18.66	3.93	0.00	79.6
4F1	19.18	2.97	17.34	3.37	0.00	80.1
5C1	23.61	3.56	21.34	4.04	0.00	142.3

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.4	7.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.9
OPER	151.3	-108.2	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-37.61	37.61	-28.93	28.93	-28.97	28.97	-22.28	22.28
OPER	HS20	-37.61	37.61	-28.93	28.93	-28.97	28.97	-22.28	22.28
OPER	2F1	-21.47	21.47	-16.51	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-30.18	30.18	-23.21	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-31.72	31.72	-24.40	24.40	0.00	0.00	0.00	0.00
OPER	5C1	-28.46	28.46	-21.89	21.89	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.73	1.73	HS 34.54	62.2
HS20	2.88	2.88	HS 57.56	103.6
2F1	5.04	5.04	0.00	75.6
3F1	3.59	3.59	0.00	82.5
4F1	3.41	3.41	0.00	92.1
5C1	3.80	3.80	0.00	152.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

Rating Types and Vehicles
INV. HS20
OPER HS20
POST 2F1
SPEC 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.8	-180.5	154.8	-180.5	186.9	-148.4	186.9	-148.4
OPER	279.4	-279.4	279.4	-279.4	311.4	-247.4	311.4	-247.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24	L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89	L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12	L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38	R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34	L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72	R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09	L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52	R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.70	1.40	10.70	1.40	HS	28.08	50.6
HS20	17.83	2.34	17.83	2.34	HS	46.81	84.3
2F1	27.72	5.91	27.72	5.91		0.00	88.6
3F1	19.32	3.62	19.32	3.62		0.00	83.2
4F1	17.96	3.10	17.96	3.10		0.00	83.8

5C1	22.10	3.72	22.10	3.72		0.00	148.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.1	-152.5	169.9	-171.6
OPER	300.6C	-268.7	268.7	-300.6C	315.2	-254.1	283.2	-286.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.17	R	13.98	126.06	0.0	27.04	20.80	98.06	
		-60.84	R	-46.80	104.88	0.0	-56.59	-43.53	86.10	107.63
OPER	HS20	18.17	R	13.98	126.06	0.0	27.04	20.80	98.06	
		-60.84	R	-46.80	104.88	0.0	-56.59	-43.53	86.10	107.63
OPER	2F1	14.37	R	11.05	108.06	0.0	0.00	0.00	0.00	
		-36.58	L	-28.13	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.08	L	10.83	52.18	0.0	0.00	0.00	0.00	
		-52.47	L	-40.36	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.96	L	11.51	48.18	0.0	0.00	0.00	0.00	
		-56.46	L	-43.43	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.89	L	22.99	51.06	0.0	0.00	0.00	0.00	
		-46.17	L	-35.52	71.71	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.99	2.51	6.28	2.82	HS	50.12	90.2
HS20	11.66	4.18	10.48	4.70	HS	83.53	150.4
2F1	21.94	6.95	19.72	7.82		0.00	104.2
3F1	22.39	4.84	20.12	5.45		0.00	111.4
4F1	21.06	4.50	18.93	5.07		0.00	121.5
5C1	10.55	5.50	9.48	6.20		0.00	220.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 5.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	65.9
OPER	151.3	-122.9	109.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	32.74	-2.44	25.19	-3.54	26.16	-2.72	20.12
OPER	HS20	-3.17	32.74	-2.44	25.19	-3.54	26.16	-2.72	20.12
OPER	2F1	-2.22	19.28	-1.71	14.83	0.00	0.00	0.00	0.00
OPER	3F1	-3.19	26.61	-2.45	20.47	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	27.42	-2.62	21.09	0.00	0.00	0.00	0.00
OPER	5C1	-3.23	25.01	-2.49	19.24	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	20.85	2.01	HS 40.26	72.5
HS20	34.75	3.36	HS 67.11	120.8
2F1	55.27	5.70	0.00	85.5
3F1	38.53	4.13	0.00	95.0
4F1	36.04	4.01	0.00	108.2
5C1	37.99	4.39	0.00	175.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.8	-173.5	161.8	-173.5	176.4	-158.9	176.4	-158.9
OPER	279.4	-279.4	279.4	-279.4	294.0	-264.8	294.0	-264.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.17	R	13.98	126.06	0.0	27.04	20.80	98.06	
		-60.84	R	-46.80	104.88	0.0	-56.59	-43.53	86.10	107.63
OPER	HS20	18.17	R	13.98	126.06	0.0	27.04	20.80	98.06	
		-60.84	R	-46.80	104.88	0.0	-56.59	-43.53	86.10	107.63
OPER	2F1	14.37	R	11.05	108.06	0.0	0.00	0.00	0.00	
		-36.58	L	-28.13	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.08	L	10.83	52.18	0.0	0.00	0.00	0.00	
		-52.47	L	-40.36	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.96	L	11.51	48.18	0.0	0.00	0.00	0.00	
		-56.46	L	-43.43	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.89	L	22.99	51.06	0.0	0.00	0.00	0.00	
		-46.17	L	-35.52	71.71	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.52	2.61	6.52	2.61	HS	52.24	94.0
HS20	10.87	4.35	10.87	4.35	HS	87.06	156.7
2F1	20.46	7.24	20.46	7.24		0.00	108.6
3F1	20.89	5.05	20.89	5.05		0.00	116.1
4F1	19.64	4.69	19.64	4.69		0.00	126.6

5C1	9.84	5.74	9.84	5.74	0.00	229.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.6	-267.7	269.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82	R	48.33	128.45	0.0	47.16	36.28	100.45	
		-46.50	L	-35.77	62.88	0.0	-37.09	-28.53	86.10	38.27
OPER	HS20	62.82	R	48.33	128.45	0.0	47.16	36.28	100.45	
		-46.50	L	-35.77	62.88	0.0	-37.09	-28.53	86.10	38.27
OPER	2F1	40.64	R	31.26	110.45	0.0	0.00	0.00	0.00	
		-31.26	L	-24.05	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.06	R	37.74	114.45	0.0	0.00	0.00	0.00	
		-44.85	L	-34.50	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.93	R	34.56	118.45	0.0	0.00	0.00	0.00	
		-48.26	L	-37.13	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.75	L	45.19	53.45	0.0	0.00	0.00	0.00	
		-41.75	L	-32.11	74.10	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.87	HS 51.50	92.7
HS20	4.80	5.76	4.29	6.45	HS 85.83	154.5
2F1	7.42	8.56	6.64	9.59	0.00	99.5
3F1	6.15	5.97	5.50	6.68	0.00	126.4
4F1	6.71	5.55	6.00	6.21	0.00	149.8
5C1	5.13	6.41	4.59	7.18	0.00	183.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.9
OPER	151.3	-121.3	111.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	27.57	-2.44	21.21	-4.91	23.09	-3.78	17.76
OPER	HS20	-3.17	27.57	-2.44	21.21	-4.91	23.09	-3.78	17.76
OPER	2F1	-2.22	16.80	-1.71	12.93	0.00	0.00	0.00	0.00
OPER	3F1	-3.19	22.73	-2.45	17.48	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	23.45	-2.62	18.04	0.00	0.00	0.00	0.00
OPER	5C1	-4.89	21.39	-3.76	16.46	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	14.81	2.43	HS 48.52	87.3
HS20	24.69	4.04	HS 80.87	145.6
2F1	54.54	6.64	0.00	99.5
3F1	38.02	4.91	0.00	112.8
4F1	35.56	4.75	0.00	128.3
5C1	24.78	5.21	0.00	208.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.3	-168.0	167.3	-168.0	168.2	-167.1	168.2	-167.1
OPER	279.4	-279.4	279.4	-279.4	280.3	-278.5	280.3	-278.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	62.82	R	48.33	128.45	0.0	47.16	36.28	100.45	
		-46.50	L	-35.77	62.88	0.0	-37.09	-28.53	86.10	38.27
OPER	HS20	62.82	R	48.33	128.45	0.0	47.16	36.28	100.45	
		-46.50	L	-35.77	62.88	0.0	-37.09	-28.53	86.10	38.27
OPER	2F1	40.64	R	31.26	110.45	0.0	0.00	0.00	0.00	
		-31.26	L	-24.05	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.06	R	37.74	114.45	0.0	0.00	0.00	0.00	
		-44.85	L	-34.50	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.93	R	34.56	118.45	0.0	0.00	0.00	0.00	
		-48.26	L	-37.13	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.75	L	45.19	53.45	0.0	0.00	0.00	0.00	
		-41.75	L	-32.11	74.10	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.55	96.4
HS20	4.46	5.99	4.46	5.99	HS	89.25	160.6
2F1	6.90	8.91	6.90	8.91		0.00	103.5
3F1	5.72	6.21	5.72	6.21		0.00	131.4
4F1	6.24	5.77	6.24	5.77		0.00	155.8

5C1	4.77	6.67	4.77	6.67	0.00	190.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 5.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.1	-166.5	155.9	-185.7
OPER	300.6C	-268.7	268.7	-300.6C	291.8	-277.4	259.9	-309.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59 R	69.68	130.84	0.0	68.55	52.73	102.84	
		-38.60 L	-29.69	62.88	0.0	-31.32	-24.09	86.10	0.00
OPER	HS20	90.59 R	69.68	130.84	0.0	68.55	52.73	102.84	
		-38.60 L	-29.69	62.88	0.0	-31.32	-24.09	86.10	0.00
OPER	2F1	59.67 R	45.90	112.84	0.0	0.00	0.00	0.00	
		-25.95 L	-19.96	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.13 R	57.80	116.84	0.0	0.00	0.00	0.00	
		-37.23 L	-28.64	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.42 R	58.78	116.84	0.0	0.00	0.00	0.00	
		-40.07 L	-30.82	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.59 L	60.46	55.84	0.0	0.00	0.00	0.00	
		-39.20 L	-30.15	74.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.31	1.72	4.81	HS 34.42	62.0
HS20	3.22	7.19	2.87	8.02	HS 57.37	103.3
2F1	4.89	10.69	4.36	11.92	0.00	65.3
3F1	3.88	7.45	3.46	8.31	0.00	79.5
4F1	3.82	6.93	3.40	7.72	0.00	91.8
5C1	3.71	7.08	3.31	7.89	0.00	132.3

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 5.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.8	67.9
OPER	151.3	-119.6	113.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.50	22.59	-4.23	17.38	-7.43	19.85	-5.72	15.27
OPER	HS20	-5.50	22.59	-4.23	17.38	-7.43	19.85	-5.72	15.27
OPER	2F1	-3.96	14.15	-3.05	10.89	0.00	0.00	0.00	0.00
OPER	3F1	-4.23	18.70	-3.26	14.39	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	19.25	-2.62	14.81	0.00	0.00	0.00	0.00
OPER	5C1	-6.90	17.80	-5.30	13.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.66	3.00	HS 60.08	108.1
HS20	16.10	5.01	HS 100.13	180.2
2F1	30.18	7.99	0.00	119.9
3F1	28.26	6.05	0.00	139.1
4F1	35.09	5.88	0.00	158.6
5C1	17.35	6.35	0.00	254.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.2	-164.1	171.2	-164.1	162.4	-172.9	162.4	-172.9
OPER	279.4	-279.4	279.4	-279.4	270.6	-288.2	270.6	-288.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59	R	69.68	130.84	0.0	68.55	52.73	102.84	
		-38.60	L	-29.69	62.88	0.0	-31.32	-24.09	86.10	0.00
OPER	HS20	90.59	R	69.68	130.84	0.0	68.55	52.73	102.84	
		-38.60	L	-29.69	62.88	0.0	-31.32	-24.09	86.10	0.00
OPER	2F1	59.67	R	45.90	112.84	0.0	0.00	0.00	0.00	
		-25.95	L	-19.96	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.13	R	57.80	116.84	0.0	0.00	0.00	0.00	
		-37.23	L	-28.64	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.42	R	58.78	116.84	0.0	0.00	0.00	0.00	
		-40.07	L	-30.82	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.59	L	60.46	55.84	0.0	0.00	0.00	0.00	
		-39.20	L	-30.15	74.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.48	1.79	4.48	HS	35.85	64.5
HS20	2.99	7.47	2.99	7.47	HS	59.75	107.5
2F1	4.53	11.10	4.53	11.10		0.00	68.0
3F1	3.60	7.74	3.60	7.74		0.00	82.8
4F1	3.54	7.19	3.54	7.19		0.00	95.6

5C1	3.44	7.35	3.44	7.35	0.00	137.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 5.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.6	-170.0	152.4	-189.2
OPER	300.6C	-268.7	268.7	-300.6C	286.0	-283.3	254.0	-315.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24 R	77.88	133.23	0.0	81.41	62.62	105.23	
		-30.70 L	-23.62	62.88	0.0	-27.53	-21.17	86.10	0.00
OPER	HS20	101.24 R	77.88	133.23	0.0	81.41	62.62	105.23	
		-30.70 L	-23.62	62.88	0.0	-27.53	-21.17	86.10	0.00
OPER	2F1	69.95 R	53.81	115.23	0.0	0.00	0.00	0.00	
		-20.64 L	-15.88	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52 R	68.09	115.23	0.0	0.00	0.00	0.00	
		-29.62 L	-22.78	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.54 R	72.72	119.23	0.0	0.00	0.00	0.00	
		-31.87 L	-24.51	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.22 R	68.63	117.23	0.0	0.00	0.00	0.00	
		-37.28 L	-28.68	75.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.70	5.54	1.50	6.16	HS 30.10	54.2
HS20	2.83	9.23	2.51	10.27	HS 50.17	90.3
2F1	4.09	13.72	3.63	15.27	0.00	54.5
3F1	3.23	9.57	2.87	10.65	0.00	66.0
4F1	3.03	8.89	2.69	9.89	0.00	72.5
5C1	3.20	7.60	2.85	8.46	0.00	113.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.400

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.8	68.8
OPER	151.3	-118.0	114.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.43	18.82	-8.02	14.48	-10.27	16.56	-7.90	12.74
OPER	HS20	-10.43	18.82	-8.02	14.48	-10.27	16.56	-7.90	12.74
OPER	2F1	-6.24	11.44	-4.80	8.80	0.00	0.00	0.00	0.00
OPER	3F1	-7.36	14.70	-5.66	11.31	0.00	0.00	0.00	0.00
OPER	4F1	-6.24	14.82	-4.80	11.40	0.00	0.00	0.00	0.00
OPER	5C1	-9.20	14.80	-7.08	11.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.79	3.66	HS 73.14	131.7
HS20	11.32	6.09	HS 121.90	219.4
2F1	18.90	10.03	0.00	150.4
3F1	16.03	7.80	0.00	179.4
4F1	18.92	7.74	0.00	209.1
5C1	12.82	7.75	0.00	310.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.5	-161.8	173.5	-161.8	158.8	-176.4	158.8	-176.4
OPER	279.4	-279.4	279.4	-279.4	264.7	-294.1	264.7	-294.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	R	77.88	133.23	0.0	81.41	62.62	105.23	
		-30.70	L	-23.62	62.88	0.0	-27.53	-21.17	86.10	0.00
OPER	HS20	101.24	R	77.88	133.23	0.0	81.41	62.62	105.23	
		-30.70	L	-23.62	62.88	0.0	-27.53	-21.17	86.10	0.00
OPER	2F1	69.95	R	53.81	115.23	0.0	0.00	0.00	0.00	
		-20.64	L	-15.88	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	R	68.09	115.23	0.0	0.00	0.00	0.00	
		-29.62	L	-22.78	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.54	R	72.72	119.23	0.0	0.00	0.00	0.00	
		-31.87	L	-24.51	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.22	R	68.63	117.23	0.0	0.00	0.00	0.00	
		-37.28	L	-28.68	75.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	5.75	1.57	5.75	HS	31.38	56.5
HS20	2.62	9.58	2.62	9.58	HS	52.30	94.1
2F1	3.78	14.24	3.78	14.24		0.00	56.8
3F1	2.99	9.93	2.99	9.93		0.00	68.8
4F1	2.80	9.23	2.80	9.23		0.00	75.6

5C1	2.97	7.89	2.97	7.89	0.00	118.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.80	28.67	28.67	1.699	999999.000	97.648

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		11.07		107.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	2F1	71.01 R	54.63	117.63	0.0	0.00	0.00	0.00	
		-15.35 R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 L	72.37	97.63	0.0	0.00	0.00	0.00	
		-22.02 R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 L	75.17	93.63	0.0	0.00	0.00	0.00	
		-23.69 R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 R	71.05	158.63	0.0	0.00	0.00	0.00	
		-36.58 R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	7.21	1.55	8.02	HS 30.94	55.7
HS20	2.90	12.02	2.58	13.36	HS 51.56	92.8
2F1	4.00	18.59	3.55	20.67	0.00	53.2
3F1	3.02	12.96	2.68	14.41	0.00	61.6
4F1	2.91	12.04	2.58	13.39	0.00	69.6
5C1	3.08	7.80	2.73	8.68	0.00	109.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-14.89	14.89	-11.46	11.46	-13.36	13.33	-10.28	10.25
OPER	HS20	-14.89	14.89	-11.46	11.46	-13.36	13.33	-10.28	10.25
OPER	2F1	-8.77	8.77	-6.74	6.74	0.00	0.00	0.00	0.00
OPER	3F1	-10.88	10.89	-8.37	8.37	0.00	0.00	0.00	0.00
OPER	4F1	-10.28	10.28	-7.91	7.91	0.00	0.00	0.00	0.00
OPER	5C1	-11.76	11.76	-9.05	9.05	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.69	4.69	HS 93.75	168.7
HS20	7.82	7.81	HS 156.25	281.2
2F1	13.28	13.27	0.00	199.1
3F1	10.69	10.69	0.00	245.8
4F1	11.32	11.32	0.00	305.6
5C1	9.90	9.89	0.00	395.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-177.6
OPER	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-296.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75	R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82	R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	HS20	97.75	R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82	R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	2F1	71.01	R	54.63	117.63	0.0	0.00	0.00	0.00	
		-15.35	R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09	L	72.37	97.63	0.0	0.00	0.00	0.00	
		-22.02	R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73	L	75.17	93.63	0.0	0.00	0.00	0.00	
		-23.69	R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36	R	71.05	158.63	0.0	0.00	0.00	0.00	
		-36.58	R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.61	7.48	1.61	7.48	HS	32.26	58.1
HS20	2.69	12.47	2.69	12.47	HS	53.76	96.8
2F1	3.70	19.29	3.70	19.29		0.00	55.5
3F1	2.79	13.44	2.79	13.44		0.00	64.2
4F1	2.69	12.49	2.69	12.49		0.00	72.6

5C1	2.85	8.09	2.85	8.09	0.00	113.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.356

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.7	-169.9	152.5	-189.1
OPER	300.6C	-268.7	268.7	-300.6C	286.2	-283.1	254.2	-315.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.25	L	77.89	82.02	0.0	81.33	62.56	110.02	
		-30.72	R	-23.63	152.37	0.0	-27.62	-21.24	129.15	0.00
OPER	HS20	101.25	L	77.89	82.02	0.0	81.33	62.56	110.02	
		-30.72	R	-23.63	152.37	0.0	-27.62	-21.24	129.15	0.00
OPER	2F1	69.96	L	53.81	100.02	0.0	0.00	0.00	0.00	
		-20.67	R	-15.90	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	L	68.09	100.02	0.0	0.00	0.00	0.00	
		-29.65	R	-22.81	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.55	L	72.73	96.02	0.0	0.00	0.00	0.00	
		-31.90	R	-24.54	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.26	L	68.67	98.02	0.0	0.00	0.00	0.00	
		-37.17	R	-28.59	138.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.70	5.53	1.51	6.15	HS	30.13	54.2
HS20	2.83	9.22	2.51	10.26	HS	50.21	90.4
2F1	4.09	13.70	3.63	15.25		0.00	54.5
3F1	3.23	9.55	2.87	10.63		0.00	66.0
4F1	3.03	8.88	2.69	9.88		0.00	72.6
5C1	3.21	7.62	2.85	8.48		0.00	113.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 5.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.82	10.43	-14.48	8.02	-16.59	10.24	-12.76	7.88
OPER	HS20	-18.82	10.43	-14.48	8.02	-16.59	10.24	-12.76	7.88
OPER	2F1	-11.44	6.25	-8.80	4.80	0.00	0.00	0.00	0.00
OPER	3F1	-14.70	7.36	-11.31	5.66	0.00	0.00	0.00	0.00
OPER	4F1	-14.81	6.24	-11.40	4.80	0.00	0.00	0.00	0.00
OPER	5C1	-14.80	9.20	-11.38	7.08	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.65	6.80	HS 73.09	131.6
HS20	6.09	11.32	HS 121.81	219.3
2F1	10.02	18.91	0.00	150.3
3F1	7.80	16.04	0.00	179.3
4F1	7.74	18.93	0.00	208.9
5C1	7.75	12.83	0.00	309.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.4	-161.9	173.4	-161.9	159.0	-176.3	159.0	-176.3
OPER	279.4	-279.4	279.4	-279.4	264.9	-293.9	264.9	-293.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.25	L	77.89	82.02	0.0	81.33	62.56	110.02	
		-30.72	R	-23.63	152.37	0.0	-27.62	-21.24	129.15	0.00
OPER	HS20	101.25	L	77.89	82.02	0.0	81.33	62.56	110.02	
		-30.72	R	-23.63	152.37	0.0	-27.62	-21.24	129.15	0.00
OPER	2F1	69.96	L	53.81	100.02	0.0	0.00	0.00	0.00	
		-20.67	R	-15.90	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	L	68.09	100.02	0.0	0.00	0.00	0.00	
		-29.65	R	-22.81	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.55	L	72.73	96.02	0.0	0.00	0.00	0.00	
		-31.90	R	-24.54	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.26	L	68.67	98.02	0.0	0.00	0.00	0.00	
		-37.17	R	-28.59	138.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	5.74	1.57	5.74	HS	31.40	56.5
HS20	2.62	9.57	2.62	9.57	HS	52.33	94.2
2F1	3.79	14.22	3.79	14.22		0.00	56.8
3F1	2.99	9.91	2.99	9.91		0.00	68.8
4F1	2.80	9.21	2.80	9.21		0.00	75.7

5C1	2.97	7.91	2.97	7.91	0.00	118.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.356

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 5.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.3	-166.2	156.2	-185.4
OPER	300.6C	-268.7	268.7	-300.6C	292.2	-277.0	260.3	-309.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.60	L	69.69	84.41	0.0	68.40	52.62	112.41	
		-38.62	R	-29.71	152.37	0.0	-31.49	-24.22	129.15	0.00
OPER	HS20	90.60	L	69.69	84.41	0.0	68.40	52.62	112.41	
		-38.62	R	-29.71	152.37	0.0	-31.49	-24.22	129.15	0.00
OPER	2F1	59.68	L	45.91	102.41	0.0	0.00	0.00	0.00	
		-25.98	R	-19.99	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.15	L	57.80	98.41	0.0	0.00	0.00	0.00	
		-37.27	R	-28.67	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.43	L	58.79	98.41	0.0	0.00	0.00	0.00	
		-40.11	R	-30.85	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.69	R	60.53	159.41	0.0	0.00	0.00	0.00	
		-39.23	R	-30.18	140.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.93	4.30	1.72	4.80	HS	34.47	62.1
HS20	3.23	7.17	2.87	8.00	HS	57.45	103.4
2F1	4.90	10.66	4.36	11.89		0.00	65.4
3F1	3.89	7.43	3.46	8.29		0.00	79.7
4F1	3.82	6.91	3.40	7.70		0.00	91.9
5C1	3.71	7.06	3.31	7.88		0.00	132.3

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 5.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.8	71.8
OPER	151.3	-113.0	119.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-22.59	5.50	-17.38	4.23	-19.88	7.40	-15.29	5.69
OPER	HS20	-22.59	5.50	-17.38	4.23	-19.88	7.40	-15.29	5.69
OPER	2F1	-14.15	3.97	-10.89	3.05	0.00	0.00	0.00	0.00
OPER	3F1	-18.70	4.23	-14.39	3.26	0.00	0.00	0.00	0.00
OPER	4F1	-19.25	3.41	-14.81	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-17.80	6.90	-13.69	5.30	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.00	9.71	HS 60.03	108.1
HS20	5.00	16.18	HS 100.06	180.1
2F1	7.99	30.19	0.00	119.8
3F1	6.04	28.28	0.00	139.0
4F1	5.87	35.15	0.00	158.5
5C1	6.35	17.36	0.00	253.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.0	-164.3	171.0	-164.3	162.6	-172.7	162.6	-172.7
OPER	279.4	-279.4	279.4	-279.4	271.0	-287.8	271.0	-287.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.60	L	69.69	84.41	0.0	68.40	52.62	112.41	
		-38.62	R	-29.71	152.37	0.0	-31.49	-24.22	129.15	0.00
OPER	HS20	90.60	L	69.69	84.41	0.0	68.40	52.62	112.41	
		-38.62	R	-29.71	152.37	0.0	-31.49	-24.22	129.15	0.00
OPER	2F1	59.68	L	45.91	102.41	0.0	0.00	0.00	0.00	
		-25.98	R	-19.99	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.15	L	57.80	98.41	0.0	0.00	0.00	0.00	
		-37.27	R	-28.67	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.43	L	58.79	98.41	0.0	0.00	0.00	0.00	
		-40.11	R	-30.85	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.69	R	60.53	159.41	0.0	0.00	0.00	0.00	
		-39.23	R	-30.18	140.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.47	1.79	4.47	HS	35.90	64.6
HS20	2.99	7.45	2.99	7.45	HS	59.83	107.7
2F1	4.54	11.08	4.54	11.08		0.00	68.1
3F1	3.61	7.72	3.61	7.72		0.00	82.9
4F1	3.55	7.18	3.55	7.18		0.00	95.7

5C1	3.44	7.34	3.44	7.34	0.00	137.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.356

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.3	-160.3	162.1	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.2	-267.1	270.2	-299.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.84	L	48.34	86.80	0.0	47.45	36.50	114.80	
		-46.53	R	-35.79	152.37	0.0	-37.67	-28.97	129.15	176.98
OPER	HS20	62.84	L	48.34	86.80	0.0	47.45	36.50	114.80	
		-46.53	R	-35.79	152.37	0.0	-37.67	-28.97	129.15	176.98
OPER	2F1	40.65	L	31.27	104.80	0.0	0.00	0.00	0.00	
		-31.30	R	-24.08	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.07	L	37.75	100.80	0.0	0.00	0.00	0.00	
		-44.90	R	-34.54	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.94	L	34.57	96.80	0.0	0.00	0.00	0.00	
		-48.32	R	-37.17	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.90	R	45.31	161.80	0.0	0.00	0.00	0.00	
		-41.79	R	-32.15	141.15	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.88	3.44	2.58	3.86	HS	51.60	92.9
HS20	4.81	5.74	4.30	6.43	HS	86.00	154.8
2F1	7.43	8.53	6.65	9.56		0.00	99.7
3F1	6.16	5.95	5.51	6.66		0.00	126.6
4F1	6.72	5.53	6.01	6.19		0.00	149.3
5C1	5.13	6.39	4.59	7.16		0.00	183.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 5.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-4.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.8	72.8
OPER	151.3	-111.4	121.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.57	3.17	-21.21	2.44	-23.12	4.88	-17.78	3.75
OPER	HS20	-27.57	3.17	-21.21	2.44	-23.12	4.88	-17.78	3.75
OPER	2F1	-16.80	2.22	-12.92	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-22.73	3.19	-17.48	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-23.45	3.41	-18.04	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-21.39	4.89	-16.45	3.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.42	14.92	HS 48.49	87.3
HS20	4.04	24.86	HS 80.82	145.5
2F1	6.63	54.65	0.00	99.5
3F1	4.90	38.09	0.00	112.7
4F1	4.75	35.63	0.00	128.3
5C1	5.21	24.81	0.00	208.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.7	168.6	-166.7
OPER	279.4	-279.4	279.4	-279.4	280.9	-277.9	280.9	-277.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.84	L	48.34	86.80	0.0	47.45	36.50	114.80	
		-46.53	R	-35.79	152.37	0.0	-37.67	-28.97	129.15	176.98
OPER	HS20	62.84	L	48.34	86.80	0.0	47.45	36.50	114.80	
		-46.53	R	-35.79	152.37	0.0	-37.67	-28.97	129.15	176.98
OPER	2F1	40.65	L	31.27	104.80	0.0	0.00	0.00	0.00	
		-31.30	R	-24.08	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.07	L	37.75	100.80	0.0	0.00	0.00	0.00	
		-44.90	R	-34.54	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.94	L	34.57	96.80	0.0	0.00	0.00	0.00	
		-48.32	R	-37.17	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.90	R	45.31	161.80	0.0	0.00	0.00	0.00	
		-41.79	R	-32.15	141.15	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.58	2.68	3.58	HS	53.65	96.6
HS20	4.47	5.97	4.47	5.97	HS	89.42	161.0
2F1	6.91	8.88	6.91	8.88		0.00	103.7
3F1	5.72	6.19	5.72	6.19		0.00	131.7
4F1	6.25	5.75	6.25	5.75		0.00	155.3

5C1	4.77	6.65	4.77	6.65	0.00	190.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.356

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.6	-152.0	170.4	-171.2
OPER	300.6C	-268.7	268.7	-300.6C	316.0	-253.3	284.0	-285.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.19	L	13.99	89.19	0.0	26.29	20.22	117.19	
		-60.91	L	-46.85	110.37	0.0	-56.89	-43.76	129.15	107.63
OPER	HS20	18.19	L	13.99	89.19	0.0	26.29	20.22	117.19	
		-60.91	L	-46.85	110.37	0.0	-56.89	-43.76	129.15	107.63
OPER	2F1	14.38	L	11.06	107.19	0.0	0.00	0.00	0.00	
		-36.62	R	-28.17	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.29	R	10.99	163.07	0.0	0.00	0.00	0.00	
		-52.53	R	-40.41	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.19	R	11.68	167.07	0.0	0.00	0.00	0.00	
		-56.52	R	-43.48	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	30.08	R	23.14	164.19	0.0	0.00	0.00	0.00	
		-46.23	R	-35.56	143.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.21	2.49	6.48	2.81	HS 49.90	89.8
HS20	12.02	4.16	10.81	4.68	HS 83.17	149.7
2F1	21.98	6.92	19.76	7.79	0.00	103.8
3F1	22.12	4.82	19.88	5.43	0.00	110.9
4F1	20.80	4.48	18.70	5.05	0.00	121.0
5C1	10.51	5.48	9.44	6.17	0.00	219.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.900

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.9	73.8
OPER	151.3	-109.8	123.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.74	3.30	-25.19	2.54	-26.19	3.50	-20.15	2.69
OPER	HS20	-32.74	3.30	-25.19	2.54	-26.19	3.50	-20.15	2.69
OPER	2F1	-19.28	2.22	-14.83	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-26.61	3.19	-20.47	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-27.41	3.43	-21.09	2.64	0.00	0.00	0.00	0.00
OPER	5C1	-25.00	3.23	-19.23	2.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.01	21.07	HS 40.24	72.4
HS20	3.35	35.12	HS 67.06	120.7
2F1	5.70	55.38	0.00	85.4
3F1	4.13	38.60	0.00	94.9
4F1	4.01	35.87	0.00	108.1
5C1	4.39	38.05	0.00	175.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.5	-173.8	161.5	-173.8	176.9	-158.4	176.9	-158.4
OPER	279.4	-279.4	279.4	-279.4	294.8	-264.0	294.8	-264.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.19	L	13.99	89.19	0.0	26.29	20.22	117.19	
		-60.91	L	-46.85	110.37	0.0	-56.89	-43.76	129.15	107.63
OPER	HS20	18.19	L	13.99	89.19	0.0	26.29	20.22	117.19	
		-60.91	L	-46.85	110.37	0.0	-56.89	-43.76	129.15	107.63
OPER	2F1	14.38	L	11.06	107.19	0.0	0.00	0.00	0.00	
		-36.62	R	-28.17	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.29	R	10.99	163.07	0.0	0.00	0.00	0.00	
		-52.53	R	-40.41	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.19	R	11.68	167.07	0.0	0.00	0.00	0.00	
		-56.52	R	-43.48	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	30.08	R	23.14	164.19	0.0	0.00	0.00	0.00	
		-46.23	R	-35.56	143.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.73	2.60	6.73	2.60	HS	52.02	93.6
HS20	11.21	4.34	11.21	4.34	HS	86.70	156.1
2F1	20.50	7.21	20.50	7.21		0.00	108.2
3F1	20.63	5.03	20.63	5.03		0.00	115.6
4F1	19.41	4.67	19.41	4.67		0.00	126.1

5C1	9.80	5.71	9.80	5.71	0.00	228.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.356

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02
Check Point I. D. 6.000
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41	R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93	R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37	R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78	L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46	R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50	R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.65	1.34	10.54	1.52	HS 26.74	48.1
HS20	19.42	2.23	17.56	2.53	HS 44.57	80.2
2F1	29.25	5.62	26.45	6.38	0.00	84.3
3F1	20.39	3.45	18.44	3.91	0.00	79.3
4F1	18.96	2.95	17.14	3.35	0.00	79.7
5C1	24.80	3.54	22.42	4.02	0.00	141.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.8
OPER	151.3	-108.2	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.74	37.62	-25.19	28.94	-26.19	29.03	-20.15	22.33
OPER	HS20	-32.74	37.62	-25.19	28.94	-26.19	29.03	-20.15	22.33
OPER	2F1	-19.28	21.47	-14.83	16.52	0.00	0.00	0.00	0.00
OPER	3F1	-26.61	30.19	-20.47	23.22	0.00	0.00	0.00	0.00
OPER	4F1	-27.41	31.73	-21.09	24.41	0.00	0.00	0.00	0.00
OPER	5C1	-25.00	28.47	-19.23	21.90	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.73	1.72	HS	34.47	62.1
HS20	2.88	2.87	HS	57.45	103.4
2F1	5.04	5.03		0.00	75.5
3F1	3.58	3.58		0.00	82.3
4F1	3.41	3.41		0.00	92.0
5C1	3.80	3.80		0.00	151.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-147.8
OPER	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-246.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41	R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93	R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37	R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78	L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46	R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50	R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.91	1.40	10.91	1.40	HS	27.96	50.3
HS20	18.19	2.33	18.19	2.33	HS	46.61	83.9
2F1	27.39	5.88	27.39	5.88		0.00	88.1
3F1	19.10	3.60	19.10	3.60		0.00	82.9
4F1	17.75	3.09	17.75	3.09		0.00	83.4

5C1	23.22	3.70	23.22	3.70	0.00	148.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.310

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02 2F1
Check Point I. D. 6.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41	R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93	R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37	R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78	L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46	R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50	R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.65	1.34	10.54	1.52	HS 26.74	48.1
HS20	19.42	2.23	17.56	2.53	HS 44.57	80.2
2F1	29.25	5.62	26.45	6.38	0.00	84.3
3F1	20.39	3.45	18.44	3.91	0.00	79.3
4F1	18.96	2.95	17.14	3.35	0.00	79.7
5C1	24.80	3.54	22.42	4.02	0.00	141.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-7.5	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.8
OPER	151.3	-108.2	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.61	37.62	-28.93	28.94	-29.00	29.03	-22.31	22.33
OPER	HS20	-37.61	37.62	-28.93	28.94	-29.00	29.03	-22.31	22.33
OPER	2F1	-21.47	21.47	-16.51	16.52	0.00	0.00	0.00	0.00
OPER	3F1	-30.18	30.19	-23.21	23.22	0.00	0.00	0.00	0.00
OPER	4F1	-31.72	31.73	-24.40	24.41	0.00	0.00	0.00	0.00
OPER	5C1	-28.44	28.47	-21.88	21.90	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.73	1.72	HS	34.47	62.1
HS20	2.88	2.87	HS	57.45	103.4
2F1	5.04	5.03		0.00	75.5
3F1	3.58	3.58		0.00	82.3
4F1	3.41	3.41		0.00	92.0
5C1	3.80	3.80		0.00	151.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-147.8
OPER	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-246.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41	R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93	R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37	R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78	L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46	R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50	R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.91	1.40	10.91	1.40	HS	27.96	50.3
HS20	18.19	2.33	18.19	2.33	HS	46.61	83.9
2F1	27.39	5.88	27.39	5.88		0.00	88.1
3F1	19.10	3.60	19.10	3.60		0.00	82.9
4F1	17.75	3.09	17.75	3.09		0.00	83.4

5C1	23.22	3.70	23.22	3.70	0.00	148.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.310

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.5	-152.1	170.3	-171.3
OPER	300.6C	-268.7	268.7	-300.6C	315.8	-253.5	283.8	-285.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.14	R	13.96	149.98	0.0	26.79	20.61	121.98	
		-60.83	R	-46.79	128.80	0.0	-56.83	-43.72	110.02	131.54
OPER	HS20	18.14	R	13.96	149.98	0.0	26.79	20.61	121.98	
		-60.83	R	-46.79	128.80	0.0	-56.83	-43.72	110.02	131.54
OPER	2F1	14.35	R	11.04	131.98	0.0	0.00	0.00	0.00	
		-36.56	L	-28.13	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.06	L	10.81	76.10	0.0	0.00	0.00	0.00	
		-52.46	L	-40.35	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.94	L	11.50	72.10	0.0	0.00	0.00	0.00	
		-56.45	L	-43.42	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.85	L	22.97	74.98	0.0	0.00	0.00	0.00	
		-46.15	L	-35.50	95.63	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.07	2.50	6.36	2.82	HS	50.01	90.0
HS20	11.79	4.17	10.59	4.69	HS	83.35	150.0
2F1	22.01	6.93	19.78	7.81		0.00	104.0
3F1	22.47	4.83	20.19	5.44		0.00	111.1
4F1	21.13	4.49	18.99	5.06		0.00	121.3
5C1	10.58	5.49	9.51	6.19		0.00	219.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.8	65.8
OPER	151.3	-123.0	109.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.19	32.76	-2.45	25.20	-3.50	26.23	-2.69	20.17
OPER	HS20	-3.19	32.76	-2.45	25.20	-3.50	26.23	-2.69	20.17
OPER	2F1	-2.26	19.28	-1.74	14.83	0.00	0.00	0.00	0.00
OPER	3F1	-3.24	26.62	-2.49	20.48	0.00	0.00	0.00	0.00
OPER	4F1	-3.46	27.43	-2.66	21.10	0.00	0.00	0.00	0.00
OPER	5C1	-3.27	25.02	-2.52	19.25	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	21.08	2.01	HS	40.19	72.3
HS20	35.13	3.35	HS	66.98	120.6
2F1	54.51	5.69		0.00	85.3
3F1	38.01	4.12		0.00	94.8
4F1	35.56	4.00		0.00	108.0
5C1	37.60	4.39		0.00	175.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.6	-173.7	161.6	-173.7	176.7	-158.5	176.7	-158.5
OPER	279.4	-279.4	279.4	-279.4	294.6	-264.2	294.6	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.14	R	13.96	149.98	0.0	26.79	20.61	121.98	
		-60.83	R	-46.79	128.80	0.0	-56.83	-43.72	110.02	131.54
OPER	HS20	18.14	R	13.96	149.98	0.0	26.79	20.61	121.98	
		-60.83	R	-46.79	128.80	0.0	-56.83	-43.72	110.02	131.54
OPER	2F1	14.35	R	11.04	131.98	0.0	0.00	0.00	0.00	
		-36.56	L	-28.13	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.06	L	10.81	76.10	0.0	0.00	0.00	0.00	
		-52.46	L	-40.35	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.94	L	11.50	72.10	0.0	0.00	0.00	0.00	
		-56.45	L	-43.42	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.85	L	22.97	74.98	0.0	0.00	0.00	0.00	
		-46.15	L	-35.50	95.63	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.60	2.61	6.60	2.61	HS	52.13	93.8
HS20	10.99	4.34	10.99	4.34	HS	86.88	156.4
2F1	20.53	7.23	20.53	7.23		0.00	108.4
3F1	20.95	5.04	20.95	5.04		0.00	115.9
4F1	19.71	4.68	19.71	4.68		0.00	126.4

5C1	9.87	5.73	9.87	5.73	0.00	229.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.310

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82 R	48.32	152.37	0.0	47.08	36.21	124.37	
		-46.50 L	-35.77	86.80	0.0	-37.14	-28.57	110.02	62.18
OPER	HS20	62.82 R	48.32	152.37	0.0	47.08	36.21	124.37	
		-46.50 L	-35.77	86.80	0.0	-37.14	-28.57	110.02	62.18
OPER	2F1	40.63 R	31.26	134.37	0.0	0.00	0.00	0.00	
		-31.26 L	-24.05	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.05 R	37.73	138.37	0.0	0.00	0.00	0.00	
		-44.85 L	-34.50	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.92 R	34.55	142.37	0.0	0.00	0.00	0.00	
		-48.26 L	-37.12	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.74 L	45.18	77.37	0.0	0.00	0.00	0.00	
		-41.74 L	-32.11	98.02	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.87	HS	51.54	92.8
HS20	4.80	5.75	4.30	6.44	HS	85.90	154.6
2F1	7.43	8.56	6.64	9.58		0.00	99.6
3F1	6.15	5.97	5.50	6.68		0.00	126.5
4F1	6.72	5.54	6.01	6.21		0.00	149.7
5C1	5.14	6.41	4.59	7.18		0.00	183.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	4.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.9	66.8
OPER	151.3	-121.4	111.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.19	27.59	-2.45	21.22	-4.84	23.15	-3.72	17.81
OPER	HS20	-3.19	27.59	-2.45	21.22	-4.84	23.15	-3.72	17.81
OPER	2F1	-2.26	16.81	-1.74	12.93	0.00	0.00	0.00	0.00
OPER	3F1	-3.24	22.74	-2.49	17.49	0.00	0.00	0.00	0.00
OPER	4F1	-3.46	23.46	-2.66	18.05	0.00	0.00	0.00	0.00
OPER	5C1	-4.92	21.40	-3.78	16.47	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	15.05	2.42	HS	48.42	87.2
HS20	25.08	4.03	HS	80.71	145.3
2F1	53.79	6.62		0.00	99.3
3F1	37.51	4.89		0.00	112.6
4F1	35.10	4.74		0.00	128.1
5C1	24.69	5.20		0.00	208.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82	R	48.32	152.37	0.0	47.08	36.21	124.37	
		-46.50	L	-35.77	86.80	0.0	-37.14	-28.57	110.02	62.18
OPER	HS20	62.82	R	48.32	152.37	0.0	47.08	36.21	124.37	
		-46.50	L	-35.77	86.80	0.0	-37.14	-28.57	110.02	62.18
OPER	2F1	40.63	R	31.26	134.37	0.0	0.00	0.00	0.00	
		-31.26	L	-24.05	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.05	R	37.73	138.37	0.0	0.00	0.00	0.00	
		-44.85	L	-34.50	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.92	R	34.55	142.37	0.0	0.00	0.00	0.00	
		-48.26	L	-37.12	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.74	L	45.18	77.37	0.0	0.00	0.00	0.00	
		-41.74	L	-32.11	98.02	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.59	96.5
HS20	4.47	5.98	4.47	5.98	HS	89.32	160.8
2F1	6.91	8.90	6.91	8.90		0.00	103.6
3F1	5.72	6.20	5.72	6.20		0.00	131.5
4F1	6.24	5.77	6.24	5.77		0.00	155.7

5C1	4.78	6.67	4.78	6.67	0.00	191.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.310

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.0	-166.6	155.8	-185.8
OPER	300.6C	-268.7	268.7	-300.6C	291.6	-277.6	259.7	-309.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59 R	69.69	154.76	0.0	68.64	52.80	126.76	
		-38.61 L	-29.70	86.80	0.0	-31.24	-24.03	110.02	0.00
OPER	HS20	90.59 R	69.69	154.76	0.0	68.64	52.80	126.76	
		-38.61 L	-29.70	86.80	0.0	-31.24	-24.03	110.02	0.00
OPER	2F1	59.69 R	45.91	136.76	0.0	0.00	0.00	0.00	
		-25.96 L	-19.97	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.16 R	57.82	140.76	0.0	0.00	0.00	0.00	
		-37.24 L	-28.65	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.44 R	58.80	140.76	0.0	0.00	0.00	0.00	
		-40.07 L	-30.82	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.61 L	60.47	79.76	0.0	0.00	0.00	0.00	
		-39.25 L	-30.19	98.80	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.32	1.72	4.81	HS 34.39	61.9
HS20	3.22	7.19	2.87	8.02	HS 57.32	103.2
2F1	4.89	10.70	4.35	11.93	0.00	65.3
3F1	3.88	7.46	3.45	8.31	0.00	79.5
4F1	3.82	6.93	3.40	7.73	0.00	91.7
5C1	3.71	7.07	3.30	7.89	0.00	132.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.50	22.60	-4.23	17.38	-7.36	19.92	-5.66	15.32
OPER	HS20	-5.50	22.60	-4.23	17.38	-7.36	19.92	-5.66	15.32
OPER	2F1	-3.96	14.16	-3.05	10.89	0.00	0.00	0.00	0.00
OPER	3F1	-4.23	18.72	-3.25	14.40	0.00	0.00	0.00	0.00
OPER	4F1	-3.46	19.27	-2.66	14.82	0.00	0.00	0.00	0.00
OPER	5C1	-6.90	17.81	-5.31	13.70	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	9.77	3.00	HS	59.97	108.0
HS20	16.28	5.00	HS	99.96	179.9
2F1	30.25	7.97		0.00	119.6
3F1	28.33	6.03		0.00	138.8
4F1	34.63	5.86		0.00	158.3
5C1	17.36	6.34		0.00	253.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.2	-164.0	171.2	-164.0	162.2	-173.0	162.2	-173.0
OPER	279.4	-279.4	279.4	-279.4	270.4	-288.4	270.4	-288.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59	R	69.69	154.76	0.0	68.64	52.80	126.76	
		-38.61	L	-29.70	86.80	0.0	-31.24	-24.03	110.02	0.00
OPER	HS20	90.59	R	69.69	154.76	0.0	68.64	52.80	126.76	
		-38.61	L	-29.70	86.80	0.0	-31.24	-24.03	110.02	0.00
OPER	2F1	59.69	R	45.91	136.76	0.0	0.00	0.00	0.00	
		-25.96	L	-19.97	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.16	R	57.82	140.76	0.0	0.00	0.00	0.00	
		-37.24	L	-28.65	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.44	R	58.80	140.76	0.0	0.00	0.00	0.00	
		-40.07	L	-30.82	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.61	L	60.47	79.76	0.0	0.00	0.00	0.00	
		-39.25	L	-30.19	98.80	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.48	1.79	4.48	HS	35.82	64.5
HS20	2.98	7.47	2.98	7.47	HS	59.70	107.5
2F1	4.53	11.11	4.53	11.11		0.00	68.0
3F1	3.60	7.74	3.60	7.74		0.00	82.7
4F1	3.54	7.20	3.54	7.20		0.00	95.5

5C1	3.44	7.35	3.44	7.35	0.00	137.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.310

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.2	-170.3	152.0	-189.5
OPER	300.6C	-268.7	268.7	-300.6C	285.4	-283.9	253.4	-315.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24 R	77.88	157.15	0.0	81.67	62.82	129.15	
		-30.72 L	-23.63	86.80	0.0	-27.30	-21.00	110.02	0.00
OPER	HS20	101.24 R	77.88	157.15	0.0	81.67	62.82	129.15	
		-30.72 L	-23.63	86.80	0.0	-27.30	-21.00	110.02	0.00
OPER	2F1	70.00 R	53.85	139.15	0.0	0.00	0.00	0.00	
		-20.65 L	-15.89	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.57 R	68.13	139.15	0.0	0.00	0.00	0.00	
		-29.63 L	-22.79	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.60 R	72.77	143.15	0.0	0.00	0.00	0.00	
		-31.89 L	-24.53	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.27 R	68.67	141.15	0.0	0.00	0.00	0.00	
		-37.28 L	-28.68	100.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.69	5.55	1.50	6.17	HS 30.03	54.1
HS20	2.82	9.24	2.50	10.28	HS 50.06	90.1
2F1	4.08	13.75	3.62	15.29	0.00	54.3
3F1	3.22	9.58	2.86	10.66	0.00	65.8
4F1	3.02	8.90	2.68	9.91	0.00	72.3
5C1	3.20	7.61	2.84	8.47	0.00	113.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.400

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.43	18.83	-8.02	14.48	-10.20	16.63	-7.84	12.80
OPER	HS20	-10.43	18.83	-8.02	14.48	-10.20	16.63	-7.84	12.80
OPER	2F1	-6.24	11.45	-4.80	8.81	0.00	0.00	0.00	0.00
OPER	3F1	-7.35	14.72	-5.66	11.32	0.00	0.00	0.00	0.00
OPER	4F1	-6.23	14.83	-4.79	11.41	0.00	0.00	0.00	0.00
OPER	5C1	-9.18	14.80	-7.06	11.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.80	3.65	HS 73.01	131.4
HS20	11.33	6.08	HS 121.68	219.0
2F1	18.95	10.01	0.00	150.1
3F1	16.07	7.78	0.00	179.0
4F1	18.97	7.72	0.00	208.5
5C1	12.87	7.74	0.00	309.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.5	173.7	-161.5	158.5	-176.8	158.5	-176.8
OPER	279.4	-279.4	279.4	-279.4	264.1	-294.7	264.1	-294.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	R	77.88	157.15	0.0	81.67	62.82	129.15	
		-30.72	L	-23.63	86.80	0.0	-27.30	-21.00	110.02	0.00
OPER	HS20	101.24	R	77.88	157.15	0.0	81.67	62.82	129.15	
		-30.72	L	-23.63	86.80	0.0	-27.30	-21.00	110.02	0.00
OPER	2F1	70.00	R	53.85	139.15	0.0	0.00	0.00	0.00	
		-20.65	L	-15.89	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.57	R	68.13	139.15	0.0	0.00	0.00	0.00	
		-29.63	L	-22.79	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.60	R	72.77	143.15	0.0	0.00	0.00	0.00	
		-31.89	L	-24.53	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.27	R	68.67	141.15	0.0	0.00	0.00	0.00	
		-37.28	L	-28.68	100.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	5.76	1.57	5.76	HS	31.31	56.4
HS20	2.61	9.59	2.61	9.59	HS	52.18	93.9
2F1	3.77	14.27	3.77	14.27		0.00	56.6
3F1	2.98	9.94	2.98	9.94		0.00	68.6
4F1	2.79	9.24	2.79	9.24		0.00	75.4

5C1	2.96	7.90	2.96	7.90	0.00	118.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.310

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		13.75		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.8	-171.8	150.6	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	283.0	-286.3	251.0	-318.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	2F1	71.08 R	54.68	141.54	0.0	0.00	0.00	0.00	
		-15.58 R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 L	72.45	121.54	0.0	0.00	0.00	0.00	
		-22.35 R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 L	75.25	117.54	0.0	0.00	0.00	0.00	
		-24.04 R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 R	71.60	182.54	0.0	0.00	0.00	0.00	
		-36.84 R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	7.31	1.54	8.12	HS 30.79	55.4
HS20	2.89	12.18	2.57	13.54	HS 51.32	92.4
2F1	3.98	18.37	3.53	20.42	0.00	53.0
3F1	3.01	12.81	2.66	14.24	0.00	61.3
4F1	2.89	11.91	2.57	13.24	0.00	69.3
5C1	3.04	7.77	2.70	8.64	0.00	107.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-14.90	14.90	-11.46	11.46	-13.28	13.40	-10.22	10.31
OPER	HS20	-14.90	14.90	-11.46	11.46	-13.28	13.40	-10.22	10.31
OPER	2F1	-8.76	8.78	-6.74	6.75	0.00	0.00	0.00	0.00
OPER	3F1	-10.87	10.90	-8.36	8.38	0.00	0.00	0.00	0.00
OPER	4F1	-10.26	10.30	-7.90	7.92	0.00	0.00	0.00	0.00
OPER	5C1	-11.71	11.79	-9.01	9.07	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.69	4.68	HS 93.55	168.4
HS20	7.82	7.80	HS 155.91	280.6
2F1	13.31	13.24	0.00	198.6
3F1	10.72	10.66	0.00	245.2
4F1	11.36	11.28	0.00	304.6
5C1	9.95	9.85	0.00	394.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.6	174.7	-160.6	157.0	-178.2	157.0	-178.2
OPER	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-297.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	97.81	R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00	R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	HS20	97.81	R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00	R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	2F1	71.08	R	54.68	141.54	0.0	0.00	0.00	0.00	
		-15.58	R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19	L	72.45	121.54	0.0	0.00	0.00	0.00	
		-22.35	R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83	L	75.25	117.54	0.0	0.00	0.00	0.00	
		-24.04	R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08	R	71.60	182.54	0.0	0.00	0.00	0.00	
		-36.84	R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.61	7.58	1.61	7.58	HS	32.11	57.8
HS20	2.68	12.64	2.68	12.64	HS	53.52	96.3
2F1	3.68	19.06	3.68	19.06		0.00	55.2
3F1	2.78	13.29	2.78	13.29		0.00	63.9
4F1	2.68	12.35	2.68	12.35		0.00	72.2

5C1	2.81	8.06	2.81	8.06	0.00	112.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 6.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	14.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.9	-170.7	151.7	-189.9
OPER	300.6C	-268.7	268.7	-300.6C	284.8	-284.5	252.8	-316.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.37 L	77.98	105.93	0.0	81.95	63.04	133.93	
		-30.97 R	-23.82	176.28	0.0	-27.28	-20.99	153.07	0.00
OPER	HS20	101.37 L	77.98	105.93	0.0	81.95	63.04	133.93	
		-30.97 R	-23.82	176.28	0.0	-27.28	-20.99	153.07	0.00
OPER	2F1	70.05 L	53.88	123.93	0.0	0.00	0.00	0.00	
		-20.98 R	-16.14	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.66 L	68.20	123.93	0.0	0.00	0.00	0.00	
		-30.09 R	-23.15	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.70 L	72.84	119.93	0.0	0.00	0.00	0.00	
		-32.37 R	-24.90	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.93 L	69.18	121.93	0.0	0.00	0.00	0.00	
		-37.55 R	-28.89	162.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.68	5.51	1.50	6.13	HS 29.92	53.9
HS20	2.81	9.19	2.49	10.22	HS 49.87	89.8
2F1	4.07	13.56	3.61	15.09	0.00	54.1
3F1	3.21	9.45	2.85	10.52	0.00	65.6
4F1	3.01	8.79	2.67	9.78	0.00	72.1
5C1	3.17	7.58	2.81	8.43	0.00	112.4

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 6.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.9	70.8
OPER	151.3	-114.8	117.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.84	10.44	-14.49	8.03	-16.51	10.31	-12.70	7.93
OPER	HS20	-18.84	10.44	-14.49	8.03	-16.51	10.31	-12.70	7.93
OPER	2F1	-11.43	6.25	-8.79	4.81	0.00	0.00	0.00	0.00
OPER	3F1	-14.69	7.37	-11.30	5.67	0.00	0.00	0.00	0.00
OPER	4F1	-14.80	6.24	-11.39	4.80	0.00	0.00	0.00	0.00
OPER	5C1	-14.79	9.22	-11.38	7.09	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	3.66	6.78	HS 73.13	131.6
HS20	6.09	11.30	HS 121.89	219.4
2F1	10.05	18.86	0.00	150.7
3F1	7.82	16.00	0.00	179.8
4F1	7.76	18.90	0.00	209.4
5C1	7.76	12.80	0.00	310.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	14.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.0	-161.3	174.0	-161.3	158.1	-177.2	158.1	-177.2
OPER	279.4	-279.4	279.4	-279.4	263.5	-295.3	263.5	-295.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.37	L	77.98	105.93	0.0	81.95	63.04	133.93	
		-30.97	R	-23.82	176.28	0.0	-27.28	-20.99	153.07	0.00
OPER	HS20	101.37	L	77.98	105.93	0.0	81.95	63.04	133.93	
		-30.97	R	-23.82	176.28	0.0	-27.28	-20.99	153.07	0.00
OPER	2F1	70.05	L	53.88	123.93	0.0	0.00	0.00	0.00	
		-20.98	R	-16.14	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.66	L	68.20	123.93	0.0	0.00	0.00	0.00	
		-30.09	R	-23.15	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.70	L	72.84	119.93	0.0	0.00	0.00	0.00	
		-32.37	R	-24.90	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.93	L	69.18	121.93	0.0	0.00	0.00	0.00	
		-37.55	R	-28.89	162.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	5.72	1.56	5.72	HS	31.20	56.2
HS20	2.60	9.53	2.60	9.53	HS	51.99	93.6
2F1	3.76	14.07	3.76	14.07		0.00	56.4
3F1	2.97	9.81	2.97	9.81		0.00	68.4
4F1	2.78	9.12	2.78	9.12		0.00	75.1

5C1	2.93	7.86	2.93	7.86	0.00	117.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 6.700

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.4	-278.9	258.5	-310.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.77 L	69.83	108.33	0.0	69.19	53.22	136.33	
		-38.94 R	-29.95	176.28	0.0	-31.05	-23.89	153.07	0.00
OPER	HS20	90.77 L	69.83	108.33	0.0	69.19	53.22	136.33	
		-38.94 R	-29.95	176.28	0.0	-31.05	-23.89	153.07	0.00
OPER	2F1	59.80 L	46.00	126.33	0.0	0.00	0.00	0.00	
		-26.38 R	-20.29	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.32 L	57.94	122.33	0.0	0.00	0.00	0.00	
		-37.84 R	-29.10	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.61 L	58.93	122.33	0.0	0.00	0.00	0.00	
		-40.70 R	-31.31	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.03 R	61.56	183.33	0.0	0.00	0.00	0.00	
		-39.75 R	-30.58	164.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	4.30	1.71	4.79	HS 34.17	61.5
HS20	3.20	7.16	2.85	7.98	HS 56.94	102.5
2F1	4.86	10.57	4.32	11.78	0.00	64.8
3F1	3.86	7.37	3.43	8.22	0.00	78.9
4F1	3.79	6.85	3.37	7.64	0.00	91.1
5C1	3.63	7.01	3.23	7.82	0.00	129.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S02
Check Point I. D. 6.700

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-2.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.9	71.7
OPER	151.3	-113.2	119.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.61	5.52	-17.39	4.24	-19.80	7.47	-15.23	5.75
OPER	HS20	-22.61	5.52	-17.39	4.24	-19.80	7.47	-15.23	5.75
OPER	2F1	-14.14	3.97	-10.88	3.05	0.00	0.00	0.00	0.00
OPER	3F1	-18.69	4.23	-14.37	3.26	0.00	0.00	0.00	0.00
OPER	4F1	-19.24	3.40	-14.80	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-17.80	6.91	-13.69	5.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.00	9.60	HS 60.08	108.1
HS20	5.01	16.00	HS 100.14	180.2
2F1	8.00	30.11	0.00	120.1
3F1	6.06	28.23	0.00	139.3
4F1	5.88	35.15	0.00	158.9
5C1	6.36	17.31	0.00	254.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.7	-163.6	171.7	-163.6	161.5	-173.8	161.5	-173.8
OPER	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-289.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.77	L	69.83	108.33	0.0	69.19	53.22	136.33	
		-38.94	R	-29.95	176.28	0.0	-31.05	-23.89	153.07	0.00
OPER	HS20	90.77	L	69.83	108.33	0.0	69.19	53.22	136.33	
		-38.94	R	-29.95	176.28	0.0	-31.05	-23.89	153.07	0.00
OPER	2F1	59.80	L	46.00	126.33	0.0	0.00	0.00	0.00	
		-26.38	R	-20.29	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.32	L	57.94	122.33	0.0	0.00	0.00	0.00	
		-37.84	R	-29.10	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.61	L	58.93	122.33	0.0	0.00	0.00	0.00	
		-40.70	R	-31.31	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.03	R	61.56	183.33	0.0	0.00	0.00	0.00	
		-39.75	R	-30.58	164.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	4.46	1.78	4.46	HS	35.59	64.1
HS20	2.97	7.44	2.97	7.44	HS	59.31	106.8
2F1	4.50	10.98	4.50	10.98		0.00	67.5
3F1	3.57	7.65	3.57	7.65		0.00	82.2
4F1	3.51	7.11	3.51	7.11		0.00	94.9

5C1	3.36	7.29	3.36	7.29		0.00	134.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	300.0	-269.3	268.0	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.06 L	48.51	110.72	0.0	48.37	37.21	138.72	
		-46.91 R	-36.08	176.28	0.0	-35.34	-27.18	153.07	121.98
OPER	HS20	63.06 L	48.51	110.72	0.0	48.37	37.21	138.72	
		-46.91 R	-36.08	176.28	0.0	-35.34	-27.18	153.07	121.98
OPER	2F1	40.79 L	31.37	128.72	0.0	0.00	0.00	0.00	
		-31.78 R	-24.44	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.29 L	37.91	124.72	0.0	0.00	0.00	0.00	
		-45.58 R	-35.06	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	45.17 L	34.75	120.72	0.0	0.00	0.00	0.00	
		-49.03 R	-37.71	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	60.94 R	46.87	185.72	0.0	0.00	0.00	0.00	
		-42.43 R	-32.64	165.07	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.85	3.44	2.55	3.85	HS 51.00	91.8
HS20	4.76	5.74	4.25	6.42	HS 84.99	153.0
2F1	7.36	8.48	6.57	9.48	0.00	98.6
3F1	6.09	5.91	5.44	6.61	0.00	125.1
4F1	6.64	5.49	5.93	6.14	0.00	148.3
5C1	4.92	6.35	4.40	7.10	0.00	175.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 6.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.9	72.7
OPER	151.3	-111.6	121.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.56	3.17	-21.20	2.43	-23.04	4.95	-17.72	3.81
OPER	HS20	-27.56	3.17	-21.20	2.43	-23.04	4.95	-17.72	3.81
OPER	2F1	-16.79	2.22	-12.92	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-22.71	3.18	-17.47	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-23.44	3.40	-18.03	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-21.30	4.90	-16.39	3.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	2.43	14.69	HS	48.58	87.4
HS20	4.05	24.48	HS	80.96	145.7
2F1	6.64	54.65		0.00	99.7
3F1	4.91	38.09		0.00	113.0
4F1	4.76	35.63		0.00	128.5
5C1	5.24	24.75		0.00	209.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.9	-167.4	167.9	-167.4	167.2	-168.0	167.2	-168.0
OPER	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-280.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.06	L	48.51	110.72	0.0	48.37	37.21	138.72	
		-46.91	R	-36.08	176.28	0.0	-35.34	-27.18	153.07	121.98
OPER	HS20	63.06	L	48.51	110.72	0.0	48.37	37.21	138.72	
		-46.91	R	-36.08	176.28	0.0	-35.34	-27.18	153.07	121.98
OPER	2F1	40.79	L	31.37	128.72	0.0	0.00	0.00	0.00	
		-31.78	R	-24.44	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.29	L	37.91	124.72	0.0	0.00	0.00	0.00	
		-45.58	R	-35.06	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	45.17	L	34.75	120.72	0.0	0.00	0.00	0.00	
		-49.03	R	-37.71	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	60.94	R	46.87	185.72	0.0	0.00	0.00	0.00	
		-42.43	R	-32.64	165.07	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.65	3.58	2.65	3.58	HS	53.04	95.5
HS20	4.42	5.97	4.42	5.97	HS	88.40	159.1
2F1	6.83	8.81	6.83	8.81		0.00	102.5
3F1	5.66	6.14	5.66	6.14		0.00	130.1
4F1	6.17	5.71	6.17	5.71		0.00	154.2

5C1	4.57	6.60	4.57	6.60	0.00	183.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-11.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.0	-153.5	168.8	-172.7
OPER	300.6C	-268.7	268.7	-300.6C	313.4	-255.9	281.4	-287.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.42 L	14.17	113.11	0.0	27.29	20.99	141.11	
		-61.87 L	-47.59	134.28	0.0	-56.05	-43.12	153.07	131.54
OPER	HS20	18.42 L	14.17	113.11	0.0	27.29	20.99	141.11	
		-61.87 L	-47.59	134.28	0.0	-56.05	-43.12	153.07	131.54
OPER	2F1	14.51 L	11.16	131.11	0.0	0.00	0.00	0.00	
		-37.18 R	-28.60	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.24 R	13.26	186.98	0.0	0.00	0.00	0.00	
		-53.32 R	-41.02	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	18.32 R	14.10	190.98	0.0	0.00	0.00	0.00	
		-57.36 R	-44.12	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	32.79 R	25.22	188.11	0.0	0.00	0.00	0.00	
		-46.95 R	-36.12	166.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.89	2.48	6.19	2.79	HS 49.63	89.3
HS20	11.49	4.14	10.31	4.65	HS 82.72	148.9
2F1	21.60	6.88	19.40	7.74	0.00	103.2
3F1	18.17	4.80	16.32	5.40	0.00	110.4
4F1	17.10	4.46	15.36	5.02	0.00	120.5
5C1	9.56	5.45	8.58	6.13	0.00	218.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.0	73.7
OPER	151.3	-110.0	122.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.74	3.30	-25.18	2.54	-26.12	3.56	-20.09	2.74
OPER	HS20	-32.74	3.30	-25.18	2.54	-26.12	3.56	-20.09	2.74
OPER	2F1	-19.27	2.22	-14.82	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-26.59	3.18	-20.46	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-27.40	3.42	-21.08	2.63	0.00	0.00	0.00	0.00
OPER	5C1	-24.87	3.23	-19.13	2.48	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.02	20.71	HS 40.30	72.5
HS20	3.36	34.51	HS 67.17	120.9
2F1	5.71	55.38	0.00	85.6
3F1	4.14	38.60	0.00	95.1
4F1	4.01	35.87	0.00	108.4
5C1	4.42	38.04	0.00	176.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-11.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.5	-172.7	162.5	-172.7	175.3	-160.0	175.3	-160.0
OPER	279.4	-279.4	279.4	-279.4	292.2	-266.6	292.2	-266.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.42	L	14.17	113.11	0.0	27.29	20.99	141.11	
		-61.87	L	-47.59	134.28	0.0	-56.05	-43.12	153.07	131.54
OPER	HS20	18.42	L	14.17	113.11	0.0	27.29	20.99	141.11	
		-61.87	L	-47.59	134.28	0.0	-56.05	-43.12	153.07	131.54
OPER	2F1	14.51	L	11.16	131.11	0.0	0.00	0.00	0.00	
		-37.18	R	-28.60	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.24	R	13.26	186.98	0.0	0.00	0.00	0.00	
		-53.32	R	-41.02	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	18.32	R	14.10	190.98	0.0	0.00	0.00	0.00	
		-57.36	R	-44.12	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	32.79	R	25.22	188.11	0.0	0.00	0.00	0.00	
		-46.95	R	-36.12	166.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.42	2.59	6.42	2.59	HS	51.72	93.1
HS20	10.71	4.31	10.71	4.31	HS	86.19	155.1
2F1	20.14	7.17	20.14	7.17		0.00	107.6
3F1	16.94	5.00	16.94	5.00		0.00	115.0
4F1	15.94	4.65	15.94	4.65		0.00	125.5

5C1	8.91	5.68	8.91	5.68	0.00	227.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02 2F1
Check Point I. D. 7.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80	R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57	R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88	L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57	L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40	R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.88	1.35	8.02	1.53	HS 27.00	48.6
HS20	14.80	2.25	13.37	2.55	HS 45.01	81.0
2F1	23.95	5.60	21.64	6.36	0.00	84.1
3F1	16.75	3.46	15.12	3.93	0.00	79.7
4F1	15.62	2.96	14.11	3.36	0.00	80.0
5C1	18.49	3.59	16.70	4.07	0.00	143.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	65.2
OPER	151.3	-108.3	108.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.74	37.80	-25.18	29.08	-26.12	28.78	-20.09	22.14
OPER	HS20	-32.74	37.80	-25.18	29.08	-26.12	28.78	-20.09	22.14
OPER	2F1	-19.27	21.52	-14.82	16.55	0.00	0.00	0.00	0.00
OPER	3F1	-26.59	30.29	-20.46	23.30	0.00	0.00	0.00	0.00
OPER	4F1	-27.40	31.88	-21.08	24.52	0.00	0.00	0.00	0.00
OPER	5C1	-24.87	28.58	-19.13	21.99	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.73	1.73	HS	34.50	62.1
HS20	2.88	2.88	HS	57.49	103.5
2F1	5.05	5.05		0.00	75.7
3F1	3.59	3.59		0.00	82.5
4F1	3.42	3.41		0.00	92.0
5C1	3.83	3.80		0.00	152.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-149.6
OPER	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-249.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80	R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57	R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88	L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57	L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40	R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.31	1.41	8.31	1.41	HS	28.22	50.8
HS20	13.85	2.35	13.85	2.35	HS	47.03	84.7
2F1	22.42	5.86	22.42	5.86		0.00	87.9
3F1	15.67	3.62	15.67	3.62		0.00	83.3
4F1	14.62	3.10	14.62	3.10		0.00	83.6

5C1	17.31	3.76	17.31	3.76		0.00	150.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.836

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80	R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57	R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88	L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57	L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40	R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.88	1.35	8.02	1.53	HS 27.00	48.6
HS20	14.80	2.25	13.37	2.55	HS 45.01	81.0
2F1	23.95	5.60	21.64	6.36	0.00	84.1
3F1	16.75	3.46	15.12	3.93	0.00	79.7
4F1	15.62	2.96	14.11	3.36	0.00	80.0
5C1	18.49	3.59	16.70	4.07	0.00	143.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.3	7.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	65.2
OPER	151.3	-108.3	108.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.61	37.80	-28.93	29.08	-28.93	28.78	-22.25	22.14
OPER	HS20	-37.61	37.80	-28.93	29.08	-28.93	28.78	-22.25	22.14
OPER	2F1	-21.46	21.52	-16.51	16.55	0.00	0.00	0.00	0.00
OPER	3F1	-30.17	30.29	-23.21	23.30	0.00	0.00	0.00	0.00
OPER	4F1	-31.71	31.88	-24.39	24.52	0.00	0.00	0.00	0.00
OPER	5C1	-28.29	28.58	-21.76	21.99	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.73	1.73	HS	34.50	62.1
HS20	2.88	2.88	HS	57.49	103.5
2F1	5.05	5.05		0.00	75.7
3F1	3.59	3.59		0.00	82.5
4F1	3.42	3.41		0.00	92.0
5C1	3.83	3.80		0.00	152.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-149.6
OPER	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-249.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80	R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57	R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88	L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57	L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40	R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.31	1.41	8.31	1.41	HS	28.22	50.8
HS20	13.85	2.35	13.85	2.35	HS	47.03	84.7
2F1	22.42	5.86	22.42	5.86		0.00	87.9
3F1	15.67	3.62	15.67	3.62		0.00	83.3
4F1	14.62	3.10	14.62	3.10		0.00	83.6

5C1	17.31	3.76	17.31	3.76		0.00	150.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor: Positive Bending	Negative Bending	Hybrid Yield Strength: Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area: Gross	Net	Neutral Axis: Top	Bott.	Moment of Inertia: Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus: Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.5	-153.1	169.3	-172.2
OPER	300.6C	-268.7	268.7	-300.6C	314.2	-255.1	282.2	-287.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	17.82	R	13.70	173.89	0.0	27.29	21.00	145.89	
		-60.76	R	-46.74	152.72	0.0	-56.32	-43.33	133.93	155.46
OPER	HS20	17.82	R	13.70	173.89	0.0	27.29	21.00	145.89	
		-60.76	R	-46.74	152.72	0.0	-56.32	-43.33	133.93	155.46
OPER	2F1	14.14	R	10.88	155.89	0.0	0.00	0.00	0.00	
		-36.46	L	-28.05	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.02	L	10.78	100.02	0.0	0.00	0.00	0.00	
		-52.31	L	-40.23	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.90	L	11.46	96.02	0.0	0.00	0.00	0.00	
		-56.28	L	-43.29	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.62	L	22.79	98.89	0.0	0.00	0.00	0.00	
		-45.81	L	-35.24	119.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.91	2.52	6.20	2.84	HS 50.38	90.7
HS20	11.51	4.20	10.34	4.72	HS 83.97	151.1
2F1	22.22	7.00	19.95	7.87	0.00	105.0
3F1	22.42	4.88	20.14	5.49	0.00	112.2
4F1	21.09	4.53	18.94	5.10	0.00	122.4
5C1	10.61	5.57	9.53	6.27	0.00	222.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 7.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.5	66.2
OPER	151.3	-122.5	110.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.22	32.97	-3.25	25.36	-4.17	26.00	-3.20	20.00
OPER	HS20	-4.22	32.97	-3.25	25.36	-4.17	26.00	-3.20	20.00
OPER	2F1	-2.73	19.36	-2.10	14.89	0.00	0.00	0.00	0.00
OPER	3F1	-3.91	26.76	-3.01	20.58	0.00	0.00	0.00	0.00
OPER	4F1	-4.16	27.60	-3.20	21.23	0.00	0.00	0.00	0.00
OPER	5C1	-4.03	25.16	-3.10	19.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	17.41	2.01	HS 40.15	72.3
HS20	29.01	3.35	HS 66.91	120.4
2F1	44.83	5.70	0.00	85.5
3F1	31.34	4.12	0.00	94.8
4F1	29.43	3.99	0.00	107.9
5C1	30.41	4.38	0.00	175.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.2	-173.1	162.2	-173.1	175.8	-159.5	175.8	-159.5
OPER	279.4	-279.4	279.4	-279.4	293.0	-265.8	293.0	-265.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	17.82	R	13.70	173.89	0.0	27.29	21.00	145.89	
		-60.76	R	-46.74	152.72	0.0	-56.32	-43.33	133.93	155.46
OPER	HS20	17.82	R	13.70	173.89	0.0	27.29	21.00	145.89	
		-60.76	R	-46.74	152.72	0.0	-56.32	-43.33	133.93	155.46
OPER	2F1	14.14	R	10.88	155.89	0.0	0.00	0.00	0.00	
		-36.46	L	-28.05	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.02	L	10.78	100.02	0.0	0.00	0.00	0.00	
		-52.31	L	-40.23	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.90	L	11.46	96.02	0.0	0.00	0.00	0.00	
		-56.28	L	-43.29	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.62	L	22.79	98.89	0.0	0.00	0.00	0.00	
		-45.81	L	-35.24	119.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.44	2.62	6.44	2.62	HS	52.50	94.5
HS20	10.73	4.38	10.73	4.38	HS	87.51	157.5
2F1	20.71	7.29	20.71	7.29		0.00	109.4
3F1	20.90	5.08	20.90	5.08		0.00	116.9
4F1	19.66	4.72	19.66	4.72		0.00	127.5

5C1	9.89	5.80	9.89	5.80	0.00	232.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S02 2F1
Check Point I. D. 7.200 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.6	-267.7	269.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.79	R	48.30	176.28	0.0	47.13	36.25	148.28	
		-46.48	L	-35.76	110.72	0.0	-37.03	-28.49	133.93	86.10
OPER	HS20	62.79	R	48.30	176.28	0.0	47.13	36.25	148.28	
		-46.48	L	-35.76	110.72	0.0	-37.03	-28.49	133.93	86.10
OPER	2F1	40.60	R	31.23	158.28	0.0	0.00	0.00	0.00	
		-31.25	L	-24.04	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.01	R	37.70	162.28	0.0	0.00	0.00	0.00	
		-44.83	L	-34.49	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.87	R	34.52	166.28	0.0	0.00	0.00	0.00	
		-48.24	L	-37.11	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.71	L	45.16	101.28	0.0	0.00	0.00	0.00	
		-41.67	L	-32.05	121.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.88	3.46	2.58	3.87	HS	51.52	92.7
HS20	4.80	5.76	4.29	6.45	HS	85.87	154.6
2F1	7.43	8.57	6.64	9.59		0.00	99.6
3F1	6.15	5.97	5.50	6.68		0.00	126.5
4F1	6.72	5.55	6.01	6.21		0.00	149.8
5C1	5.14	6.43	4.59	7.19		0.00	183.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.5	67.1
OPER	151.3	-120.8	111.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.22	27.81	-3.25	21.39	-4.98	22.96	-3.83	17.66
OPER	HS20	-4.22	27.81	-3.25	21.39	-4.98	22.96	-3.83	17.66
OPER	2F1	-2.73	16.92	-2.10	13.01	0.00	0.00	0.00	0.00
OPER	3F1	-3.91	22.91	-3.01	17.62	0.00	0.00	0.00	0.00
OPER	4F1	-4.16	23.62	-3.20	18.17	0.00	0.00	0.00	0.00
OPER	5C1	-5.81	21.57	-4.47	16.59	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	14.55	2.41	HS	48.30	86.9
HS20	24.24	4.03	HS	80.49	144.9
2F1	44.24	6.62		0.00	99.2
3F1	30.92	4.88		0.00	112.3
4F1	29.04	4.74		0.00	127.9
5C1	20.78	5.19		0.00	207.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
Member I. D. S02		2F1		
Check Point I. D. 7.200		3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.3	-168.0	167.3	-168.0	168.2	-167.1	168.2	-167.1
OPER	279.4	-279.4	279.4	-279.4	280.3	-278.5	280.3	-278.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.79	R	48.30	176.28	0.0	47.13	36.25	148.28	
		-46.48	L	-35.76	110.72	0.0	-37.03	-28.49	133.93	86.10
OPER	HS20	62.79	R	48.30	176.28	0.0	47.13	36.25	148.28	
		-46.48	L	-35.76	110.72	0.0	-37.03	-28.49	133.93	86.10
OPER	2F1	40.60	R	31.23	158.28	0.0	0.00	0.00	0.00	
		-31.25	L	-24.04	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.01	R	37.70	162.28	0.0	0.00	0.00	0.00	
		-44.83	L	-34.49	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.87	R	34.52	166.28	0.0	0.00	0.00	0.00	
		-48.24	L	-37.11	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.71	L	45.16	101.28	0.0	0.00	0.00	0.00	
		-41.67	L	-32.05	121.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.58	96.4
HS20	4.47	5.99	4.47	5.99	HS	89.29	160.7
2F1	6.90	8.91	6.90	8.91		0.00	103.6
3F1	5.72	6.21	5.72	6.21		0.00	131.6
4F1	6.25	5.77	6.25	5.77		0.00	155.8

5C1	4.78	6.68	4.78	6.68	0.00	191.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.7	-165.9	156.5	-185.1
OPER	300.6C	-268.7	268.7	-300.6C	292.8	-276.4	260.9	-308.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.72 R	69.78	178.68	0.0	68.31	52.55	150.68	
		-38.73 L	-29.80	110.72	0.0	-31.77	-24.44	133.93	0.00
OPER	HS20	90.72 R	69.78	178.68	0.0	68.31	52.55	150.68	
		-38.73 L	-29.80	110.72	0.0	-31.77	-24.44	133.93	0.00
OPER	2F1	59.96 R	46.12	160.68	0.0	0.00	0.00	0.00	
		-26.04 L	-20.03	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.56 R	58.13	164.68	0.0	0.00	0.00	0.00	
		-37.36 L	-28.74	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.83 R	59.10	164.68	0.0	0.00	0.00	0.00	
		-40.20 L	-30.92	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.95 L	60.73	103.68	0.0	0.00	0.00	0.00	
		-39.92 L	-30.70	122.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	4.28	1.73	4.78	HS 34.51	62.1
HS20	3.23	7.14	2.88	7.96	HS 57.51	103.5
2F1	4.88	10.61	4.35	11.84	0.00	65.3
3F1	3.88	7.40	3.45	8.26	0.00	79.4
4F1	3.81	6.88	3.39	7.67	0.00	91.7
5C1	3.71	6.93	3.30	7.73	0.00	132.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	2.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.5	68.1
OPER	151.3	-119.2	113.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.44	22.69	-4.18	17.45	-7.46	19.75	-5.74	15.20
OPER	HS20	-5.44	22.69	-4.18	17.45	-7.46	19.75	-5.74	15.20
OPER	2F1	-3.90	14.29	-3.00	10.99	0.00	0.00	0.00	0.00
OPER	3F1	-4.16	18.91	-3.20	14.54	0.00	0.00	0.00	0.00
OPER	4F1	-4.16	19.46	-3.20	14.97	0.00	0.00	0.00	0.00
OPER	5C1	-7.82	17.98	-6.01	13.83	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.59	3.00	HS 60.04	108.1
HS20	15.98	5.00	HS 100.07	180.1
2F1	30.59	7.94	0.00	119.2
3F1	28.65	6.01	0.00	138.1
4F1	28.65	5.83	0.00	157.5
5C1	15.25	6.32	0.00	252.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	170.8	-164.5	170.8	-164.5	163.0	-172.3	163.0	-172.3
OPER	279.4	-279.4	279.4	-279.4	271.6	-287.2	271.6	-287.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.72	R	69.78	178.68	0.0	68.31	52.55	150.68	
		-38.73	L	-29.80	110.72	0.0	-31.77	-24.44	133.93	0.00
OPER	HS20	90.72	R	69.78	178.68	0.0	68.31	52.55	150.68	
		-38.73	L	-29.80	110.72	0.0	-31.77	-24.44	133.93	0.00
OPER	2F1	59.96	R	46.12	160.68	0.0	0.00	0.00	0.00	
		-26.04	L	-20.03	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.56	R	58.13	164.68	0.0	0.00	0.00	0.00	
		-37.36	L	-28.74	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.83	R	59.10	164.68	0.0	0.00	0.00	0.00	
		-40.20	L	-30.92	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.95	L	60.73	103.68	0.0	0.00	0.00	0.00	
		-39.92	L	-30.70	122.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.80	4.45	1.80	4.45	HS	35.93	64.7
HS20	2.99	7.41	2.99	7.41	HS	59.88	107.8
2F1	4.53	11.03	4.53	11.03		0.00	67.9
3F1	3.59	7.69	3.59	7.69		0.00	82.7
4F1	3.54	7.14	3.54	7.14		0.00	95.5

5C1	3.44	7.20	3.44	7.20		0.00	137.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.8	-168.8	153.6	-188.0
OPER	300.6C	-268.7	268.7	-300.6C	288.0	-281.3	256.0	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.20 R	77.84	181.07	0.0	81.04	62.34	153.07	
		-30.99 L	-23.84	110.72	0.0	-28.44	-21.88	133.93	0.00
OPER	HS20	101.20 R	77.84	181.07	0.0	81.04	62.34	153.07	
		-30.99 L	-23.84	110.72	0.0	-28.44	-21.88	133.93	0.00
OPER	2F1	70.62 R	54.33	163.07	0.0	0.00	0.00	0.00	
		-20.83 L	-16.03	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	89.38 R	68.76	163.07	0.0	0.00	0.00	0.00	
		-29.89 L	-22.99	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	95.46 R	73.43	167.07	0.0	0.00	0.00	0.00	
		-32.16 L	-24.74	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.04 R	69.26	165.07	0.0	0.00	0.00	0.00	
		-39.49 R	-30.38	185.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.71	5.45	1.52	6.07	HS 30.36	54.6
HS20	2.85	9.08	2.53	10.11	HS 50.59	91.1
2F1	4.08	13.50	3.62	15.04	0.00	54.4
3F1	3.22	9.41	2.86	10.48	0.00	65.9
4F1	3.02	8.75	2.68	9.74	0.00	72.4
5C1	3.20	7.12	2.84	7.93	0.00	113.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.6	69.1
OPER	151.3	-117.6	115.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.44	18.94	-8.03	14.57	-10.27	16.49	-7.90	12.69
OPER	HS20	-10.44	18.94	-8.03	14.57	-10.27	16.49	-7.90	12.69
OPER	2F1	-6.14	11.59	-4.73	8.91	0.00	0.00	0.00	0.00
OPER	3F1	-7.24	14.90	-5.57	11.46	0.00	0.00	0.00	0.00
OPER	4F1	-6.14	15.05	-4.72	11.58	0.00	0.00	0.00	0.00
OPER	5C1	-9.99	14.71	-7.68	11.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.76	3.65	HS 72.97	131.3
HS20	11.27	6.08	HS 121.61	218.9
2F1	19.14	9.94	0.00	149.1
3F1	16.24	7.73	0.00	177.7
4F1	19.16	7.65	0.00	206.5
5C1	11.77	7.83	0.00	313.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.7	-162.6	172.7	-162.6	160.0	-175.2	160.0	-175.2
OPER	279.4	-279.4	279.4	-279.4	266.7	-292.1	266.7	-292.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	101.20	R	77.84	181.07	0.0	81.04	62.34	153.07	
		-30.99	L	-23.84	110.72	0.0	-28.44	-21.88	133.93	0.00
OPER	HS20	101.20	R	77.84	181.07	0.0	81.04	62.34	153.07	
		-30.99	L	-23.84	110.72	0.0	-28.44	-21.88	133.93	0.00
OPER	2F1	70.62	R	54.33	163.07	0.0	0.00	0.00	0.00	
		-20.83	L	-16.03	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	89.38	R	68.76	163.07	0.0	0.00	0.00	0.00	
		-29.89	L	-22.99	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	95.46	R	73.43	167.07	0.0	0.00	0.00	0.00	
		-32.16	L	-24.74	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.04	R	69.26	165.07	0.0	0.00	0.00	0.00	
		-39.49	R	-30.38	185.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.58	5.66	1.58	5.66	HS	31.63	56.9
HS20	2.64	9.43	2.64	9.43	HS	52.72	94.9
2F1	3.78	14.02	3.78	14.02		0.00	56.7
3F1	2.98	9.77	2.98	9.77		0.00	68.6
4F1	2.79	9.08	2.79	9.08		0.00	75.4

5C1	2.96	7.40	2.96	7.40	0.00	118.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.837

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.24		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.2	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	287.0	-282.3	255.0	-314.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	2F1	72.01 R	55.39	165.46	0.0	0.00	0.00	0.00	
		-18.86 R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 L	73.53	145.46	0.0	0.00	0.00	0.00	
		-26.98 R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 L	76.34	141.46	0.0	0.00	0.00	0.00	
		-28.91 R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 L	71.96	104.46	0.0	0.00	0.00	0.00	
		-40.83 R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	5.55	1.55	6.18	HS 31.00	55.8
HS20	2.91	9.25	2.58	10.30	HS 51.67	93.0
2F1	3.99	14.97	3.54	16.67	0.00	53.1
3F1	3.00	10.47	2.67	11.65	0.00	61.4
4F1	2.89	9.76	2.57	10.87	0.00	69.4
5C1	3.07	6.91	2.73	7.70	0.00	109.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-15.01	15.05	-11.54	11.58	-13.32	13.27	-10.25	10.21
OPER	HS20	-15.01	15.05	-11.54	11.58	-13.32	13.27	-10.25	10.21
OPER	2F1	-8.64	8.91	-6.64	6.86	0.00	0.00	0.00	0.00
OPER	3F1	-10.72	11.05	-8.25	8.50	0.00	0.00	0.00	0.00
OPER	4F1	-10.08	10.52	-7.75	8.10	0.00	0.00	0.00	0.00
OPER	5C1	-12.26	11.96	-9.43	9.20	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.64	4.66	HS 92.75	166.9
HS20	7.73	7.76	HS 154.58	278.2
2F1	13.43	13.10	0.00	196.5
3F1	10.82	10.57	0.00	243.1
4F1	11.51	11.10	0.00	299.6
5C1	9.46	9.76	0.00	378.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.1	-162.2	173.1	-162.2	159.5	-175.8	159.5	-175.8
OPER	279.4	-279.4	279.4	-279.4	265.8	-293.0	265.8	-293.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	98.70	R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52	R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	HS20	98.70	R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52	R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	2F1	72.01	R	55.39	165.46	0.0	0.00	0.00	0.00	
		-18.86	R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59	L	73.53	145.46	0.0	0.00	0.00	0.00	
		-26.98	R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25	L	76.34	141.46	0.0	0.00	0.00	0.00	
		-28.91	R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55	L	71.96	104.46	0.0	0.00	0.00	0.00	
		-40.83	R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.62	5.76	1.62	5.76	HS	32.31	58.2
HS20	2.69	9.60	2.69	9.60	HS	53.85	96.9
2F1	3.69	15.54	3.69	15.54		0.00	55.4
3F1	2.78	10.86	2.78	10.86		0.00	63.9
4F1	2.68	10.14	2.68	10.14		0.00	72.3

5C1	2.84	7.18	2.84	7.18	0.00	113.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.1	-167.5	154.9	-186.7
OPER	300.6C	-268.7	268.7	-300.6C	290.2	-279.1	258.2	-311.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.09	L	79.30	129.85	0.0	80.84	62.18	157.85	
		-41.10	R	-31.61	200.20	0.0	-32.32	-24.86	176.98	0.00
OPER	HS20	103.09	L	79.30	129.85	0.0	80.84	62.18	157.85	
		-41.10	R	-31.61	200.20	0.0	-32.32	-24.86	176.98	0.00
OPER	2F1	71.35	L	54.88	147.85	0.0	0.00	0.00	0.00	
		-25.39	R	-19.53	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.64	L	69.72	147.85	0.0	0.00	0.00	0.00	
		-36.32	R	-27.94	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.79	L	74.46	143.85	0.0	0.00	0.00	0.00	
		-38.93	R	-29.95	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	88.69	L	68.22	106.85	0.0	0.00	0.00	0.00	
		-43.23	R	-33.25	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.69	4.07	1.50	4.54	HS	30.06	54.1
HS20	2.82	6.79	2.51	7.57	HS	50.09	90.2
2F1	4.07	10.99	3.62	12.25		0.00	54.3
3F1	3.20	7.68	2.85	8.56		0.00	65.5
4F1	3.00	7.17	2.67	7.99		0.00	72.0
5C1	3.27	6.46	2.91	7.20		0.00	116.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 7.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.5	71.1
OPER	151.3	-114.2	118.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-19.05	10.63	-14.66	8.17	-16.54	10.19	-12.72	7.84
OPER	HS20	-19.05	10.63	-14.66	8.17	-16.54	10.19	-12.72	7.84
OPER	2F1	-11.29	6.36	-8.68	4.90	0.00	0.00	0.00	0.00
OPER	3F1	-14.50	7.46	-11.16	5.74	0.00	0.00	0.00	0.00
OPER	4F1	-14.61	6.23	-11.24	4.79	0.00	0.00	0.00	0.00
OPER	5C1	-14.89	9.39	-11.45	7.22	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.60	6.69	HS 71.94	129.5
HS20	5.99	11.15	HS 119.89	215.8
2F1	10.12	18.62	0.00	151.8
3F1	7.88	15.88	0.00	181.2
4F1	7.82	19.01	0.00	211.0
5C1	7.67	12.63	0.00	306.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.8	-163.5	171.8	-163.5	161.4	-173.9	161.4	-173.9
OPER	279.4	-279.4	279.4	-279.4	268.9	-289.9	268.9	-289.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.09	L	79.30	129.85	0.0	80.84	62.18	157.85	
		-41.10	R	-31.61	200.20	0.0	-32.32	-24.86	176.98	0.00
OPER	HS20	103.09	L	79.30	129.85	0.0	80.84	62.18	157.85	
		-41.10	R	-31.61	200.20	0.0	-32.32	-24.86	176.98	0.00
OPER	2F1	71.35	L	54.88	147.85	0.0	0.00	0.00	0.00	
		-25.39	R	-19.53	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.64	L	69.72	147.85	0.0	0.00	0.00	0.00	
		-36.32	R	-27.94	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.79	L	74.46	143.85	0.0	0.00	0.00	0.00	
		-38.93	R	-29.95	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	88.69	L	68.22	106.85	0.0	0.00	0.00	0.00	
		-43.23	R	-33.25	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	4.23	1.57	4.23	HS	31.31	56.4
HS20	2.61	7.05	2.61	7.05	HS	52.18	93.9
2F1	3.77	11.42	3.77	11.42		0.00	56.5
3F1	2.97	7.98	2.97	7.98		0.00	68.2
4F1	2.78	7.45	2.78	7.45		0.00	75.0

5C1	3.03	6.70	3.03	6.70		0.00	121.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	178.4	-163.2	159.2	-182.4
OPER	300.6C	-268.7	268.7	-300.6C	297.3	-272.0	265.3	-304.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	93.24 L	71.73	132.24	0.0	67.74	52.11	160.24	
		-51.67 R	-39.75	200.20	0.0	-37.40	-28.77	176.98	0.00
OPER	HS20	93.24 L	71.73	132.24	0.0	67.74	52.11	160.24	
		-51.67 R	-39.75	200.20	0.0	-37.40	-28.77	176.98	0.00
OPER	2F1	61.53 L	47.33	150.24	0.0	0.00	0.00	0.00	
		-31.92 R	-24.56	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	77.76 L	59.81	146.24	0.0	0.00	0.00	0.00	
		-45.67 R	-35.13	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	79.23 L	60.95	146.24	0.0	0.00	0.00	0.00	
		-48.95 R	-37.65	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.97 L	58.44	144.24	0.0	0.00	0.00	0.00	
		-46.94 R	-36.11	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	3.16	1.71	3.53	HS 34.14	61.4
HS20	3.19	5.26	2.85	5.88	HS 56.90	102.4
2F1	4.83	8.52	4.31	9.52	0.00	64.7
3F1	3.82	5.96	3.41	6.66	0.00	78.5
4F1	3.75	5.56	3.35	6.21	0.00	90.4
5C1	3.91	5.80	3.49	6.48	0.00	139.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 7.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.6	72.1
OPER	151.3	-112.6	120.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.82	5.73	-17.55	4.41	-19.82	7.33	-15.24	5.64
OPER	HS20	-22.82	5.73	-17.55	4.41	-19.82	7.33	-15.24	5.64
OPER	2F1	-13.99	4.04	-10.76	3.10	0.00	0.00	0.00	0.00
OPER	3F1	-18.48	4.24	-14.21	3.26	0.00	0.00	0.00	0.00
OPER	4F1	-19.08	3.34	-14.68	2.57	0.00	0.00	0.00	0.00
OPER	5C1	-17.87	7.03	-13.75	5.41	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	2.96	9.83	HS	59.22	106.6
HS20	4.93	16.39	HS	98.69	177.6
2F1	8.05	29.77		0.00	120.7
3F1	6.09	28.34		0.00	140.2
4F1	5.90	35.97		0.00	159.4
5C1	6.30	17.08		0.00	252.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.0	-166.3	169.0	-166.3	165.6	-169.7	165.6	-169.7
OPER	279.4	-279.4	279.4	-279.4	276.0	-282.8	276.0	-282.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	93.24	L	71.73	132.24	0.0	67.74	52.11	160.24	
		-51.67	R	-39.75	200.20	0.0	-37.40	-28.77	176.98	0.00
OPER	HS20	93.24	L	71.73	132.24	0.0	67.74	52.11	160.24	
		-51.67	R	-39.75	200.20	0.0	-37.40	-28.77	176.98	0.00
OPER	2F1	61.53	L	47.33	150.24	0.0	0.00	0.00	0.00	
		-31.92	R	-24.56	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	77.76	L	59.81	146.24	0.0	0.00	0.00	0.00	
		-45.67	R	-35.13	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	79.23	L	60.95	146.24	0.0	0.00	0.00	0.00	
		-48.95	R	-37.65	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.97	L	58.44	144.24	0.0	0.00	0.00	0.00	
		-46.94	R	-36.11	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	3.28	1.78	3.28	HS	35.52	63.9
HS20	2.96	5.47	2.96	5.47	HS	59.20	106.6
2F1	4.49	8.86	4.49	8.86		0.00	67.3
3F1	3.55	6.19	3.55	6.19		0.00	81.6
4F1	3.48	5.78	3.48	5.78		0.00	94.1

5C1	3.63	6.02	3.63	6.02	0.00	145.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-6.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	184.9	-156.7	165.7	-175.8
OPER	300.6C	-268.7	268.7	-300.6C	308.2	-261.1	276.2	-293.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.16	L	50.89	134.63	0.0	45.53	35.02	162.63	
		-62.25	R	-47.88	200.20	0.0	-42.47	-32.67	176.98	86.10
OPER	HS20	66.16	L	50.89	134.63	0.0	45.53	35.02	162.63	
		-62.25	R	-47.88	200.20	0.0	-42.47	-32.67	176.98	86.10
OPER	2F1	42.76	L	32.90	152.63	0.0	0.00	0.00	0.00	
		-38.45	R	-29.58	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	52.25	L	40.20	148.63	0.0	0.00	0.00	0.00	
		-55.01	R	-42.32	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	48.39	L	37.22	144.63	0.0	0.00	0.00	0.00	
		-58.96	R	-45.36	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	51.89	L	39.92	146.63	0.0	0.00	0.00	0.00	
		-51.32	R	-39.47	188.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	2.80	2.52	2.51	2.83	HS	50.10	90.2
HS20	4.66	4.20	4.18	4.71	HS	83.50	150.3
2F1	7.21	6.79	6.46	7.62		0.00	96.9
3F1	5.90	4.75	5.29	5.33		0.00	109.2
4F1	6.37	4.43	5.71	4.97		0.00	119.6
5C1	5.94	5.09	5.32	5.71		0.00	203.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.800

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-4.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.6	73.1
OPER	151.3	-111.0	121.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.47	3.11	-21.13	2.39	-23.07	4.78	-17.75	3.67
OPER	HS20	-27.47	3.11	-21.13	2.39	-23.07	4.78	-17.75	3.67
OPER	2F1	-16.65	2.18	-12.81	1.68	0.00	0.00	0.00	0.00
OPER	3F1	-22.50	3.12	-17.31	2.40	0.00	0.00	0.00	0.00
OPER	4F1	-23.34	3.34	-17.95	2.57	0.00	0.00	0.00	0.00
OPER	5C1	-21.74	4.95	-16.72	3.81	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.42	15.30	HS 48.49	87.3
HS20	4.04	25.49	HS 80.82	145.5
2F1	6.66	55.91	0.00	100.0
3F1	4.93	38.97	0.00	113.5
4F1	4.76	36.45	0.00	128.4
5C1	5.11	24.58	0.00	204.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-6.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.6	-170.7	164.6	-170.7	172.2	-163.1	172.2	-163.1
OPER	279.4	-279.4	279.4	-279.4	287.0	-271.8	287.0	-271.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.16	L	50.89	134.63	0.0	45.53	35.02	162.63	
		-62.25	R	-47.88	200.20	0.0	-42.47	-32.67	176.98	86.10
OPER	HS20	66.16	L	50.89	134.63	0.0	45.53	35.02	162.63	
		-62.25	R	-47.88	200.20	0.0	-42.47	-32.67	176.98	86.10
OPER	2F1	42.76	L	32.90	152.63	0.0	0.00	0.00	0.00	
		-38.45	R	-29.58	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	52.25	L	40.20	148.63	0.0	0.00	0.00	0.00	
		-55.01	R	-42.32	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	48.39	L	37.22	144.63	0.0	0.00	0.00	0.00	
		-58.96	R	-45.36	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	51.89	L	39.92	146.63	0.0	0.00	0.00	0.00	
		-51.32	R	-39.47	188.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.60	2.62	2.60	2.62	HS	52.05	93.7
HS20	4.34	4.37	4.34	4.37	HS	86.74	156.1
2F1	6.71	7.07	6.71	7.07		0.00	100.7
3F1	5.49	4.94	5.49	4.94		0.00	113.7
4F1	5.93	4.61	5.93	4.61		0.00	124.5

5C1	5.53	5.30	5.53	5.30		0.00	211.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-20.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	193.8	-147.8	174.6	-167.0
OPER	300.6C	-268.7	268.7	-300.6C	323.0	-246.3	291.0	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.74	L	16.72	137.03	0.0	23.36	17.97	165.03	
		-75.31	L	-57.93	158.20	0.0	-62.52	-48.09	176.98	153.07
OPER	HS20	21.74	L	16.72	137.03	0.0	23.36	17.97	165.03	
		-75.31	L	-57.93	158.20	0.0	-62.52	-48.09	176.98	153.07
OPER	2F1	16.36	L	12.58	155.03	0.0	0.00	0.00	0.00	
		-44.99	R	-34.60	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.18	L	10.90	151.03	0.0	0.00	0.00	0.00	
		-64.36	R	-49.51	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.94	L	6.11	119.93	0.0	0.00	0.00	0.00	
		-68.98	R	-53.06	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.63	L	18.18	114.03	0.0	0.00	0.00	0.00	
		-59.16	R	-45.50	193.77	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	8.30	1.96	7.47	2.22	HS	39.24	70.6
HS20	13.82	3.27	12.46	3.69	HS	65.41	117.7
2F1	19.75	5.47	17.79	6.19		0.00	82.1
3F1	22.78	3.83	20.53	4.32		0.00	88.0
4F1	40.66	3.57	36.63	4.03		0.00	96.4
5C1	13.67	4.16	12.31	4.70		0.00	166.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 7.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.6	74.0
OPER	151.3	-109.4	123.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.69	3.24	-25.14	2.49	-26.19	3.21	-20.15	2.47
OPER	HS20	-32.69	3.24	-25.14	2.49	-26.19	3.21	-20.15	2.47
OPER	2F1	-19.16	2.18	-14.73	1.68	0.00	0.00	0.00	0.00
OPER	3F1	-26.41	3.12	-20.31	2.40	0.00	0.00	0.00	0.00
OPER	4F1	-27.26	3.36	-20.97	2.59	0.00	0.00	0.00	0.00
OPER	5C1	-25.54	3.18	-19.65	2.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.01	22.85	HS 40.15	72.3
HS20	3.35	38.09	HS 66.92	120.5
2F1	5.71	56.65	0.00	85.6
3F1	4.14	39.49	0.00	95.3
4F1	4.01	36.70	0.00	108.3
5C1	4.28	38.75	0.00	171.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-20.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	158.7	-176.6	158.7	-176.6	181.1	-154.2	181.1	-154.2
OPER	279.4	-279.4	279.4	-279.4	301.8	-257.0	301.8	-257.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.74	L	16.72	137.03	0.0	23.36	17.97	165.03	
		-75.31	L	-57.93	158.20	0.0	-62.52	-48.09	176.98	153.07
OPER	HS20	21.74	L	16.72	137.03	0.0	23.36	17.97	165.03	
		-75.31	L	-57.93	158.20	0.0	-62.52	-48.09	176.98	153.07
OPER	2F1	16.36	L	12.58	155.03	0.0	0.00	0.00	0.00	
		-44.99	R	-34.60	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.18	L	10.90	151.03	0.0	0.00	0.00	0.00	
		-64.36	R	-49.51	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.94	L	6.11	119.93	0.0	0.00	0.00	0.00	
		-68.98	R	-53.06	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.63	L	18.18	114.03	0.0	0.00	0.00	0.00	
		-59.16	R	-45.50	193.77	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.75	2.05	7.75	2.05	HS	40.96	73.7
HS20	12.92	3.41	12.92	3.41	HS	68.26	122.9
2F1	18.45	5.71	18.45	5.71		0.00	85.7
3F1	21.29	3.99	21.29	3.99		0.00	91.9
4F1	37.99	3.73	37.99	3.73		0.00	100.6

5C1	12.77	4.34	12.77	4.34	0.00	173.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.87	28.67	28.67	1.699	999999.000	101.454

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		25.12		104.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42	L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52	R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75	L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60	L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29	L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.23	1.22	11.99	1.39	HS 24.33	43.8
HS20	22.05	2.03	19.99	2.31	HS 40.55	73.0
2F1	32.80	4.42	29.73	5.04	0.00	66.3
3F1	22.86	2.96	20.73	3.38	0.00	68.2
4F1	21.25	2.48	19.26	2.83	0.00	67.1
5C1	26.25	2.80	23.79	3.19	0.00	112.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.6	63.9
OPER	151.3	-107.7	106.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.69	40.27	-25.14	30.98	-26.19	29.34	-20.15	22.57
OPER	HS20	-32.69	40.27	-25.14	30.98	-26.19	29.34	-20.15	22.57
OPER	2F1	-19.16	22.19	-14.73	17.07	0.00	0.00	0.00	0.00
OPER	3F1	-26.41	31.72	-20.31	24.40	0.00	0.00	0.00	0.00
OPER	4F1	-27.26	33.90	-20.97	26.07	0.00	0.00	0.00	0.00
OPER	5C1	-25.54	30.19	-19.65	23.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.72	1.59	HS 31.73	57.1
HS20	2.86	2.64	HS 52.88	95.2
2F1	5.03	4.80	0.00	72.0
3F1	3.59	3.36	0.00	77.2
4F1	3.42	3.14	0.00	84.8
5C1	3.70	3.53	0.00	141.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-143.0
OPER	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-238.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42	L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52	R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75	L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60	L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29	L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.41	1.27	12.41	1.27	HS	25.48	45.9
HS20	20.68	2.12	20.68	2.12	HS	42.46	76.4
2F1	30.76	4.63	30.76	4.63		0.00	69.4
3F1	21.44	3.11	21.44	3.11		0.00	71.4
4F1	19.93	2.60	19.93	2.60		0.00	70.3

5C1	24.62	2.93	24.62	2.93	0.00	117.3

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42	L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52	R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75	L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60	L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29	L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.23	1.22	11.99	1.39	HS	24.33	43.8
HS20	22.05	2.03	19.99	2.31	HS	40.55	73.0
2F1	32.80	4.42	29.73	5.04		0.00	66.3
3F1	22.86	2.96	20.73	3.38		0.00	68.2
4F1	21.25	2.48	19.26	2.83		0.00	67.1
5C1	26.25	2.80	23.79	3.19		0.00	112.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-7.8	9.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.6	63.9
OPER	151.3	-107.7	106.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.63	40.27	-28.95	30.98	-29.08	29.34	-22.37	22.57
OPER	HS20	-37.63	40.27	-28.95	30.98	-29.08	29.34	-22.37	22.57
OPER	2F1	-21.40	22.19	-16.46	17.07	0.00	0.00	0.00	0.00
OPER	3F1	-30.04	31.72	-23.11	24.40	0.00	0.00	0.00	0.00
OPER	4F1	-31.53	33.90	-24.26	26.07	0.00	0.00	0.00	0.00
OPER	5C1	-29.11	30.19	-22.39	23.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.72	1.59	HS 31.73	57.1
HS20	2.86	2.64	HS 52.88	95.2
2F1	5.03	4.80	0.00	72.0
3F1	3.59	3.36	0.00	77.2
4F1	3.42	3.14	0.00	84.8
5C1	3.70	3.53	0.00	141.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-143.0
OPER	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-238.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42	L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52	R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75	L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60	L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29	L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.41	1.27	12.41	1.27	HS	25.48	45.9
HS20	20.68	2.12	20.68	2.12	HS	42.46	76.4
2F1	30.76	4.63	30.76	4.63		0.00	69.4
3F1	21.44	3.11	21.44	3.11		0.00	71.4
4F1	19.93	2.60	19.93	2.60		0.00	70.3

5C1	24.62	2.93	24.62	2.93	0.00	117.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-17.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.0	-149.6	172.8	-168.8
OPER	300.6C	-268.7	268.7	-300.6C	320.0	-249.3	288.0	-281.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.67 L	8.97	105.93	0.0	23.35	17.96	169.81	
		-59.93 L	-46.10	148.63	0.0	-60.46	-46.51	157.85	181.77
OPER	HS20	11.67 L	8.97	105.93	0.0	23.35	17.96	169.81	
		-59.93 L	-46.10	148.63	0.0	-60.46	-46.51	157.85	181.77
OPER	2F1	11.27 R	8.67	179.81	0.0	0.00	0.00	0.00	
		-34.99 L	-26.91	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.45 L	10.35	123.93	0.0	0.00	0.00	0.00	
		-50.20 L	-38.61	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.30 L	11.00	119.93	0.0	0.00	0.00	0.00	
		-54.01 L	-41.55	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.43 L	20.33	122.81	0.0	0.00	0.00	0.00	
		-48.78 R	-37.53	202.46	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.22	2.47	7.40	2.79	HS 49.48	89.1
HS20	13.70	4.12	12.34	4.65	HS 82.46	148.4
2F1	28.40	7.12	25.56	8.04	0.00	106.9
3F1	23.79	4.97	21.41	5.60	0.00	114.2
4F1	22.38	4.61	20.14	5.21	0.00	124.6
5C1	12.11	5.11	10.90	5.77	0.00	204.4

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.8	0.0	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.8	64.9
OPER	151.3	-124.6	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-0.62	35.84	-0.48	27.57	-1.38	26.94	-1.06	20.72
OPER	HS20	-0.62	35.84	-0.48	27.57	-1.38	26.94	-1.06	20.72
OPER	2F1	-0.44	20.44	-0.34	15.72	0.00	0.00	0.00	0.00
OPER	3F1	-0.62	28.72	-0.48	22.10	0.00	0.00	0.00	0.00
OPER	4F1	-0.67	30.04	-0.51	23.11	0.00	0.00	0.00	0.00
OPER	5C1	-0.94	27.19	-0.73	20.92	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	54.28	1.81	HS 36.20	65.2
HS20	90.46	3.02	HS 60.33	108.6
2F1	286.15	5.29	0.00	79.3
3F1	199.46	3.76	0.00	86.6
4F1	186.57	3.60	0.00	97.2
5C1	132.05	3.98	0.00	159.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-17.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	159.9	-175.4	159.9	-175.4	179.3	-156.0	179.3	-156.0
OPER	279.4	-279.4	279.4	-279.4	298.8	-260.0	298.8	-260.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	11.67	L	8.97	105.93	0.0	23.35	17.96	169.81	
		-59.93	L	-46.10	148.63	0.0	-60.46	-46.51	157.85	181.77
OPER	HS20	11.67	L	8.97	105.93	0.0	23.35	17.96	169.81	
		-59.93	L	-46.10	148.63	0.0	-60.46	-46.51	157.85	181.77
OPER	2F1	11.27	R	8.67	179.81	0.0	0.00	0.00	0.00	
		-34.99	L	-26.91	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.45	L	10.35	123.93	0.0	0.00	0.00	0.00	
		-50.20	L	-38.61	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.30	L	11.00	119.93	0.0	0.00	0.00	0.00	
		-54.01	L	-41.55	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.43	L	20.33	122.81	0.0	0.00	0.00	0.00	
		-48.78	R	-37.53	202.46	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.68	2.58	7.68	2.58	HS	51.61	92.9
HS20	12.80	4.30	12.80	4.30	HS	86.02	154.8
2F1	26.51	7.43	26.51	7.43		0.00	111.5
3F1	22.21	5.18	22.21	5.18		0.00	119.1
4F1	20.89	4.81	20.89	4.81		0.00	130.0

5C1	11.31	5.33	11.31	5.33	0.00	213.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.3	-160.3	162.1	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.2	-267.1	270.2	-299.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	61.69	R	47.46	200.20	0.0	46.48	35.76	172.20	
		-46.26	L	-35.58	134.63	0.0	-36.90	-28.38	157.85	110.02
OPER	HS20	61.69	R	47.46	200.20	0.0	46.48	35.76	172.20	
		-46.26	L	-35.58	134.63	0.0	-36.90	-28.38	157.85	110.02
OPER	2F1	40.21	R	30.93	182.20	0.0	0.00	0.00	0.00	
		-31.10	L	-23.92	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	48.36	R	37.20	186.20	0.0	0.00	0.00	0.00	
		-44.62	L	-34.32	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.16	R	33.97	190.20	0.0	0.00	0.00	0.00	
		-48.01	L	-36.93	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.23	L	44.79	125.20	0.0	0.00	0.00	0.00	
		-42.00	L	-32.31	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.94	3.46	2.63	3.88	HS	52.56	94.6
HS20	4.90	5.77	4.38	6.47	HS	87.60	157.7
2F1	7.52	8.59	6.72	9.62		0.00	100.8
3F1	6.25	5.99	5.59	6.70		0.00	128.5
4F1	6.84	5.56	6.12	6.23		0.00	150.2
5C1	5.19	6.36	4.64	7.12		0.00	185.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.8	65.8
OPER	151.3	-123.0	109.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-1.15	30.85	-0.88	23.73	-2.96	24.31	-2.28	18.70
OPER	HS20	-1.15	30.85	-0.88	23.73	-2.96	24.31	-2.28	18.70
OPER	2F1	-1.49	18.38	-1.14	14.14	0.00	0.00	0.00	0.00
OPER	3F1	-1.20	25.31	-0.92	19.47	0.00	0.00	0.00	0.00
OPER	4F1	-0.67	25.80	-0.51	19.85	0.00	0.00	0.00	0.00
OPER	5C1	-2.56	23.87	-1.97	18.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	24.92	2.13	HS	42.68	76.8
HS20	41.53	3.56	HS	71.14	128.0
2F1	82.67	5.97		0.00	89.5
3F1	102.65	4.34		0.00	99.7
4F1	184.15	4.25		0.00	114.8
5C1	48.03	4.60		0.00	183.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.7	168.6	-166.7
OPER	279.4	-279.4	279.4	-279.4	280.9	-277.9	280.9	-277.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	61.69	R	47.46	200.20	0.0	46.48	35.76	172.20	
		-46.26	L	-35.58	134.63	0.0	-36.90	-28.38	157.85	110.02
OPER	HS20	61.69	R	47.46	200.20	0.0	46.48	35.76	172.20	
		-46.26	L	-35.58	134.63	0.0	-36.90	-28.38	157.85	110.02
OPER	2F1	40.21	R	30.93	182.20	0.0	0.00	0.00	0.00	
		-31.10	L	-23.92	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	48.36	R	37.20	186.20	0.0	0.00	0.00	0.00	
		-44.62	L	-34.32	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.16	R	33.97	190.20	0.0	0.00	0.00	0.00	
		-48.01	L	-36.93	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.23	L	44.79	125.20	0.0	0.00	0.00	0.00	
		-42.00	L	-32.31	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.73	3.60	2.73	3.60	HS	54.65	98.4
HS20	4.55	6.01	4.55	6.01	HS	91.08	163.9
2F1	6.99	8.93	6.99	8.93		0.00	104.8
3F1	5.81	6.23	5.81	6.23		0.00	133.6
4F1	6.36	5.79	6.36	5.79		0.00	156.3

5C1	4.82	6.61	4.82	6.61	0.00	193.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 8.300

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.9	-168.6	153.8	-187.8
OPER	300.6C	-268.7	268.7	-300.6C	288.2	-281.1	256.3	-313.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.91 R	76.08	202.59	0.0	72.00	55.39	174.59	
		-40.48 L	-31.14	134.63	0.0	-32.23	-24.79	157.85	110.02
OPER	HS20	98.91 R	76.08	202.59	0.0	72.00	55.39	174.59	
		-40.48 L	-31.14	134.63	0.0	-32.23	-24.79	157.85	110.02
OPER	2F1	63.71 R	49.01	184.59	0.0	0.00	0.00	0.00	
		-27.21 L	-20.93	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.13 R	62.41	188.59	0.0	0.00	0.00	0.00	
		-39.04 L	-30.03	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	82.23 R	63.25	188.59	0.0	0.00	0.00	0.00	
		-42.01 L	-32.32	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.63 L	64.33	127.59	0.0	0.00	0.00	0.00	
		-36.75 L	-28.27	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	4.17	1.55	4.64	HS 31.09	56.0
HS20	2.91	6.94	2.59	7.73	HS 51.82	93.3
2F1	4.52	10.33	4.02	11.50	0.00	60.3
3F1	3.55	7.20	3.16	8.02	0.00	72.6
4F1	3.51	6.69	3.12	7.45	0.00	84.1
5C1	3.45	7.65	3.06	8.52	0.00	122.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 8.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	4.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.8
OPER	151.3	-121.4	111.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.32	25.37	-2.55	19.52	-4.92	21.50	-3.79	16.54
OPER	HS20	-3.32	25.37	-2.55	19.52	-4.92	21.50	-3.79	16.54
OPER	2F1	-3.02	16.06	-2.32	12.35	0.00	0.00	0.00	0.00
OPER	3F1	-3.21	21.53	-2.47	16.56	0.00	0.00	0.00	0.00
OPER	4F1	-2.34	22.18	-1.80	17.06	0.00	0.00	0.00	0.00
OPER	5C1	-4.51	20.73	-3.47	15.94	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	14.80	2.63	HS	52.66	94.8
HS20	24.67	4.39	HS	87.77	158.0
2F1	40.17	6.93		0.00	104.0
3F1	37.78	5.17		0.00	118.9
4F1	51.79	5.02		0.00	135.5
5C1	26.91	5.37		0.00	214.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.6	-162.7	172.6	-162.7	160.2	-175.1	160.2	-175.1
OPER	279.4	-279.4	279.4	-279.4	267.0	-291.8	267.0	-291.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.91	R	76.08	202.59	0.0	72.00	55.39	174.59	
		-40.48	L	-31.14	134.63	0.0	-32.23	-24.79	157.85	110.02
OPER	HS20	98.91	R	76.08	202.59	0.0	72.00	55.39	174.59	
		-40.48	L	-31.14	134.63	0.0	-32.23	-24.79	157.85	110.02
OPER	2F1	63.71	R	49.01	184.59	0.0	0.00	0.00	0.00	
		-27.21	L	-20.93	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.13	R	62.41	188.59	0.0	0.00	0.00	0.00	
		-39.04	L	-30.03	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	82.23	R	63.25	188.59	0.0	0.00	0.00	0.00	
		-42.01	L	-32.32	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.63	L	64.33	127.59	0.0	0.00	0.00	0.00	
		-36.75	L	-28.27	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.62	4.32	1.62	4.32	HS	32.39	58.3
HS20	2.70	7.21	2.70	7.21	HS	53.99	97.2
2F1	4.19	10.72	4.19	10.72		0.00	62.9
3F1	3.29	7.47	3.29	7.47		0.00	75.7
4F1	3.25	6.95	3.25	6.95		0.00	87.7

5C1	3.19	7.94	3.19	7.94		0.00	127.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 8.400

Dead Load Moment	Superimposed Dead Load Moment
2.0	20.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	166.9	-174.7	147.7	-193.9
OPER	300.6C	-268.7	268.7	-300.6C	278.2	-291.1	246.2	-323.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.03	R	88.49	204.98	0.0	90.18	69.37	176.98	
		-34.69	L	-26.69	134.63	0.0	-26.42	-20.32	157.85	0.00
OPER	HS20	115.03	R	88.49	204.98	0.0	90.18	69.37	176.98	
		-34.69	L	-26.69	134.63	0.0	-26.42	-20.32	157.85	0.00
OPER	2F1	79.32	R	61.01	186.98	0.0	0.00	0.00	0.00	
		-23.33	L	-17.94	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.67	R	77.44	186.98	0.0	0.00	0.00	0.00	
		-33.46	L	-25.74	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	107.42	R	82.63	190.98	0.0	0.00	0.00	0.00	
		-36.01	L	-27.70	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	100.66	R	77.43	188.98	0.0	0.00	0.00	0.00	
		-31.50	L	-24.23	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.45	5.03	1.28	5.59	HS	25.68	46.2
HS20	2.42	8.39	2.14	9.31	HS	42.80	77.0
2F1	3.51	12.48	3.10	13.85		0.00	46.6
3F1	2.76	8.70	2.44	9.66		0.00	56.2
4F1	2.59	8.09	2.29	8.97		0.00	61.9
5C1	2.76	9.24	2.45	10.26		0.00	97.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 8.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	113.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-7.37	20.41	-5.67	15.70	-7.23	18.56	-5.56	14.27
OPER	HS20	-7.37	20.41	-5.67	15.70	-7.23	18.56	-5.56	14.27
OPER	2F1	-4.85	13.51	-3.73	10.40	0.00	0.00	0.00	0.00
OPER	3F1	-5.68	17.46	-4.37	13.43	0.00	0.00	0.00	0.00
OPER	4F1	-4.81	18.13	-3.70	13.95	0.00	0.00	0.00	0.00
OPER	5C1	-6.74	17.66	-5.18	13.59	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.75	3.32	HS 66.41	119.5
HS20	16.25	5.53	HS 110.68	199.2
2F1	24.67	8.36	0.00	125.4
3F1	21.07	6.47	0.00	148.8
4F1	24.89	6.23	0.00	168.2
5C1	17.78	6.39	0.00	255.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.0	20.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.6	-158.7	176.6	-158.7	154.2	-181.1	154.2	-181.1
OPER	279.4	-279.4	279.4	-279.4	256.9	-301.9	256.9	-301.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	115.03	R	88.49	204.98	0.0	90.18	69.37	176.98	
		-34.69	L	-26.69	134.63	0.0	-26.42	-20.32	157.85	0.00
OPER	HS20	115.03	R	88.49	204.98	0.0	90.18	69.37	176.98	
		-34.69	L	-26.69	134.63	0.0	-26.42	-20.32	157.85	0.00
OPER	2F1	79.32	R	61.01	186.98	0.0	0.00	0.00	0.00	
		-23.33	L	-17.94	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.67	R	77.44	186.98	0.0	0.00	0.00	0.00	
		-33.46	L	-25.74	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	107.42	R	82.63	190.98	0.0	0.00	0.00	0.00	
		-36.01	L	-27.70	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	100.66	R	77.43	188.98	0.0	0.00	0.00	0.00	
		-31.50	L	-24.23	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.34	5.22	1.34	5.22	HS	26.80	48.2
HS20	2.23	8.70	2.23	8.70	HS	44.67	80.4
2F1	3.24	12.94	3.24	12.94		0.00	48.6
3F1	2.55	9.02	2.55	9.02		0.00	58.7
4F1	2.39	8.38	2.39	8.38		0.00	64.6

5C1	2.55	9.58	2.55	9.58		0.00	102.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.66	28.67	28.67	1.699	999999.000	90.016

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		19.72		105.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 8.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.2	-178.4	144.0	-197.6
OPER	300.6C	-268.7	268.7	-300.6C	272.0	-297.3	240.0	-329.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	126.40	R	97.23	207.38	0.0	101.45	78.03	179.38	
		-28.91	L	-22.24	134.63	0.0	-22.01	-16.93	157.85	0.00
OPER	HS20	126.40	R	97.23	207.38	0.0	101.45	78.03	179.38	
		-28.91	L	-22.24	134.63	0.0	-22.01	-16.93	157.85	0.00
OPER	2F1	84.95	R	65.35	189.38	0.0	0.00	0.00	0.00	
		-19.44	L	-14.95	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	115.12	L	88.55	169.38	0.0	0.00	0.00	0.00	
		-27.89	L	-21.45	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	122.96	R	94.59	193.38	0.0	0.00	0.00	0.00	
		-30.01	L	-23.08	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	109.86	R	84.51	230.38	0.0	0.00	0.00	0.00	
		-26.25	L	-20.19	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.29	6.17	1.14	6.83	HS	22.78	41.0
HS20	2.15	10.28	1.90	11.39	HS	37.97	68.3
2F1	3.20	15.30	2.83	16.94		0.00	42.4
3F1	2.36	10.66	2.09	11.81		0.00	47.9
4F1	2.21	9.91	1.95	10.97		0.00	52.7
5C1	2.48	11.33	2.18	12.54		0.00	87.4

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.57	17.10	-8.13	13.16	-9.87	15.53	-7.59	11.95
OPER	HS20	-10.57	17.10	-8.13	13.16	-9.87	15.53	-7.59	11.95
OPER	2F1	-6.97	10.79	-5.36	8.30	0.00	0.00	0.00	0.00
OPER	3F1	-8.59	14.22	-6.61	10.94	0.00	0.00	0.00	0.00
OPER	4F1	-7.79	14.12	-6.00	10.87	0.00	0.00	0.00	0.00
OPER	5C1	-9.17	14.74	-7.05	11.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.70	4.02	HS 80.41	144.7
HS20	11.18	6.70	HS 134.02	241.2
2F1	16.94	10.63	0.00	159.4
3F1	13.76	8.06	0.00	185.3
4F1	15.16	8.11	0.00	219.1
5C1	12.88	7.78	0.00	311.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.1	-156.2	179.1	-156.2	150.4	-184.8	150.4	-184.8
OPER	279.4	-279.4	279.4	-279.4	250.7	-308.1	250.7	-308.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	126.40	R	97.23	207.38	0.0	101.45	78.03	179.38	
		-28.91	L	-22.24	134.63	0.0	-22.01	-16.93	157.85	0.00
OPER	HS20	126.40	R	97.23	207.38	0.0	101.45	78.03	179.38	
		-28.91	L	-22.24	134.63	0.0	-22.01	-16.93	157.85	0.00
OPER	2F1	84.95	R	65.35	189.38	0.0	0.00	0.00	0.00	
		-19.44	L	-14.95	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	115.12	L	88.55	169.38	0.0	0.00	0.00	0.00	
		-27.89	L	-21.45	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	122.96	R	94.59	193.38	0.0	0.00	0.00	0.00	
		-30.01	L	-23.08	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	109.86	R	84.51	230.38	0.0	0.00	0.00	0.00	
		-26.25	L	-20.19	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.19	6.39	1.19	6.39	HS	23.80	42.8
HS20	1.98	10.65	1.98	10.65	HS	39.67	71.4
2F1	2.95	15.85	2.95	15.85		0.00	44.3
3F1	2.18	11.05	2.18	11.05		0.00	50.1
4F1	2.04	10.27	2.04	10.27		0.00	55.1

5C1	2.28	11.73	2.28	11.73	0.00	91.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	162.0	-179.6	142.8	-198.8
OPER	300.6C	-268.7	268.7	-300.6C	270.0	-299.3	238.0	-331.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09	R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13	L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	HS20	131.09	R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13	L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	2F1	89.41	L	68.77	171.77	0.0	0.00	0.00	0.00	
		-15.55	L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12	L	90.86	171.77	0.0	0.00	0.00	0.00	
		-22.31	L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02	L	96.94	167.77	0.0	0.00	0.00	0.00	
		-24.01	L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03	R	86.95	228.77	0.0	0.00	0.00	0.00	
		-21.00	L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.24	7.76	1.09	8.60	HS	21.78	39.2
HS20	2.06	12.94	1.82	14.32	HS	36.31	65.4
2F1	3.02	19.25	2.66	21.31		0.00	39.9
3F1	2.29	13.42	2.02	14.85		0.00	46.3
4F1	2.14	12.47	1.89	13.80		0.00	51.0
5C1	2.39	14.25	2.11	15.78		0.00	84.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.70	13.19	-10.54	10.15	-12.82	12.46	-9.86	9.59
OPER	HS20	-13.70	13.19	-10.54	10.15	-12.82	12.46	-9.86	9.59
OPER	2F1	-9.35	8.10	-7.19	6.23	0.00	0.00	0.00	0.00
OPER	3F1	-11.89	10.98	-9.15	8.45	0.00	0.00	0.00	0.00
OPER	4F1	-11.77	10.00	-9.05	7.70	0.00	0.00	0.00	0.00
OPER	5C1	-11.82	11.94	-9.09	9.19	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.10	5.29	HS 101.94	183.5
HS20	8.49	8.82	HS 169.90	305.8
2F1	12.45	14.36	0.00	186.8
3F1	9.79	10.59	0.00	225.1
4F1	9.89	11.63	0.00	267.0
5C1	9.85	9.74	0.00	389.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.9	-155.4	179.9	-155.4	149.2	-186.1	149.2	-186.1
OPER	279.4	-279.4	279.4	-279.4	248.7	-310.1	248.7	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09	R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13	L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	HS20	131.09	R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13	L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	2F1	89.41	L	68.77	171.77	0.0	0.00	0.00	0.00	
		-15.55	L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12	L	90.86	171.77	0.0	0.00	0.00	0.00	
		-22.31	L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02	L	96.94	167.77	0.0	0.00	0.00	0.00	
		-24.01	L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03	R	86.95	228.77	0.0	0.00	0.00	0.00	
		-21.00	L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.14	8.04	1.14	8.04	HS	22.77	41.0
HS20	1.90	13.41	1.90	13.41	HS	37.95	68.3
2F1	2.78	19.94	2.78	19.94		0.00	41.7
3F1	2.11	13.90	2.11	13.90		0.00	48.4
4F1	1.97	12.92	1.97	12.92		0.00	53.3

5C1	2.20	14.77	2.20	14.77	0.00	88.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.1	-178.5	143.9	-197.7
OPER	300.6C	-268.7	268.7	-300.6C	271.8	-297.5	239.8	-329.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.19	R	100.92	198.16	0.0	94.42	72.63	184.16	
		-17.35	L	-13.34	134.63	0.0	-13.21	-10.16	157.85	0.00
OPER	HS20	131.19	R	100.92	198.16	0.0	94.42	72.63	184.16	
		-17.35	L	-13.34	134.63	0.0	-13.21	-10.16	157.85	0.00
OPER	2F1	85.62	L	65.86	174.16	0.0	0.00	0.00	0.00	
		-11.66	L	-8.97	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	111.73	L	85.95	170.16	0.0	0.00	0.00	0.00	
		-16.73	L	-12.87	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	115.66	L	88.97	170.16	0.0	0.00	0.00	0.00	
		-18.00	L	-13.85	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	108.35	L	83.35	168.16	0.0	0.00	0.00	0.00	
		-15.75	L	-12.12	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.24	10.29	1.10	11.40	HS 21.94	39.5
HS20	2.07	17.15	1.83	18.99	HS 36.56	65.8
2F1	3.17	25.51	2.80	28.25	0.00	42.0
3F1	2.43	17.78	2.15	19.69	0.00	49.4
4F1	2.35	16.52	2.07	18.30	0.00	56.0
5C1	2.51	18.89	2.21	20.92	0.00	88.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.9	70.8
OPER	151.3	-114.8	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.28	9.87	-14.06	7.59	-16.05	9.40	-12.35	7.23
OPER	HS20	-18.28	9.87	-14.06	7.59	-16.05	9.40	-12.35	7.23
OPER	2F1	-11.93	6.17	-9.18	4.75	0.00	0.00	0.00	0.00
OPER	3F1	-15.57	7.60	-11.98	5.84	0.00	0.00	0.00	0.00
OPER	4F1	-15.37	6.26	-11.82	4.81	0.00	0.00	0.00	0.00
OPER	5C1	-15.10	9.00	-11.62	6.92	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.77	7.17	HS 75.33	135.6
HS20	6.28	11.95	HS 125.55	226.0
2F1	9.62	19.12	0.00	144.3
3F1	7.37	15.52	0.00	169.5
4F1	7.47	18.85	0.00	201.7
5C1	7.60	13.10	0.00	304.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.2	-156.1	179.2	-156.1	150.3	-184.9	150.3	-184.9
OPER	279.4	-279.4	279.4	-279.4	250.6	-308.2	250.6	-308.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.19	R	100.92	198.16	0.0	94.42	72.63	184.16	
		-17.35	L	-13.34	134.63	0.0	-13.21	-10.16	157.85	0.00
OPER	HS20	131.19	R	100.92	198.16	0.0	94.42	72.63	184.16	
		-17.35	L	-13.34	134.63	0.0	-13.21	-10.16	157.85	0.00
OPER	2F1	85.62	L	65.86	174.16	0.0	0.00	0.00	0.00	
		-11.66	L	-8.97	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	111.73	L	85.95	170.16	0.0	0.00	0.00	0.00	
		-16.73	L	-12.87	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	115.66	L	88.97	170.16	0.0	0.00	0.00	0.00	
		-18.00	L	-13.85	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	108.35	L	83.35	168.16	0.0	0.00	0.00	0.00	
		-15.75	L	-12.12	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.15	10.66	1.15	10.66	HS	22.92	41.3
HS20	1.91	17.77	1.91	17.77	HS	38.20	68.8
2F1	2.93	26.43	2.93	26.43		0.00	43.9
3F1	2.24	18.42	2.24	18.42		0.00	51.6
4F1	2.17	17.12	2.17	17.12		0.00	58.5

5C1	2.31	19.57	2.31	19.57	0.00	92.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.1	21.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	166.5	-175.0	147.3	-194.2
OPER	300.6C	-268.7	268.7	-300.6C	277.5	-291.7	245.6	-323.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	111.79	R	85.99	200.55	0.0	74.30	57.16	186.55	
		-11.56	L	-8.90	134.63	0.0	-8.81	-6.77	157.85	0.00
OPER	HS20	111.79	R	85.99	200.55	0.0	74.30	57.16	186.55	
		-11.56	L	-8.90	134.63	0.0	-8.81	-6.77	157.85	0.00
OPER	2F1	70.29	L	54.07	176.55	0.0	0.00	0.00	0.00	
		-7.78	L	-5.98	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	93.58	L	71.99	172.55	0.0	0.00	0.00	0.00	
		-11.15	L	-8.58	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	93.18	L	71.68	168.55	0.0	0.00	0.00	0.00	
		-12.00	L	-9.23	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.77	L	69.82	170.55	0.0	0.00	0.00	0.00	
		-10.50	L	-8.08	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.49	15.14	1.32	16.80	HS 26.36	47.4
HS20	2.48	25.23	2.20	27.99	HS 43.93	79.1
2F1	3.95	37.52	3.49	41.64	0.00	52.4
3F1	2.97	26.16	2.62	29.02	0.00	60.4
4F1	2.98	24.31	2.63	26.97	0.00	71.2
5C1	3.06	27.78	2.70	30.83	0.00	108.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-2.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.9	71.7
OPER	151.3	-113.2	119.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-23.37	6.65	-17.98	5.12	-19.54	6.39	-15.03	4.92
OPER	HS20	-23.37	6.65	-17.98	5.12	-19.54	6.39	-15.03	4.92
OPER	2F1	-14.70	4.16	-11.30	3.20	0.00	0.00	0.00	0.00
OPER	3F1	-19.56	4.12	-15.05	3.17	0.00	0.00	0.00	0.00
OPER	4F1	-19.48	3.39	-14.99	2.61	0.00	0.00	0.00	0.00
OPER	5C1	-18.98	5.90	-14.60	4.54	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	2.90	10.78	HS	58.11	104.6
HS20	4.84	17.98	HS	96.84	174.3
2F1	7.70	28.76		0.00	115.5
3F1	5.78	29.05		0.00	133.0
4F1	5.81	35.27		0.00	156.8
5C1	5.96	20.27		0.00	238.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.1	21.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.9	-158.4	176.9	-158.4	153.8	-181.5	153.8	-181.5
OPER	279.4	-279.4	279.4	-279.4	256.3	-302.5	256.3	-302.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	111.79	R	85.99	200.55	0.0	74.30	57.16	186.55	
		-11.56	L	-8.90	134.63	0.0	-8.81	-6.77	157.85	0.00
OPER	HS20	111.79	R	85.99	200.55	0.0	74.30	57.16	186.55	
		-11.56	L	-8.90	134.63	0.0	-8.81	-6.77	157.85	0.00
OPER	2F1	70.29	L	54.07	176.55	0.0	0.00	0.00	0.00	
		-7.78	L	-5.98	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	93.58	L	71.99	172.55	0.0	0.00	0.00	0.00	
		-11.15	L	-8.58	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	93.18	L	71.68	168.55	0.0	0.00	0.00	0.00	
		-12.00	L	-9.23	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.77	L	69.82	170.55	0.0	0.00	0.00	0.00	
		-10.50	L	-8.08	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.38	15.69	1.38	15.69	HS	27.51	49.5
HS20	2.29	26.16	2.29	26.16	HS	45.86	82.5
2F1	3.65	38.90	3.65	38.90		0.00	54.7
3F1	2.74	27.12	2.74	27.12		0.00	63.0
4F1	2.75	25.20	2.75	25.20		0.00	74.3

5C1	2.82	28.81	2.82	28.81	0.00	112.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S02
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.3	-169.3	153.1	-188.5
OPER	300.6C	-268.7	268.7	-300.6C	287.2	-282.1	255.2	-314.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	69.06 R	53.12	202.94	0.0	43.62	33.55	188.94	
		-5.78 L	-4.45	134.63	0.0	-4.40	-3.39	157.85	0.00
OPER	HS20	69.06 R	53.12	202.94	0.0	43.62	33.55	188.94	
		-5.78 L	-4.45	134.63	0.0	-4.40	-3.39	157.85	0.00
OPER	2F1	42.08 L	32.37	178.94	0.0	0.00	0.00	0.00	
		-3.89 L	-2.99	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	56.95 L	43.80	174.94	0.0	0.00	0.00	0.00	
		-5.58 L	-4.29	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	57.76 L	44.43	170.94	0.0	0.00	0.00	0.00	
		-6.00 L	-4.62	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	55.29 L	42.53	172.94	0.0	0.00	0.00	0.00	
		-5.25 L	-4.04	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.49	29.27	2.22	32.59	HS 44.34	79.8
HS20	4.16	48.79	3.69	54.32	HS 73.90	133.0
2F1	6.82	72.57	6.06	80.80	0.00	91.0
3F1	5.04	50.59	4.48	56.32	0.00	103.1
4F1	4.97	47.01	4.42	52.34	0.00	119.3
5C1	5.19	53.74	4.61	59.83	0.00	184.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 8.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.9	72.7
OPER	151.3	-111.5	121.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-28.88	3.35	-22.21	2.58	-23.25	3.47	-17.88	2.67
OPER	HS20	-28.88	3.35	-22.21	2.58	-23.25	3.47	-17.88	2.67
OPER	2F1	-17.59	2.09	-13.53	1.61	0.00	0.00	0.00	0.00
OPER	3F1	-23.81	2.33	-18.32	1.79	0.00	0.00	0.00	0.00
OPER	4F1	-24.15	2.49	-18.58	1.92	0.00	0.00	0.00	0.00
OPER	5C1	-23.12	3.82	-17.78	2.94	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	2.32	20.97	HS	46.35	83.4
HS20	3.86	34.94	HS	77.26	139.1
2F1	6.34	57.93		0.00	95.1
3F1	4.68	51.97		0.00	107.7
4F1	4.62	48.62		0.00	124.7
5C1	4.82	31.74		0.00	193.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.0	-162.2	173.0	-162.2	159.6	-175.7	159.6	-175.7
OPER	279.4	-279.4	279.4	-279.4	265.9	-292.9	265.9	-292.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	69.06	R	53.12	202.94	0.0	43.62	33.55	188.94	
		-5.78	L	-4.45	134.63	0.0	-4.40	-3.39	157.85	0.00
OPER	HS20	69.06	R	53.12	202.94	0.0	43.62	33.55	188.94	
		-5.78	L	-4.45	134.63	0.0	-4.40	-3.39	157.85	0.00
OPER	2F1	42.08	L	32.37	178.94	0.0	0.00	0.00	0.00	
		-3.89	L	-2.99	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	56.95	L	43.80	174.94	0.0	0.00	0.00	0.00	
		-5.58	L	-4.29	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	57.76	L	44.43	170.94	0.0	0.00	0.00	0.00	
		-6.00	L	-4.62	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	55.29	L	42.53	172.94	0.0	0.00	0.00	0.00	
		-5.25	L	-4.04	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.31	30.39	2.31	30.39	HS	46.21	83.2
HS20	3.85	50.65	3.85	50.65	HS	77.01	138.6
2F1	6.32	75.34	6.32	75.34		0.00	94.8
3F1	4.67	52.51	4.67	52.51		0.00	107.4
4F1	4.60	48.80	4.60	48.80		0.00	124.3

5C1	4.81	55.78	4.81	55.78	0.00	192.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S02
Check Point I. D. 9.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.0	70.2
OPER	151.3	-109.9	117.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-34.71	0.00	-26.70	0.00	-27.16	2.36	-20.89	1.82
OPER	HS20	-34.71	0.00	-26.70	0.00	-27.16	2.36	-20.89	1.82
OPER	2F1	-20.59	0.00	-15.84	0.00	0.00	0.00	0.00	0.00
OPER	3F1	-28.25	0.00	-21.73	0.00	0.00	0.00	0.00	0.00
OPER	4F1	-29.10	0.00	-22.39	0.00	0.00	0.00	0.00	0.00
OPER	5C1	-27.46	0.00	-21.13	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.90	29.72	HS 38.00	68.4
HS20	3.17	49.53	HS 63.33	114.0
2F1	5.34	999.00	0.00	80.1
3F1	3.89	999.00	0.00	89.5
4F1	3.78	999.00	0.00	102.0
5C1	4.00	999.00	0.00	160.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

Rating Types and Vehicles
INV. HS20
OPER HS20
POST 2F1
SPEC 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0

5C1	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 8

Live Load Distribution Factor 1.272

Second Live Load Dist. Factor 1.272
Comments:

Member I. D. S03 Symmetry:

Span Length:

Span 1	Span 2	Span 3	Span 4	Span 5
23.917	23.917	23.917	23.917	23.917

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	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	23.917	1	0		0.0	0.0
2	1	23.917	1	0		0.0	0.0
3	1	23.917	1	0		0.0	0.0
4	1	23.917	1	0		0.0	0.0
5	1	23.917	1	0		0.0	0.0
6	1	23.917	1	0		0.0	0.0
7	1	23.917	1	0		0.0	0.0
8	1	23.917	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	0.000	688.0	688.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	688.0	688.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	688.0	688.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	688.0	688.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	688.0	688.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	688.0	688.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	688.0	688.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	688.0	688.0	23.917	0.0
8	P	11.958	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) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S03 2F1
Check Point I. D. 1.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.1	65.5
OPER	151.3	-123.5	109.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.32	34.71	-1.78	26.70	-2.36	27.16	-1.82	20.89
OPER	HS20	-2.32	34.71	-1.78	26.70	-2.36	27.16	-1.82	20.89
OPER	2F1	-1.63	20.59	-1.25	15.84	0.00	0.00	0.00	0.00
OPER	3F1	-2.33	28.25	-1.79	21.73	0.00	0.00	0.00	0.00
OPER	4F1	-2.49	29.10	-1.92	22.39	0.00	0.00	0.00	0.00
OPER	5C1	-2.20	27.46	-1.69	21.13	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	31.38	1.89	HS	37.76	68.0
HS20	52.30	3.15	HS	62.93	113.3
2F1	75.98	5.31		0.00	79.6
3F1	52.96	3.87		0.00	88.9
4F1	49.54	3.75		0.00	101.3
5C1	56.26	3.98		0.00	159.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0

5C1	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.4	-170.1	152.2	-189.3
OPER	300.6C	-268.7	268.7	-300.6C	285.7	-283.6	253.7	-315.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	69.06 L	53.12	-11.61	0.0	43.62	33.55	2.39	
		-5.78 R	-4.45	56.70	0.0	-4.40	-3.39	33.48	0.00
OPER	HS20	69.06 L	53.12	-11.61	0.0	43.62	33.55	2.39	
		-5.78 R	-4.45	56.70	0.0	-4.40	-3.39	33.48	0.00
OPER	2F1	42.08 R	32.37	12.39	0.0	0.00	0.00	0.00	
		-3.89 R	-2.99	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	56.95 R	43.80	16.39	0.0	0.00	0.00	0.00	
		-5.58 R	-4.29	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	57.76 R	44.43	20.39	0.0	0.00	0.00	0.00	
		-6.00 R	-4.62	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	55.29 R	42.53	18.39	0.0	0.00	0.00	0.00	
		-5.25 R	-4.04	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.48	29.42	2.20	32.74	HS 44.09	79.4
HS20	4.14	49.04	3.67	54.57	HS 73.48	132.3
2F1	6.79	72.94	6.03	81.17	0.00	90.4
3F1	5.02	50.85	4.46	56.58	0.00	102.5
4F1	4.95	47.25	4.39	52.58	0.00	118.6
5C1	5.17	54.01	4.59	60.10	0.00	183.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.0	66.6
OPER	151.3	-121.7	111.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.35	28.88	-2.58	22.21	-3.47	23.25	-2.67	17.88
OPER	HS20	-3.35	28.88	-2.58	22.21	-3.47	23.25	-2.67	17.88
OPER	2F1	-2.09	17.59	-1.61	13.53	0.00	0.00	0.00	0.00
OPER	3F1	-2.33	23.81	-1.79	18.32	0.00	0.00	0.00	0.00
OPER	4F1	-2.49	24.15	-1.92	18.58	0.00	0.00	0.00	0.00
OPER	5C1	-3.82	23.12	-2.94	17.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	21.06	2.31	HS	46.14	83.1
HS20	35.09	3.85	HS	76.90	138.4
2F1	58.17	6.31		0.00	94.7
3F1	52.19	4.66		0.00	107.2
4F1	48.82	4.60		0.00	124.1
5C1	31.87	4.80		0.00	192.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.6	-161.7	173.6	-161.7	158.7	-176.6	158.7	-176.6
OPER	279.4	-279.4	279.4	-279.4	264.5	-294.3	264.5	-294.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	69.06	L	53.12	-11.61	0.0	43.62	33.55	2.39	
		-5.78	R	-4.45	56.70	0.0	-4.40	-3.39	33.48	0.00
OPER	HS20	69.06	L	53.12	-11.61	0.0	43.62	33.55	2.39	
		-5.78	R	-4.45	56.70	0.0	-4.40	-3.39	33.48	0.00
OPER	2F1	42.08	R	32.37	12.39	0.0	0.00	0.00	0.00	
		-3.89	R	-2.99	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	56.95	R	43.80	16.39	0.0	0.00	0.00	0.00	
		-5.58	R	-4.29	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	57.76	R	44.43	20.39	0.0	0.00	0.00	0.00	
		-6.00	R	-4.62	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	55.29	R	42.53	18.39	0.0	0.00	0.00	0.00	
		-5.25	R	-4.04	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.30	30.54	2.30	30.54	HS	45.96	82.7
HS20	3.83	50.90	3.83	50.90	HS	76.59	137.9
2F1	6.28	75.71	6.28	75.71		0.00	94.3
3F1	4.64	52.77	4.64	52.77		0.00	106.8
4F1	4.58	49.04	4.58	49.04		0.00	123.6

5C1	4.78	56.06	4.78	56.06	0.00	191.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.1	23.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	165.0	-176.5	145.9	-195.7
OPER	300.6C	-268.7	268.7	-300.6C	275.1	-294.2	243.1	-326.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	111.79 L	85.99	-9.22	0.0	74.30	57.16	4.78	
		-11.56 R	-8.90	56.70	0.0	-8.81	-6.77	33.48	0.00
OPER	HS20	111.79 L	85.99	-9.22	0.0	74.30	57.16	4.78	
		-11.56 R	-8.90	56.70	0.0	-8.81	-6.77	33.48	0.00
OPER	2F1	70.29 R	54.07	14.78	0.0	0.00	0.00	0.00	
		-7.78 R	-5.98	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	93.58 R	71.99	18.78	0.0	0.00	0.00	0.00	
		-11.15 R	-8.58	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	93.18 R	71.68	22.78	0.0	0.00	0.00	0.00	
		-12.00 R	-9.23	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.77 R	69.82	20.78	0.0	0.00	0.00	0.00	
		-10.50 R	-8.08	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.48	15.26	1.30	16.92	HS 26.10	47.0
HS20	2.46	25.44	2.17	28.21	HS 43.49	78.3
2F1	3.91	37.84	3.46	41.95	0.00	51.9
3F1	2.94	26.38	2.60	29.24	0.00	59.7
4F1	2.95	24.51	2.61	27.18	0.00	70.4
5C1	3.03	28.02	2.68	31.06	0.00	107.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.200

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.0	67.7
OPER	151.3	-119.9	112.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-6.65	23.37	-5.12	17.98	-6.39	19.54	-4.92	15.03
OPER	HS20	-6.65	23.37	-5.12	17.98	-6.39	19.54	-4.92	15.03
OPER	2F1	-4.16	14.70	-3.20	11.30	0.00	0.00	0.00	0.00
OPER	3F1	-4.12	19.56	-3.17	15.05	0.00	0.00	0.00	0.00
OPER	4F1	-3.39	19.48	-2.61	14.99	0.00	0.00	0.00	0.00
OPER	5C1	-5.90	18.98	-4.54	14.60	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.81	2.90	HS 57.93	104.3
HS20	18.03	4.83	HS 96.55	173.8
2F1	28.84	7.68	0.00	115.2
3F1	29.13	5.77	0.00	132.6
4F1	35.37	5.79	0.00	156.4
5C1	20.33	5.95	0.00	237.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.1	23.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	177.9	-157.4	177.9	-157.4	152.3	-183.0	152.3	-183.0
OPER	279.4	-279.4	279.4	-279.4	253.8	-305.0	253.8	-305.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	111.79	L	85.99	-9.22	0.0	74.30	57.16	4.78	
		-11.56	R	-8.90	56.70	0.0	-8.81	-6.77	33.48	0.00
OPER	HS20	111.79	L	85.99	-9.22	0.0	74.30	57.16	4.78	
		-11.56	R	-8.90	56.70	0.0	-8.81	-6.77	33.48	0.00
OPER	2F1	70.29	R	54.07	14.78	0.0	0.00	0.00	0.00	
		-7.78	R	-5.98	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	93.58	R	71.99	18.78	0.0	0.00	0.00	0.00	
		-11.15	R	-8.58	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	93.18	R	71.68	22.78	0.0	0.00	0.00	0.00	
		-12.00	R	-9.23	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.77	R	69.82	20.78	0.0	0.00	0.00	0.00	
		-10.50	R	-8.08	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.36	15.82	1.36	15.82	HS	27.25	49.0
HS20	2.27	26.37	2.27	26.37	HS	45.41	81.7
2F1	3.61	39.22	3.61	39.22		0.00	54.2
3F1	2.71	27.34	2.71	27.34		0.00	62.4
4F1	2.72	25.41	2.72	25.41		0.00	73.6

5C1	2.80	29.04	2.80	29.04	0.00	111.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	161.2	-180.3	142.1	-199.5
OPER	300.6C	-268.7	268.7	-300.6C	268.7	-300.6	236.8	-332.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.19 L	100.92	-6.82	0.0	94.42	72.63	7.18	
		-17.35 R	-13.34	56.70	0.0	-13.21	-10.16	33.48	0.00
OPER	HS20	131.19 L	100.92	-6.82	0.0	94.42	72.63	7.18	
		-17.35 R	-13.34	56.70	0.0	-13.21	-10.16	33.48	0.00
OPER	2F1	85.62 R	65.86	17.18	0.0	0.00	0.00	0.00	
		-11.66 R	-8.97	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	111.73 R	85.95	21.18	0.0	0.00	0.00	0.00	
		-16.73 R	-12.87	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	115.66 R	88.97	21.18	0.0	0.00	0.00	0.00	
		-18.00 R	-13.85	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	108.35 R	83.35	23.18	0.0	0.00	0.00	0.00	
		-15.75 R	-12.12	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.23	10.40	1.08	11.50	HS 21.66	39.0
HS20	2.05	17.33	1.80	19.17	HS 36.09	65.0
2F1	3.14	25.77	2.77	28.51	0.00	41.5
3F1	2.40	17.96	2.12	19.88	0.00	48.7
4F1	2.32	16.69	2.05	18.47	0.00	55.3
5C1	2.48	19.08	2.18	21.11	0.00	87.4

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 1.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.87	18.28	-7.59	14.06	-9.40	16.05	-7.23	12.35
OPER	HS20	-9.87	18.28	-7.59	14.06	-9.40	16.05	-7.23	12.35
OPER	2F1	-6.17	11.93	-4.75	9.18	0.00	0.00	0.00	0.00
OPER	3F1	-7.60	15.57	-5.84	11.98	0.00	0.00	0.00	0.00
OPER	4F1	-6.26	15.37	-4.81	11.82	0.00	0.00	0.00	0.00
OPER	5C1	-9.00	15.10	-6.92	11.62	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.18	3.76	HS 75.22	135.4
HS20	11.97	6.27	HS 125.37	225.7
2F1	19.14	9.60	0.00	144.1
3F1	15.55	7.36	0.00	169.3
4F1	18.88	7.46	0.00	201.4
5C1	13.12	7.59	0.00	303.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4	-154.9	180.4	-154.9	148.5	-186.8	148.5	-186.8
OPER	279.4	-279.4	279.4	-279.4	247.5	-311.3	247.5	-311.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	131.19	L	100.92	-6.82	0.0	94.42	72.63	7.18	
		-17.35	R	-13.34	56.70	0.0	-13.21	-10.16	33.48	0.00
OPER	HS20	131.19	L	100.92	-6.82	0.0	94.42	72.63	7.18	
		-17.35	R	-13.34	56.70	0.0	-13.21	-10.16	33.48	0.00
OPER	2F1	85.62	R	65.86	17.18	0.0	0.00	0.00	0.00	
		-11.66	R	-8.97	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	111.73	R	85.95	21.18	0.0	0.00	0.00	0.00	
		-16.73	R	-12.87	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	115.66	R	88.97	21.18	0.0	0.00	0.00	0.00	
		-18.00	R	-13.85	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	108.35	R	83.35	23.18	0.0	0.00	0.00	0.00	
		-15.75	R	-12.12	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.13	10.77	1.13	10.77	HS	22.64	40.8
HS20	1.89	17.94	1.89	17.94	HS	37.73	67.9
2F1	2.89	26.69	2.89	26.69		0.00	43.4
3F1	2.21	18.60	2.21	18.60		0.00	50.9
4F1	2.14	17.29	2.14	17.29		0.00	57.8

5C1	2.28	19.76	2.28	19.76	0.00	91.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	160.0	-181.6	140.8	-200.8
OPER	300.6C	-268.7	268.7	-300.6C	266.7	-302.6	234.7	-334.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09	L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13	R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	HS20	131.09	L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13	R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	2F1	89.41	R	68.77	19.57	0.0	0.00	0.00	0.00	
		-15.55	R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12	R	90.86	19.57	0.0	0.00	0.00	0.00	
		-22.31	R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02	R	96.94	23.57	0.0	0.00	0.00	0.00	
		-24.01	R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03	L	86.95	-37.43	0.0	0.00	0.00	0.00	
		-21.00	R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.22	7.85	1.07	8.68	HS	21.49	38.7
HS20	2.03	13.08	1.79	14.47	HS	35.81	64.5
2F1	2.98	19.46	2.62	21.52		0.00	39.4
3F1	2.26	13.56	1.99	15.00		0.00	45.7
4F1	2.12	12.61	1.86	13.94		0.00	50.3
5C1	2.36	14.41	2.08	15.93		0.00	83.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.19	13.70	-10.15	10.54	-12.46	12.82	-9.59	9.86
OPER	HS20	-13.19	13.70	-10.15	10.54	-12.46	12.82	-9.59	9.86
OPER	2F1	-8.10	9.35	-6.23	7.19	0.00	0.00	0.00	0.00
OPER	3F1	-10.98	11.89	-8.45	9.15	0.00	0.00	0.00	0.00
OPER	4F1	-10.00	11.77	-7.70	9.05	0.00	0.00	0.00	0.00
OPER	5C1	-12.22	11.82	-9.40	9.09	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.29	5.10	HS 101.95	183.5
HS20	8.82	8.50	HS 169.91	305.8
2F1	14.36	12.46	0.00	186.8
3F1	10.59	9.79	0.00	225.1
4F1	11.63	9.89	0.00	267.0
5C1	9.52	9.85	0.00	380.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-188.0
OPER	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09	L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13	R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	HS20	131.09	L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13	R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	2F1	89.41	R	68.77	19.57	0.0	0.00	0.00	0.00	
		-15.55	R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12	R	90.86	19.57	0.0	0.00	0.00	0.00	
		-22.31	R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02	R	96.94	23.57	0.0	0.00	0.00	0.00	
		-24.01	R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03	L	86.95	-37.43	0.0	0.00	0.00	0.00	
		-21.00	R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.12	8.13	1.12	8.13	HS	22.47	40.4
HS20	1.87	13.55	1.87	13.55	HS	37.45	67.4
2F1	2.74	20.15	2.74	20.15		0.00	41.2
3F1	2.08	14.05	2.08	14.05		0.00	47.8
4F1	1.95	13.05	1.95	13.05		0.00	52.6

5C1	2.17	14.92	2.17	14.92	0.00	86.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	161.4	-180.2	142.2	-199.4
OPER	300.6C	-268.7	268.7	-300.6C	268.9	-300.4	236.9	-332.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	126.40	L	97.23	-16.04	0.0	101.45	78.03	11.96	
		-28.91	R	-22.24	56.70	0.0	-22.01	-16.93	33.48	0.00
OPER	HS20	126.40	L	97.23	-16.04	0.0	101.45	78.03	11.96	
		-28.91	R	-22.24	56.70	0.0	-22.01	-16.93	33.48	0.00
OPER	2F1	84.95	L	65.35	1.96	0.0	0.00	0.00	0.00	
		-19.44	R	-14.95	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	115.12	R	88.55	21.96	0.0	0.00	0.00	0.00	
		-27.89	R	-21.45	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	122.96	L	94.59	-2.04	0.0	0.00	0.00	0.00	
		-30.01	R	-23.08	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	109.86	L	84.51	-39.04	0.0	0.00	0.00	0.00	
		-26.25	R	-20.19	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.28	6.23	1.12	6.90	HS 22.49	40.5
HS20	2.13	10.39	1.88	11.49	HS 37.49	67.5
2F1	3.17	15.45	2.79	17.10	0.00	41.8
3F1	2.34	10.77	2.06	11.92	0.00	47.3
4F1	2.19	10.01	1.93	11.08	0.00	52.0
5C1	2.45	11.44	2.16	12.66	0.00	86.3

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 1.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.7	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-17.10	10.57	-13.16	8.13	-15.53	9.87	-11.95	7.59
OPER	HS20	-17.10	10.57	-13.16	8.13	-15.53	9.87	-11.95	7.59
OPER	2F1	-10.79	6.97	-8.30	5.36	0.00	0.00	0.00	0.00
OPER	3F1	-14.22	8.59	-10.94	6.61	0.00	0.00	0.00	0.00
OPER	4F1	-14.12	7.79	-10.87	6.00	0.00	0.00	0.00	0.00
OPER	5C1	-14.74	9.17	-11.34	7.05	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.02	6.71	HS 80.37	144.7
HS20	6.70	11.18	HS 133.95	241.1
2F1	10.62	16.95	0.00	159.3
3F1	8.06	13.76	0.00	185.3
4F1	8.11	15.16	0.00	219.0
5C1	7.77	12.89	0.00	310.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.3	-155.0	180.3	-155.0	148.6	-186.7	148.6	-186.7
OPER	279.4	-279.4	279.4	-279.4	247.7	-311.1	247.7	-311.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	126.40	L	97.23	-16.04	0.0	101.45	78.03	11.96	
		-28.91	R	-22.24	56.70	0.0	-22.01	-16.93	33.48	0.00
OPER	HS20	126.40	L	97.23	-16.04	0.0	101.45	78.03	11.96	
		-28.91	R	-22.24	56.70	0.0	-22.01	-16.93	33.48	0.00
OPER	2F1	84.95	L	65.35	1.96	0.0	0.00	0.00	0.00	
		-19.44	R	-14.95	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	115.12	R	88.55	21.96	0.0	0.00	0.00	0.00	
		-27.89	R	-21.45	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	122.96	L	94.59	-2.04	0.0	0.00	0.00	0.00	
		-30.01	R	-23.08	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	109.86	L	84.51	-39.04	0.0	0.00	0.00	0.00	
		-26.25	R	-20.19	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.18	6.46	1.18	6.46	HS	23.51	42.3
HS20	1.96	10.76	1.96	10.76	HS	39.19	70.5
2F1	2.92	16.00	2.92	16.00		0.00	43.7
3F1	2.15	11.16	2.15	11.16		0.00	49.5
4F1	2.01	10.37	2.01	10.37		0.00	54.4

5C1	2.26	11.85	2.26	11.85	0.00	90.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.0	22.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	165.5	-176.1	146.3	-195.3
OPER	300.6C	-268.7	268.7	-300.6C	275.8	-293.5	243.8	-325.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.03	L	88.49	-13.65	0.0	90.18	69.37	14.35	
		-34.69	R	-26.69	56.70	0.0	-26.42	-20.32	33.48	0.00
OPER	HS20	115.03	L	88.49	-13.65	0.0	90.18	69.37	14.35	
		-34.69	R	-26.69	56.70	0.0	-26.42	-20.32	33.48	0.00
OPER	2F1	79.32	L	61.01	4.35	0.0	0.00	0.00	0.00	
		-23.33	R	-17.94	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.67	L	77.44	4.35	0.0	0.00	0.00	0.00	
		-33.46	R	-25.74	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	107.42	L	82.63	0.35	0.0	0.00	0.00	0.00	
		-36.01	R	-27.70	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	100.66	L	77.43	2.35	0.0	0.00	0.00	0.00	
		-31.50	R	-24.23	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.44	5.08	1.27	5.63	HS	25.43	45.8
HS20	2.40	8.46	2.12	9.38	HS	42.39	76.3
2F1	3.48	12.58	3.07	13.95		0.00	46.1
3F1	2.74	8.77	2.42	9.73		0.00	55.7
4F1	2.57	8.15	2.27	9.04		0.00	61.3
5C1	2.74	9.32	2.42	10.33		0.00	96.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S03
Check Point I. D. 1.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.6	72.1
OPER	151.3	-112.6	120.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.41	7.37	-15.70	5.67	-18.56	7.23	-14.27	5.56
OPER	HS20	-20.41	7.37	-15.70	5.67	-18.56	7.23	-14.27	5.56
OPER	2F1	-13.51	4.85	-10.40	3.73	0.00	0.00	0.00	0.00
OPER	3F1	-17.46	5.68	-13.43	4.37	0.00	0.00	0.00	0.00
OPER	4F1	-18.13	4.81	-13.95	3.70	0.00	0.00	0.00	0.00
OPER	5C1	-17.66	6.74	-13.59	5.18	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.31	9.78	HS 66.20	119.2
HS20	5.52	16.30	HS 110.33	198.6
2F1	8.33	24.74	0.00	125.0
3F1	6.45	21.13	0.00	148.3
4F1	6.21	24.97	0.00	167.7
5C1	6.38	17.84	0.00	255.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.0	22.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	177.6	-157.7	177.6	-157.7	152.7	-182.6	152.7	-182.6
OPER	279.4	-279.4	279.4	-279.4	254.5	-304.3	254.5	-304.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.03	L	88.49	-13.65	0.0	90.18	69.37	14.35	
		-34.69	R	-26.69	56.70	0.0	-26.42	-20.32	33.48	0.00
OPER	HS20	115.03	L	88.49	-13.65	0.0	90.18	69.37	14.35	
		-34.69	R	-26.69	56.70	0.0	-26.42	-20.32	33.48	0.00
OPER	2F1	79.32	L	61.01	4.35	0.0	0.00	0.00	0.00	
		-23.33	R	-17.94	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.67	L	77.44	4.35	0.0	0.00	0.00	0.00	
		-33.46	R	-25.74	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	107.42	L	82.63	0.35	0.0	0.00	0.00	0.00	
		-36.01	R	-27.70	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	100.66	L	77.43	2.35	0.0	0.00	0.00	0.00	
		-31.50	R	-24.23	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.33	5.26	1.33	5.26	HS	26.55	47.8
HS20	2.21	8.77	2.21	8.77	HS	44.26	79.7
2F1	3.21	13.04	3.21	13.04		0.00	48.1
3F1	2.53	9.09	2.53	9.09		0.00	58.2
4F1	2.37	8.45	2.37	8.45		0.00	64.0

5C1	2.53	9.66	2.53	9.66	0.00	101.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.1	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	286.9	-282.4	254.9	-314.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.91 L	76.08	-11.26	0.0	72.00	55.39	16.74	
		-40.48 R	-31.14	56.70	0.0	-32.23	-24.79	33.48	81.32
OPER	HS20	98.91 L	76.08	-11.26	0.0	72.00	55.39	16.74	
		-40.48 R	-31.14	56.70	0.0	-32.23	-24.79	33.48	81.32
OPER	2F1	63.71 L	49.01	6.74	0.0	0.00	0.00	0.00	
		-27.21 R	-20.93	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.13 L	62.41	2.74	0.0	0.00	0.00	0.00	
		-39.04 R	-30.03	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	82.23 L	63.25	2.74	0.0	0.00	0.00	0.00	
		-42.01 R	-32.32	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.63 R	64.33	63.74	0.0	0.00	0.00	0.00	
		-36.75 R	-28.27	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	4.19	1.55	4.66	HS 30.93	55.7
HS20	2.90	6.98	2.58	7.77	HS 51.55	92.8
2F1	4.50	10.38	4.00	11.55	0.00	60.0
3F1	3.54	7.23	3.14	8.05	0.00	72.3
4F1	3.49	6.72	3.10	7.48	0.00	83.7
5C1	3.43	7.68	3.05	8.55	0.00	121.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S03
Check Point I. D. 1.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.5	73.2
OPER	151.3	-110.8	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-25.37	3.32	-19.52	2.55	-21.50	4.92	-16.54	3.79
OPER	HS20	-25.37	3.32	-19.52	2.55	-21.50	4.92	-16.54	3.79
OPER	2F1	-16.06	3.02	-12.35	2.32	0.00	0.00	0.00	0.00
OPER	3F1	-21.53	3.21	-16.56	2.47	0.00	0.00	0.00	0.00
OPER	4F1	-22.18	2.34	-17.06	1.80	0.00	0.00	0.00	0.00
OPER	5C1	-20.73	4.51	-15.94	3.47	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.62	14.86	HS 52.41	94.3
HS20	4.37	24.77	HS 87.35	157.2
2F1	6.90	40.35	0.00	103.5
3F1	5.15	37.94	0.00	118.4
4F1	5.00	52.02	0.00	134.9
5C1	5.35	27.02	0.00	213.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
Member I. D. S03		2F1		
Check Point I. D. 1.700		3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.1	-162.1	173.1	-162.1	159.4	-175.9	159.4	-175.9
OPER	279.4	-279.4	279.4	-279.4	265.7	-293.1	265.7	-293.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.91	L	76.08	-11.26	0.0	72.00	55.39	16.74	
		-40.48	R	-31.14	56.70	0.0	-32.23	-24.79	33.48	81.32
OPER	HS20	98.91	L	76.08	-11.26	0.0	72.00	55.39	16.74	
		-40.48	R	-31.14	56.70	0.0	-32.23	-24.79	33.48	81.32
OPER	2F1	63.71	L	49.01	6.74	0.0	0.00	0.00	0.00	
		-27.21	R	-20.93	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.13	L	62.41	2.74	0.0	0.00	0.00	0.00	
		-39.04	R	-30.03	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	82.23	L	63.25	2.74	0.0	0.00	0.00	0.00	
		-42.01	R	-32.32	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.63	R	64.33	63.74	0.0	0.00	0.00	0.00	
		-36.75	R	-28.27	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.61	4.34	1.61	4.34	HS	32.23	58.0
HS20	2.69	7.24	2.69	7.24	HS	53.72	96.7
2F1	4.17	10.77	4.17	10.77		0.00	62.5
3F1	3.28	7.51	3.28	7.51		0.00	75.3
4F1	3.23	6.98	3.23	6.98		0.00	87.2

5C1	3.18	7.98	3.18	7.98		0.00	127.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S03
Check Point I. D. 1.800
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.4	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	61.69 L	47.46	-8.87	0.0	47.01	36.16	19.13	
		-46.26 R	-35.58	56.70	0.0	-36.90	-28.39	33.48	81.32
OPER	HS20	61.69 L	47.46	-8.87	0.0	47.01	36.16	19.13	
		-46.26 R	-35.58	56.70	0.0	-36.90	-28.39	33.48	81.32
OPER	2F1	40.21 L	30.93	9.13	0.0	0.00	0.00	0.00	
		-31.10 R	-23.92	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	48.36 L	37.20	5.13	0.0	0.00	0.00	0.00	
		-44.62 R	-34.32	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.16 L	33.97	1.13	0.0	0.00	0.00	0.00	
		-48.01 R	-36.93	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.23 R	44.79	66.13	0.0	0.00	0.00	0.00	
		-42.00 R	-32.31	45.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.94	3.46	2.63	3.88	HS 52.59	94.7
HS20	4.90	5.77	4.38	6.46	HS 87.65	157.8
2F1	7.52	8.58	6.72	9.61	0.00	100.9
3F1	6.25	5.98	5.59	6.70	0.00	128.6
4F1	6.85	5.56	6.12	6.23	0.00	150.1
5C1	5.19	6.36	4.64	7.12	0.00	185.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S03
Check Point I. D. 1.800

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.4	74.2
OPER	151.3	-109.0	123.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-30.85	1.15	-23.73	0.88	-24.31	2.96	-18.70	2.28
OPER	HS20	-30.85	1.15	-23.73	0.88	-24.31	2.96	-18.70	2.28
OPER	2F1	-18.38	1.49	-14.14	1.14	0.00	0.00	0.00	0.00
OPER	3F1	-25.31	1.20	-19.47	0.92	0.00	0.00	0.00	0.00
OPER	4F1	-25.80	0.67	-19.85	0.51	0.00	0.00	0.00	0.00
OPER	5C1	-23.87	2.56	-18.36	1.97	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.12	25.06	HS 42.41	76.3
HS20	3.53	41.76	HS 70.68	127.2
2F1	5.93	83.14	0.00	89.0
3F1	4.31	103.25	0.00	99.1
4F1	4.22	185.21	0.00	114.1
5C1	4.57	48.31	0.00	182.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.7	-166.6	168.7	-166.6
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-277.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	61.69	L	47.46	-8.87	0.0	47.01	36.16	19.13	
		-46.26	R	-35.58	56.70	0.0	-36.90	-28.39	33.48	81.32
OPER	HS20	61.69	L	47.46	-8.87	0.0	47.01	36.16	19.13	
		-46.26	R	-35.58	56.70	0.0	-36.90	-28.39	33.48	81.32
OPER	2F1	40.21	L	30.93	9.13	0.0	0.00	0.00	0.00	
		-31.10	R	-23.92	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	48.36	L	37.20	5.13	0.0	0.00	0.00	0.00	
		-44.62	R	-34.32	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.16	L	33.97	1.13	0.0	0.00	0.00	0.00	
		-48.01	R	-36.93	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.23	R	44.79	66.13	0.0	0.00	0.00	0.00	
		-42.00	R	-32.31	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.73	3.60	2.73	3.60	HS	54.68	98.4
HS20	4.56	6.00	4.56	6.00	HS	91.13	164.0
2F1	6.99	8.93	6.99	8.93		0.00	104.9
3F1	5.81	6.22	5.81	6.22		0.00	133.7
4F1	6.37	5.78	6.37	5.78		0.00	156.2

5C1	4.83	6.61	4.83	6.61	0.00	193.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-19.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	193.2	-148.3	174.0	-167.5
OPER	300.6C	-268.7	268.7	-300.6C	322.1	-247.2	290.1	-279.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.67 R	8.97	85.40	0.0	22.91	17.62	21.53	
		-59.93 R	-46.10	42.70	0.0	-60.44	-46.49	33.48	9.57
OPER	HS20	11.67 R	8.97	85.40	0.0	22.91	17.62	21.53	
		-59.93 R	-46.10	42.70	0.0	-60.44	-46.49	33.48	9.57
OPER	2F1	11.27 L	8.67	11.53	0.0	0.00	0.00	0.00	
		-34.99 R	-26.91	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.45 R	10.35	67.40	0.0	0.00	0.00	0.00	
		-50.20 R	-38.61	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.30 R	11.00	71.40	0.0	0.00	0.00	0.00	
		-54.01 R	-41.55	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.43 R	20.33	68.53	0.0	0.00	0.00	0.00	
		-48.78 L	-37.53	-11.12	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.43	2.45	7.60	2.77	HS 49.09	88.4
HS20	14.06	4.09	12.66	4.62	HS 81.81	147.3
2F1	28.58	7.07	25.74	7.98	0.00	106.0
3F1	23.94	4.93	21.57	5.56	0.00	113.3
4F1	22.52	4.58	20.29	5.17	0.00	123.6
5C1	12.19	5.07	10.98	5.72	0.00	202.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.8	-8.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.3	75.3
OPER	151.3	-107.2	125.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-35.84	0.62	-27.57	0.48	-26.94	1.38	-20.72	1.06
OPER	HS20	-35.84	0.62	-27.57	0.48	-26.94	1.38	-20.72	1.06
OPER	2F1	-20.44	0.44	-15.72	0.34	0.00	0.00	0.00	0.00
OPER	3F1	-28.72	0.62	-22.10	0.48	0.00	0.00	0.00	0.00
OPER	4F1	-30.04	0.67	-23.11	0.51	0.00	0.00	0.00	0.00
OPER	5C1	-27.19	0.94	-20.92	0.73	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.79	54.66	HS 35.90	64.6
HS20	2.99	91.11	HS 59.84	107.7
2F1	5.25	288.18	0.00	78.7
3F1	3.73	200.87	0.00	85.9
4F1	3.57	187.89	0.00	96.4
5C1	3.94	132.98	0.00	157.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-19.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	159.1	-176.2	159.1	-176.2	180.5	-154.8	180.5	-154.8
OPER	279.4	-279.4	279.4	-279.4	300.8	-258.0	300.8	-258.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	11.67	R	8.97	85.40	0.0	22.91	17.62	21.53	
		-59.93	R	-46.10	42.70	0.0	-60.44	-46.49	33.48	9.57
OPER	HS20	11.67	R	8.97	85.40	0.0	22.91	17.62	21.53	
		-59.93	R	-46.10	42.70	0.0	-60.44	-46.49	33.48	9.57
OPER	2F1	11.27	L	8.67	11.53	0.0	0.00	0.00	0.00	
		-34.99	R	-26.91	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.45	R	10.35	67.40	0.0	0.00	0.00	0.00	
		-50.20	R	-38.61	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.30	R	11.00	71.40	0.0	0.00	0.00	0.00	
		-54.01	R	-41.55	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.43	R	20.33	68.53	0.0	0.00	0.00	0.00	
		-48.78	L	-37.53	-11.12	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.88	2.56	7.88	2.56	HS	51.22	92.2
HS20	13.13	4.27	13.13	4.27	HS	85.37	153.7
2F1	26.70	7.37	26.70	7.37		0.00	110.6
3F1	22.37	5.14	22.37	5.14		0.00	118.2
4F1	21.04	4.78	21.04	4.78		0.00	129.0

5C1	11.38	5.29	11.38	5.29		0.00	211.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42	R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52	L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75	R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82	R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29	R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	13.40	1.19	12.16	1.36	HS	23.85	42.9
HS20	22.34	1.99	20.27	2.27	HS	39.76	71.6
2F1	33.22	4.33	30.15	4.95		0.00	65.0
3F1	23.16	2.91	21.02	3.33		0.00	66.9
4F1	21.52	2.43	19.53	2.78		0.00	65.6
5C1	26.59	2.75	24.13	3.14		0.00	109.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	-0.9	-8.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.3	64.1
OPER	151.3	-105.4	106.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-35.84	37.28	-27.57	28.68	-26.94	29.08	-20.72	22.37
OPER	HS20	-35.84	37.28	-27.57	28.68	-26.94	29.08	-20.72	22.37
OPER	2F1	-20.44	21.18	-15.72	16.29	0.00	0.00	0.00	0.00
OPER	3F1	-28.72	29.85	-22.10	22.96	0.00	0.00	0.00	0.00
OPER	4F1	-30.04	31.38	-23.11	24.14	0.00	0.00	0.00	0.00
OPER	5C1	-27.19	28.92	-20.92	22.25	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.57	1.72	HS	31.42	56.5
HS20	2.62	2.87	HS	52.36	94.2
2F1	4.75	5.04		0.00	71.3
3F1	3.32	3.58		0.00	76.4
4F1	3.11	3.40		0.00	84.0
5C1	3.49	3.69		0.00	139.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42	R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52	L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75	R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82	R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29	R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.58	1.25	12.58	1.25	HS	25.00	45.0
HS20	20.97	2.08	20.97	2.08	HS	41.67	75.0
2F1	31.18	4.54	31.18	4.54		0.00	68.1
3F1	21.74	3.05	21.74	3.05		0.00	70.1
4F1	20.20	2.55	20.20	2.55		0.00	68.8

5C1	24.95	2.88	24.95	2.88		0.00	115.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42	R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52	L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75	R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82	R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29	R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.40	1.19	12.16	1.36	HS	23.85	42.9
HS20	22.34	1.99	20.27	2.27	HS	39.76	71.6
2F1	33.22	4.33	30.15	4.95		0.00	65.0
3F1	23.16	2.91	21.02	3.33		0.00	66.9
4F1	21.52	2.43	19.53	2.78		0.00	65.6
5C1	26.59	2.75	24.13	3.14		0.00	109.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	0.8	-10.0	8.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.3	64.1
OPER	151.3	-105.4	106.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-40.27	37.28	-30.98	28.68	-29.34	29.08	-22.57	22.37
OPER	HS20	-40.27	37.28	-30.98	28.68	-29.34	29.08	-22.57	22.37
OPER	2F1	-22.19	21.18	-17.07	16.29	0.00	0.00	0.00	0.00
OPER	3F1	-31.72	29.85	-24.40	22.96	0.00	0.00	0.00	0.00
OPER	4F1	-33.90	31.38	-26.07	24.14	0.00	0.00	0.00	0.00
OPER	5C1	-30.19	28.92	-23.23	22.25	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.57	1.72	HS 31.42	56.5
HS20	2.62	2.87	HS 52.36	94.2
2F1	4.75	5.04	0.00	71.3
3F1	3.32	3.58	0.00	76.4
4F1	3.11	3.40	0.00	84.0
5C1	3.49	3.69	0.00	139.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	HS20	15.49	R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30	L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42	R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52	L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75	R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82	R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29	R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.58	1.25	12.58	1.25	HS 25.00	45.0
HS20	20.97	2.08	20.97	2.08	HS 41.67	75.0
2F1	31.18	4.54	31.18	4.54	0.00	68.1
3F1	21.74	3.05	21.74	3.05	0.00	70.1
4F1	20.20	2.55	20.20	2.55	0.00	68.8

5C1	24.95	2.88	24.95	2.88		0.00	115.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-22.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	195.2	-146.3	176.0	-165.5
OPER	300.6C	-268.7	268.7	-300.6C	325.4	-243.9	293.4	-275.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.74 R	16.72	54.31	0.0	23.81	18.31	26.31	
		-75.31 R	-57.93	33.13	0.0	-62.54	-48.11	14.35	38.27
OPER	HS20	21.74 R	16.72	54.31	0.0	23.81	18.31	26.31	
		-75.31 R	-57.93	33.13	0.0	-62.54	-48.11	14.35	38.27
OPER	2F1	16.36 R	12.58	36.31	0.0	0.00	0.00	0.00	
		-44.99 L	-34.61	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.18 R	10.91	40.31	0.0	0.00	0.00	0.00	
		-64.36 L	-49.51	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.94 R	6.11	71.40	0.0	0.00	0.00	0.00	
		-68.98 L	-53.06	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.63 R	18.18	77.31	0.0	0.00	0.00	0.00	
		-59.16 L	-45.50	-2.43	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.20	1.94	7.39	2.20	HS	38.87	70.0
HS20	13.67	3.24	12.32	3.66	HS	64.78	116.6
2F1	19.89	5.42	17.94	6.13		0.00	81.3
3F1	22.95	3.79	20.70	4.29		0.00	87.2
4F1	40.96	3.54	36.93	4.00		0.00	95.5
5C1	13.77	4.12	12.41	4.66		0.00	164.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.100

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.5	65.2
OPER	151.3	-124.1	108.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.11	32.69	-2.39	25.14	-3.21	26.19	-2.47	20.15
OPER	HS20	-3.11	32.69	-2.39	25.14	-3.21	26.19	-2.47	20.15
OPER	2F1	-2.18	19.16	-1.68	14.73	0.00	0.00	0.00	0.00
OPER	3F1	-3.12	26.41	-2.40	20.31	0.00	0.00	0.00	0.00
OPER	4F1	-3.34	27.26	-2.57	20.97	0.00	0.00	0.00	0.00
OPER	5C1	-3.18	25.54	-2.45	19.65	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.18	1.99	HS 39.88	71.8
HS20	38.63	3.32	HS 66.46	119.6
2F1	57.00	5.67	0.00	85.1
3F1	39.73	4.11	0.00	94.6
4F1	37.16	3.98	0.00	107.6
5C1	38.99	4.25	0.00	170.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-22.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	157.7	-177.5	157.7	-177.5	182.5	-152.8	182.5	-152.8
OPER	279.4	-279.4	279.4	-279.4	304.1	-254.7	304.1	-254.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.74	R	16.72	54.31	0.0	23.81	18.31	26.31	
		-75.31	R	-57.93	33.13	0.0	-62.54	-48.11	14.35	38.27
OPER	HS20	21.74	R	16.72	54.31	0.0	23.81	18.31	26.31	
		-75.31	R	-57.93	33.13	0.0	-62.54	-48.11	14.35	38.27
OPER	2F1	16.36	R	12.58	36.31	0.0	0.00	0.00	0.00	
		-44.99	L	-34.61	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.18	R	10.91	40.31	0.0	0.00	0.00	0.00	
		-64.36	L	-49.51	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.94	R	6.11	71.40	0.0	0.00	0.00	0.00	
		-68.98	L	-53.06	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.63	R	18.18	77.31	0.0	0.00	0.00	0.00	
		-59.16	L	-45.50	-2.43	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.67	2.03	7.67	2.03	HS	40.58	73.0
HS20	12.78	3.38	12.78	3.38	HS	67.63	121.7
2F1	18.60	5.66	18.60	5.66		0.00	84.9
3F1	21.45	3.96	21.45	3.96		0.00	91.0
4F1	38.29	3.69	38.29	3.69		0.00	99.7

5C1	12.87	4.30	12.87	4.30	0.00	172.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-7.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.4	-156.2	166.2	-175.4
OPER	300.6C	-268.7	268.7	-300.6C	309.0	-260.3	277.0	-292.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.16	R	50.89	56.70	0.0	45.53	35.02	28.70	
		-62.25	L	-47.88	-8.87	0.0	-42.47	-32.67	14.35	38.27
OPER	HS20	66.16	R	50.89	56.70	0.0	45.53	35.02	28.70	
		-62.25	L	-47.88	-8.87	0.0	-42.47	-32.67	14.35	38.27
OPER	2F1	42.76	R	32.90	38.70	0.0	0.00	0.00	0.00	
		-38.45	L	-29.58	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	52.25	R	40.20	42.70	0.0	0.00	0.00	0.00	
		-55.01	L	-42.32	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	48.39	R	37.22	46.70	0.0	0.00	0.00	0.00	
		-58.96	L	-45.36	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	51.89	R	39.92	44.70	0.0	0.00	0.00	0.00	
		-51.32	L	-39.47	2.35	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.80	2.51	2.51	2.82	HS	50.18	90.3
HS20	4.67	4.18	4.19	4.70	HS	83.64	150.5
2F1	7.22	6.77	6.48	7.60		0.00	97.2
3F1	5.91	4.73	5.30	5.31		0.00	108.8
4F1	6.39	4.41	5.72	4.96		0.00	119.2
5C1	5.95	5.07	5.34	5.70		0.00	202.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 2.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.4	66.2
OPER	151.3	-122.3	110.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.11	27.47	-2.39	21.13	-4.78	23.07	-3.67	17.75
OPER	HS20	-3.11	27.47	-2.39	21.13	-4.78	23.07	-3.67	17.75
OPER	2F1	-2.18	16.65	-1.68	12.81	0.00	0.00	0.00	0.00
OPER	3F1	-3.12	22.50	-2.40	17.31	0.00	0.00	0.00	0.00
OPER	4F1	-3.34	23.34	-2.57	17.95	0.00	0.00	0.00	0.00
OPER	5C1	-4.95	21.74	-3.81	16.72	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	15.37	2.41	HS	48.24	86.8
HS20	25.61	4.02	HS	80.40	144.7
2F1	56.17	6.63		0.00	99.5
3F1	39.15	4.91		0.00	112.9
4F1	36.62	4.73		0.00	127.7
5C1	24.70	5.08		0.00	203.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-7.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.3	-171.0	164.3	-171.0	172.6	-162.6	172.6	-162.6
OPER	279.4	-279.4	279.4	-279.4	287.7	-271.1	287.7	-271.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.16	R	50.89	56.70	0.0	45.53	35.02	28.70	
		-62.25	L	-47.88	-8.87	0.0	-42.47	-32.67	14.35	38.27
OPER	HS20	66.16	R	50.89	56.70	0.0	45.53	35.02	28.70	
		-62.25	L	-47.88	-8.87	0.0	-42.47	-32.67	14.35	38.27
OPER	2F1	42.76	R	32.90	38.70	0.0	0.00	0.00	0.00	
		-38.45	L	-29.58	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	52.25	R	40.20	42.70	0.0	0.00	0.00	0.00	
		-55.01	L	-42.32	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	48.39	R	37.22	46.70	0.0	0.00	0.00	0.00	
		-58.96	L	-45.36	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	51.89	R	39.92	44.70	0.0	0.00	0.00	0.00	
		-51.32	L	-39.47	2.35	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.61	2.61	2.61	2.61	HS	52.19	93.9
HS20	4.35	4.35	4.35	4.35	HS	86.98	156.6
2F1	6.73	7.05	6.73	7.05		0.00	100.9
3F1	5.51	4.93	5.51	4.93		0.00	113.3
4F1	5.95	4.60	5.95	4.60		0.00	124.1

5C1	5.55	5.28	5.55	5.28		0.00	211.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	178.1	-163.4	158.9	-182.6
OPER	300.6C	-268.7	268.7	-300.6C	296.9	-272.4	264.9	-304.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	93.24 R	71.73	59.09	0.0	67.74	52.11	31.09	
		-51.67 L	-39.75	-8.87	0.0	-37.40	-28.77	14.35	0.00
OPER	HS20	93.24 R	71.73	59.09	0.0	67.74	52.11	31.09	
		-51.67 L	-39.75	-8.87	0.0	-37.40	-28.77	14.35	0.00
OPER	2F1	61.53 R	47.33	41.09	0.0	0.00	0.00	0.00	
		-31.92 L	-24.56	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	77.76 R	59.81	45.09	0.0	0.00	0.00	0.00	
		-45.67 L	-35.13	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	79.23 R	60.95	45.09	0.0	0.00	0.00	0.00	
		-48.95 L	-37.65	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.97 R	58.44	47.09	0.0	0.00	0.00	0.00	
		-46.94 L	-36.11	3.13	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	3.16	1.71	3.53	HS 34.09	61.4
HS20	3.18	5.27	2.84	5.89	HS 56.82	102.3
2F1	4.82	8.53	4.30	9.54	0.00	64.6
3F1	3.82	5.97	3.41	6.66	0.00	78.4
4F1	3.75	5.57	3.34	6.22	0.00	90.3
5C1	3.91	5.80	3.49	6.48	0.00	139.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S03
Check Point I. D. 2.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.3	67.3
OPER	151.3	-120.5	112.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.73	22.82	-4.41	17.55	-7.33	19.82	-5.64	15.24
OPER	HS20	-5.73	22.82	-4.41	17.55	-7.33	19.82	-5.64	15.24
OPER	2F1	-4.04	13.99	-3.10	10.76	0.00	0.00	0.00	0.00
OPER	3F1	-4.24	18.48	-3.26	14.21	0.00	0.00	0.00	0.00
OPER	4F1	-3.34	19.08	-2.57	14.68	0.00	0.00	0.00	0.00
OPER	5C1	-7.03	17.87	-5.41	13.75	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	9.87	2.95	HS	59.01	106.2
HS20	16.44	4.92	HS	98.34	177.0
2F1	29.87	8.02		0.00	120.3
3F1	28.43	6.07		0.00	139.7
4F1	36.09	5.88		0.00	158.8
5C1	17.14	6.28		0.00	251.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.1	-166.1	169.1	-166.1	165.4	-169.9	165.4	-169.9
OPER	279.4	-279.4	279.4	-279.4	275.6	-283.2	275.6	-283.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	93.24	R	71.73	59.09	0.0	67.74	52.11	31.09	
		-51.67	L	-39.75	-8.87	0.0	-37.40	-28.77	14.35	0.00
OPER	HS20	93.24	R	71.73	59.09	0.0	67.74	52.11	31.09	
		-51.67	L	-39.75	-8.87	0.0	-37.40	-28.77	14.35	0.00
OPER	2F1	61.53	R	47.33	41.09	0.0	0.00	0.00	0.00	
		-31.92	L	-24.56	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	77.76	R	59.81	45.09	0.0	0.00	0.00	0.00	
		-45.67	L	-35.13	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	79.23	R	60.95	45.09	0.0	0.00	0.00	0.00	
		-48.95	L	-37.65	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.97	R	58.44	47.09	0.0	0.00	0.00	0.00	
		-46.94	L	-36.11	3.13	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	3.29	1.77	3.29	HS	35.47	63.9
HS20	2.96	5.48	2.96	5.48	HS	59.12	106.4
2F1	4.48	8.87	4.48	8.87		0.00	67.2
3F1	3.55	6.20	3.55	6.20		0.00	81.5
4F1	3.48	5.78	3.48	5.78		0.00	93.9

5C1	3.63	6.03	3.63	6.03	0.00	145.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.1	154.3	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.1	-280.2	257.1	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.09 R	79.30	61.48	0.0	80.84	62.18	33.48	
		-41.10 L	-31.61	-8.87	0.0	-32.32	-24.87	14.35	0.00
OPER	HS20	103.09 R	79.30	61.48	0.0	80.84	62.18	33.48	
		-41.10 L	-31.61	-8.87	0.0	-32.32	-24.87	14.35	0.00
OPER	2F1	71.35 R	54.88	43.48	0.0	0.00	0.00	0.00	
		-25.39 L	-19.53	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.64 R	69.72	43.48	0.0	0.00	0.00	0.00	
		-36.32 L	-27.94	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.79 R	74.46	47.48	0.0	0.00	0.00	0.00	
		-38.93 L	-29.95	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	88.69 R	68.22	84.48	0.0	0.00	0.00	0.00	
		-43.24 L	-33.26	4.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.68	4.09	1.50	4.56	HS 29.93	53.9
HS20	2.80	6.82	2.49	7.60	HS 49.88	89.8
2F1	4.05	11.04	3.60	12.30	0.00	54.1
3F1	3.19	7.72	2.84	8.60	0.00	65.2
4F1	2.99	7.20	2.66	8.02	0.00	71.7
5C1	3.26	6.48	2.90	7.22	0.00	116.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	2.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.2	68.4
OPER	151.3	-118.7	114.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.63	19.05	-8.17	14.66	-10.19	16.54	-7.84	12.72
OPER	HS20	-10.63	19.05	-8.17	14.66	-10.19	16.54	-7.84	12.72
OPER	2F1	-6.36	11.29	-4.90	8.68	0.00	0.00	0.00	0.00
OPER	3F1	-7.46	14.50	-5.74	11.16	0.00	0.00	0.00	0.00
OPER	4F1	-6.23	14.61	-4.79	11.24	0.00	0.00	0.00	0.00
OPER	5C1	-9.39	14.89	-7.22	11.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.70	3.59	HS 71.80	129.2
HS20	11.18	5.98	HS 119.66	215.4
2F1	18.66	10.10	0.00	151.5
3F1	15.91	7.86	0.00	180.8
4F1	19.05	7.80	0.00	210.6
5C1	12.65	7.66	0.00	306.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-174.6
OPER	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-291.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.09	R	79.30	61.48	0.0	80.84	62.18	33.48	
		-41.10	L	-31.61	-8.87	0.0	-32.32	-24.87	14.35	0.00
OPER	HS20	103.09	R	79.30	61.48	0.0	80.84	62.18	33.48	
		-41.10	L	-31.61	-8.87	0.0	-32.32	-24.87	14.35	0.00
OPER	2F1	71.35	R	54.88	43.48	0.0	0.00	0.00	0.00	
		-25.39	L	-19.53	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.64	R	69.72	43.48	0.0	0.00	0.00	0.00	
		-36.32	L	-27.94	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.79	R	74.46	47.48	0.0	0.00	0.00	0.00	
		-38.93	L	-29.95	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	88.69	R	68.22	84.48	0.0	0.00	0.00	0.00	
		-43.24	L	-33.26	4.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	4.25	1.56	4.25	HS	31.18	56.1
HS20	2.60	7.08	2.60	7.08	HS	51.96	93.5
2F1	3.75	11.46	3.75	11.46		0.00	56.3
3F1	2.95	8.01	2.95	8.01		0.00	68.0
4F1	2.77	7.47	2.77	7.47		0.00	74.7

5C1	3.02	6.73	3.02	6.73	0.00	120.8

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.1	-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 Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70	L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52	L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	HS20	98.70	L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52	L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	2F1	72.01	L	55.39	25.88	0.0	0.00	0.00	0.00	
		-18.86	L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59	R	73.53	45.88	0.0	0.00	0.00	0.00	
		-26.98	L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25	R	76.34	49.88	0.0	0.00	0.00	0.00	
		-28.91	L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55	R	71.96	86.88	0.0	0.00	0.00	0.00	
		-40.83	L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	5.58	1.54	6.21	HS	30.83	55.5
HS20	2.89	9.30	2.57	10.34	HS	51.38	92.5
2F1	3.97	15.05	3.52	16.74		0.00	52.8
3F1	2.99	10.52	2.65	11.70		0.00	61.0
4F1	2.88	9.81	2.56	10.92		0.00	69.0
5C1	3.05	6.95	2.71	7.73		0.00	108.4

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-15.05	15.01	-11.58	11.54	-13.27	13.32	-10.21	10.25
OPER	HS20	-15.05	15.01	-11.58	11.54	-13.27	13.32	-10.21	10.25
OPER	2F1	-8.91	8.64	-6.86	6.64	0.00	0.00	0.00	0.00
OPER	3F1	-11.05	10.72	-8.50	8.25	0.00	0.00	0.00	0.00
OPER	4F1	-10.52	10.08	-8.10	7.75	0.00	0.00	0.00	0.00
OPER	5C1	-11.96	12.26	-9.20	9.43	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.66	4.63	HS 92.61	166.7
HS20	7.77	7.72	HS 154.34	277.8
2F1	13.12	13.41	0.00	196.8
3F1	10.59	10.80	0.00	243.4
4F1	11.11	11.49	0.00	300.0
5C1	9.78	9.44	0.00	377.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	98.70	L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52	L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	HS20	98.70	L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52	L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	2F1	72.01	L	55.39	25.88	0.0	0.00	0.00	0.00	
		-18.86	L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59	R	73.53	45.88	0.0	0.00	0.00	0.00	
		-26.98	L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25	R	76.34	49.88	0.0	0.00	0.00	0.00	
		-28.91	L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55	R	71.96	86.88	0.0	0.00	0.00	0.00	
		-40.83	L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.61	5.79	1.61	5.79	HS	32.14	57.8
HS20	2.68	9.65	2.68	9.65	HS	53.56	96.4
2F1	3.67	15.62	3.67	15.62		0.00	55.1
3F1	2.77	10.92	2.77	10.92		0.00	63.6
4F1	2.66	10.19	2.66	10.19		0.00	71.9

5C1	2.83	7.21	2.83	7.21		0.00	113.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.0	-169.6	152.8	-188.8
OPER	300.6C	-268.7	268.7	-300.6C	286.6	-282.7	254.7	-314.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.20	L	77.84	10.27	0.0	81.04	62.34	38.27	
		-30.99	R	-23.84	80.62	0.0	-28.44	-21.88	57.40	0.00
OPER	HS20	101.20	L	77.84	10.27	0.0	81.04	62.34	38.27	
		-30.99	R	-23.84	80.62	0.0	-28.44	-21.88	57.40	0.00
OPER	2F1	70.62	L	54.33	28.27	0.0	0.00	0.00	0.00	
		-20.83	R	-16.03	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	89.38	L	68.76	28.27	0.0	0.00	0.00	0.00	
		-29.89	R	-22.99	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	95.46	L	73.43	24.27	0.0	0.00	0.00	0.00	
		-32.16	R	-24.74	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.03	L	69.26	26.27	0.0	0.00	0.00	0.00	
		-39.49	L	-30.38	5.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.70	5.47	1.51	6.09	HS	30.20	54.4
HS20	2.83	9.12	2.52	10.15	HS	50.33	90.6
2F1	4.06	13.57	3.61	15.10		0.00	54.1
3F1	3.21	9.46	2.85	10.53		0.00	65.5
4F1	3.00	8.79	2.67	9.78		0.00	72.0
5C1	3.18	7.16	2.83	7.97		0.00	113.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.600

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.0	70.6
OPER	151.3	-115.0	117.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.94	10.44	-14.57	8.03	-16.49	10.27	-12.69	7.90
OPER	HS20	-18.94	10.44	-14.57	8.03	-16.49	10.27	-12.69	7.90
OPER	2F1	-11.59	6.14	-8.91	4.73	0.00	0.00	0.00	0.00
OPER	3F1	-14.90	7.24	-11.46	5.57	0.00	0.00	0.00	0.00
OPER	4F1	-15.05	6.14	-11.58	4.72	0.00	0.00	0.00	0.00
OPER	5C1	-14.71	9.99	-11.31	7.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.64	6.77	HS 72.89	131.2
HS20	6.07	11.28	HS 121.48	218.7
2F1	9.93	19.16	0.00	148.9
3F1	7.72	16.25	0.00	177.5
4F1	7.64	19.18	0.00	206.3
5C1	7.82	11.79	0.00	312.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.2	-162.0	173.2	-162.0	159.2	-176.0	159.2	-176.0
OPER	279.4	-279.4	279.4	-279.4	265.4	-293.4	265.4	-293.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.20	L	77.84	10.27	0.0	81.04	62.34	38.27	
		-30.99	R	-23.84	80.62	0.0	-28.44	-21.88	57.40	0.00
OPER	HS20	101.20	L	77.84	10.27	0.0	81.04	62.34	38.27	
		-30.99	R	-23.84	80.62	0.0	-28.44	-21.88	57.40	0.00
OPER	2F1	70.62	L	54.33	28.27	0.0	0.00	0.00	0.00	
		-20.83	R	-16.03	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	89.38	L	68.76	28.27	0.0	0.00	0.00	0.00	
		-29.89	R	-22.99	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	95.46	L	73.43	24.27	0.0	0.00	0.00	0.00	
		-32.16	R	-24.74	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.03	L	69.26	26.27	0.0	0.00	0.00	0.00	
		-39.49	L	-30.38	5.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	5.68	1.57	5.68	HS	31.47	56.6
HS20	2.62	9.47	2.62	9.47	HS	52.45	94.4
2F1	3.76	14.08	3.76	14.08		0.00	56.4
3F1	2.97	9.82	2.97	9.82		0.00	68.3
4F1	2.78	9.12	2.78	9.12		0.00	75.1

5C1	2.95	7.43	2.95	7.43	0.00	117.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.2	-166.4	156.0	-185.6
OPER	300.6C	-268.7	268.7	-300.6C	292.0	-277.3	260.0	-309.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.72 L	69.78	12.66	0.0	68.31	52.54	40.66	
		-38.73 R	-29.80	80.62	0.0	-31.77	-24.44	57.40	0.00
OPER	HS20	90.72 L	69.78	12.66	0.0	68.31	52.54	40.66	
		-38.73 R	-29.80	80.62	0.0	-31.77	-24.44	57.40	0.00
OPER	2F1	59.96 L	46.12	30.66	0.0	0.00	0.00	0.00	
		-26.04 R	-20.03	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.56 L	58.12	26.66	0.0	0.00	0.00	0.00	
		-37.36 R	-28.74	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.83 L	59.10	26.66	0.0	0.00	0.00	0.00	
		-40.20 R	-30.92	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.95 R	60.73	87.66	0.0	0.00	0.00	0.00	
		-39.92 R	-30.70	68.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.30	1.72	4.79	HS 34.40	61.9
HS20	3.22	7.16	2.87	7.98	HS 57.33	103.2
2F1	4.87	10.65	4.34	11.88	0.00	65.1
3F1	3.86	7.42	3.44	8.28	0.00	79.1
4F1	3.80	6.90	3.38	7.69	0.00	91.4
5C1	3.70	6.95	3.29	7.75	0.00	131.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-2.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.9	71.7
OPER	151.3	-113.2	119.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.69	5.44	-17.45	4.18	-19.75	7.46	-15.20	5.74
OPER	HS20	-22.69	5.44	-17.45	4.18	-19.75	7.46	-15.20	5.74
OPER	2F1	-14.29	3.90	-10.99	3.00	0.00	0.00	0.00	0.00
OPER	3F1	-18.91	4.16	-14.54	3.20	0.00	0.00	0.00	0.00
OPER	4F1	-19.46	4.16	-14.97	3.20	0.00	0.00	0.00	0.00
OPER	5C1	-17.98	7.82	-13.83	6.01	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	2.99	9.61	HS	59.88	107.8
HS20	4.99	16.01	HS	99.80	179.6
2F1	7.92	30.67		0.00	118.8
3F1	5.99	28.73		0.00	137.7
4F1	5.82	28.73		0.00	157.1
5C1	6.30	15.29		0.00	251.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.1	-164.2	171.1	-164.2	162.5	-172.8	162.5	-172.8
OPER	279.4	-279.4	279.4	-279.4	270.8	-288.0	270.8	-288.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.72	L	69.78	12.66	0.0	68.31	52.54	40.66	
		-38.73	R	-29.80	80.62	0.0	-31.77	-24.44	57.40	0.00
OPER	HS20	90.72	L	69.78	12.66	0.0	68.31	52.54	40.66	
		-38.73	R	-29.80	80.62	0.0	-31.77	-24.44	57.40	0.00
OPER	2F1	59.96	L	46.12	30.66	0.0	0.00	0.00	0.00	
		-26.04	R	-20.03	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.56	L	58.12	26.66	0.0	0.00	0.00	0.00	
		-37.36	R	-28.74	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.83	L	59.10	26.66	0.0	0.00	0.00	0.00	
		-40.20	R	-30.92	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.95	R	60.73	87.66	0.0	0.00	0.00	0.00	
		-39.92	R	-30.70	68.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.46	1.79	4.46	HS	35.82	64.5
HS20	2.98	7.44	2.98	7.44	HS	59.70	107.5
2F1	4.52	11.06	4.52	11.06		0.00	67.7
3F1	3.58	7.71	3.58	7.71		0.00	82.4
4F1	3.52	7.16	3.52	7.16		0.00	95.2

5C1	3.43	7.22	3.43	7.22	0.00	137.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.79	L	48.30	15.05	0.0	47.65	36.66	43.05	
		-46.48	R	-35.76	80.62	0.0	-37.04	-28.49	57.40	105.23
OPER	HS20	62.79	L	48.30	15.05	0.0	47.65	36.66	43.05	
		-46.48	R	-35.76	80.62	0.0	-37.04	-28.49	57.40	105.23
OPER	2F1	40.60	L	31.23	33.05	0.0	0.00	0.00	0.00	
		-31.25	R	-24.04	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.01	L	37.70	29.05	0.0	0.00	0.00	0.00	
		-44.83	R	-34.49	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.87	L	34.51	25.05	0.0	0.00	0.00	0.00	
		-48.24	R	-37.11	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.70	R	45.16	90.05	0.0	0.00	0.00	0.00	
		-41.67	R	-32.05	69.40	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.87	HS	51.54	92.8
HS20	4.80	5.76	4.30	6.45	HS	85.90	154.6
2F1	7.43	8.56	6.64	9.59		0.00	99.6
3F1	6.16	5.97	5.50	6.68		0.00	126.6
4F1	6.72	5.55	6.01	6.21		0.00	149.8
5C1	5.14	6.42	4.59	7.19		0.00	183.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.9	72.8
OPER	151.3	-111.4	121.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.81	4.22	-21.39	3.25	-22.96	4.98	-17.66	3.83
OPER	HS20	-27.81	4.22	-21.39	3.25	-22.96	4.98	-17.66	3.83
OPER	2F1	-16.92	2.73	-13.01	2.10	0.00	0.00	0.00	0.00
OPER	3F1	-22.91	3.91	-17.62	3.01	0.00	0.00	0.00	0.00
OPER	4F1	-23.62	4.16	-18.17	3.20	0.00	0.00	0.00	0.00
OPER	5C1	-21.57	5.81	-16.59	4.47	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.40	14.60	HS 48.09	86.6
HS20	4.01	24.34	HS 80.15	144.3
2F1	6.59	44.42	0.00	98.8
3F1	4.86	31.05	0.00	111.9
4F1	4.72	29.16	0.00	127.4
5C1	5.17	20.87	0.00	206.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-278.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	62.79	L	48.30	15.05	0.0	47.65	36.66	43.05	
		-46.48	R	-35.76	80.62	0.0	-37.04	-28.49	57.40	105.23
OPER	HS20	62.79	L	48.30	15.05	0.0	47.65	36.66	43.05	
		-46.48	R	-35.76	80.62	0.0	-37.04	-28.49	57.40	105.23
OPER	2F1	40.60	L	31.23	33.05	0.0	0.00	0.00	0.00	
		-31.25	R	-24.04	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.01	L	37.70	29.05	0.0	0.00	0.00	0.00	
		-44.83	R	-34.49	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.87	L	34.51	25.05	0.0	0.00	0.00	0.00	
		-48.24	R	-37.11	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.70	R	45.16	90.05	0.0	0.00	0.00	0.00	
		-41.67	R	-32.05	69.40	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.59	96.5
HS20	4.47	5.99	4.47	5.99	HS	89.32	160.8
2F1	6.91	8.91	6.91	8.91		0.00	103.6
3F1	5.72	6.21	5.72	6.21		0.00	131.6
4F1	6.25	5.77	6.25	5.77		0.00	155.8

5C1	4.78	6.68	4.78	6.68	0.00	191.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.4	-152.2	170.2	-171.4
OPER	300.6C	-268.7	268.7	-300.6C	315.6	-253.7	283.6	-285.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	17.82 L	13.70	17.44	0.0	26.86	20.66	45.44	
		-60.76 L	-46.74	38.62	0.0	-56.30	-43.31	57.40	35.88
OPER	HS20	17.82 L	13.70	17.44	0.0	26.86	20.66	45.44	
		-60.76 L	-46.74	38.62	0.0	-56.30	-43.31	57.40	35.88
OPER	2F1	14.14 L	10.88	35.44	0.0	0.00	0.00	0.00	
		-36.46 R	-28.05	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.02 R	10.78	91.32	0.0	0.00	0.00	0.00	
		-52.30 R	-40.23	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.90 R	11.46	95.32	0.0	0.00	0.00	0.00	
		-56.28 R	-43.29	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.62 R	22.79	92.44	0.0	0.00	0.00	0.00	
		-45.81 R	-35.24	71.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.05	2.51	6.34	2.82	HS 50.10	90.2
HS20	11.75	4.18	10.56	4.70	HS 83.50	150.3
2F1	22.32	6.96	20.06	7.84	0.00	104.4
3F1	22.52	4.85	20.24	5.46	0.00	111.5
4F1	21.18	4.51	19.04	5.07	0.00	121.7
5C1	10.65	5.54	9.57	6.24	0.00	221.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.8	73.9
OPER	151.3	-109.6	123.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.97	4.42	-25.36	3.40	-26.00	4.17	-20.00	3.20
OPER	HS20	-32.97	4.42	-25.36	3.40	-26.00	4.17	-20.00	3.20
OPER	2F1	-19.36	2.73	-14.89	2.10	0.00	0.00	0.00	0.00
OPER	3F1	-26.76	3.91	-20.58	3.01	0.00	0.00	0.00	0.00
OPER	4F1	-27.60	4.19	-21.23	3.22	0.00	0.00	0.00	0.00
OPER	5C1	-25.16	4.03	-19.36	3.10	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.00	16.71	HS 39.91	71.8
HS20	3.33	27.84	HS 66.52	119.7
2F1	5.66	45.07	0.00	84.9
3F1	4.10	31.51	0.00	94.2
4F1	3.97	29.40	0.00	107.2
5C1	4.36	30.57	0.00	174.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.6	-173.6	161.6	-173.6	176.6	-158.6	176.6	-158.6
OPER	279.4	-279.4	279.4	-279.4	294.4	-264.4	294.4	-264.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	17.82	L	13.70	17.44	0.0	26.86	20.66	45.44	
		-60.76	L	-46.74	38.62	0.0	-56.30	-43.31	57.40	35.88
OPER	HS20	17.82	L	13.70	17.44	0.0	26.86	20.66	45.44	
		-60.76	L	-46.74	38.62	0.0	-56.30	-43.31	57.40	35.88
OPER	2F1	14.14	L	10.88	35.44	0.0	0.00	0.00	0.00	
		-36.46	R	-28.05	65.01	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.02	R	10.78	91.32	0.0	0.00	0.00	0.00	
		-52.30	R	-40.23	67.40	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.90	R	11.46	95.32	0.0	0.00	0.00	0.00	
		-56.28	R	-43.29	70.62	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.62	R	22.79	92.44	0.0	0.00	0.00	0.00	
		-45.81	R	-35.24	71.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.58	2.61	6.58	2.61	HS	52.22	94.0
HS20	10.96	4.35	10.96	4.35	HS	87.04	156.7
2F1	20.82	7.25	20.82	7.25		0.00	108.8
3F1	21.00	5.05	21.00	5.05		0.00	116.3
4F1	19.76	4.70	19.76	4.70		0.00	126.8

5C1	9.94	5.77	9.94	5.77		0.00	230.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80	L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58	L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95	R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57	R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42	L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.97	1.33	8.11	1.51	HS	26.61	47.9
HS20	14.94	2.22	13.51	2.52	HS	44.35	79.8
2F1	24.19	5.53	21.87	6.28		0.00	82.9
3F1	16.91	3.41	15.29	3.88		0.00	78.5
4F1	15.77	2.92	14.26	3.32		0.00	78.9
5C1	18.67	3.54	16.88	4.03		0.00	141.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	64.5
OPER	151.3	-107.8	107.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.97	37.61	-25.36	28.93	-26.00	28.93	-20.00	22.25
OPER	HS20	-32.97	37.61	-25.36	28.93	-26.00	28.93	-20.00	22.25
OPER	2F1	-19.36	21.46	-14.89	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-26.76	30.17	-20.58	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-27.60	31.71	-21.23	24.39	0.00	0.00	0.00	0.00
OPER	5C1	-25.16	28.29	-19.36	21.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS	34.23	61.6
HS20	2.85	2.86	HS	57.06	102.7
2F1	5.01	5.01		0.00	75.1
3F1	3.56	3.56		0.00	81.9
4F1	3.38	3.39		0.00	91.3
5C1	3.77	3.80		0.00	150.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80	L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58	L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95	R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57	R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42	L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.40	1.39	8.40	1.39	HS	27.82	50.1
HS20	13.99	2.32	13.99	2.32	HS	46.37	83.5
2F1	22.65	5.78	22.65	5.78		0.00	86.7
3F1	15.83	3.57	15.83	3.57		0.00	82.1
4F1	14.77	3.06	14.77	3.06		0.00	82.5

5C1	17.49	3.71	17.49	3.71		0.00	148.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80	L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58	L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95	R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57	R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42	L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.97	1.33	8.11	1.51	HS	26.61	47.9
HS20	14.94	2.22	13.51	2.52	HS	44.35	79.8
2F1	24.19	5.53	21.87	6.28		0.00	82.9
3F1	16.91	3.41	15.29	3.88		0.00	78.5
4F1	15.77	2.92	14.26	3.32		0.00	78.9
5C1	18.67	3.54	16.88	4.03		0.00	141.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.8	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	64.5
OPER	151.3	-107.8	107.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.80	37.61	-29.08	28.93	-28.78	28.93	-22.14	22.25
OPER	HS20	-37.80	37.61	-29.08	28.93	-28.78	28.93	-22.14	22.25
OPER	2F1	-21.52	21.46	-16.55	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-30.29	30.17	-23.30	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-31.88	31.71	-24.52	24.39	0.00	0.00	0.00	0.00
OPER	5C1	-28.58	28.29	-21.99	21.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS	34.23	61.6
HS20	2.85	2.86	HS	57.06	102.7
2F1	5.01	5.01		0.00	75.1
3F1	3.56	3.56		0.00	81.9
4F1	3.38	3.39		0.00	91.3
5C1	3.77	3.80		0.00	150.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	HS20	22.35	L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16	L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80	L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58	L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95	R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57	R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42	L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.40	1.39	8.40	1.39	HS	27.82	50.1
HS20	13.99	2.32	13.99	2.32	HS	46.37	83.5
2F1	22.65	5.78	22.65	5.78		0.00	86.7
3F1	15.83	3.57	15.83	3.57		0.00	82.1
4F1	14.77	3.06	14.77	3.06		0.00	82.5

5C1	17.49	3.71	17.49	3.71		0.00	148.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.8	-152.7	169.7	-171.9
OPER	300.6C	-268.7	268.7	-300.6C	314.7	-254.5	282.8	-286.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.42	R	14.17	78.23	0.0	27.72	21.33	50.23	
		-61.87	R	-47.59	57.05	0.0	-56.08	-43.14	38.27	59.79
OPER	HS20	18.42	R	14.17	78.23	0.0	27.72	21.33	50.23	
		-61.87	R	-47.59	57.05	0.0	-56.08	-43.14	38.27	59.79
OPER	2F1	14.51	R	11.16	60.23	0.0	0.00	0.00	0.00	
		-37.18	L	-28.60	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.24	L	13.27	4.35	0.0	0.00	0.00	0.00	
		-53.32	L	-41.02	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	18.32	L	14.10	0.35	0.0	0.00	0.00	0.00	
		-57.36	L	-44.12	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	32.79	L	25.22	3.23	0.0	0.00	0.00	0.00	
		-46.95	L	-36.12	24.66	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	6.81	2.47	6.12	2.78	HS 49.37	88.9
HS20	11.35	4.11	10.20	4.63	HS 82.28	148.1
2F1	21.69	6.85	19.49	7.71	0.00	102.7
3F1	18.25	4.77	16.40	5.37	0.00	109.8
4F1	17.18	4.44	15.43	5.00	0.00	119.8
5C1	9.60	5.42	8.62	6.10	0.00	216.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.1	65.6
OPER	151.3	-123.5	109.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	32.74	-2.43	25.18	-3.56	26.12	-2.74	20.09
OPER	HS20	-3.17	32.74	-2.43	25.18	-3.56	26.12	-2.74	20.09
OPER	2F1	-2.22	19.27	-1.71	14.82	0.00	0.00	0.00	0.00
OPER	3F1	-3.18	26.59	-2.45	20.46	0.00	0.00	0.00	0.00
OPER	4F1	-3.40	27.40	-2.62	21.08	0.00	0.00	0.00	0.00
OPER	5C1	-3.23	24.87	-2.48	19.13	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	20.82	2.00	HS 40.05	72.1
HS20	34.71	3.34	HS 66.75	120.2
2F1	55.69	5.67	0.00	85.1
3F1	38.81	4.11	0.00	94.5
4F1	36.31	3.99	0.00	107.7
5C1	38.25	4.39	0.00	175.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.9

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.0	-173.3	162.0	-173.3	176.1	-159.2	176.1	-159.2
OPER	279.4	-279.4	279.4	-279.4	293.5	-265.3	293.5	-265.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.42	R	14.17	78.23	0.0	27.72	21.33	50.23	
		-61.87	R	-47.59	57.05	0.0	-56.08	-43.14	38.27	59.79
OPER	HS20	18.42	R	14.17	78.23	0.0	27.72	21.33	50.23	
		-61.87	R	-47.59	57.05	0.0	-56.08	-43.14	38.27	59.79
OPER	2F1	14.51	R	11.16	60.23	0.0	0.00	0.00	0.00	
		-37.18	L	-28.60	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.24	L	13.27	4.35	0.0	0.00	0.00	0.00	
		-53.32	L	-41.02	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	18.32	L	14.10	0.35	0.0	0.00	0.00	0.00	
		-57.36	L	-44.12	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	32.79	L	25.22	3.23	0.0	0.00	0.00	0.00	
		-46.95	L	-36.12	24.66	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.35	2.57	6.35	2.57	HS	51.45	92.6
HS20	10.59	4.29	10.59	4.29	HS	85.76	154.4
2F1	20.23	7.14	20.23	7.14		0.00	107.0
3F1	17.02	4.97	17.02	4.97		0.00	114.4
4F1	16.02	4.62	16.02	4.62		0.00	124.9

5C1	8.95	5.65	8.95	5.65	0.00	226.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	299.9	-269.4	267.9	-301.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.06	R	48.51	80.62	0.0	47.85	36.81	52.62	
		-46.91	L	-36.08	15.05	0.0	-35.33	-27.18	38.27	69.36
OPER	HS20	63.06	R	48.51	80.62	0.0	47.85	36.81	52.62	
		-46.91	L	-36.08	15.05	0.0	-35.33	-27.18	38.27	69.36
OPER	2F1	40.79	R	31.37	62.62	0.0	0.00	0.00	0.00	
		-31.78	L	-24.44	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.29	R	37.91	66.62	0.0	0.00	0.00	0.00	
		-45.58	L	-35.06	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	45.17	R	34.75	70.62	0.0	0.00	0.00	0.00	
		-49.03	L	-37.71	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	60.94	L	46.87	5.62	0.0	0.00	0.00	0.00	
		-42.43	L	-32.64	26.27	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.85	3.45	2.55	3.86	HS	50.98	91.8
HS20	4.76	5.74	4.25	6.43	HS	84.97	152.9
2F1	7.35	8.48	6.57	9.48		0.00	98.5
3F1	6.09	5.91	5.44	6.61		0.00	125.0
4F1	6.64	5.49	5.93	6.15		0.00	148.4
5C1	4.92	6.35	4.40	7.10		0.00	175.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.0	66.6
OPER	151.3	-121.7	111.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	27.56	-2.43	21.20	-4.95	23.04	-3.81	17.72
OPER	HS20	-3.17	27.56	-2.43	21.20	-4.95	23.04	-3.81	17.72
OPER	2F1	-2.22	16.79	-1.71	12.92	0.00	0.00	0.00	0.00
OPER	3F1	-3.18	22.71	-2.45	17.47	0.00	0.00	0.00	0.00
OPER	4F1	-3.40	23.44	-2.62	18.03	0.00	0.00	0.00	0.00
OPER	5C1	-4.90	21.30	-3.77	16.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	14.75	2.42	HS 48.35	87.0
HS20	24.59	4.03	HS 80.59	145.1
2F1	54.88	6.61	0.00	99.2
3F1	38.25	4.89	0.00	112.5
4F1	35.78	4.74	0.00	127.9
5C1	24.86	5.21	0.00	208.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.9	-167.3	167.9	-167.3	167.2	-168.1	167.2	-168.1
OPER	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-280.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.06	R	48.51	80.62	0.0	47.85	36.81	52.62	
		-46.91	L	-36.08	15.05	0.0	-35.33	-27.18	38.27	69.36
OPER	HS20	63.06	R	48.51	80.62	0.0	47.85	36.81	52.62	
		-46.91	L	-36.08	15.05	0.0	-35.33	-27.18	38.27	69.36
OPER	2F1	40.79	R	31.37	62.62	0.0	0.00	0.00	0.00	
		-31.78	L	-24.44	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.29	R	37.91	66.62	0.0	0.00	0.00	0.00	
		-45.58	L	-35.06	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	45.17	R	34.75	70.62	0.0	0.00	0.00	0.00	
		-49.03	L	-37.71	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	60.94	L	46.87	5.62	0.0	0.00	0.00	0.00	
		-42.43	L	-32.64	26.27	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.65	3.58	2.65	3.58	HS	53.03	95.4
HS20	4.42	5.97	4.42	5.97	HS	88.38	159.1
2F1	6.83	8.81	6.83	8.81		0.00	102.5
3F1	5.65	6.15	5.65	6.15		0.00	130.0
4F1	6.17	5.71	6.17	5.71		0.00	154.3

5C1	4.57	6.60	4.57	6.60	0.00	182.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.300

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.6	-168.0	154.4	-187.2
OPER	300.6C	-268.7	268.7	-300.6C	289.3	-279.9	257.4	-311.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.77	R	69.83	83.01	0.0	69.19	53.22	55.01	
		-38.94	L	-29.95	15.05	0.0	-31.05	-23.89	38.27	0.00
OPER	HS20	90.77	R	69.83	83.01	0.0	69.19	53.22	55.01	
		-38.94	L	-29.95	15.05	0.0	-31.05	-23.89	38.27	0.00
OPER	2F1	59.80	R	46.00	65.01	0.0	0.00	0.00	0.00	
		-26.38	L	-20.29	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.32	R	57.94	69.01	0.0	0.00	0.00	0.00	
		-37.84	L	-29.11	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.61	R	58.93	69.01	0.0	0.00	0.00	0.00	
		-40.70	L	-31.31	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.03	L	61.56	8.01	0.0	0.00	0.00	0.00	
		-39.75	L	-30.58	27.05	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.91	4.31	1.70	4.81	HS	34.02	61.2
HS20	3.19	7.19	2.84	8.01	HS	56.70	102.1
2F1	4.84	10.61	4.30	11.82		0.00	64.6
3F1	3.84	7.40	3.42	8.24		0.00	78.6
4F1	3.78	6.88	3.36	7.66		0.00	90.7
5C1	3.62	7.04	3.22	7.85		0.00	128.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.7
OPER	151.3	-119.9	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.52	22.61	-4.24	17.39	-7.47	19.80	-5.75	15.23
OPER	HS20	-5.52	22.61	-4.24	17.39	-7.47	19.80	-5.75	15.23
OPER	2F1	-3.97	14.14	-3.05	10.88	0.00	0.00	0.00	0.00
OPER	3F1	-4.23	18.69	-3.26	14.37	0.00	0.00	0.00	0.00
OPER	4F1	-3.40	19.24	-2.62	14.80	0.00	0.00	0.00	0.00
OPER	5C1	-6.91	17.80	-5.31	13.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	9.63	2.99	HS	59.90	107.8
HS20	16.05	4.99	HS	99.84	179.7
2F1	30.20	7.98		0.00	119.7
3F1	28.31	6.04		0.00	138.9
4F1	35.25	5.87		0.00	158.4
5C1	17.36	6.34		0.00	253.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.2	-163.1	172.2	-163.1	160.9	-174.4	160.9	-174.4
OPER	279.4	-279.4	279.4	-279.4	268.1	-290.7	268.1	-290.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.77	R	69.83	83.01	0.0	69.19	53.22	55.01	
		-38.94	L	-29.95	15.05	0.0	-31.05	-23.89	38.27	0.00
OPER	HS20	90.77	R	69.83	83.01	0.0	69.19	53.22	55.01	
		-38.94	L	-29.95	15.05	0.0	-31.05	-23.89	38.27	0.00
OPER	2F1	59.80	R	46.00	65.01	0.0	0.00	0.00	0.00	
		-26.38	L	-20.29	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.32	R	57.94	69.01	0.0	0.00	0.00	0.00	
		-37.84	L	-29.11	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.61	R	58.93	69.01	0.0	0.00	0.00	0.00	
		-40.70	L	-31.31	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.03	L	61.56	8.01	0.0	0.00	0.00	0.00	
		-39.75	L	-30.58	27.05	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	4.48	1.77	4.48	HS	35.44	63.8
HS20	2.95	7.47	2.95	7.47	HS	59.07	106.3
2F1	4.48	11.02	4.48	11.02		0.00	67.2
3F1	3.56	7.68	3.56	7.68		0.00	81.9
4F1	3.50	7.14	3.50	7.14		0.00	94.5

5C1	3.35	7.31	3.35	7.31	0.00	134.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.9
OPER	300.6C	-268.7	268.7	-300.6C	283.1	-286.2	251.1	-318.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.38	R	77.98	85.40	0.0	81.95	63.04	57.40	
		-30.97	L	-23.82	15.05	0.0	-27.28	-20.99	38.27	0.00
OPER	HS20	101.38	R	77.98	85.40	0.0	81.95	63.04	57.40	
		-30.97	L	-23.82	15.05	0.0	-27.28	-20.99	38.27	0.00
OPER	2F1	70.05	R	53.88	67.40	0.0	0.00	0.00	0.00	
		-20.98	L	-16.14	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.66	R	68.20	67.40	0.0	0.00	0.00	0.00	
		-30.09	L	-23.15	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.70	R	72.84	71.40	0.0	0.00	0.00	0.00	
		-32.37	L	-24.90	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.93	R	69.18	69.40	0.0	0.00	0.00	0.00	
		-37.70	L	-29.00	27.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.67	5.55	1.49	6.16	HS 29.72	53.5
HS20	2.79	9.24	2.48	10.27	HS 49.54	89.2
2F1	4.04	13.64	3.59	15.16	0.00	53.8
3F1	3.19	9.51	2.83	10.57	0.00	65.1
4F1	2.99	8.84	2.65	9.83	0.00	71.6
5C1	3.15	7.59	2.79	8.44	0.00	111.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 3.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.44	18.84	-8.03	14.49	-10.31	16.51	-7.93	12.70
OPER	HS20	-10.44	18.84	-8.03	14.49	-10.31	16.51	-7.93	12.70
OPER	2F1	-6.25	11.43	-4.81	8.79	0.00	0.00	0.00	0.00
OPER	3F1	-7.37	14.69	-5.67	11.30	0.00	0.00	0.00	0.00
OPER	4F1	-6.24	14.80	-4.80	11.39	0.00	0.00	0.00	0.00
OPER	5C1	-9.22	14.79	-7.09	11.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.79	3.65	HS 73.03	131.5
HS20	11.31	6.09	HS 121.72	219.1
2F1	18.89	10.03	0.00	150.5
3F1	16.02	7.80	0.00	179.5
4F1	18.93	7.75	0.00	209.1
5C1	12.81	7.75	0.00	310.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.6	174.7	-160.6	157.1	-178.2	157.1	-178.2
OPER	279.4	-279.4	279.4	-279.4	261.9	-296.9	261.9	-296.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.38	R	77.98	85.40	0.0	81.95	63.04	57.40	
		-30.97	L	-23.82	15.05	0.0	-27.28	-20.99	38.27	0.00
OPER	HS20	101.38	R	77.98	85.40	0.0	81.95	63.04	57.40	
		-30.97	L	-23.82	15.05	0.0	-27.28	-20.99	38.27	0.00
OPER	2F1	70.05	R	53.88	67.40	0.0	0.00	0.00	0.00	
		-20.98	L	-16.14	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.66	R	68.20	67.40	0.0	0.00	0.00	0.00	
		-30.09	L	-23.15	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.70	R	72.84	71.40	0.0	0.00	0.00	0.00	
		-32.37	L	-24.90	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.93	R	69.18	69.40	0.0	0.00	0.00	0.00	
		-37.70	L	-29.00	27.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.55	5.75	1.55	5.75	HS	31.00	55.8
HS20	2.58	9.59	2.58	9.59	HS	51.66	93.0
2F1	3.74	14.15	3.74	14.15		0.00	56.1
3F1	2.95	9.87	2.95	9.87		0.00	67.9
4F1	2.77	9.17	2.77	9.17		0.00	74.7

5C1	2.91	7.88	2.91	7.88	0.00	116.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	2F1	71.08 L	54.68	49.79	0.0	0.00	0.00	0.00	
		-15.58 L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 R	72.45	69.79	0.0	0.00	0.00	0.00	
		-22.35 L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 R	75.25	73.79	0.0	0.00	0.00	0.00	
		-24.04 L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 L	71.60	8.79	0.0	0.00	0.00	0.00	
		-36.84 L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.72	7.35	1.53	8.17	HS 30.57	55.0
HS20	2.87	12.26	2.55	13.62	HS 50.94	91.7
2F1	3.95	18.49	3.51	20.55	0.00	52.6
3F1	2.98	12.89	2.64	14.32	0.00	60.8
4F1	2.87	11.99	2.55	13.32	0.00	68.8
5C1	3.02	7.82	2.68	8.69	0.00	107.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-14.90	14.90	-11.46	11.46	-13.40	13.28	-10.31	10.22
OPER	HS20	-14.90	14.90	-11.46	11.46	-13.40	13.28	-10.31	10.22
OPER	2F1	-8.78	8.76	-6.75	6.74	0.00	0.00	0.00	0.00
OPER	3F1	-10.90	10.87	-8.38	8.36	0.00	0.00	0.00	0.00
OPER	4F1	-10.30	10.26	-7.92	7.90	0.00	0.00	0.00	0.00
OPER	5C1	-11.79	11.71	-9.07	9.01	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.68	4.69	HS 93.64	168.6
HS20	7.80	7.82	HS 156.07	280.9
2F1	13.25	13.30	0.00	198.8
3F1	10.67	10.71	0.00	245.5
4F1	11.30	11.34	0.00	305.0
5C1	9.86	9.94	0.00	394.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.4	-159.8	175.4	-159.8	155.9	-179.4	155.9	-179.4
OPER	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81	L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00	L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	HS20	97.81	L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00	L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	2F1	71.08	L	54.68	49.79	0.0	0.00	0.00	0.00	
		-15.58	L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19	R	72.45	69.79	0.0	0.00	0.00	0.00	
		-22.35	L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83	R	75.25	73.79	0.0	0.00	0.00	0.00	
		-24.04	L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08	L	71.60	8.79	0.0	0.00	0.00	0.00	
		-36.84	L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.59	7.63	1.59	7.63	HS	31.88	57.4
HS20	2.66	12.71	2.66	12.71	HS	53.14	95.7
2F1	3.66	19.18	3.66	19.18		0.00	54.8
3F1	2.76	13.37	2.76	13.37		0.00	63.5
4F1	2.66	12.43	2.66	12.43		0.00	71.7

5C1	2.79	8.11	2.79	8.11	0.00	111.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.140

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	15.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.3	-171.3	151.1	-190.5
OPER	300.6C	-268.7	268.7	-300.6C	283.8	-285.5	251.8	-317.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24 L	77.88	34.18	0.0	81.67	62.82	62.18	
		-30.72 R	-23.63	104.53	0.0	-27.30	-21.00	81.32	0.00
OPER	HS20	101.24 L	77.88	34.18	0.0	81.67	62.82	62.18	
		-30.72 R	-23.63	104.53	0.0	-27.30	-21.00	81.32	0.00
OPER	2F1	70.00 L	53.84	52.18	0.0	0.00	0.00	0.00	
		-20.65 R	-15.89	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.57 L	68.13	52.18	0.0	0.00	0.00	0.00	
		-29.63 R	-22.79	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.60 L	72.77	48.18	0.0	0.00	0.00	0.00	
		-31.89 R	-24.53	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.27 L	68.67	50.18	0.0	0.00	0.00	0.00	
		-37.28 R	-28.68	90.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.68	5.58	1.49	6.20	HS 29.84	53.7
HS20	2.80	9.29	2.49	10.34	HS 49.74	89.5
2F1	4.05	13.82	3.60	15.37	0.00	54.0
3F1	3.20	9.64	2.84	10.72	0.00	65.4
4F1	3.00	8.95	2.66	9.96	0.00	71.9
5C1	3.18	7.66	2.82	8.52	0.00	112.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 3.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.6	71.0
OPER	151.3	-114.4	118.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.83	10.43	-14.48	8.02	-16.63	10.20	-12.80	7.84
OPER	HS20	-18.83	10.43	-14.48	8.02	-16.63	10.20	-12.80	7.84
OPER	2F1	-11.45	6.24	-8.81	4.80	0.00	0.00	0.00	0.00
OPER	3F1	-14.72	7.35	-11.32	5.66	0.00	0.00	0.00	0.00
OPER	4F1	-14.83	6.23	-11.41	4.79	0.00	0.00	0.00	0.00
OPER	5C1	-14.80	9.18	-11.38	7.06	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	3.64	6.81	HS 72.89	131.2
HS20	6.07	11.35	HS 121.48	218.7
2F1	9.99	18.98	0.00	149.8
3F1	7.77	16.09	0.00	178.7
4F1	7.71	19.00	0.00	208.2
5C1	7.73	12.89	0.00	309.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	15.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.4	-160.9	174.4	-160.9	157.5	-177.8	157.5	-177.8
OPER	279.4	-279.4	279.4	-279.4	262.5	-296.3	262.5	-296.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	L	77.88	34.18	0.0	81.67	62.82	62.18	
		-30.72	R	-23.63	104.53	0.0	-27.30	-21.00	81.32	0.00
OPER	HS20	101.24	L	77.88	34.18	0.0	81.67	62.82	62.18	
		-30.72	R	-23.63	104.53	0.0	-27.30	-21.00	81.32	0.00
OPER	2F1	70.00	L	53.84	52.18	0.0	0.00	0.00	0.00	
		-20.65	R	-15.89	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.57	L	68.13	52.18	0.0	0.00	0.00	0.00	
		-29.63	R	-22.79	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.60	L	72.77	48.18	0.0	0.00	0.00	0.00	
		-31.89	R	-24.53	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.27	L	68.67	50.18	0.0	0.00	0.00	0.00	
		-37.28	R	-28.68	90.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	5.79	1.56	5.79	HS	31.12	56.0
HS20	2.59	9.64	2.59	9.64	HS	51.86	93.3
2F1	3.75	14.35	3.75	14.35		0.00	56.3
3F1	2.96	10.00	2.96	10.00		0.00	68.2
4F1	2.78	9.29	2.78	9.29		0.00	74.9

5C1	2.94	7.95	2.94	7.95	0.00	117.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.140

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.4	-167.2	155.2	-186.4
OPER	300.6C	-268.7	268.7	-300.6C	290.7	-278.6	258.7	-310.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59 L	69.69	36.58	0.0	68.64	52.80	64.58	
		-38.61 R	-29.70	104.53	0.0	-31.24	-24.03	81.32	0.00
OPER	HS20	90.59 L	69.69	36.58	0.0	68.64	52.80	64.58	
		-38.61 R	-29.70	104.53	0.0	-31.24	-24.03	81.32	0.00
OPER	2F1	59.69 L	45.91	54.58	0.0	0.00	0.00	0.00	
		-25.96 R	-19.97	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.16 L	57.82	50.58	0.0	0.00	0.00	0.00	
		-37.24 R	-28.65	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.44 L	58.80	50.58	0.0	0.00	0.00	0.00	
		-40.07 R	-30.82	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.61 R	60.47	111.58	0.0	0.00	0.00	0.00	
		-39.25 R	-30.19	92.53	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.92	4.33	1.71	4.83	HS	34.27	61.7
HS20	3.21	7.22	2.86	8.05	HS	57.11	102.8
2F1	4.87	10.73	4.33	11.97		0.00	65.0
3F1	3.87	7.48	3.44	8.34		0.00	79.2
4F1	3.80	6.95	3.38	7.75		0.00	91.4
5C1	3.70	7.10	3.29	7.91		0.00	131.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.5	72.1
OPER	151.3	-112.6	120.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.60	5.50	-17.38	4.23	-19.92	7.36	-15.32	5.66
OPER	HS20	-22.60	5.50	-17.38	4.23	-19.92	7.36	-15.32	5.66
OPER	2F1	-14.16	3.96	-10.89	3.05	0.00	0.00	0.00	0.00
OPER	3F1	-18.72	4.23	-14.40	3.25	0.00	0.00	0.00	0.00
OPER	4F1	-19.27	3.46	-14.82	2.66	0.00	0.00	0.00	0.00
OPER	5C1	-17.81	6.90	-13.70	5.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.99	9.80	HS 59.78	107.6
HS20	4.98	16.33	HS 99.64	179.3
2F1	7.95	30.35	0.00	119.2
3F1	6.01	28.42	0.00	138.3
4F1	5.84	34.73	0.00	157.8
5C1	6.32	17.41	0.00	252.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.6	-163.7	171.6	-163.7	161.7	-173.6	161.7	-173.6
OPER	279.4	-279.4	279.4	-279.4	269.4	-289.4	269.4	-289.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.59	L	69.69	36.58	0.0	68.64	52.80	64.58	
		-38.61	R	-29.70	104.53	0.0	-31.24	-24.03	81.32	0.00
OPER	HS20	90.59	L	69.69	36.58	0.0	68.64	52.80	64.58	
		-38.61	R	-29.70	104.53	0.0	-31.24	-24.03	81.32	0.00
OPER	2F1	59.69	L	45.91	54.58	0.0	0.00	0.00	0.00	
		-25.96	R	-19.97	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.16	L	57.82	50.58	0.0	0.00	0.00	0.00	
		-37.24	R	-28.65	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.44	L	58.80	50.58	0.0	0.00	0.00	0.00	
		-40.07	R	-30.82	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.61	R	60.47	111.58	0.0	0.00	0.00	0.00	
		-39.25	R	-30.19	92.53	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	4.50	1.78	4.50	HS	35.69	64.2
HS20	2.97	7.49	2.97	7.49	HS	59.48	107.1
2F1	4.51	11.15	4.51	11.15		0.00	67.7
3F1	3.59	7.77	3.59	7.77		0.00	82.4
4F1	3.53	7.22	3.53	7.22		0.00	95.2

5C1	3.43	7.37	3.43	7.37		0.00	137.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.140

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S03
Check Point I. D. 3.800
2F1
3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.4	161.9	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82 L	48.32	38.97	0.0	47.60	36.62	66.97	
		-46.50 R	-35.77	104.53	0.0	-37.14	-28.57	81.32	129.15
OPER	HS20	62.82 L	48.32	38.97	0.0	47.60	36.62	66.97	
		-46.50 R	-35.77	104.53	0.0	-37.14	-28.57	81.32	129.15
OPER	2F1	40.63 L	31.26	56.97	0.0	0.00	0.00	0.00	
		-31.26 R	-24.05	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.05 L	37.73	52.97	0.0	0.00	0.00	0.00	
		-44.85 R	-34.50	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.92 L	34.55	48.97	0.0	0.00	0.00	0.00	
		-48.26 R	-37.12	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.74 R	45.18	113.97	0.0	0.00	0.00	0.00	
		-41.74 R	-32.11	93.32	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.86	HS 51.56	92.8
HS20	4.81	5.75	4.30	6.44	HS 85.93	154.7
2F1	7.43	8.55	6.64	9.58	0.00	99.6
3F1	6.15	5.96	5.50	6.68	0.00	126.6
4F1	6.72	5.54	6.01	6.20	0.00	149.6
5C1	5.14	6.41	4.59	7.17	0.00	183.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.5	73.2
OPER	151.3	-110.8	122.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.59	3.19	-21.22	2.45	-23.15	4.84	-17.81	3.72
OPER	HS20	-27.59	3.19	-21.22	2.45	-23.15	4.84	-17.81	3.72
OPER	2F1	-16.81	2.26	-12.93	1.74	0.00	0.00	0.00	0.00
OPER	3F1	-22.74	3.24	-17.49	2.49	0.00	0.00	0.00	0.00
OPER	4F1	-23.46	3.46	-18.05	2.66	0.00	0.00	0.00	0.00
OPER	5C1	-21.40	4.92	-16.47	3.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.41	15.12	HS 48.19	86.7
HS20	4.02	25.20	HS 80.32	144.6
2F1	6.59	54.03	0.00	98.9
3F1	4.87	37.67	0.00	112.0
4F1	4.72	35.25	0.00	127.5
5C1	5.18	24.80	0.00	207.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.1	-168.1	167.1	-168.1	168.4	-166.9	168.4	-166.9
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-278.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82	L	48.32	38.97	0.0	47.60	36.62	66.97	
		-46.50	R	-35.77	104.53	0.0	-37.14	-28.57	81.32	129.15
OPER	HS20	62.82	L	48.32	38.97	0.0	47.60	36.62	66.97	
		-46.50	R	-35.77	104.53	0.0	-37.14	-28.57	81.32	129.15
OPER	2F1	40.63	L	31.26	56.97	0.0	0.00	0.00	0.00	
		-31.26	R	-24.05	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.05	L	37.73	52.97	0.0	0.00	0.00	0.00	
		-44.85	R	-34.50	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.92	L	34.55	48.97	0.0	0.00	0.00	0.00	
		-48.26	R	-37.12	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.74	R	45.18	113.97	0.0	0.00	0.00	0.00	
		-41.74	R	-32.11	93.32	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.61	96.5
HS20	4.47	5.98	4.47	5.98	HS	89.35	160.8
2F1	6.91	8.90	6.91	8.90		0.00	103.6
3F1	5.72	6.20	5.72	6.20		0.00	131.6
4F1	6.25	5.76	6.25	5.76		0.00	155.6

5C1	4.78	6.66	4.78	6.66	0.00	191.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.140

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
Structure I. D. HAM500				
	HS20	HS20		
Member I. D. S03		2F1		
Check Point I. D. 3.900		3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.4	-151.1	171.3	-170.3
OPER	300.6C	-268.7	268.7	-300.6C	317.4	-251.9	285.4	-283.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.14	L	13.96	41.36	0.0	26.36	20.27	69.36	
		-60.83	L	-46.79	62.53	0.0	-56.80	-43.69	81.32	59.79
OPER	HS20	18.14	L	13.96	41.36	0.0	26.36	20.27	69.36	
		-60.83	L	-46.79	62.53	0.0	-56.80	-43.69	81.32	59.79
OPER	2F1	14.35	L	11.04	59.36	0.0	0.00	0.00	0.00	
		-36.56	R	-28.13	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.06	R	10.81	115.23	0.0	0.00	0.00	0.00	
		-52.46	R	-40.35	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.94	R	11.50	119.23	0.0	0.00	0.00	0.00	
		-56.45	R	-43.42	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.85	R	22.96	116.36	0.0	0.00	0.00	0.00	
		-46.15	R	-35.50	95.71	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.23	2.48	6.50	2.80	HS	49.69	89.4
HS20	12.04	4.14	10.83	4.67	HS	82.82	149.1
2F1	22.12	6.89	19.89	7.76		0.00	103.3
3F1	22.58	4.80	20.31	5.41		0.00	110.4
4F1	21.24	4.46	19.10	5.03		0.00	120.5
5C1	10.63	5.46	9.56	6.15		0.00	218.3

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 3.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.4	74.3
OPER	151.3	-109.0	123.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.76	3.33	-25.20	2.56	-26.23	3.50	-20.17	2.69
OPER	HS20	-32.76	3.33	-25.20	2.56	-26.23	3.50	-20.17	2.69
OPER	2F1	-19.28	2.26	-14.83	1.74	0.00	0.00	0.00	0.00
OPER	3F1	-26.62	3.24	-20.48	2.49	0.00	0.00	0.00	0.00
OPER	4F1	-27.43	3.48	-21.10	2.68	0.00	0.00	0.00	0.00
OPER	5C1	-25.02	3.27	-19.25	2.52	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	2.00	21.20	HS	39.92	71.9
HS20	3.33	35.33	HS	66.54	119.8
2F1	5.65	54.83		0.00	84.8
3F1	4.09	38.23		0.00	94.2
4F1	3.97	35.54		0.00	107.3
5C1	4.36	37.81		0.00	174.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.9	-174.3	160.9	-174.3	177.7	-157.6	177.7	-157.6
OPER	279.4	-279.4	279.4	-279.4	296.2	-262.6	296.2	-262.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.14	L	13.96	41.36	0.0	26.36	20.27	69.36	
		-60.83	L	-46.79	62.53	0.0	-56.80	-43.69	81.32	59.79
OPER	HS20	18.14	L	13.96	41.36	0.0	26.36	20.27	69.36	
		-60.83	L	-46.79	62.53	0.0	-56.80	-43.69	81.32	59.79
OPER	2F1	14.35	L	11.04	59.36	0.0	0.00	0.00	0.00	
		-36.56	R	-28.13	88.93	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.06	R	10.81	115.23	0.0	0.00	0.00	0.00	
		-52.46	R	-40.35	91.32	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.94	R	11.50	119.23	0.0	0.00	0.00	0.00	
		-56.45	R	-43.42	94.53	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.85	R	22.96	116.36	0.0	0.00	0.00	0.00	
		-46.15	R	-35.50	95.71	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.74	2.59	6.74	2.59	HS	51.81	93.3
HS20	11.24	4.32	11.24	4.32	HS	86.35	155.4
2F1	20.64	7.18	20.64	7.18		0.00	107.7
3F1	21.07	5.01	21.07	5.01		0.00	115.2
4F1	19.82	4.65	19.82	4.65		0.00	125.6

5C1	9.92	5.69	9.92	5.69	0.00	227.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.140

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41	L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93	L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42	R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78	R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02	R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52	L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.78	1.32	10.66	1.50	HS 26.34	47.4
HS20	19.63	2.19	17.76	2.50	HS 43.90	79.0
2F1	29.56	5.53	26.75	6.30	0.00	83.0
3F1	20.61	3.39	18.65	3.86	0.00	78.0
4F1	19.16	2.91	17.34	3.31	0.00	78.5
5C1	24.05	3.49	21.76	3.97	0.00	139.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.3	64.4
OPER	151.3	-107.2	107.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.76	37.61	-25.20	28.93	-26.23	29.00	-20.17	22.31
OPER	HS20	-32.76	37.61	-25.20	28.93	-26.23	29.00	-20.17	22.31
OPER	2F1	-19.28	21.47	-14.83	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-26.62	30.18	-20.48	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-27.43	31.72	-21.10	24.40	0.00	0.00	0.00	0.00
OPER	5C1	-25.02	28.44	-19.25	21.88	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS 34.19	61.5
HS20	2.85	2.85	HS 56.98	102.6
2F1	4.99	5.00	0.00	74.9
3F1	3.55	3.56	0.00	81.7
4F1	3.38	3.38	0.00	91.2
5C1	3.77	3.77	0.00	150.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41	L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93	L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42	R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78	R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02	R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52	L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	11.03	1.38	11.03	1.38	HS	27.56	49.6
HS20	18.39	2.30	18.39	2.30	HS	45.94	82.7
2F1	27.70	5.79	27.70	5.79		0.00	86.9
3F1	19.31	3.55	19.31	3.55		0.00	81.6
4F1	17.95	3.04	17.95	3.04		0.00	82.2

5C1	22.53	3.65	22.53	3.65	0.00	146.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.140

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41	L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93	L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42	R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78	R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02	R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52	L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	11.78	1.32	10.66	1.50	HS	26.34	47.4
HS20	19.63	2.19	17.76	2.50	HS	43.90	79.0
2F1	29.56	5.53	26.75	6.30		0.00	83.0
3F1	20.61	3.39	18.65	3.86		0.00	78.0
4F1	19.16	2.91	17.34	3.31		0.00	78.5
5C1	24.05	3.49	21.76	3.97		0.00	139.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-8.4	8.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.3	64.4
OPER	151.3	-107.2	107.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.62	37.61	-28.94	28.93	-29.03	29.00	-22.33	22.31
OPER	HS20	-37.62	37.61	-28.94	28.93	-29.03	29.00	-22.33	22.31
OPER	2F1	-21.47	21.47	-16.52	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-30.19	30.18	-23.22	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-31.73	31.72	-24.41	24.40	0.00	0.00	0.00	0.00
OPER	5C1	-28.47	28.44	-21.90	21.88	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS	34.19	61.5
HS20	2.85	2.85	HS	56.98	102.6
2F1	4.99	5.00		0.00	74.9
3F1	3.55	3.56		0.00	81.7
4F1	3.38	3.38		0.00	91.2
5C1	3.77	3.77		0.00	150.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	HS20	16.84	L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72	L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41	L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93	L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42	R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78	R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02	R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52	L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	11.03	1.38	11.03	1.38	HS	27.56	49.6
HS20	18.39	2.30	18.39	2.30	HS	45.94	82.7
2F1	27.70	5.79	27.70	5.79		0.00	86.9
3F1	19.31	3.55	19.31	3.55		0.00	81.6
4F1	17.95	3.04	17.95	3.04		0.00	82.2

5C1	22.53	3.65	22.53	3.65	0.00	146.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.200

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.6	-151.0	171.4	-170.2
OPER	300.6C	-268.7	268.7	-300.6C	317.6	-251.7	285.6	-283.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.19	R	13.99	102.14	0.0	26.72	20.56	74.14	
		-60.91	R	-46.85	80.97	0.0	-56.91	-43.78	62.18	83.71
OPER	HS20	18.19	R	13.99	102.14	0.0	26.72	20.56	74.14	
		-60.91	R	-46.85	80.97	0.0	-56.91	-43.78	62.18	83.71
OPER	2F1	14.38	R	11.06	84.14	0.0	0.00	0.00	0.00	
		-36.62	L	-28.17	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.29	L	10.99	28.27	0.0	0.00	0.00	0.00	
		-52.53	L	-40.41	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.19	L	11.68	24.27	0.0	0.00	0.00	0.00	
		-56.52	L	-43.48	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	30.08	L	23.14	27.14	0.0	0.00	0.00	0.00	
		-46.23	L	-35.56	47.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.13	2.48	6.41	2.79	HS	49.58	89.3
HS20	11.89	4.13	10.69	4.66	HS	82.64	148.8
2F1	22.09	6.87	19.87	7.75		0.00	103.1
3F1	22.23	4.79	19.99	5.40		0.00	110.2
4F1	20.91	4.45	18.81	5.02		0.00	120.2
5C1	10.56	5.44	9.50	6.14		0.00	217.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.100

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.2	65.4
OPER	151.3	-123.7	109.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	32.74	-2.44	25.19	-3.50	26.19	-2.69	20.15
OPER	HS20	-3.17	32.74	-2.44	25.19	-3.50	26.19	-2.69	20.15
OPER	2F1	-2.22	19.28	-1.71	14.83	0.00	0.00	0.00	0.00
OPER	3F1	-3.19	26.61	-2.45	20.47	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	27.41	-2.62	21.09	0.00	0.00	0.00	0.00
OPER	5C1	-3.23	25.00	-2.49	19.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.19	2.00	HS 39.98	72.0
HS20	35.32	3.33	HS 66.63	119.9
2F1	55.69	5.66	0.00	84.9
3F1	38.82	4.10	0.00	94.3
4F1	36.31	3.98	0.00	107.4
5C1	38.27	4.36	0.00	174.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.8	-174.4	160.8	-174.4	177.8	-157.4	177.8	-157.4
OPER	279.4	-279.4	279.4	-279.4	296.4	-262.4	296.4	-262.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.19	R	13.99	102.14	0.0	26.72	20.56	74.14	
		-60.91	R	-46.85	80.97	0.0	-56.91	-43.78	62.18	83.71
OPER	HS20	18.19	R	13.99	102.14	0.0	26.72	20.56	74.14	
		-60.91	R	-46.85	80.97	0.0	-56.91	-43.78	62.18	83.71
OPER	2F1	14.38	R	11.06	84.14	0.0	0.00	0.00	0.00	
		-36.62	L	-28.17	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.29	L	10.99	28.27	0.0	0.00	0.00	0.00	
		-52.53	L	-40.41	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.19	L	11.68	24.27	0.0	0.00	0.00	0.00	
		-56.52	L	-43.48	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	30.08	L	23.14	27.14	0.0	0.00	0.00	0.00	
		-46.23	L	-35.56	47.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.66	2.59	6.66	2.59	HS	51.70	93.1
HS20	11.09	4.31	11.09	4.31	HS	86.17	155.1
2F1	20.62	7.17	20.62	7.17		0.00	107.5
3F1	20.74	4.99	20.74	4.99		0.00	114.9
4F1	19.51	4.64	19.51	4.64		0.00	125.3

5C1	9.85	5.68	9.85	5.68	0.00	227.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.200

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S03 2F1
Check Point I. D. 4.200 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.4	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.84	R	48.34	104.53	0.0	46.93	36.10	76.53	
		-46.53	L	-35.79	38.97	0.0	-37.66	-28.97	62.18	14.35
OPER	HS20	62.84	R	48.34	104.53	0.0	46.93	36.10	76.53	
		-46.53	L	-35.79	38.97	0.0	-37.66	-28.97	62.18	14.35
OPER	2F1	40.65	R	31.27	86.53	0.0	0.00	0.00	0.00	
		-31.30	L	-24.08	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.07	R	37.75	90.53	0.0	0.00	0.00	0.00	
		-44.90	L	-34.54	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.94	R	34.57	94.53	0.0	0.00	0.00	0.00	
		-48.32	L	-37.17	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.90	L	45.31	29.53	0.0	0.00	0.00	0.00	
		-41.79	L	-32.15	50.18	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.89	3.44	2.58	3.86	HS	51.63	92.9
HS20	4.81	5.74	4.30	6.43	HS	86.05	154.9
2F1	7.44	8.53	6.65	9.55		0.00	99.8
3F1	6.16	5.95	5.51	6.66		0.00	126.7
4F1	6.73	5.53	6.02	6.19		0.00	149.2
5C1	5.13	6.39	4.59	7.15		0.00	183.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S03
Check Point I. D. 4.200

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.1	66.5
OPER	151.3	-121.9	110.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	27.57	-2.44	21.21	-4.88	23.12	-3.75	17.78
OPER	HS20	-3.17	27.57	-2.44	21.21	-4.88	23.12	-3.75	17.78
OPER	2F1	-2.22	16.80	-1.71	12.92	0.00	0.00	0.00	0.00
OPER	3F1	-3.19	22.73	-2.45	17.48	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	23.45	-2.62	18.04	0.00	0.00	0.00	0.00
OPER	5C1	-4.89	21.39	-3.76	16.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	14.98	2.41	HS 48.26	86.9
HS20	24.97	4.02	HS 80.43	144.8
2F1	54.88	6.60	0.00	99.0
3F1	38.26	4.88	0.00	112.2
4F1	35.78	4.73	0.00	127.6
5C1	24.92	5.18	0.00	207.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.7	-166.6	168.7	-166.6
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-277.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.84	R	48.34	104.53	0.0	46.93	36.10	76.53	
		-46.53	L	-35.79	38.97	0.0	-37.66	-28.97	62.18	14.35
OPER	HS20	62.84	R	48.34	104.53	0.0	46.93	36.10	76.53	
		-46.53	L	-35.79	38.97	0.0	-37.66	-28.97	62.18	14.35
OPER	2F1	40.65	R	31.27	86.53	0.0	0.00	0.00	0.00	
		-31.30	L	-24.08	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.07	R	37.75	90.53	0.0	0.00	0.00	0.00	
		-44.90	L	-34.54	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.94	R	34.57	94.53	0.0	0.00	0.00	0.00	
		-48.32	L	-37.17	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.90	L	45.31	29.53	0.0	0.00	0.00	0.00	
		-41.79	L	-32.15	50.18	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.58	2.68	3.58	HS	53.68	96.6
HS20	4.47	5.97	4.47	5.97	HS	89.47	161.0
2F1	6.92	8.87	6.92	8.87		0.00	103.7
3F1	5.73	6.18	5.73	6.18		0.00	131.7
4F1	6.26	5.75	6.26	5.75		0.00	155.2

5C1	4.77	6.64	4.77	6.64	0.00	190.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.200

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 4.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.8	-166.8	155.6	-186.0
OPER	300.6C	-268.7	268.7	-300.6C	291.3	-277.9	259.4	-309.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.60	R	69.69	106.93	0.0	68.40	52.62	78.93	
		-38.62	L	-29.71	38.97	0.0	-31.49	-24.22	62.18	0.00
OPER	HS20	90.60	R	69.69	106.93	0.0	68.40	52.62	78.93	
		-38.62	L	-29.71	38.97	0.0	-31.49	-24.22	62.18	0.00
OPER	2F1	59.68	R	45.91	88.93	0.0	0.00	0.00	0.00	
		-25.98	L	-19.99	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.15	R	57.80	92.93	0.0	0.00	0.00	0.00	
		-37.27	L	-28.67	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.43	R	58.79	92.93	0.0	0.00	0.00	0.00	
		-40.11	L	-30.85	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.69	L	60.53	31.93	0.0	0.00	0.00	0.00	
		-39.23	L	-30.18	50.97	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.93	4.32	1.72	4.82	HS	34.35	61.8
HS20	3.22	7.20	2.86	8.02	HS	57.26	103.1
2F1	4.88	10.70	4.35	11.93		0.00	65.2
3F1	3.88	7.46	3.45	8.31		0.00	79.4
4F1	3.81	6.93	3.39	7.73		0.00	91.6
5C1	3.70	7.08	3.30	7.90		0.00	131.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.300

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	(+) Shear
0.3	0.0	3.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.0	67.6
OPER	151.3	-120.1	112.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.50	22.59	-4.23	17.38	-7.40	19.88	-5.69	15.29
OPER	HS20	-5.50	22.59	-4.23	17.38	-7.40	19.88	-5.69	15.29
OPER	2F1	-3.97	14.15	-3.05	10.89	0.00	0.00	0.00	0.00
OPER	3F1	-4.23	18.70	-3.26	14.39	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	19.25	-2.62	14.81	0.00	0.00	0.00	0.00
OPER	5C1	-6.90	17.80	-5.30	13.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	9.74	2.99	HS	59.85	107.7
HS20	16.23	4.99	HS	99.74	179.5
2F1	30.28	7.96		0.00	119.4
3F1	28.36	6.02		0.00	138.6
4F1	35.26	5.85		0.00	158.0
5C1	17.41	6.33		0.00	253.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.4	-163.9	171.4	-163.9	162.1	-173.2	162.1	-173.2
OPER	279.4	-279.4	279.4	-279.4	270.1	-288.7	270.1	-288.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.60	R	69.69	106.93	0.0	68.40	52.62	78.93	
		-38.62	L	-29.71	38.97	0.0	-31.49	-24.22	62.18	0.00
OPER	HS20	90.60	R	69.69	106.93	0.0	68.40	52.62	78.93	
		-38.62	L	-29.71	38.97	0.0	-31.49	-24.22	62.18	0.00
OPER	2F1	59.68	R	45.91	88.93	0.0	0.00	0.00	0.00	
		-25.98	L	-19.99	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.15	R	57.80	92.93	0.0	0.00	0.00	0.00	
		-37.27	L	-28.67	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.43	R	58.79	92.93	0.0	0.00	0.00	0.00	
		-40.11	L	-30.85	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.69	L	60.53	31.93	0.0	0.00	0.00	0.00	
		-39.23	L	-30.18	50.97	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.49	1.79	4.49	HS	35.78	64.4
HS20	2.98	7.47	2.98	7.47	HS	59.63	107.3
2F1	4.53	11.11	4.53	11.11		0.00	67.9
3F1	3.59	7.74	3.59	7.74		0.00	82.7
4F1	3.53	7.20	3.53	7.20		0.00	95.4

5C1	3.43	7.36	3.43	7.36		0.00	137.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.200

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.8	-170.8	151.6	-190.0
OPER	300.6C	-268.7	268.7	-300.6C	284.6	-284.7	252.7	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.25	R	77.89	109.32	0.0	81.33	62.56	81.32	
		-30.72	L	-23.63	38.97	0.0	-27.62	-21.24	62.18	0.00
OPER	HS20	101.25	R	77.89	109.32	0.0	81.33	62.56	81.32	
		-30.72	L	-23.63	38.97	0.0	-27.62	-21.24	62.18	0.00
OPER	2F1	69.96	R	53.81	91.32	0.0	0.00	0.00	0.00	
		-20.67	L	-15.90	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	R	68.09	91.32	0.0	0.00	0.00	0.00	
		-29.65	L	-22.81	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.55	R	72.73	95.32	0.0	0.00	0.00	0.00	
		-31.90	L	-24.54	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.26	R	68.67	93.32	0.0	0.00	0.00	0.00	
		-37.30	L	-28.69	51.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.69	5.56	1.50	6.18	HS 29.94	53.9
HS20	2.81	9.27	2.49	10.31	HS 49.91	89.8
2F1	4.07	13.77	3.61	15.32	0.00	54.2
3F1	3.21	9.60	2.85	10.68	0.00	65.6
4F1	3.01	8.92	2.67	9.93	0.00	72.2
5C1	3.19	7.63	2.83	8.49	0.00	113.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.43	18.82	-8.02	14.48	-10.24	16.59	-7.88	12.76
OPER	HS20	-10.43	18.82	-8.02	14.48	-10.24	16.59	-7.88	12.76
OPER	2F1	-6.25	11.44	-4.80	8.80	0.00	0.00	0.00	0.00
OPER	3F1	-7.36	14.70	-5.66	11.31	0.00	0.00	0.00	0.00
OPER	4F1	-6.24	14.81	-4.80	11.40	0.00	0.00	0.00	0.00
OPER	5C1	-9.20	14.80	-7.08	11.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.80	3.65	HS 72.97	131.4
HS20	11.34	6.08	HS 121.62	218.9
2F1	18.94	10.01	0.00	150.1
3F1	16.06	7.78	0.00	179.1
4F1	18.96	7.73	0.00	208.6
5C1	12.85	7.74	0.00	309.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.0	-161.2	174.0	-161.2	158.0	-177.2	158.0	-177.2
OPER	279.4	-279.4	279.4	-279.4	263.4	-295.4	263.4	-295.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.25	R	77.89	109.32	0.0	81.33	62.56	81.32	
		-30.72	L	-23.63	38.97	0.0	-27.62	-21.24	62.18	0.00
OPER	HS20	101.25	R	77.89	109.32	0.0	81.33	62.56	81.32	
		-30.72	L	-23.63	38.97	0.0	-27.62	-21.24	62.18	0.00
OPER	2F1	69.96	R	53.81	91.32	0.0	0.00	0.00	0.00	
		-20.67	L	-15.90	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	R	68.09	91.32	0.0	0.00	0.00	0.00	
		-29.65	L	-22.81	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.55	R	72.73	95.32	0.0	0.00	0.00	0.00	
		-31.90	L	-24.54	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.26	R	68.67	93.32	0.0	0.00	0.00	0.00	
		-37.30	L	-28.69	51.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	5.77	1.56	5.77	HS	31.22	56.2
HS20	2.60	9.62	2.60	9.62	HS	52.03	93.7
2F1	3.77	14.29	3.77	14.29		0.00	56.5
3F1	2.98	9.96	2.98	9.96		0.00	68.4
4F1	2.79	9.26	2.79	9.26		0.00	75.2

5C1	2.95	7.92	2.95	7.92		0.00	118.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.83	28.67	28.67	1.699	999999.000	99.200

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		17.09		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	2F1	71.01 L	54.63	73.71	0.0	0.00	0.00	0.00	
		-15.35 L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 R	72.37	93.71	0.0	0.00	0.00	0.00	
		-22.02 L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 R	75.17	97.71	0.0	0.00	0.00	0.00	
		-23.69 L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 L	71.05	32.71	0.0	0.00	0.00	0.00	
		-36.58 L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.73	7.25	1.54	8.06	HS 30.72	55.3
HS20	2.89	12.09	2.56	13.44	HS 51.20	92.2
2F1	3.97	18.70	3.52	20.79	0.00	52.9
3F1	3.00	13.04	2.66	14.49	0.00	61.2
4F1	2.89	12.12	2.56	13.47	0.00	69.1
5C1	3.06	7.85	2.71	8.72	0.00	108.4

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S03
Check Point I. D. 4.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-14.89	14.89	-11.46	11.46	-13.33	13.36	-10.25	10.28
OPER	HS20	-14.89	14.89	-11.46	11.46	-13.33	13.36	-10.25	10.28
OPER	2F1	-8.77	8.77	-6.74	6.74	0.00	0.00	0.00	0.00
OPER	3F1	-10.89	10.88	-8.37	8.37	0.00	0.00	0.00	0.00
OPER	4F1	-10.28	10.28	-7.91	7.91	0.00	0.00	0.00	0.00
OPER	5C1	-11.76	11.76	-9.05	9.05	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.69	4.68	HS 93.68	168.6
HS20	7.82	7.81	HS 156.13	281.0
2F1	13.29	13.26	0.00	198.9
3F1	10.70	10.68	0.00	245.7
4F1	11.33	11.31	0.00	305.4
5C1	9.90	9.89	0.00	395.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-297.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	97.75	L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82	L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	HS20	97.75	L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82	L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	2F1	71.01	L	54.63	73.71	0.0	0.00	0.00	0.00	
		-15.35	L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09	R	72.37	93.71	0.0	0.00	0.00	0.00	
		-22.02	L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73	R	75.17	97.71	0.0	0.00	0.00	0.00	
		-23.69	L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36	L	71.05	32.71	0.0	0.00	0.00	0.00	
		-36.58	L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.60	7.53	1.60	7.53	HS	32.04	57.7
HS20	2.67	12.54	2.67	12.54	HS	53.40	96.1
2F1	3.67	19.40	3.67	19.40		0.00	55.1
3F1	2.77	13.52	2.77	13.52		0.00	63.8
4F1	2.67	12.57	2.67	12.57		0.00	72.1

5C1	2.83	8.14	2.83	8.14	0.00	113.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.1
OPER	300.6C	-268.7	268.7	-300.6C	284.4	-284.9	252.4	-316.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24 L	77.88	58.10	0.0	81.41	62.62	86.10	
		-30.70 R	-23.62	128.45	0.0	-27.53	-21.17	105.23	0.00
OPER	HS20	101.24 L	77.88	58.10	0.0	81.41	62.62	86.10	
		-30.70 R	-23.62	128.45	0.0	-27.53	-21.17	105.23	0.00
OPER	2F1	69.95 L	53.81	76.10	0.0	0.00	0.00	0.00	
		-20.64 R	-15.88	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52 L	68.09	76.10	0.0	0.00	0.00	0.00	
		-29.62 R	-22.78	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.54 L	72.72	72.10	0.0	0.00	0.00	0.00	
		-31.87 R	-24.51	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.22 L	68.63	74.10	0.0	0.00	0.00	0.00	
		-37.15 R	-28.58	114.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.69	5.57	1.50	6.19	HS 29.92	53.9
HS20	2.81	9.28	2.49	10.32	HS 49.87	89.8
2F1	4.07	13.80	3.61	15.35	0.00	54.1
3F1	3.21	9.62	2.85	10.70	0.00	65.6
4F1	3.01	8.94	2.67	9.94	0.00	72.1
5C1	3.19	7.67	2.83	8.53	0.00	113.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 4.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.82	10.43	-14.48	8.02	-16.56	10.27	-12.74	7.90
OPER	HS20	-18.82	10.43	-14.48	8.02	-16.56	10.27	-12.74	7.90
OPER	2F1	-11.44	6.24	-8.80	4.80	0.00	0.00	0.00	0.00
OPER	3F1	-14.70	7.36	-11.31	5.66	0.00	0.00	0.00	0.00
OPER	4F1	-14.82	6.24	-11.40	4.80	0.00	0.00	0.00	0.00
OPER	5C1	-14.80	9.20	-11.38	7.08	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	3.65	6.80	HS 73.03	131.5
HS20	6.09	11.34	HS 121.72	219.1
2F1	10.01	18.93	0.00	150.2
3F1	7.79	16.05	0.00	179.2
4F1	7.73	18.94	0.00	208.8
5C1	7.74	12.84	0.00	309.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.1	-161.2	174.1	-161.2	157.9	-177.4	157.9	-177.4
OPER	279.4	-279.4	279.4	-279.4	263.2	-295.6	263.2	-295.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	L	77.88	58.10	0.0	81.41	62.62	86.10	
		-30.70	R	-23.62	128.45	0.0	-27.53	-21.17	105.23	0.00
OPER	HS20	101.24	L	77.88	58.10	0.0	81.41	62.62	86.10	
		-30.70	R	-23.62	128.45	0.0	-27.53	-21.17	105.23	0.00
OPER	2F1	69.95	L	53.81	76.10	0.0	0.00	0.00	0.00	
		-20.64	R	-15.88	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	L	68.09	76.10	0.0	0.00	0.00	0.00	
		-29.62	R	-22.78	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.54	L	72.72	72.10	0.0	0.00	0.00	0.00	
		-31.87	R	-24.51	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.22	L	68.63	74.10	0.0	0.00	0.00	0.00	
		-37.15	R	-28.58	114.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	5.78	1.56	5.78	HS	31.19	56.1
HS20	2.60	9.63	2.60	9.63	HS	51.99	93.6
2F1	3.76	14.32	3.76	14.32		0.00	56.4
3F1	2.97	9.98	2.97	9.98		0.00	68.4
4F1	2.78	9.28	2.78	9.28		0.00	75.2

5C1	2.95	7.96	2.95	7.96	0.00	118.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.5	-167.0	155.3	-186.2
OPER	300.6C	-268.7	268.7	-300.6C	290.9	-278.4	258.9	-310.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59 L	69.68	60.49	0.0	68.55	52.73	88.49	
		-38.60 R	-29.69	128.45	0.0	-31.32	-24.09	105.23	0.00
OPER	HS20	90.59 L	69.68	60.49	0.0	68.55	52.73	88.49	
		-38.60 R	-29.69	128.45	0.0	-31.32	-24.09	105.23	0.00
OPER	2F1	59.67 L	45.90	78.49	0.0	0.00	0.00	0.00	
		-25.95 R	-19.96	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.13 L	57.80	74.49	0.0	0.00	0.00	0.00	
		-37.23 R	-28.64	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.41 L	58.78	74.49	0.0	0.00	0.00	0.00	
		-40.07 R	-30.82	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.59 R	60.46	135.49	0.0	0.00	0.00	0.00	
		-39.20 R	-30.15	116.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.33	1.72	4.82	HS 34.30	61.7
HS20	3.21	7.21	2.86	8.04	HS 57.17	102.9
2F1	4.88	10.73	4.34	11.96	0.00	65.1
3F1	3.87	7.48	3.45	8.34	0.00	79.3
4F1	3.81	6.95	3.39	7.75	0.00	91.5
5C1	3.70	7.10	3.29	7.92	0.00	131.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 4.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.7	72.0
OPER	151.3	-112.8	120.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.59	5.50	-17.38	4.23	-19.85	7.43	-15.27	5.72
OPER	HS20	-22.59	5.50	-17.38	4.23	-19.85	7.43	-15.27	5.72
OPER	2F1	-14.15	3.96	-10.89	3.05	0.00	0.00	0.00	0.00
OPER	3F1	-18.70	4.23	-14.39	3.26	0.00	0.00	0.00	0.00
OPER	4F1	-19.25	3.41	-14.81	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-17.80	6.90	-13.69	5.30	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	2.99	9.69	HS	59.90	107.8
HS20	4.99	16.15	HS	99.83	179.7
2F1	7.97	30.26		0.00	119.5
3F1	6.03	28.34		0.00	138.7
4F1	5.86	35.19		0.00	158.1
5C1	6.33	17.40		0.00	253.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.5	-163.7	171.5	-163.7	161.8	-173.5	161.8	-173.5
OPER	279.4	-279.4	279.4	-279.4	269.7	-289.1	269.7	-289.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59	L	69.68	60.49	0.0	68.55	52.73	88.49	
		-38.60	R	-29.69	128.45	0.0	-31.32	-24.09	105.23	0.00
OPER	HS20	90.59	L	69.68	60.49	0.0	68.55	52.73	88.49	
		-38.60	R	-29.69	128.45	0.0	-31.32	-24.09	105.23	0.00
OPER	2F1	59.67	L	45.90	78.49	0.0	0.00	0.00	0.00	
		-25.95	R	-19.96	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.13	L	57.80	74.49	0.0	0.00	0.00	0.00	
		-37.23	R	-28.64	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.41	L	58.78	74.49	0.0	0.00	0.00	0.00	
		-40.07	R	-30.82	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.59	R	60.46	135.49	0.0	0.00	0.00	0.00	
		-39.20	R	-30.15	116.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.49	1.79	4.49	HS	35.72	64.3
HS20	2.98	7.49	2.98	7.49	HS	59.54	107.2
2F1	4.52	11.14	4.52	11.14		0.00	67.8
3F1	3.59	7.76	3.59	7.76		0.00	82.5
4F1	3.53	7.22	3.53	7.22		0.00	95.3

5C1	3.43	7.38	3.43	7.38	0.00	137.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82	L	48.33	62.88	0.0	47.68	36.68	90.88	
		-46.50	R	-35.77	128.45	0.0	-37.09	-28.53	105.23	153.07
OPER	HS20	62.82	L	48.33	62.88	0.0	47.68	36.68	90.88	
		-46.50	R	-35.77	128.45	0.0	-37.09	-28.53	105.23	153.07
OPER	2F1	40.63	L	31.26	80.88	0.0	0.00	0.00	0.00	
		-31.26	R	-24.05	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.06	L	37.74	76.88	0.0	0.00	0.00	0.00	
		-44.85	R	-34.50	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.93	L	34.56	72.88	0.0	0.00	0.00	0.00	
		-48.26	R	-37.13	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.75	R	45.19	137.88	0.0	0.00	0.00	0.00	
		-41.75	R	-32.11	117.23	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.87	HS	51.51	92.7
HS20	4.80	5.76	4.29	6.44	HS	85.86	154.5
2F1	7.42	8.56	6.64	9.58		0.00	99.6
3F1	6.15	5.97	5.50	6.68		0.00	126.4
4F1	6.72	5.55	6.00	6.21		0.00	149.7
5C1	5.14	6.41	4.59	7.18		0.00	183.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.6	73.1
OPER	151.3	-111.0	121.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.57	3.17	-21.21	2.44	-23.09	4.91	-17.76	3.78
OPER	HS20	-27.57	3.17	-21.21	2.44	-23.09	4.91	-17.76	3.78
OPER	2F1	-16.80	2.22	-12.93	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-22.73	3.19	-17.48	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-23.45	3.41	-18.04	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-21.39	4.89	-16.46	3.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.41	14.88	HS 48.30	86.9
HS20	4.03	24.79	HS 80.50	144.9
2F1	6.60	54.78	0.00	99.1
3F1	4.88	38.18	0.00	112.3
4F1	4.73	35.72	0.00	127.7
5C1	5.19	24.89	0.00	207.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-278.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82	L	48.33	62.88	0.0	47.68	36.68	90.88	
		-46.50	R	-35.77	128.45	0.0	-37.09	-28.53	105.23	153.07
OPER	HS20	62.82	L	48.33	62.88	0.0	47.68	36.68	90.88	
		-46.50	R	-35.77	128.45	0.0	-37.09	-28.53	105.23	153.07
OPER	2F1	40.63	L	31.26	80.88	0.0	0.00	0.00	0.00	
		-31.26	R	-24.05	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.06	L	37.74	76.88	0.0	0.00	0.00	0.00	
		-44.85	R	-34.50	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.93	L	34.56	72.88	0.0	0.00	0.00	0.00	
		-48.26	R	-37.13	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.75	R	45.19	137.88	0.0	0.00	0.00	0.00	
		-41.75	R	-32.11	117.23	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.57	96.4
HS20	4.46	5.99	4.46	5.99	HS	89.28	160.7
2F1	6.90	8.90	6.90	8.90		0.00	103.5
3F1	5.72	6.21	5.72	6.21		0.00	131.5
4F1	6.24	5.77	6.24	5.77		0.00	155.7

5C1	4.77	6.67	4.77	6.67	0.00	190.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-14.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.5	170.9	-170.7
OPER	300.6C	-268.7	268.7	-300.6C	316.7	-252.6	284.8	-284.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.17 L	13.98	65.28	0.0	26.60	20.46	93.28	
		-60.84 L	-46.80	86.45	0.0	-56.56	-43.51	105.23	83.71
OPER	HS20	18.17 L	13.98	65.28	0.0	26.60	20.46	93.28	
		-60.84 L	-46.80	86.45	0.0	-56.56	-43.51	105.23	83.71
OPER	2F1	14.37 L	11.05	83.28	0.0	0.00	0.00	0.00	
		-36.57 R	-28.13	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.08 R	10.83	139.15	0.0	0.00	0.00	0.00	
		-52.47 R	-40.36	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.96 R	11.51	143.15	0.0	0.00	0.00	0.00	
		-56.46 R	-43.43	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.88 R	22.99	140.28	0.0	0.00	0.00	0.00	
		-46.17 R	-35.52	119.63	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.14	2.49	6.42	2.81	HS 49.82	89.7
HS20	11.91	4.15	10.71	4.68	HS 83.03	149.4
2F1	22.05	6.91	19.82	7.78	0.00	103.6
3F1	22.50	4.81	20.23	5.42	0.00	110.7
4F1	21.17	4.47	19.03	5.04	0.00	120.8
5C1	10.60	5.47	9.53	6.16	0.00	218.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.5	74.1
OPER	151.3	-109.2	123.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.74	3.30	-25.19	2.54	-26.16	3.54	-20.12	2.72
OPER	HS20	-32.74	3.30	-25.19	2.54	-26.16	3.54	-20.12	2.72
OPER	2F1	-19.28	2.22	-14.83	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-26.61	3.19	-20.47	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-27.42	3.43	-21.09	2.64	0.00	0.00	0.00	0.00
OPER	5C1	-25.01	3.23	-19.24	2.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.00	20.97	HS 40.01	72.0
HS20	3.33	34.94	HS 66.68	120.0
2F1	5.66	55.58	0.00	85.0
3F1	4.10	38.74	0.00	94.4
4F1	3.98	36.01	0.00	107.5
5C1	4.37	38.21	0.00	174.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-14.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.2	-174.1	161.2	-174.1	177.3	-158.0	177.3	-158.0
OPER	279.4	-279.4	279.4	-279.4	295.5	-263.3	295.5	-263.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.17	L	13.98	65.28	0.0	26.60	20.46	93.28	
		-60.84	L	-46.80	86.45	0.0	-56.56	-43.51	105.23	83.71
OPER	HS20	18.17	L	13.98	65.28	0.0	26.60	20.46	93.28	
		-60.84	L	-46.80	86.45	0.0	-56.56	-43.51	105.23	83.71
OPER	2F1	14.37	L	11.05	83.28	0.0	0.00	0.00	0.00	
		-36.57	R	-28.13	112.84	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.08	R	10.83	139.15	0.0	0.00	0.00	0.00	
		-52.47	R	-40.36	115.23	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.96	R	11.51	143.15	0.0	0.00	0.00	0.00	
		-56.46	R	-43.43	118.45	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.88	R	22.99	140.28	0.0	0.00	0.00	0.00	
		-46.17	R	-35.52	119.63	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.67	2.60	6.67	2.60	HS	51.93	93.5
HS20	11.11	4.33	11.11	4.33	HS	86.56	155.8
2F1	20.57	7.20	20.57	7.20		0.00	108.0
3F1	21.00	5.02	21.00	5.02		0.00	115.4
4F1	19.75	4.66	19.75	4.66		0.00	125.9

5C1	9.89	5.70	9.89	5.70	0.00	228.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24	L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89	L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12	L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38	R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34	L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72	R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09	L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52	R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.55	1.32	10.45	1.50	HS 26.48	47.7
HS20	19.25	2.21	17.41	2.51	HS 44.13	79.4
2F1	29.91	5.57	27.07	6.33	0.00	83.5
3F1	20.85	3.41	18.87	3.88	0.00	78.4
4F1	19.38	2.92	17.53	3.33	0.00	79.0
5C1	23.85	3.51	21.58	3.99	0.00	140.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.4	64.4
OPER	151.3	-107.4	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.74	37.61	-25.19	28.93	-26.16	28.97	-20.12	22.28
OPER	HS20	-32.74	37.61	-25.19	28.93	-26.16	28.97	-20.12	22.28
OPER	2F1	-19.28	21.47	-14.83	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-26.61	30.18	-20.47	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-27.42	31.72	-21.09	24.40	0.00	0.00	0.00	0.00
OPER	5C1	-25.01	28.46	-19.24	21.89	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS	34.26	61.7
HS20	2.86	2.86	HS	57.10	102.8
2F1	5.00	5.00		0.00	75.0
3F1	3.56	3.56		0.00	81.8
4F1	3.38	3.38		0.00	91.4
5C1	3.77	3.77		0.00	150.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-146.4
OPER	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-243.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24	L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89	L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12	L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38	R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34	L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72	R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09	L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52	R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.82	1.38	10.82	1.38	HS	27.70	49.9
HS20	18.03	2.31	18.03	2.31	HS	46.16	83.1
2F1	28.02	5.82	28.02	5.82		0.00	87.4
3F1	19.53	3.57	19.53	3.57		0.00	82.1
4F1	18.15	3.06	18.15	3.06		0.00	82.6

5C1	22.34	3.67	22.34	3.67	0.00	146.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24	L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89	L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12	L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38	R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34	L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72	R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09	L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52	R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	11.55	1.32	10.45	1.50	HS	26.48	47.7
HS20	19.25	2.21	17.41	2.51	HS	44.13	79.4
2F1	29.91	5.57	27.07	6.33		0.00	83.5
3F1	20.85	3.41	18.87	3.88		0.00	78.4
4F1	19.38	2.92	17.53	3.33		0.00	79.0
5C1	23.85	3.51	21.58	3.99		0.00	140.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-8.2	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.4	64.4
OPER	151.3	-107.4	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-37.61	37.61	-28.93	28.93	-28.97	28.97	-22.28	22.28
OPER	HS20	-37.61	37.61	-28.93	28.93	-28.97	28.97	-22.28	22.28
OPER	2F1	-21.47	21.47	-16.51	16.51	0.00	0.00	0.00	0.00
OPER	3F1	-30.18	30.18	-23.21	23.21	0.00	0.00	0.00	0.00
OPER	4F1	-31.72	31.72	-24.40	24.40	0.00	0.00	0.00	0.00
OPER	5C1	-28.46	28.46	-21.89	21.89	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS 34.26	61.7
HS20	2.86	2.86	HS 57.10	102.8
2F1	5.00	5.00	0.00	75.0
3F1	3.56	3.56	0.00	81.8
4F1	3.38	3.38	0.00	91.4
5C1	3.77	3.77	0.00	150.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

Rating Types and Vehicles
INV. HS20
OPER HS20
POST 2F1
SPEC 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-146.4
OPER	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-243.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	HS20	16.70	L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69	R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24	L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89	L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12	L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38	R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34	L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72	R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09	L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52	R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.82	1.38	10.82	1.38	HS	27.70	49.9
HS20	18.03	2.31	18.03	2.31	HS	46.16	83.1
2F1	28.02	5.82	28.02	5.82		0.00	87.4
3F1	19.53	3.57	19.53	3.57		0.00	82.1
4F1	18.15	3.06	18.15	3.06		0.00	82.6

5C1	22.34	3.67	22.34	3.67	0.00	146.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-14.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.5	170.9	-170.7
OPER	300.6C	-268.7	268.7	-300.6C	316.7	-252.6	284.8	-284.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.17	R	13.98	126.06	0.0	27.04	20.80	98.06	
		-60.84	R	-46.80	104.88	0.0	-56.59	-43.53	86.10	107.63
OPER	HS20	18.17	R	13.98	126.06	0.0	27.04	20.80	98.06	
		-60.84	R	-46.80	104.88	0.0	-56.59	-43.53	86.10	107.63
OPER	2F1	14.37	R	11.05	108.06	0.0	0.00	0.00	0.00	
		-36.58	L	-28.13	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.08	L	10.83	52.18	0.0	0.00	0.00	0.00	
		-52.47	L	-40.36	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.96	L	11.51	48.18	0.0	0.00	0.00	0.00	
		-56.46	L	-43.43	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.89	L	22.99	51.06	0.0	0.00	0.00	0.00	
		-46.17	L	-35.52	71.71	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.03	2.49	6.32	2.81	HS 49.82	89.7
HS20	11.72	4.15	10.53	4.68	HS 83.03	149.4
2F1	22.05	6.91	19.82	7.78	0.00	103.6
3F1	22.50	4.81	20.23	5.42	0.00	110.7
4F1	21.17	4.47	19.03	5.04	0.00	120.8
5C1	10.60	5.47	9.53	6.16	0.00	218.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.1	65.5
OPER	151.3	-123.6	109.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	32.74	-2.44	25.19	-3.54	26.16	-2.72	20.12
OPER	HS20	-3.17	32.74	-2.44	25.19	-3.54	26.16	-2.72	20.12
OPER	2F1	-2.22	19.28	-1.71	14.83	0.00	0.00	0.00	0.00
OPER	3F1	-3.19	26.61	-2.45	20.47	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	27.42	-2.62	21.09	0.00	0.00	0.00	0.00
OPER	5C1	-3.23	25.01	-2.49	19.24	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	20.97	2.00	HS	40.01	72.0
HS20	34.94	3.33	HS	66.68	120.0
2F1	55.58	5.66		0.00	85.0
3F1	38.74	4.10		0.00	94.4
4F1	36.24	3.98		0.00	107.5
5C1	38.21	4.37		0.00	174.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-14.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.2	-174.1	161.2	-174.1	177.3	-158.0	177.3	-158.0
OPER	279.4	-279.4	279.4	-279.4	295.5	-263.3	295.5	-263.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.17	R	13.98	126.06	0.0	27.04	20.80	98.06	
		-60.84	R	-46.80	104.88	0.0	-56.59	-43.53	86.10	107.63
OPER	HS20	18.17	R	13.98	126.06	0.0	27.04	20.80	98.06	
		-60.84	R	-46.80	104.88	0.0	-56.59	-43.53	86.10	107.63
OPER	2F1	14.37	R	11.05	108.06	0.0	0.00	0.00	0.00	
		-36.58	L	-28.13	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.08	L	10.83	52.18	0.0	0.00	0.00	0.00	
		-52.47	L	-40.36	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.96	L	11.51	48.18	0.0	0.00	0.00	0.00	
		-56.46	L	-43.43	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.89	L	22.99	51.06	0.0	0.00	0.00	0.00	
		-46.17	L	-35.52	71.71	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.56	2.60	6.56	2.60	HS	51.93	93.5
HS20	10.93	4.33	10.93	4.33	HS	86.56	155.8
2F1	20.57	7.20	20.57	7.20		0.00	108.0
3F1	21.00	5.02	21.00	5.02		0.00	115.4
4F1	19.75	4.66	19.75	4.66		0.00	125.9

5C1	9.89	5.70	9.89	5.70	0.00	228.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82	R	48.33	128.45	0.0	47.16	36.28	100.45	
		-46.50	L	-35.77	62.88	0.0	-37.09	-28.53	86.10	38.27
OPER	HS20	62.82	R	48.33	128.45	0.0	47.16	36.28	100.45	
		-46.50	L	-35.77	62.88	0.0	-37.09	-28.53	86.10	38.27
OPER	2F1	40.64	R	31.26	110.45	0.0	0.00	0.00	0.00	
		-31.26	L	-24.05	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.06	R	37.74	114.45	0.0	0.00	0.00	0.00	
		-44.85	L	-34.50	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.93	R	34.56	118.45	0.0	0.00	0.00	0.00	
		-48.26	L	-37.13	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.75	L	45.19	53.45	0.0	0.00	0.00	0.00	
		-41.75	L	-32.11	74.10	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.87	HS	51.51	92.7
HS20	4.80	5.76	4.29	6.44	HS	85.86	154.5
2F1	7.42	8.56	6.64	9.58		0.00	99.6
3F1	6.15	5.97	5.50	6.68		0.00	126.4
4F1	6.72	5.55	6.00	6.21		0.00	149.7
5C1	5.14	6.41	4.59	7.18		0.00	183.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.1	66.6
OPER	151.3	-121.8	111.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.17	27.57	-2.44	21.21	-4.91	23.09	-3.78	17.76
OPER	HS20	-3.17	27.57	-2.44	21.21	-4.91	23.09	-3.78	17.76
OPER	2F1	-2.22	16.80	-1.71	12.93	0.00	0.00	0.00	0.00
OPER	3F1	-3.19	22.73	-2.45	17.48	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	23.45	-2.62	18.04	0.00	0.00	0.00	0.00
OPER	5C1	-4.89	21.39	-3.76	16.46	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	14.88	2.41	HS 48.30	86.9
HS20	24.79	4.03	HS 80.50	144.9
2F1	54.78	6.60	0.00	99.1
3F1	38.18	4.88	0.00	112.3
4F1	35.72	4.73	0.00	127.7
5C1	24.89	5.19	0.00	207.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-278.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	62.82	R	48.33	128.45	0.0	47.16	36.28	100.45	
		-46.50	L	-35.77	62.88	0.0	-37.09	-28.53	86.10	38.27
OPER	HS20	62.82	R	48.33	128.45	0.0	47.16	36.28	100.45	
		-46.50	L	-35.77	62.88	0.0	-37.09	-28.53	86.10	38.27
OPER	2F1	40.64	R	31.26	110.45	0.0	0.00	0.00	0.00	
		-31.26	L	-24.05	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.06	R	37.74	114.45	0.0	0.00	0.00	0.00	
		-44.85	L	-34.50	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.93	R	34.56	118.45	0.0	0.00	0.00	0.00	
		-48.26	L	-37.13	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.75	L	45.19	53.45	0.0	0.00	0.00	0.00	
		-41.75	L	-32.11	74.10	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.57	96.4
HS20	4.46	5.99	4.46	5.99	HS	89.28	160.7
2F1	6.90	8.90	6.90	8.90		0.00	103.5
3F1	5.72	6.21	5.72	6.21		0.00	131.5
4F1	6.24	5.77	6.24	5.77		0.00	155.7

5C1	4.77	6.67	4.77	6.67	0.00	190.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.5	-167.0	155.3	-186.2
OPER	300.6C	-268.7	268.7	-300.6C	290.9	-278.4	258.9	-310.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59	R	69.68	130.84	0.0	68.55	52.73	102.84	
		-38.60	L	-29.69	62.88	0.0	-31.32	-24.09	86.10	0.00
OPER	HS20	90.59	R	69.68	130.84	0.0	68.55	52.73	102.84	
		-38.60	L	-29.69	62.88	0.0	-31.32	-24.09	86.10	0.00
OPER	2F1	59.67	R	45.90	112.84	0.0	0.00	0.00	0.00	
		-25.95	L	-19.96	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.13	R	57.80	116.84	0.0	0.00	0.00	0.00	
		-37.23	L	-28.64	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.42	R	58.78	116.84	0.0	0.00	0.00	0.00	
		-40.07	L	-30.82	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.59	L	60.46	55.84	0.0	0.00	0.00	0.00	
		-39.20	L	-30.15	74.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.93	4.33	1.72	4.82	HS	34.30	61.7
HS20	3.21	7.21	2.86	8.04	HS	57.17	102.9
2F1	4.88	10.73	4.34	11.96		0.00	65.1
3F1	3.87	7.48	3.45	8.34		0.00	79.3
4F1	3.81	6.95	3.39	7.75		0.00	91.5
5C1	3.70	7.10	3.29	7.92		0.00	131.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.0	67.7
OPER	151.3	-120.0	112.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.50	22.59	-4.23	17.38	-7.43	19.85	-5.72	15.27
OPER	HS20	-5.50	22.59	-4.23	17.38	-7.43	19.85	-5.72	15.27
OPER	2F1	-3.96	14.15	-3.05	10.89	0.00	0.00	0.00	0.00
OPER	3F1	-4.23	18.70	-3.26	14.39	0.00	0.00	0.00	0.00
OPER	4F1	-3.41	19.25	-2.62	14.81	0.00	0.00	0.00	0.00
OPER	5C1	-6.90	17.80	-5.30	13.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.69	2.99	HS 59.90	107.8
HS20	16.15	4.99	HS 99.83	179.7
2F1	30.26	7.97	0.00	119.5
3F1	28.34	6.03	0.00	138.7
4F1	35.19	5.86	0.00	158.1
5C1	17.40	6.33	0.00	253.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.5	-163.7	171.5	-163.7	161.8	-173.5	161.8	-173.5
OPER	279.4	-279.4	279.4	-279.4	269.7	-289.1	269.7	-289.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59	R	69.68	130.84	0.0	68.55	52.73	102.84	
		-38.60	L	-29.69	62.88	0.0	-31.32	-24.09	86.10	0.00
OPER	HS20	90.59	R	69.68	130.84	0.0	68.55	52.73	102.84	
		-38.60	L	-29.69	62.88	0.0	-31.32	-24.09	86.10	0.00
OPER	2F1	59.67	R	45.90	112.84	0.0	0.00	0.00	0.00	
		-25.95	L	-19.96	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.13	R	57.80	116.84	0.0	0.00	0.00	0.00	
		-37.23	L	-28.64	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.42	R	58.78	116.84	0.0	0.00	0.00	0.00	
		-40.07	L	-30.82	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.59	L	60.46	55.84	0.0	0.00	0.00	0.00	
		-39.20	L	-30.15	74.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.79	4.49	1.79	4.49	HS	35.72	64.3
HS20	2.98	7.49	2.98	7.49	HS	59.54	107.2
2F1	4.52	11.14	4.52	11.14		0.00	67.8
3F1	3.59	7.76	3.59	7.76		0.00	82.5
4F1	3.53	7.22	3.53	7.22		0.00	95.3

5C1	3.43	7.38	3.43	7.38	0.00	137.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.1
OPER	300.6C	-268.7	268.7	-300.6C	284.4	-284.9	252.4	-316.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	R	77.88	133.23	0.0	81.41	62.62	105.23	
		-30.70	L	-23.62	62.88	0.0	-27.53	-21.17	86.10	0.00
OPER	HS20	101.24	R	77.88	133.23	0.0	81.41	62.62	105.23	
		-30.70	L	-23.62	62.88	0.0	-27.53	-21.17	86.10	0.00
OPER	2F1	69.95	R	53.81	115.23	0.0	0.00	0.00	0.00	
		-20.64	L	-15.88	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	R	68.09	115.23	0.0	0.00	0.00	0.00	
		-29.62	L	-22.78	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.54	R	72.72	119.23	0.0	0.00	0.00	0.00	
		-31.87	L	-24.51	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.22	R	68.63	117.23	0.0	0.00	0.00	0.00	
		-37.28	L	-28.68	75.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.69	5.57	1.50	6.19	HS	29.92	53.9
HS20	2.81	9.28	2.49	10.32	HS	49.87	89.8
2F1	4.07	13.80	3.61	15.35		0.00	54.1
3F1	3.21	9.62	2.85	10.70		0.00	65.6
4F1	3.01	8.94	2.67	9.94		0.00	72.1
5C1	3.19	7.64	2.83	8.50		0.00	113.2

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 5.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.43	18.82	-8.02	14.48	-10.27	16.56	-7.90	12.74
OPER	HS20	-10.43	18.82	-8.02	14.48	-10.27	16.56	-7.90	12.74
OPER	2F1	-6.24	11.44	-4.80	8.80	0.00	0.00	0.00	0.00
OPER	3F1	-7.36	14.70	-5.66	11.31	0.00	0.00	0.00	0.00
OPER	4F1	-6.24	14.82	-4.80	11.40	0.00	0.00	0.00	0.00
OPER	5C1	-9.20	14.80	-7.08	11.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.80	3.65	HS 73.03	131.5
HS20	11.34	6.09	HS 121.72	219.1
2F1	18.93	10.01	0.00	150.2
3F1	16.05	7.79	0.00	179.2
4F1	18.94	7.73	0.00	208.8
5C1	12.84	7.74	0.00	309.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.1	-161.2	174.1	-161.2	157.9	-177.4	157.9	-177.4
OPER	279.4	-279.4	279.4	-279.4	263.2	-295.6	263.2	-295.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	R	77.88	133.23	0.0	81.41	62.62	105.23	
		-30.70	L	-23.62	62.88	0.0	-27.53	-21.17	86.10	0.00
OPER	HS20	101.24	R	77.88	133.23	0.0	81.41	62.62	105.23	
		-30.70	L	-23.62	62.88	0.0	-27.53	-21.17	86.10	0.00
OPER	2F1	69.95	R	53.81	115.23	0.0	0.00	0.00	0.00	
		-20.64	L	-15.88	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	R	68.09	115.23	0.0	0.00	0.00	0.00	
		-29.62	L	-22.78	76.10	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.54	R	72.72	119.23	0.0	0.00	0.00	0.00	
		-31.87	L	-24.51	72.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.22	R	68.63	117.23	0.0	0.00	0.00	0.00	
		-37.28	L	-28.68	75.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	5.78	1.56	5.78	HS	31.19	56.1
HS20	2.60	9.63	2.60	9.63	HS	51.99	93.6
2F1	3.76	14.32	3.76	14.32		0.00	56.4
3F1	2.97	9.98	2.97	9.98		0.00	68.4
4F1	2.78	9.28	2.78	9.28		0.00	75.2

5C1	2.95	7.93	2.95	7.93	0.00	118.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.82	28.67	28.67	1.699	999999.000	98.780

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.50		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	2F1	71.01 R	54.63	117.63	0.0	0.00	0.00	0.00	
		-15.35 R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 L	72.37	97.63	0.0	0.00	0.00	0.00	
		-22.02 R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 L	75.17	93.63	0.0	0.00	0.00	0.00	
		-23.69 R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 R	71.05	158.63	0.0	0.00	0.00	0.00	
		-36.58 R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.73	7.25	1.54	8.06	HS 30.72	55.3
HS20	2.89	12.09	2.56	13.44	HS 51.20	92.2
2F1	3.97	18.70	3.52	20.79	0.00	52.9
3F1	3.00	13.04	2.66	14.49	0.00	61.2
4F1	2.89	12.12	2.56	13.47	0.00	69.1
5C1	3.06	7.85	2.71	8.72	0.00	108.4

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-14.89	14.89	-11.46	11.46	-13.36	13.33	-10.28	10.25
OPER	HS20	-14.89	14.89	-11.46	11.46	-13.36	13.33	-10.28	10.25
OPER	2F1	-8.77	8.77	-6.74	6.74	0.00	0.00	0.00	0.00
OPER	3F1	-10.88	10.89	-8.37	8.37	0.00	0.00	0.00	0.00
OPER	4F1	-10.28	10.28	-7.91	7.91	0.00	0.00	0.00	0.00
OPER	5C1	-11.76	11.76	-9.05	9.05	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.69	4.69	HS 93.75	168.8
HS20	7.82	7.81	HS 156.25	281.3
2F1	13.28	13.27	0.00	199.1
3F1	10.69	10.69	0.00	245.8
4F1	11.32	11.32	0.00	305.6
5C1	9.90	9.89	0.00	395.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-297.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75	R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82	R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	HS20	97.75	R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82	R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	2F1	71.01	R	54.63	117.63	0.0	0.00	0.00	0.00	
		-15.35	R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09	L	72.37	97.63	0.0	0.00	0.00	0.00	
		-22.02	R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73	L	75.17	93.63	0.0	0.00	0.00	0.00	
		-23.69	R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36	R	71.05	158.63	0.0	0.00	0.00	0.00	
		-36.58	R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.60	7.53	1.60	7.53	HS	32.04	57.7
HS20	2.67	12.54	2.67	12.54	HS	53.40	96.1
2F1	3.67	19.40	3.67	19.40		0.00	55.1
3F1	2.77	13.52	2.77	13.52		0.00	63.8
4F1	2.67	12.57	2.67	12.57		0.00	72.1

5C1	2.83	8.14	2.83	8.14	0.00	113.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.525

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.8	-170.8	151.6	-190.0
OPER	300.6C	-268.7	268.7	-300.6C	284.6	-284.7	252.7	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.25 L	77.89	82.02	0.0	81.33	62.56	110.02	
		-30.72 R	-23.63	152.37	0.0	-27.62	-21.24	129.15	0.00
OPER	HS20	101.25 L	77.89	82.02	0.0	81.33	62.56	110.02	
		-30.72 R	-23.63	152.37	0.0	-27.62	-21.24	129.15	0.00
OPER	2F1	69.96 L	53.81	100.02	0.0	0.00	0.00	0.00	
		-20.67 R	-15.90	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52 L	68.09	100.02	0.0	0.00	0.00	0.00	
		-29.65 R	-22.81	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.55 L	72.73	96.02	0.0	0.00	0.00	0.00	
		-31.90 R	-24.54	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.26 L	68.67	98.02	0.0	0.00	0.00	0.00	
		-37.17 R	-28.59	138.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.69	5.56	1.50	6.18	HS 29.94	53.9
HS20	2.81	9.27	2.49	10.31	HS 49.91	89.8
2F1	4.07	13.77	3.61	15.32	0.00	54.2
3F1	3.21	9.60	2.85	10.68	0.00	65.6
4F1	3.01	8.92	2.67	9.93	0.00	72.2
5C1	3.19	7.66	2.83	8.52	0.00	113.2

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.5	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.82	10.43	-14.48	8.02	-16.59	10.24	-12.76	7.88
OPER	HS20	-18.82	10.43	-14.48	8.02	-16.59	10.24	-12.76	7.88
OPER	2F1	-11.44	6.25	-8.80	4.80	0.00	0.00	0.00	0.00
OPER	3F1	-14.70	7.36	-11.31	5.66	0.00	0.00	0.00	0.00
OPER	4F1	-14.81	6.24	-11.40	4.80	0.00	0.00	0.00	0.00
OPER	5C1	-14.80	9.20	-11.38	7.08	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.65	6.81	HS 72.97	131.4
HS20	6.08	11.34	HS 121.62	218.9
2F1	10.01	18.94	0.00	150.1
3F1	7.78	16.06	0.00	179.1
4F1	7.73	18.96	0.00	208.6
5C1	7.74	12.85	0.00	309.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.0	-161.2	174.0	-161.2	158.0	-177.2	158.0	-177.2
OPER	279.4	-279.4	279.4	-279.4	263.4	-295.4	263.4	-295.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.25	L	77.89	82.02	0.0	81.33	62.56	110.02	
		-30.72	R	-23.63	152.37	0.0	-27.62	-21.24	129.15	0.00
OPER	HS20	101.25	L	77.89	82.02	0.0	81.33	62.56	110.02	
		-30.72	R	-23.63	152.37	0.0	-27.62	-21.24	129.15	0.00
OPER	2F1	69.96	L	53.81	100.02	0.0	0.00	0.00	0.00	
		-20.67	R	-15.90	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.52	L	68.09	100.02	0.0	0.00	0.00	0.00	
		-29.65	R	-22.81	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.55	L	72.73	96.02	0.0	0.00	0.00	0.00	
		-31.90	R	-24.54	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.26	L	68.67	98.02	0.0	0.00	0.00	0.00	
		-37.17	R	-28.59	138.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	5.77	1.56	5.77	HS	31.22	56.2
HS20	2.60	9.62	2.60	9.62	HS	52.03	93.7
2F1	3.77	14.29	3.77	14.29		0.00	56.5
3F1	2.98	9.96	2.98	9.96		0.00	68.4
4F1	2.79	9.26	2.79	9.26		0.00	75.2

5C1	2.95	7.95	2.95	7.95	0.00	118.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.525

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.8	-166.8	155.6	-186.0
OPER	300.6C	-268.7	268.7	-300.6C	291.3	-277.9	259.4	-309.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.60 L	69.69	84.41	0.0	68.40	52.62	112.41	
		-38.62 R	-29.71	152.37	0.0	-31.49	-24.22	129.15	0.00
OPER	HS20	90.60 L	69.69	84.41	0.0	68.40	52.62	112.41	
		-38.62 R	-29.71	152.37	0.0	-31.49	-24.22	129.15	0.00
OPER	2F1	59.68 L	45.91	102.41	0.0	0.00	0.00	0.00	
		-25.98 R	-19.99	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.15 L	57.80	98.41	0.0	0.00	0.00	0.00	
		-37.27 R	-28.67	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.43 L	58.79	98.41	0.0	0.00	0.00	0.00	
		-40.11 R	-30.85	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.69 R	60.53	159.41	0.0	0.00	0.00	0.00	
		-39.23 R	-30.18	140.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.32	1.72	4.82	HS 34.35	61.8
HS20	3.22	7.20	2.86	8.02	HS 57.26	103.1
2F1	4.88	10.70	4.35	11.93	0.00	65.2
3F1	3.88	7.46	3.45	8.31	0.00	79.4
4F1	3.81	6.93	3.39	7.73	0.00	91.6
5C1	3.70	7.09	3.30	7.90	0.00	131.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.6	72.0
OPER	151.3	-112.7	120.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.59	5.50	-17.38	4.23	-19.88	7.40	-15.29	5.69
OPER	HS20	-22.59	5.50	-17.38	4.23	-19.88	7.40	-15.29	5.69
OPER	2F1	-14.15	3.97	-10.89	3.05	0.00	0.00	0.00	0.00
OPER	3F1	-18.70	4.23	-14.39	3.26	0.00	0.00	0.00	0.00
OPER	4F1	-19.25	3.41	-14.81	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-17.80	6.90	-13.69	5.30	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.99	9.74	HS 59.85	107.7
HS20	4.99	16.23	HS 99.74	179.5
2F1	7.96	30.28	0.00	119.4
3F1	6.02	28.36	0.00	138.6
4F1	5.85	35.26	0.00	158.0
5C1	6.33	17.41	0.00	253.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.4	-163.9	171.4	-163.9	162.1	-173.2	162.1	-173.2
OPER	279.4	-279.4	279.4	-279.4	270.1	-288.7	270.1	-288.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.60	L	69.69	84.41	0.0	68.40	52.62	112.41	
		-38.62	R	-29.71	152.37	0.0	-31.49	-24.22	129.15	0.00
OPER	HS20	90.60	L	69.69	84.41	0.0	68.40	52.62	112.41	
		-38.62	R	-29.71	152.37	0.0	-31.49	-24.22	129.15	0.00
OPER	2F1	59.68	L	45.91	102.41	0.0	0.00	0.00	0.00	
		-25.98	R	-19.99	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.15	L	57.80	98.41	0.0	0.00	0.00	0.00	
		-37.27	R	-28.67	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.43	L	58.79	98.41	0.0	0.00	0.00	0.00	
		-40.11	R	-30.85	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.69	R	60.53	159.41	0.0	0.00	0.00	0.00	
		-39.23	R	-30.18	140.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.49	1.79	4.49	HS	35.78	64.4
HS20	2.98	7.47	2.98	7.47	HS	59.63	107.3
2F1	4.53	11.11	4.53	11.11		0.00	67.9
3F1	3.59	7.74	3.59	7.74		0.00	82.7
4F1	3.53	7.20	3.53	7.20		0.00	95.4

5C1	3.43	7.36	3.43	7.36		0.00	137.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.525

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.4	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.84	L	48.34	86.80	0.0	47.45	36.50	114.80	
		-46.53	R	-35.79	152.37	0.0	-37.67	-28.97	129.15	176.98
OPER	HS20	62.84	L	48.34	86.80	0.0	47.45	36.50	114.80	
		-46.53	R	-35.79	152.37	0.0	-37.67	-28.97	129.15	176.98
OPER	2F1	40.65	L	31.27	104.80	0.0	0.00	0.00	0.00	
		-31.30	R	-24.08	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.07	L	37.75	100.80	0.0	0.00	0.00	0.00	
		-44.90	R	-34.54	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.94	L	34.57	96.80	0.0	0.00	0.00	0.00	
		-48.32	R	-37.17	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.90	R	45.31	161.80	0.0	0.00	0.00	0.00	
		-41.79	R	-32.15	141.15	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.89	3.44	2.58	3.86	HS	51.63	92.9
HS20	4.81	5.74	4.30	6.43	HS	86.05	154.9
2F1	7.44	8.53	6.65	9.55		0.00	99.8
3F1	6.16	5.95	5.51	6.66		0.00	126.7
4F1	6.73	5.53	6.02	6.19		0.00	149.2
5C1	5.13	6.39	4.59	7.15		0.00	183.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S03
Check Point I. D. 5.800

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.5	73.1
OPER	151.3	-110.9	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.57	3.17	-21.21	2.44	-23.12	4.88	-17.78	3.75
OPER	HS20	-27.57	3.17	-21.21	2.44	-23.12	4.88	-17.78	3.75
OPER	2F1	-16.80	2.22	-12.92	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-22.73	3.19	-17.48	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-23.45	3.41	-18.04	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-21.39	4.89	-16.45	3.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.41	14.98	HS 48.26	86.9
HS20	4.02	24.97	HS 80.43	144.8
2F1	6.60	54.88	0.00	99.0
3F1	4.88	38.26	0.00	112.2
4F1	4.73	35.78	0.00	127.6
5C1	5.18	24.92	0.00	207.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.7	-166.6	168.7	-166.6
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-277.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.84	L	48.34	86.80	0.0	47.45	36.50	114.80	
		-46.53	R	-35.79	152.37	0.0	-37.67	-28.97	129.15	176.98
OPER	HS20	62.84	L	48.34	86.80	0.0	47.45	36.50	114.80	
		-46.53	R	-35.79	152.37	0.0	-37.67	-28.97	129.15	176.98
OPER	2F1	40.65	L	31.27	104.80	0.0	0.00	0.00	0.00	
		-31.30	R	-24.08	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.07	L	37.75	100.80	0.0	0.00	0.00	0.00	
		-44.90	R	-34.54	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.94	L	34.57	96.80	0.0	0.00	0.00	0.00	
		-48.32	R	-37.17	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.90	R	45.31	161.80	0.0	0.00	0.00	0.00	
		-41.79	R	-32.15	141.15	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.58	2.68	3.58	HS	53.68	96.6
HS20	4.47	5.97	4.47	5.97	HS	89.47	161.0
2F1	6.92	8.87	6.92	8.87		0.00	103.7
3F1	5.73	6.18	5.73	6.18		0.00	131.7
4F1	6.26	5.75	6.26	5.75		0.00	155.2

5C1	4.77	6.64	4.77	6.64	0.00	190.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.525

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
Structure I. D. HAM500				
	HS20	HS20		
Member I. D. S03		2F1		
Check Point I. D. 5.900		3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.6	-151.0	171.4	-170.2
OPER	300.6C	-268.7	268.7	-300.6C	317.6	-251.7	285.6	-283.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.19	L	13.99	89.19	0.0	26.29	20.22	117.19	
		-60.91	L	-46.85	110.37	0.0	-56.89	-43.76	129.15	107.63
OPER	HS20	18.19	L	13.99	89.19	0.0	26.29	20.22	117.19	
		-60.91	L	-46.85	110.37	0.0	-56.89	-43.76	129.15	107.63
OPER	2F1	14.38	L	11.06	107.19	0.0	0.00	0.00	0.00	
		-36.62	R	-28.17	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.29	R	10.99	163.07	0.0	0.00	0.00	0.00	
		-52.53	R	-40.41	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.19	R	11.68	167.07	0.0	0.00	0.00	0.00	
		-56.52	R	-43.48	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	30.08	R	23.14	164.19	0.0	0.00	0.00	0.00	
		-46.23	R	-35.56	143.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.25	2.48	6.52	2.79	HS	49.58	89.3
HS20	12.08	4.13	10.87	4.66	HS	82.64	148.8
2F1	22.09	6.87	19.87	7.75		0.00	103.1
3F1	22.23	4.79	19.99	5.40		0.00	110.2
4F1	20.91	4.45	18.81	5.02		0.00	120.2
5C1	10.56	5.44	9.50	6.14		0.00	217.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.4	74.2
OPER	151.3	-109.1	123.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.74	3.30	-25.19	2.54	-26.19	3.50	-20.15	2.69
OPER	HS20	-32.74	3.30	-25.19	2.54	-26.19	3.50	-20.15	2.69
OPER	2F1	-19.28	2.22	-14.83	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-26.61	3.19	-20.47	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-27.41	3.43	-21.09	2.64	0.00	0.00	0.00	0.00
OPER	5C1	-25.00	3.23	-19.23	2.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.00	21.19	HS 39.98	72.0
HS20	3.33	35.32	HS 66.63	119.9
2F1	5.66	55.69	0.00	84.9
3F1	4.10	38.82	0.00	94.3
4F1	3.98	36.08	0.00	107.4
5C1	4.36	38.27	0.00	174.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.8	-174.4	160.8	-174.4	177.8	-157.4	177.8	-157.4
OPER	279.4	-279.4	279.4	-279.4	296.4	-262.4	296.4	-262.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.19	L	13.99	89.19	0.0	26.29	20.22	117.19	
		-60.91	L	-46.85	110.37	0.0	-56.89	-43.76	129.15	107.63
OPER	HS20	18.19	L	13.99	89.19	0.0	26.29	20.22	117.19	
		-60.91	L	-46.85	110.37	0.0	-56.89	-43.76	129.15	107.63
OPER	2F1	14.38	L	11.06	107.19	0.0	0.00	0.00	0.00	
		-36.62	R	-28.17	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.29	R	10.99	163.07	0.0	0.00	0.00	0.00	
		-52.53	R	-40.41	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	15.19	R	11.68	167.07	0.0	0.00	0.00	0.00	
		-56.52	R	-43.48	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	30.08	R	23.14	164.19	0.0	0.00	0.00	0.00	
		-46.23	R	-35.56	143.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.76	2.59	6.76	2.59	HS	51.70	93.1
HS20	11.28	4.31	11.28	4.31	HS	86.17	155.1
2F1	20.62	7.17	20.62	7.17		0.00	107.5
3F1	20.75	5.00	20.75	5.00		0.00	114.9
4F1	19.51	4.64	19.51	4.64		0.00	125.4

5C1	9.85	5.68	9.85	5.68	0.00	227.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.525

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20
Member I. D. S03 2F1
Check Point I. D. 6.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41	R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93	R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37	R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78	L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46	R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50	R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.78	1.32	10.66	1.50	HS 26.35	47.4
HS20	19.63	2.19	17.76	2.50	HS 43.91	79.0
2F1	29.56	5.53	26.75	6.30	0.00	83.0
3F1	20.61	3.39	18.65	3.86	0.00	78.1
4F1	19.16	2.91	17.34	3.31	0.00	78.5
5C1	25.06	3.49	22.68	3.97	0.00	139.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.4	64.3
OPER	151.3	-107.3	107.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.74	37.62	-25.19	28.94	-26.19	29.03	-20.15	22.33
OPER	HS20	-32.74	37.62	-25.19	28.94	-26.19	29.03	-20.15	22.33
OPER	2F1	-19.28	21.47	-14.83	16.52	0.00	0.00	0.00	0.00
OPER	3F1	-26.61	30.19	-20.47	23.22	0.00	0.00	0.00	0.00
OPER	4F1	-27.41	31.73	-21.09	24.41	0.00	0.00	0.00	0.00
OPER	5C1	-25.00	28.47	-19.23	21.90	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS	34.19	61.5
HS20	2.85	2.85	HS	56.98	102.6
2F1	5.00	4.99		0.00	74.9
3F1	3.56	3.55		0.00	81.7
4F1	3.38	3.38		0.00	91.2
5C1	3.77	3.77		0.00	150.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41	R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93	R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37	R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78	L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46	R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50	R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	11.03	1.38	11.03	1.38	HS	27.57	49.6
HS20	18.39	2.30	18.39	2.30	HS	45.94	82.7
2F1	27.70	5.79	27.70	5.79		0.00	86.9
3F1	19.31	3.55	19.31	3.55		0.00	81.7
4F1	17.95	3.04	17.95	3.04		0.00	82.2

5C1	23.48	3.65	23.48	3.65	0.00	146.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.461

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41	R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93	R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37	R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78	L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46	R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50	R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.78	1.32	10.66	1.50	HS 26.35	47.4
HS20	19.63	2.19	17.76	2.50	HS 43.91	79.0
2F1	29.56	5.53	26.75	6.30	0.00	83.0
3F1	20.61	3.39	18.65	3.86	0.00	78.1
4F1	19.16	2.91	17.34	3.31	0.00	78.5
5C1	25.06	3.49	22.68	3.97	0.00	139.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-8.3	8.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.4	64.3
OPER	151.3	-107.3	107.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.61	37.62	-28.93	28.94	-29.00	29.03	-22.31	22.33
OPER	HS20	-37.61	37.62	-28.93	28.94	-29.00	29.03	-22.31	22.33
OPER	2F1	-21.47	21.47	-16.51	16.52	0.00	0.00	0.00	0.00
OPER	3F1	-30.18	30.19	-23.21	23.22	0.00	0.00	0.00	0.00
OPER	4F1	-31.72	31.73	-24.40	24.41	0.00	0.00	0.00	0.00
OPER	5C1	-28.44	28.47	-21.88	21.90	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS	34.19	61.5
HS20	2.85	2.85	HS	56.98	102.6
2F1	5.00	4.99		0.00	74.9
3F1	3.56	3.55		0.00	81.7
4F1	3.38	3.38		0.00	91.2
5C1	3.77	3.77		0.00	150.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	HS20	16.84	R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71	L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41	R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93	R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36	R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37	R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60	R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78	L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46	R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50	R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	11.03	1.38	11.03	1.38	HS	27.57	49.6
HS20	18.39	2.30	18.39	2.30	HS	45.94	82.7
2F1	27.70	5.79	27.70	5.79		0.00	86.9
3F1	19.31	3.55	19.31	3.55		0.00	81.7
4F1	17.95	3.04	17.95	3.04		0.00	82.2

5C1	23.48	3.65	23.48	3.65	0.00	146.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.461

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.4	-151.1	171.3	-170.3
OPER	300.6C	-268.7	268.7	-300.6C	317.4	-251.9	285.4	-283.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.14	R	13.96	149.98	0.0	26.79	20.61	121.98	
		-60.83	R	-46.79	128.80	0.0	-56.83	-43.72	110.02	131.54
OPER	HS20	18.14	R	13.96	149.98	0.0	26.79	20.61	121.98	
		-60.83	R	-46.79	128.80	0.0	-56.83	-43.72	110.02	131.54
OPER	2F1	14.35	R	11.04	131.98	0.0	0.00	0.00	0.00	
		-36.56	L	-28.13	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.06	L	10.81	76.10	0.0	0.00	0.00	0.00	
		-52.46	L	-40.35	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.94	L	11.50	72.10	0.0	0.00	0.00	0.00	
		-56.45	L	-43.42	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.85	L	22.97	74.98	0.0	0.00	0.00	0.00	
		-46.15	L	-35.50	95.63	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.11	2.48	6.39	2.80	HS	49.69	89.4
HS20	11.85	4.14	10.65	4.67	HS	82.82	149.1
2F1	22.12	6.89	19.89	7.76		0.00	103.3
3F1	22.58	4.80	20.31	5.41		0.00	110.4
4F1	21.24	4.46	19.10	5.03		0.00	120.5
5C1	10.63	5.46	9.56	6.15		0.00	218.3

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.3	65.4
OPER	151.3	-123.8	109.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.19	32.76	-2.45	25.20	-3.50	26.23	-2.69	20.17
OPER	HS20	-3.19	32.76	-2.45	25.20	-3.50	26.23	-2.69	20.17
OPER	2F1	-2.26	19.28	-1.74	14.83	0.00	0.00	0.00	0.00
OPER	3F1	-3.24	26.62	-2.49	20.48	0.00	0.00	0.00	0.00
OPER	4F1	-3.46	27.43	-2.66	21.10	0.00	0.00	0.00	0.00
OPER	5C1	-3.27	25.02	-2.52	19.25	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	21.20	2.00	HS 39.92	71.9
HS20	35.33	3.33	HS 66.54	119.8
2F1	54.83	5.65	0.00	84.8
3F1	38.23	4.09	0.00	94.2
4F1	35.77	3.97	0.00	107.3
5C1	37.81	4.36	0.00	174.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.9	-174.3	160.9	-174.3	177.7	-157.6	177.7	-157.6
OPER	279.4	-279.4	279.4	-279.4	296.2	-262.6	296.2	-262.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.14	R	13.96	149.98	0.0	26.79	20.61	121.98	
		-60.83	R	-46.79	128.80	0.0	-56.83	-43.72	110.02	131.54
OPER	HS20	18.14	R	13.96	149.98	0.0	26.79	20.61	121.98	
		-60.83	R	-46.79	128.80	0.0	-56.83	-43.72	110.02	131.54
OPER	2F1	14.35	R	11.04	131.98	0.0	0.00	0.00	0.00	
		-36.56	L	-28.13	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.06	L	10.81	76.10	0.0	0.00	0.00	0.00	
		-52.46	L	-40.35	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.94	L	11.50	72.10	0.0	0.00	0.00	0.00	
		-56.45	L	-43.42	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.85	L	22.97	74.98	0.0	0.00	0.00	0.00	
		-46.15	L	-35.50	95.63	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.63	2.59	6.63	2.59	HS	51.81	93.3
HS20	11.05	4.32	11.05	4.32	HS	86.35	155.4
2F1	20.64	7.18	20.64	7.18		0.00	107.7
3F1	21.07	5.01	21.07	5.01		0.00	115.2
4F1	19.82	4.65	19.82	4.65		0.00	125.6

5C1	9.92	5.69	9.92	5.69	0.00	227.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.461

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.4	161.9	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.82 R	48.32	152.37	0.0	47.08	36.21	124.37	
		-46.50 L	-35.77	86.80	0.0	-37.14	-28.57	110.02	62.18
OPER	HS20	62.82 R	48.32	152.37	0.0	47.08	36.21	124.37	
		-46.50 L	-35.77	86.80	0.0	-37.14	-28.57	110.02	62.18
OPER	2F1	40.63 R	31.26	134.37	0.0	0.00	0.00	0.00	
		-31.26 L	-24.05	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.05 R	37.73	138.37	0.0	0.00	0.00	0.00	
		-44.85 L	-34.50	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.92 R	34.55	142.37	0.0	0.00	0.00	0.00	
		-48.26 L	-37.12	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.74 L	45.18	77.37	0.0	0.00	0.00	0.00	
		-41.74 L	-32.11	98.02	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.88	3.45	2.58	3.86	HS 51.56	92.8
HS20	4.81	5.75	4.30	6.44	HS 85.93	154.7
2F1	7.43	8.55	6.64	9.58	0.00	99.6
3F1	6.15	5.96	5.50	6.68	0.00	126.6
4F1	6.72	5.54	6.01	6.20	0.00	149.6
5C1	5.14	6.41	4.59	7.17	0.00	183.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.200

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.2	66.5
OPER	151.3	-122.0	110.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.19	27.59	-2.45	21.22	-4.84	23.15	-3.72	17.81
OPER	HS20	-3.19	27.59	-2.45	21.22	-4.84	23.15	-3.72	17.81
OPER	2F1	-2.26	16.81	-1.74	12.93	0.00	0.00	0.00	0.00
OPER	3F1	-3.24	22.74	-2.49	17.49	0.00	0.00	0.00	0.00
OPER	4F1	-3.46	23.46	-2.66	18.05	0.00	0.00	0.00	0.00
OPER	5C1	-4.92	21.40	-3.78	16.47	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	15.12	2.41	HS	48.19	86.7
HS20	25.20	4.02	HS	80.32	144.6
2F1	54.03	6.59		0.00	98.9
3F1	37.67	4.87		0.00	112.0
4F1	35.25	4.72		0.00	127.5
5C1	24.80	5.18		0.00	207.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.1	-168.1	167.1	-168.1	168.4	-166.9	168.4	-166.9
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-278.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	62.82	R	48.32	152.37	0.0	47.08	36.21	124.37	
		-46.50	L	-35.77	86.80	0.0	-37.14	-28.57	110.02	62.18
OPER	HS20	62.82	R	48.32	152.37	0.0	47.08	36.21	124.37	
		-46.50	L	-35.77	86.80	0.0	-37.14	-28.57	110.02	62.18
OPER	2F1	40.63	R	31.26	134.37	0.0	0.00	0.00	0.00	
		-31.26	L	-24.05	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.05	R	37.73	138.37	0.0	0.00	0.00	0.00	
		-44.85	L	-34.50	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.92	R	34.55	142.37	0.0	0.00	0.00	0.00	
		-48.26	L	-37.12	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.74	L	45.18	77.37	0.0	0.00	0.00	0.00	
		-41.74	L	-32.11	98.02	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.61	96.5
HS20	4.47	5.98	4.47	5.98	HS	89.35	160.8
2F1	6.91	8.90	6.91	8.90		0.00	103.6
3F1	5.72	6.20	5.72	6.20		0.00	131.6
4F1	6.25	5.76	6.25	5.76		0.00	155.6

5C1	4.78	6.66	4.78	6.66	0.00	191.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.461

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.4	-167.2	155.2	-186.4
OPER	300.6C	-268.7	268.7	-300.6C	290.7	-278.6	258.7	-310.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59 R	69.69	154.76	0.0	68.64	52.80	126.76	
		-38.61 L	-29.70	86.80	0.0	-31.24	-24.03	110.02	0.00
OPER	HS20	90.59 R	69.69	154.76	0.0	68.64	52.80	126.76	
		-38.61 L	-29.70	86.80	0.0	-31.24	-24.03	110.02	0.00
OPER	2F1	59.69 R	45.91	136.76	0.0	0.00	0.00	0.00	
		-25.96 L	-19.97	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.16 R	57.82	140.76	0.0	0.00	0.00	0.00	
		-37.24 L	-28.65	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.44 R	58.80	140.76	0.0	0.00	0.00	0.00	
		-40.07 L	-30.82	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.61 L	60.47	79.76	0.0	0.00	0.00	0.00	
		-39.25 L	-30.19	98.80	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	4.33	1.71	4.83	HS 34.27	61.7
HS20	3.21	7.22	2.86	8.05	HS 57.11	102.8
2F1	4.87	10.73	4.33	11.97	0.00	65.0
3F1	3.87	7.48	3.44	8.34	0.00	79.2
4F1	3.80	6.95	3.38	7.75	0.00	91.4
5C1	3.70	7.10	3.29	7.91	0.00	131.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Member I. D. S03
Check Point I. D. 6.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.1	67.5
OPER	151.3	-120.2	112.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.50	22.60	-4.23	17.38	-7.36	19.92	-5.66	15.32
OPER	HS20	-5.50	22.60	-4.23	17.38	-7.36	19.92	-5.66	15.32
OPER	2F1	-3.96	14.16	-3.05	10.89	0.00	0.00	0.00	0.00
OPER	3F1	-4.23	18.72	-3.25	14.40	0.00	0.00	0.00	0.00
OPER	4F1	-3.46	19.27	-2.66	14.82	0.00	0.00	0.00	0.00
OPER	5C1	-6.90	17.81	-5.31	13.70	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	9.80	2.99	HS	59.78	107.6
HS20	16.33	4.98	HS	99.64	179.3
2F1	30.35	7.95		0.00	119.2
3F1	28.42	6.01		0.00	138.3
4F1	34.73	5.84		0.00	157.8
5C1	17.41	6.32		0.00	252.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.6	-163.7	171.6	-163.7	161.7	-173.6	161.7	-173.6
OPER	279.4	-279.4	279.4	-279.4	269.4	-289.4	269.4	-289.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.59	R	69.69	154.76	0.0	68.64	52.80	126.76	
		-38.61	L	-29.70	86.80	0.0	-31.24	-24.03	110.02	0.00
OPER	HS20	90.59	R	69.69	154.76	0.0	68.64	52.80	126.76	
		-38.61	L	-29.70	86.80	0.0	-31.24	-24.03	110.02	0.00
OPER	2F1	59.69	R	45.91	136.76	0.0	0.00	0.00	0.00	
		-25.96	L	-19.97	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.16	R	57.82	140.76	0.0	0.00	0.00	0.00	
		-37.24	L	-28.65	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.44	R	58.80	140.76	0.0	0.00	0.00	0.00	
		-40.07	L	-30.82	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.61	L	60.47	79.76	0.0	0.00	0.00	0.00	
		-39.25	L	-30.19	98.80	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	4.50	1.78	4.50	HS	35.69	64.2
HS20	2.97	7.49	2.97	7.49	HS	59.48	107.1
2F1	4.51	11.15	4.51	11.15		0.00	67.7
3F1	3.59	7.77	3.59	7.77		0.00	82.4
4F1	3.53	7.22	3.53	7.22		0.00	95.2

5C1	3.43	7.37	3.43	7.37		0.00	137.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.461

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	15.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.3	-171.3	151.1	-190.5
OPER	300.6C	-268.7	268.7	-300.6C	283.8	-285.5	251.8	-317.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24 R	77.88	157.15	0.0	81.67	62.82	129.15	
		-30.72 L	-23.63	86.80	0.0	-27.30	-21.00	110.02	0.00
OPER	HS20	101.24 R	77.88	157.15	0.0	81.67	62.82	129.15	
		-30.72 L	-23.63	86.80	0.0	-27.30	-21.00	110.02	0.00
OPER	2F1	70.00 R	53.85	139.15	0.0	0.00	0.00	0.00	
		-20.65 L	-15.89	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.57 R	68.13	139.15	0.0	0.00	0.00	0.00	
		-29.63 L	-22.79	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.60 R	72.77	143.15	0.0	0.00	0.00	0.00	
		-31.89 L	-24.53	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.27 R	68.67	141.15	0.0	0.00	0.00	0.00	
		-37.28 L	-28.68	100.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.68	5.58	1.49	6.20	HS 29.84	53.7
HS20	2.80	9.29	2.49	10.34	HS 49.74	89.5
2F1	4.05	13.82	3.60	15.37	0.00	54.0
3F1	3.20	9.64	2.84	10.72	0.00	65.4
4F1	3.00	8.95	2.66	9.96	0.00	71.9
5C1	3.18	7.66	2.82	8.52	0.00	112.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 6.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.6
OPER	151.3	-118.4	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.43	18.83	-8.02	14.48	-10.20	16.63	-7.84	12.80
OPER	HS20	-10.43	18.83	-8.02	14.48	-10.20	16.63	-7.84	12.80
OPER	2F1	-6.24	11.45	-4.80	8.81	0.00	0.00	0.00	0.00
OPER	3F1	-7.35	14.72	-5.66	11.32	0.00	0.00	0.00	0.00
OPER	4F1	-6.23	14.83	-4.79	11.41	0.00	0.00	0.00	0.00
OPER	5C1	-9.18	14.80	-7.06	11.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	6.81	3.64	HS 72.89	131.2
HS20	11.35	6.07	HS 121.48	218.7
2F1	18.98	9.99	0.00	149.8
3F1	16.09	7.77	0.00	178.7
4F1	19.00	7.71	0.00	208.2
5C1	12.89	7.73	0.00	309.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	15.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.4	-160.9	174.4	-160.9	157.5	-177.8	157.5	-177.8
OPER	279.4	-279.4	279.4	-279.4	262.5	-296.3	262.5	-296.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.24	R	77.88	157.15	0.0	81.67	62.82	129.15	
		-30.72	L	-23.63	86.80	0.0	-27.30	-21.00	110.02	0.00
OPER	HS20	101.24	R	77.88	157.15	0.0	81.67	62.82	129.15	
		-30.72	L	-23.63	86.80	0.0	-27.30	-21.00	110.02	0.00
OPER	2F1	70.00	R	53.85	139.15	0.0	0.00	0.00	0.00	
		-20.65	L	-15.89	102.41	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.57	R	68.13	139.15	0.0	0.00	0.00	0.00	
		-29.63	L	-22.79	100.02	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.60	R	72.77	143.15	0.0	0.00	0.00	0.00	
		-31.89	L	-24.53	96.80	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.27	R	68.67	141.15	0.0	0.00	0.00	0.00	
		-37.28	L	-28.68	100.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	5.79	1.56	5.79	HS	31.12	56.0
HS20	2.59	9.64	2.59	9.64	HS	51.86	93.3
2F1	3.75	14.35	3.75	14.35		0.00	56.3
3F1	2.96	10.00	2.96	10.00		0.00	68.2
4F1	2.78	9.29	2.78	9.29		0.00	74.9

5C1	2.94	7.95	2.94	7.95	0.00	117.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.84	28.67	28.67	1.699	999999.000	99.461

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		18.32		106.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81	R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00	R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	HS20	97.81	R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00	R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	2F1	71.08	R	54.68	141.54	0.0	0.00	0.00	0.00	
		-15.58	R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19	L	72.45	121.54	0.0	0.00	0.00	0.00	
		-22.35	R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83	L	75.25	117.54	0.0	0.00	0.00	0.00	
		-24.04	R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08	R	71.60	182.54	0.0	0.00	0.00	0.00	
		-36.84	R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.72	7.35	1.53	8.17	HS	30.57	55.0
HS20	2.87	12.26	2.55	13.62	HS	50.94	91.7
2F1	3.95	18.49	3.51	20.55		0.00	52.6
3F1	2.98	12.89	2.64	14.32		0.00	60.8
4F1	2.87	11.99	2.55	13.32		0.00	68.8
5C1	3.02	7.82	2.68	8.69		0.00	107.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-14.90	14.90	-11.46	11.46	-13.28	13.40	-10.22	10.31
OPER	HS20	-14.90	14.90	-11.46	11.46	-13.28	13.40	-10.22	10.31
OPER	2F1	-8.76	8.78	-6.74	6.75	0.00	0.00	0.00	0.00
OPER	3F1	-10.87	10.90	-8.36	8.38	0.00	0.00	0.00	0.00
OPER	4F1	-10.26	10.30	-7.90	7.92	0.00	0.00	0.00	0.00
OPER	5C1	-11.71	11.79	-9.01	9.07	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.69	4.68	HS 93.54	168.4
HS20	7.82	7.80	HS 155.89	280.6
2F1	13.31	13.23	0.00	198.5
3F1	10.72	10.66	0.00	245.2
4F1	11.36	11.28	0.00	304.6
5C1	9.95	9.85	0.00	394.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.4	-159.8	175.4	-159.8	155.9	-179.4	155.9	-179.4
OPER	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	97.81	R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00	R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	HS20	97.81	R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00	R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	2F1	71.08	R	54.68	141.54	0.0	0.00	0.00	0.00	
		-15.58	R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19	L	72.45	121.54	0.0	0.00	0.00	0.00	
		-22.35	R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83	L	75.25	117.54	0.0	0.00	0.00	0.00	
		-24.04	R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08	R	71.60	182.54	0.0	0.00	0.00	0.00	
		-36.84	R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.59	7.63	1.59	7.63	HS	31.88	57.4
HS20	2.66	12.71	2.66	12.71	HS	53.14	95.7
2F1	3.66	19.18	3.66	19.18		0.00	54.8
3F1	2.76	13.37	2.76	13.37		0.00	63.5
4F1	2.66	12.43	2.66	12.43		0.00	71.7

5C1	2.79	8.11	2.79	8.11	0.00	111.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 6.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.9
OPER	300.6C	-268.7	268.7	-300.6C	283.1	-286.2	251.1	-318.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.37	L	77.98	105.93	0.0	81.95	63.04	133.93	
		-30.97	R	-23.82	176.28	0.0	-27.28	-20.99	153.07	0.00
OPER	HS20	101.37	L	77.98	105.93	0.0	81.95	63.04	133.93	
		-30.97	R	-23.82	176.28	0.0	-27.28	-20.99	153.07	0.00
OPER	2F1	70.05	L	53.88	123.93	0.0	0.00	0.00	0.00	
		-20.98	R	-16.14	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.66	L	68.20	123.93	0.0	0.00	0.00	0.00	
		-30.09	R	-23.15	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.70	L	72.84	119.93	0.0	0.00	0.00	0.00	
		-32.37	R	-24.90	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.93	L	69.18	121.93	0.0	0.00	0.00	0.00	
		-37.55	R	-28.89	162.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.68	5.55	1.49	6.16	HS	29.72	53.5
HS20	2.79	9.24	2.48	10.27	HS	49.54	89.2
2F1	4.04	13.64	3.59	15.16		0.00	53.8
3F1	3.19	9.51	2.83	10.57		0.00	65.1
4F1	2.99	8.84	2.65	9.83		0.00	71.6
5C1	3.15	7.62	2.79	8.47		0.00	111.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 6.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.7	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.84	10.44	-14.49	8.03	-16.51	10.31	-12.70	7.93
OPER	HS20	-18.84	10.44	-14.49	8.03	-16.51	10.31	-12.70	7.93
OPER	2F1	-11.43	6.25	-8.79	4.81	0.00	0.00	0.00	0.00
OPER	3F1	-14.69	7.37	-11.30	5.67	0.00	0.00	0.00	0.00
OPER	4F1	-14.80	6.24	-11.39	4.80	0.00	0.00	0.00	0.00
OPER	5C1	-14.79	9.22	-11.38	7.09	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	3.65	6.79	HS 73.03	131.5
HS20	6.09	11.31	HS 121.72	219.1
2F1	10.03	18.89	0.00	150.5
3F1	7.80	16.02	0.00	179.5
4F1	7.75	18.93	0.00	209.1
5C1	7.75	12.81	0.00	310.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.4	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.6	174.7	-160.6	157.1	-178.2	157.1	-178.2
OPER	279.4	-279.4	279.4	-279.4	261.9	-296.9	261.9	-296.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.37	L	77.98	105.93	0.0	81.95	63.04	133.93	
		-30.97	R	-23.82	176.28	0.0	-27.28	-20.99	153.07	0.00
OPER	HS20	101.37	L	77.98	105.93	0.0	81.95	63.04	133.93	
		-30.97	R	-23.82	176.28	0.0	-27.28	-20.99	153.07	0.00
OPER	2F1	70.05	L	53.88	123.93	0.0	0.00	0.00	0.00	
		-20.98	R	-16.14	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	88.66	L	68.20	123.93	0.0	0.00	0.00	0.00	
		-30.09	R	-23.15	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	94.70	L	72.84	119.93	0.0	0.00	0.00	0.00	
		-32.37	R	-24.90	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	89.93	L	69.18	121.93	0.0	0.00	0.00	0.00	
		-37.55	R	-28.89	162.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.55	5.75	1.55	5.75	HS	31.00	55.8
HS20	2.58	9.59	2.58	9.59	HS	51.66	93.0
2F1	3.74	14.15	3.74	14.15		0.00	56.1
3F1	2.95	9.87	2.95	9.87		0.00	67.9
4F1	2.77	9.17	2.77	9.17		0.00	74.7

5C1	2.91	7.91	2.91	7.91	0.00	116.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.6	-168.0	154.4	-187.2
OPER	300.6C	-268.7	268.7	-300.6C	289.3	-279.9	257.4	-311.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.77	L	69.83	108.33	0.0	69.19	53.22	136.33	
		-38.94	R	-29.95	176.28	0.0	-31.05	-23.89	153.07	0.00
OPER	HS20	90.77	L	69.83	108.33	0.0	69.19	53.22	136.33	
		-38.94	R	-29.95	176.28	0.0	-31.05	-23.89	153.07	0.00
OPER	2F1	59.80	L	46.00	126.33	0.0	0.00	0.00	0.00	
		-26.38	R	-20.29	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.32	L	57.94	122.33	0.0	0.00	0.00	0.00	
		-37.84	R	-29.10	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.61	L	58.93	122.33	0.0	0.00	0.00	0.00	
		-40.70	R	-31.31	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.03	R	61.56	183.33	0.0	0.00	0.00	0.00	
		-39.75	R	-30.58	164.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.91	4.31	1.70	4.81	HS	34.02	61.2
HS20	3.19	7.19	2.84	8.01	HS	56.70	102.1
2F1	4.84	10.61	4.30	11.82		0.00	64.6
3F1	3.84	7.40	3.42	8.24		0.00	78.6
4F1	3.78	6.88	3.36	7.66		0.00	90.7
5C1	3.62	7.04	3.22	7.85		0.00	128.6

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20

Member I. D. S03
Check Point I. D. 6.700

2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.7	71.9
OPER	151.3	-112.9	119.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.61	5.52	-17.39	4.24	-19.80	7.47	-15.23	5.75
OPER	HS20	-22.61	5.52	-17.39	4.24	-19.80	7.47	-15.23	5.75
OPER	2F1	-14.14	3.97	-10.88	3.05	0.00	0.00	0.00	0.00
OPER	3F1	-18.69	4.23	-14.37	3.26	0.00	0.00	0.00	0.00
OPER	4F1	-19.24	3.40	-14.80	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-17.80	6.91	-13.69	5.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.99	9.63	HS 59.90	107.8
HS20	4.99	16.05	HS 99.84	179.7
2F1	7.98	30.20	0.00	119.7
3F1	6.04	28.31	0.00	138.9
4F1	5.87	35.25	0.00	158.4
5C1	6.34	17.36	0.00	253.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.2	-163.1	172.2	-163.1	160.9	-174.4	160.9	-174.4
OPER	279.4	-279.4	279.4	-279.4	268.1	-290.7	268.1	-290.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.77	L	69.83	108.33	0.0	69.19	53.22	136.33	
		-38.94	R	-29.95	176.28	0.0	-31.05	-23.89	153.07	0.00
OPER	HS20	90.77	L	69.83	108.33	0.0	69.19	53.22	136.33	
		-38.94	R	-29.95	176.28	0.0	-31.05	-23.89	153.07	0.00
OPER	2F1	59.80	L	46.00	126.33	0.0	0.00	0.00	0.00	
		-26.38	R	-20.29	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.32	L	57.94	122.33	0.0	0.00	0.00	0.00	
		-37.84	R	-29.10	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.61	L	58.93	122.33	0.0	0.00	0.00	0.00	
		-40.70	R	-31.31	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	80.03	R	61.56	183.33	0.0	0.00	0.00	0.00	
		-39.75	R	-30.58	164.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	4.48	1.77	4.48	HS	35.44	63.8
HS20	2.95	7.47	2.95	7.47	HS	59.07	106.3
2F1	4.48	11.02	4.48	11.02		0.00	67.3
3F1	3.56	7.68	3.56	7.68		0.00	81.9
4F1	3.50	7.14	3.50	7.14		0.00	94.5

5C1	3.35	7.31	3.35	7.31	0.00	134.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	299.9	-269.4	267.9	-301.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	63.06	L	48.51	110.72	0.0	48.37	37.21	138.72	
		-46.91	R	-36.08	176.28	0.0	-35.34	-27.18	153.07	121.98
OPER	HS20	63.06	L	48.51	110.72	0.0	48.37	37.21	138.72	
		-46.91	R	-36.08	176.28	0.0	-35.34	-27.18	153.07	121.98
OPER	2F1	40.79	L	31.37	128.72	0.0	0.00	0.00	0.00	
		-31.78	R	-24.44	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.29	L	37.91	124.72	0.0	0.00	0.00	0.00	
		-45.58	R	-35.06	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	45.17	L	34.75	120.72	0.0	0.00	0.00	0.00	
		-49.03	R	-37.71	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	60.94	R	46.87	185.72	0.0	0.00	0.00	0.00	
		-42.43	R	-32.64	165.07	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.85	3.45	2.55	3.86	HS	50.98	91.8
HS20	4.76	5.74	4.25	6.43	HS	84.97	152.9
2F1	7.35	8.48	6.57	9.48		0.00	98.5
3F1	6.09	5.91	5.44	6.61		0.00	125.0
4F1	6.64	5.49	5.93	6.15		0.00	148.4
5C1	4.92	6.35	4.40	7.10		0.00	175.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.800

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.6	73.0
OPER	151.3	-111.1	121.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.56	3.17	-21.20	2.43	-23.04	4.95	-17.72	3.81
OPER	HS20	-27.56	3.17	-21.20	2.43	-23.04	4.95	-17.72	3.81
OPER	2F1	-16.79	2.22	-12.92	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-22.71	3.18	-17.47	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-23.44	3.40	-18.03	2.62	0.00	0.00	0.00	0.00
OPER	5C1	-21.30	4.90	-16.39	3.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.42	14.75	HS 48.35	87.0
HS20	4.03	24.59	HS 80.59	145.1
2F1	6.61	54.88	0.00	99.2
3F1	4.89	38.25	0.00	112.5
4F1	4.74	35.78	0.00	127.9
5C1	5.21	24.86	0.00	208.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.9	-167.3	167.9	-167.3	167.2	-168.1	167.2	-168.1
OPER	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-280.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	63.06	L	48.51	110.72	0.0	48.37	37.21	138.72	
		-46.91	R	-36.08	176.28	0.0	-35.34	-27.18	153.07	121.98
OPER	HS20	63.06	L	48.51	110.72	0.0	48.37	37.21	138.72	
		-46.91	R	-36.08	176.28	0.0	-35.34	-27.18	153.07	121.98
OPER	2F1	40.79	L	31.37	128.72	0.0	0.00	0.00	0.00	
		-31.78	R	-24.44	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.29	L	37.91	124.72	0.0	0.00	0.00	0.00	
		-45.58	R	-35.06	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	45.17	L	34.75	120.72	0.0	0.00	0.00	0.00	
		-49.03	R	-37.71	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	60.94	R	46.87	185.72	0.0	0.00	0.00	0.00	
		-42.43	R	-32.64	165.07	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.65	3.58	2.65	3.58	HS	53.03	95.4
HS20	4.42	5.97	4.42	5.97	HS	88.38	159.1
2F1	6.83	8.81	6.83	8.81		0.00	102.5
3F1	5.65	6.15	5.65	6.15		0.00	130.0
4F1	6.17	5.71	6.17	5.71		0.00	154.3

5C1	4.57	6.60	4.57	6.60	0.00	182.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.8	-152.7	169.7	-171.9
OPER	300.6C	-268.7	268.7	-300.6C	314.7	-254.5	282.8	-286.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	18.42	L	14.17	113.11	0.0	27.29	20.99	141.11	
		-61.87	L	-47.59	134.28	0.0	-56.05	-43.12	153.07	131.54
OPER	HS20	18.42	L	14.17	113.11	0.0	27.29	20.99	141.11	
		-61.87	L	-47.59	134.28	0.0	-56.05	-43.12	153.07	131.54
OPER	2F1	14.51	L	11.16	131.11	0.0	0.00	0.00	0.00	
		-37.18	R	-28.60	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.24	R	13.26	186.98	0.0	0.00	0.00	0.00	
		-53.32	R	-41.02	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	18.32	R	14.10	190.98	0.0	0.00	0.00	0.00	
		-57.36	R	-44.12	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	32.79	R	25.22	188.11	0.0	0.00	0.00	0.00	
		-46.95	R	-36.12	166.68	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.92	2.47	6.22	2.78	HS	49.37	88.9
HS20	11.53	4.11	10.36	4.63	HS	82.28	148.1
2F1	21.69	6.85	19.49	7.71		0.00	102.7
3F1	18.25	4.77	16.40	5.37		0.00	109.8
4F1	17.18	4.44	15.43	5.00		0.00	119.8
5C1	9.60	5.42	8.62	6.10		0.00	216.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.900

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.6	74.1
OPER	151.3	-109.3	123.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.74	3.30	-25.18	2.54	-26.12	3.56	-20.09	2.74
OPER	HS20	-32.74	3.30	-25.18	2.54	-26.12	3.56	-20.09	2.74
OPER	2F1	-19.27	2.22	-14.82	1.71	0.00	0.00	0.00	0.00
OPER	3F1	-26.59	3.18	-20.46	2.45	0.00	0.00	0.00	0.00
OPER	4F1	-27.40	3.42	-21.08	2.63	0.00	0.00	0.00	0.00
OPER	5C1	-24.87	3.23	-19.13	2.48	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.00	20.82	HS 40.05	72.1
HS20	3.34	34.71	HS 66.75	120.2
2F1	5.67	55.69	0.00	85.1
3F1	4.11	38.81	0.00	94.5
4F1	3.99	36.07	0.00	107.7
5C1	4.39	38.25	0.00	175.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.0	-173.3	162.0	-173.3	176.1	-159.2	176.1	-159.2
OPER	279.4	-279.4	279.4	-279.4	293.5	-265.3	293.5	-265.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	18.42	L	14.17	113.11	0.0	27.29	20.99	141.11	
		-61.87	L	-47.59	134.28	0.0	-56.05	-43.12	153.07	131.54
OPER	HS20	18.42	L	14.17	113.11	0.0	27.29	20.99	141.11	
		-61.87	L	-47.59	134.28	0.0	-56.05	-43.12	153.07	131.54
OPER	2F1	14.51	L	11.16	131.11	0.0	0.00	0.00	0.00	
		-37.18	R	-28.60	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	17.24	R	13.26	186.98	0.0	0.00	0.00	0.00	
		-53.32	R	-41.02	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	18.32	R	14.10	190.98	0.0	0.00	0.00	0.00	
		-57.36	R	-44.12	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	32.79	R	25.22	188.11	0.0	0.00	0.00	0.00	
		-46.95	R	-36.12	166.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.45	2.57	6.45	2.57	HS	51.45	92.6
HS20	10.76	4.29	10.76	4.29	HS	85.76	154.4
2F1	20.23	7.14	20.23	7.14		0.00	107.0
3F1	17.02	4.97	17.02	4.97		0.00	114.4
4F1	16.02	4.62	16.02	4.62		0.00	124.9

5C1	8.95	5.65	8.95	5.65	0.00	226.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S03 2F1
Check Point I. D. 7.000 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80	R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57	R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88	L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57	L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40	R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.97	1.33	8.11	1.51	HS	26.64	48.0
HS20	14.94	2.22	13.51	2.52	HS	44.40	79.9
2F1	24.19	5.53	21.87	6.28		0.00	82.9
3F1	16.91	3.42	15.29	3.88		0.00	78.6
4F1	15.77	2.92	14.26	3.32		0.00	78.9
5C1	18.67	3.55	16.88	4.03		0.00	141.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.5	64.7
OPER	151.3	-107.5	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.74	37.80	-25.18	29.08	-26.12	28.78	-20.09	22.14
OPER	HS20	-32.74	37.80	-25.18	29.08	-26.12	28.78	-20.09	22.14
OPER	2F1	-19.27	21.52	-14.82	16.55	0.00	0.00	0.00	0.00
OPER	3F1	-26.59	30.29	-20.46	23.30	0.00	0.00	0.00	0.00
OPER	4F1	-27.40	31.88	-21.08	24.52	0.00	0.00	0.00	0.00
OPER	5C1	-24.87	28.58	-19.13	21.99	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS	34.23	61.6
HS20	2.86	2.85	HS	57.06	102.7
2F1	5.01	5.01		0.00	75.1
3F1	3.56	3.56		0.00	81.9
4F1	3.39	3.38		0.00	91.3
5C1	3.80	3.77		0.00	150.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80	R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57	R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88	L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57	L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40	R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.40	1.39	8.40	1.39	HS	27.86	50.1
HS20	13.99	2.32	13.99	2.32	HS	46.43	83.6
2F1	22.65	5.78	22.65	5.78		0.00	86.7
3F1	15.83	3.57	15.83	3.57		0.00	82.2
4F1	14.77	3.06	14.77	3.06		0.00	82.5

5C1	17.49	3.71	17.49	3.71		0.00	148.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.880

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80	R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57	R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88	L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57	L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40	R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.97	1.33	8.11	1.51	HS 26.64	48.0
HS20	14.94	2.22	13.51	2.52	HS 44.40	79.9
2F1	24.19	5.53	21.87	6.28	0.00	82.9
3F1	16.91	3.42	15.29	3.88	0.00	78.6
4F1	15.77	2.92	14.26	3.32	0.00	78.9
5C1	18.67	3.55	16.88	4.03	0.00	141.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-8.2	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.5	64.7
OPER	151.3	-107.5	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.61	37.80	-28.93	29.08	-28.93	28.78	-22.25	22.14
OPER	HS20	-37.61	37.80	-28.93	29.08	-28.93	28.78	-22.25	22.14
OPER	2F1	-21.46	21.52	-16.51	16.55	0.00	0.00	0.00	0.00
OPER	3F1	-30.17	30.29	-23.21	23.30	0.00	0.00	0.00	0.00
OPER	4F1	-31.71	31.88	-24.39	24.52	0.00	0.00	0.00	0.00
OPER	5C1	-28.29	28.58	-21.76	21.99	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	1.71	1.71	HS	34.23	61.6
HS20	2.86	2.85	HS	57.06	102.7
2F1	5.01	5.01		0.00	75.1
3F1	3.56	3.56		0.00	81.9
4F1	3.39	3.38		0.00	91.3
5C1	3.80	3.77		0.00	150.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	HS20	22.35	R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03	L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80	R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57	R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75	R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88	L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17	R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57	L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88	R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40	R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.40	1.39	8.40	1.39	HS	27.86	50.1
HS20	13.99	2.32	13.99	2.32	HS	46.43	83.6
2F1	22.65	5.78	22.65	5.78		0.00	86.7
3F1	15.83	3.57	15.83	3.57		0.00	82.2
4F1	14.77	3.06	14.77	3.06		0.00	82.5

5C1	17.49	3.71	17.49	3.71		0.00	148.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.4	-152.2	170.2	-171.4
OPER	300.6C	-268.7	268.7	-300.6C	315.6	-253.7	283.6	-285.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	17.82	R	13.70	173.89	0.0	27.29	21.00	145.89	
		-60.76	R	-46.74	152.72	0.0	-56.32	-43.33	133.93	155.46
OPER	HS20	17.82	R	13.70	173.89	0.0	27.29	21.00	145.89	
		-60.76	R	-46.74	152.72	0.0	-56.32	-43.33	133.93	155.46
OPER	2F1	14.14	R	10.88	155.89	0.0	0.00	0.00	0.00	
		-36.46	L	-28.05	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.02	L	10.78	100.02	0.0	0.00	0.00	0.00	
		-52.31	L	-40.23	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.90	L	11.46	96.02	0.0	0.00	0.00	0.00	
		-56.28	L	-43.29	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.62	L	22.79	98.89	0.0	0.00	0.00	0.00	
		-45.81	L	-35.24	119.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	6.94	2.51	6.24	2.82	HS	50.10	90.2
HS20	11.56	4.18	10.39	4.70	HS	83.50	150.3
2F1	22.32	6.96	20.06	7.84		0.00	104.4
3F1	22.52	4.85	20.24	5.46		0.00	111.5
4F1	21.18	4.51	19.04	5.07		0.00	121.7
5C1	10.65	5.54	9.57	6.24		0.00	221.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 7.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.9	65.8
OPER	151.3	-123.1	109.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.22	32.97	-3.25	25.36	-4.17	26.00	-3.20	20.00
OPER	HS20	-4.22	32.97	-3.25	25.36	-4.17	26.00	-3.20	20.00
OPER	2F1	-2.73	19.36	-2.10	14.89	0.00	0.00	0.00	0.00
OPER	3F1	-3.91	26.76	-3.01	20.58	0.00	0.00	0.00	0.00
OPER	4F1	-4.16	27.60	-3.20	21.23	0.00	0.00	0.00	0.00
OPER	5C1	-4.03	25.16	-3.10	19.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	17.50	2.00	HS 39.91	71.8
HS20	29.16	3.33	HS 66.52	119.7
2F1	45.07	5.66	0.00	84.9
3F1	31.51	4.10	0.00	94.2
4F1	29.59	3.97	0.00	107.2
5C1	30.57	4.36	0.00	174.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.6	-173.6	161.6	-173.6	176.6	-158.6	176.6	-158.6
OPER	279.4	-279.4	279.4	-279.4	294.4	-264.4	294.4	-264.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	17.82	R	13.70	173.89	0.0	27.29	21.00	145.89	
		-60.76	R	-46.74	152.72	0.0	-56.32	-43.33	133.93	155.46
OPER	HS20	17.82	R	13.70	173.89	0.0	27.29	21.00	145.89	
		-60.76	R	-46.74	152.72	0.0	-56.32	-43.33	133.93	155.46
OPER	2F1	14.14	R	10.88	155.89	0.0	0.00	0.00	0.00	
		-36.46	L	-28.05	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.02	L	10.78	100.02	0.0	0.00	0.00	0.00	
		-52.31	L	-40.23	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.90	L	11.46	96.02	0.0	0.00	0.00	0.00	
		-56.28	L	-43.29	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	29.62	L	22.79	98.89	0.0	0.00	0.00	0.00	
		-45.81	L	-35.24	119.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	6.47	2.61	6.47	2.61	HS	52.22	94.0
HS20	10.79	4.35	10.79	4.35	HS	87.04	156.7
2F1	20.82	7.25	20.82	7.25		0.00	108.8
3F1	21.00	5.05	21.00	5.05		0.00	116.3
4F1	19.76	4.70	19.76	4.70		0.00	126.8

5C1	9.94	5.77	9.94	5.77		0.00	230.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
Structure I. D. HAM500				
	HS20	HS20		
Member I. D. S03		2F1		
Check Point I. D. 7.200		3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.79	R	48.30	176.28	0.0	47.13	36.25	148.28	
		-46.48	L	-35.76	110.72	0.0	-37.03	-28.49	133.93	86.10
OPER	HS20	62.79	R	48.30	176.28	0.0	47.13	36.25	148.28	
		-46.48	L	-35.76	110.72	0.0	-37.03	-28.49	133.93	86.10
OPER	2F1	40.60	R	31.23	158.28	0.0	0.00	0.00	0.00	
		-31.25	L	-24.04	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.01	R	37.70	162.28	0.0	0.00	0.00	0.00	
		-44.83	L	-34.49	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.87	R	34.52	166.28	0.0	0.00	0.00	0.00	
		-48.24	L	-37.11	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.71	L	45.16	101.28	0.0	0.00	0.00	0.00	
		-41.67	L	-32.05	121.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	2.88	3.45	2.58	3.87	HS	51.54	92.8
HS20	4.80	5.76	4.30	6.45	HS	85.90	154.6
2F1	7.43	8.56	6.64	9.59		0.00	99.6
3F1	6.16	5.97	5.50	6.68		0.00	126.6
4F1	6.72	5.55	6.01	6.21		0.00	149.8
5C1	5.14	6.42	4.59	7.19		0.00	183.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.200

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.9
OPER	151.3	-121.3	111.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.22	27.81	-3.25	21.39	-4.98	22.96	-3.83	17.66
OPER	HS20	-4.22	27.81	-3.25	21.39	-4.98	22.96	-3.83	17.66
OPER	2F1	-2.73	16.92	-2.10	13.01	0.00	0.00	0.00	0.00
OPER	3F1	-3.91	22.91	-3.01	17.62	0.00	0.00	0.00	0.00
OPER	4F1	-4.16	23.62	-3.20	18.17	0.00	0.00	0.00	0.00
OPER	5C1	-5.81	21.57	-4.47	16.59	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	14.60	2.40	HS 48.09	86.6
HS20	24.34	4.01	HS 80.15	144.3
2F1	44.42	6.59	0.00	98.8
3F1	31.05	4.86	0.00	111.9
4F1	29.16	4.72	0.00	127.4
5C1	20.87	5.17	0.00	206.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-278.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	62.79	R	48.30	176.28	0.0	47.13	36.25	148.28	
		-46.48	L	-35.76	110.72	0.0	-37.03	-28.49	133.93	86.10
OPER	HS20	62.79	R	48.30	176.28	0.0	47.13	36.25	148.28	
		-46.48	L	-35.76	110.72	0.0	-37.03	-28.49	133.93	86.10
OPER	2F1	40.60	R	31.23	158.28	0.0	0.00	0.00	0.00	
		-31.25	L	-24.04	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	49.01	R	37.70	162.28	0.0	0.00	0.00	0.00	
		-44.83	L	-34.49	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.87	R	34.52	166.28	0.0	0.00	0.00	0.00	
		-48.24	L	-37.11	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.71	L	45.16	101.28	0.0	0.00	0.00	0.00	
		-41.67	L	-32.05	121.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.68	3.59	2.68	3.59	HS	53.59	96.5
HS20	4.47	5.99	4.47	5.99	HS	89.32	160.8
2F1	6.91	8.91	6.91	8.91		0.00	103.6
3F1	5.72	6.21	5.72	6.21		0.00	131.6
4F1	6.25	5.77	6.25	5.77		0.00	155.8

5C1	4.78	6.68	4.78	6.68	0.00	191.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.2	-166.4	156.0	-185.6
OPER	300.6C	-268.7	268.7	-300.6C	292.0	-277.3	260.0	-309.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.72 R	69.78	178.68	0.0	68.31	52.55	150.68	
		-38.73 L	-29.80	110.72	0.0	-31.77	-24.44	133.93	0.00
OPER	HS20	90.72 R	69.78	178.68	0.0	68.31	52.55	150.68	
		-38.73 L	-29.80	110.72	0.0	-31.77	-24.44	133.93	0.00
OPER	2F1	59.96 R	46.12	160.68	0.0	0.00	0.00	0.00	
		-26.04 L	-20.03	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.56 R	58.13	164.68	0.0	0.00	0.00	0.00	
		-37.36 L	-28.74	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.83 R	59.10	164.68	0.0	0.00	0.00	0.00	
		-40.20 L	-30.92	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.95 L	60.73	103.68	0.0	0.00	0.00	0.00	
		-39.92 L	-30.70	122.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.30	1.72	4.79	HS 34.40	61.9
HS20	3.22	7.16	2.87	7.98	HS 57.33	103.2
2F1	4.87	10.65	4.34	11.88	0.00	65.1
3F1	3.86	7.42	3.44	8.28	0.00	79.1
4F1	3.80	6.90	3.38	7.69	0.00	91.4
5C1	3.70	6.95	3.29	7.75	0.00	131.7

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 7.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	2.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.7	67.9
OPER	151.3	-119.5	113.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.44	22.69	-4.18	17.45	-7.46	19.75	-5.74	15.20
OPER	HS20	-5.44	22.69	-4.18	17.45	-7.46	19.75	-5.74	15.20
OPER	2F1	-3.90	14.29	-3.00	10.99	0.00	0.00	0.00	0.00
OPER	3F1	-4.16	18.91	-3.20	14.54	0.00	0.00	0.00	0.00
OPER	4F1	-4.16	19.46	-3.20	14.97	0.00	0.00	0.00	0.00
OPER	5C1	-7.82	17.98	-6.01	13.83	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.61	2.99	HS 59.88	107.8
HS20	16.01	4.99	HS 99.80	179.6
2F1	30.67	7.92	0.00	118.8
3F1	28.73	5.99	0.00	137.7
4F1	28.73	5.82	0.00	157.1
5C1	15.29	6.30	0.00	251.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.1	-164.2	171.1	-164.2	162.5	-172.8	162.5	-172.8
OPER	279.4	-279.4	279.4	-279.4	270.8	-288.0	270.8	-288.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.72	R	69.78	178.68	0.0	68.31	52.55	150.68	
		-38.73	L	-29.80	110.72	0.0	-31.77	-24.44	133.93	0.00
OPER	HS20	90.72	R	69.78	178.68	0.0	68.31	52.55	150.68	
		-38.73	L	-29.80	110.72	0.0	-31.77	-24.44	133.93	0.00
OPER	2F1	59.96	R	46.12	160.68	0.0	0.00	0.00	0.00	
		-26.04	L	-20.03	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	75.56	R	58.13	164.68	0.0	0.00	0.00	0.00	
		-37.36	L	-28.74	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	76.83	R	59.10	164.68	0.0	0.00	0.00	0.00	
		-40.20	L	-30.92	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	78.95	L	60.73	103.68	0.0	0.00	0.00	0.00	
		-39.92	L	-30.70	122.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.46	1.79	4.46	HS	35.82	64.5
HS20	2.98	7.44	2.98	7.44	HS	59.70	107.5
2F1	4.52	11.06	4.52	11.06		0.00	67.7
3F1	3.58	7.71	3.58	7.71		0.00	82.4
4F1	3.52	7.16	3.52	7.16		0.00	95.2

5C1	3.43	7.22	3.43	7.22	0.00	137.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 7.400

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.0	-169.6	152.8	-188.8
OPER	300.6C	-268.7	268.7	-300.6C	286.6	-282.7	254.7	-314.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.20	R	77.84	181.07	0.0	81.04	62.34	153.07	
		-30.99	L	-23.84	110.72	0.0	-28.44	-21.88	133.93	0.00
OPER	HS20	101.20	R	77.84	181.07	0.0	81.04	62.34	153.07	
		-30.99	L	-23.84	110.72	0.0	-28.44	-21.88	133.93	0.00
OPER	2F1	70.62	R	54.33	163.07	0.0	0.00	0.00	0.00	
		-20.83	L	-16.03	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	89.38	R	68.76	163.07	0.0	0.00	0.00	0.00	
		-29.89	L	-22.99	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	95.46	R	73.43	167.07	0.0	0.00	0.00	0.00	
		-32.16	L	-24.74	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.04	R	69.26	165.07	0.0	0.00	0.00	0.00	
		-39.49	R	-30.38	185.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.70	5.47	1.51	6.09	HS	30.20	54.4
HS20	2.83	9.12	2.52	10.15	HS	50.33	90.6
2F1	4.06	13.57	3.61	15.10		0.00	54.1
3F1	3.21	9.46	2.85	10.53		0.00	65.5
4F1	3.00	8.79	2.67	9.78		0.00	72.0
5C1	3.18	7.16	2.83	7.97		0.00	113.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.6	69.0
OPER	151.3	-117.7	115.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.44	18.94	-8.03	14.57	-10.27	16.49	-7.90	12.69
OPER	HS20	-10.44	18.94	-8.03	14.57	-10.27	16.49	-7.90	12.69
OPER	2F1	-6.14	11.59	-4.73	8.91	0.00	0.00	0.00	0.00
OPER	3F1	-7.24	14.90	-5.57	11.46	0.00	0.00	0.00	0.00
OPER	4F1	-6.14	15.05	-4.72	11.58	0.00	0.00	0.00	0.00
OPER	5C1	-9.99	14.71	-7.68	11.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.77	3.64	HS 72.89	131.2
HS20	11.28	6.07	HS 121.48	218.7
2F1	19.16	9.93	0.00	148.9
3F1	16.25	7.72	0.00	177.5
4F1	19.18	7.64	0.00	206.3
5C1	11.79	7.82	0.00	312.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.2	-162.0	173.2	-162.0	159.2	-176.0	159.2	-176.0
OPER	279.4	-279.4	279.4	-279.4	265.4	-293.4	265.4	-293.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	101.20	R	77.84	181.07	0.0	81.04	62.34	153.07	
		-30.99	L	-23.84	110.72	0.0	-28.44	-21.88	133.93	0.00
OPER	HS20	101.20	R	77.84	181.07	0.0	81.04	62.34	153.07	
		-30.99	L	-23.84	110.72	0.0	-28.44	-21.88	133.93	0.00
OPER	2F1	70.62	R	54.33	163.07	0.0	0.00	0.00	0.00	
		-20.83	L	-16.03	126.33	0.0	0.00	0.00	0.00	0.00
OPER	3F1	89.38	R	68.76	163.07	0.0	0.00	0.00	0.00	
		-29.89	L	-22.99	123.93	0.0	0.00	0.00	0.00	0.00
OPER	4F1	95.46	R	73.43	167.07	0.0	0.00	0.00	0.00	
		-32.16	L	-24.74	120.72	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.04	R	69.26	165.07	0.0	0.00	0.00	0.00	
		-39.49	R	-30.38	185.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.57	5.68	1.57	5.68	HS	31.47	56.6
HS20	2.62	9.47	2.62	9.47	HS	52.45	94.4
2F1	3.76	14.08	3.76	14.08		0.00	56.4
3F1	2.97	9.82	2.97	9.82		0.00	68.3
4F1	2.78	9.12	2.78	9.12		0.00	75.1

5C1	2.95	7.43	2.95	7.43	0.00	117.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.77	28.67	28.67	1.699	999999.000	95.904

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		4.40		108.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.1	-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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	2F1	72.01 R	55.39	165.46	0.0	0.00	0.00	0.00	
		-18.86 R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 L	73.53	145.46	0.0	0.00	0.00	0.00	
		-26.98 R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 L	76.34	141.46	0.0	0.00	0.00	0.00	
		-28.91 R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 L	71.96	104.46	0.0	0.00	0.00	0.00	
		-40.83 R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	5.58	1.54	6.21	HS 30.83	55.5
HS20	2.89	9.30	2.57	10.34	HS 51.38	92.5
2F1	3.97	15.05	3.52	16.74	0.00	52.8
3F1	2.99	10.52	2.65	11.70	0.00	61.0
4F1	2.88	9.81	2.56	10.92	0.00	69.0
5C1	3.05	6.95	2.71	7.73	0.00	108.4

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.5	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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-15.01	15.05	-11.54	11.58	-13.32	13.27	-10.25	10.21
OPER	HS20	-15.01	15.05	-11.54	11.58	-13.32	13.27	-10.25	10.21
OPER	2F1	-8.64	8.91	-6.64	6.86	0.00	0.00	0.00	0.00
OPER	3F1	-10.72	11.05	-8.25	8.50	0.00	0.00	0.00	0.00
OPER	4F1	-10.08	10.52	-7.75	8.10	0.00	0.00	0.00	0.00
OPER	5C1	-12.26	11.96	-9.43	9.20	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.64	4.66	HS 92.71	166.9
HS20	7.73	7.76	HS 154.52	278.1
2F1	13.42	13.11	0.00	196.6
3F1	10.81	10.57	0.00	243.2
4F1	11.50	11.10	0.00	299.7
5C1	9.45	9.77	0.00	378.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	98.70	R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52	R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	HS20	98.70	R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52	R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	2F1	72.01	R	55.39	165.46	0.0	0.00	0.00	0.00	
		-18.86	R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59	L	73.53	145.46	0.0	0.00	0.00	0.00	
		-26.98	R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25	L	76.34	141.46	0.0	0.00	0.00	0.00	
		-28.91	R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55	L	71.96	104.46	0.0	0.00	0.00	0.00	
		-40.83	R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.61	5.79	1.61	5.79	HS	32.14	57.8
HS20	2.68	9.65	2.68	9.65	HS	53.56	96.4
2F1	3.67	15.62	3.67	15.62		0.00	55.1
3F1	2.77	10.92	2.77	10.92		0.00	63.6
4F1	2.66	10.19	2.66	10.19		0.00	71.9

5C1	2.83	7.21	2.83	7.21		0.00	113.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.1	154.3	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.1	-280.2	257.1	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.09	L	79.30	129.85	0.0	80.84	62.18	157.85	
		-41.10	R	-31.61	200.20	0.0	-32.32	-24.86	176.98	0.00
OPER	HS20	103.09	L	79.30	129.85	0.0	80.84	62.18	157.85	
		-41.10	R	-31.61	200.20	0.0	-32.32	-24.86	176.98	0.00
OPER	2F1	71.35	L	54.88	147.85	0.0	0.00	0.00	0.00	
		-25.39	R	-19.53	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.64	L	69.72	147.85	0.0	0.00	0.00	0.00	
		-36.32	R	-27.94	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.79	L	74.46	143.85	0.0	0.00	0.00	0.00	
		-38.93	R	-29.95	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	88.69	L	68.22	106.85	0.0	0.00	0.00	0.00	
		-43.23	R	-33.25	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.68	4.09	1.50	4.56	HS	29.93	53.9
HS20	2.80	6.82	2.49	7.60	HS	49.88	89.8
2F1	4.05	11.04	3.60	12.30		0.00	54.1
3F1	3.19	7.72	2.84	8.60		0.00	65.2
4F1	2.99	7.20	2.66	8.02		0.00	71.7
5C1	3.26	6.48	2.90	7.22		0.00	116.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-2.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.4	71.2
OPER	151.3	-114.0	118.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-19.05	10.63	-14.66	8.17	-16.54	10.19	-12.72	7.84
OPER	HS20	-19.05	10.63	-14.66	8.17	-16.54	10.19	-12.72	7.84
OPER	2F1	-11.29	6.36	-8.68	4.90	0.00	0.00	0.00	0.00
OPER	3F1	-14.50	7.46	-11.16	5.74	0.00	0.00	0.00	0.00
OPER	4F1	-14.61	6.23	-11.24	4.79	0.00	0.00	0.00	0.00
OPER	5C1	-14.89	9.39	-11.45	7.22	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.59	6.70	HS 71.80	129.2
HS20	5.98	11.18	HS 119.66	215.4
2F1	10.10	18.66	0.00	151.5
3F1	7.86	15.91	0.00	180.8
4F1	7.80	19.05	0.00	210.6
5C1	7.66	12.65	0.00	306.3

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-174.6
OPER	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-291.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.09	L	79.30	129.85	0.0	80.84	62.18	157.85	
		-41.10	R	-31.61	200.20	0.0	-32.32	-24.86	176.98	0.00
OPER	HS20	103.09	L	79.30	129.85	0.0	80.84	62.18	157.85	
		-41.10	R	-31.61	200.20	0.0	-32.32	-24.86	176.98	0.00
OPER	2F1	71.35	L	54.88	147.85	0.0	0.00	0.00	0.00	
		-25.39	R	-19.53	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	90.64	L	69.72	147.85	0.0	0.00	0.00	0.00	
		-36.32	R	-27.94	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	96.79	L	74.46	143.85	0.0	0.00	0.00	0.00	
		-38.93	R	-29.95	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	88.69	L	68.22	106.85	0.0	0.00	0.00	0.00	
		-43.23	R	-33.25	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.56	4.25	1.56	4.25	HS	31.18	56.1
HS20	2.60	7.08	2.60	7.08	HS	51.96	93.5
2F1	3.75	11.46	3.75	11.46		0.00	56.3
3F1	2.95	8.01	2.95	8.01		0.00	68.0
4F1	2.77	7.47	2.77	7.47		0.00	74.7

5C1	3.02	6.73	3.02	6.73	0.00	120.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	178.1	-163.4	158.9	-182.6
OPER	300.6C	-268.7	268.7	-300.6C	296.9	-272.4	264.9	-304.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	93.24 L	71.73	132.24	0.0	67.74	52.11	160.24	
		-51.67 R	-39.75	200.20	0.0	-37.40	-28.77	176.98	0.00
OPER	HS20	93.24 L	71.73	132.24	0.0	67.74	52.11	160.24	
		-51.67 R	-39.75	200.20	0.0	-37.40	-28.77	176.98	0.00
OPER	2F1	61.53 L	47.33	150.24	0.0	0.00	0.00	0.00	
		-31.92 R	-24.56	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	77.76 L	59.81	146.24	0.0	0.00	0.00	0.00	
		-45.67 R	-35.13	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	79.23 L	60.95	146.24	0.0	0.00	0.00	0.00	
		-48.95 R	-37.65	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.97 L	58.44	144.24	0.0	0.00	0.00	0.00	
		-46.94 R	-36.11	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	3.16	1.71	3.53	HS 34.09	61.4
HS20	3.18	5.27	2.84	5.89	HS 56.82	102.3
2F1	4.82	8.53	4.30	9.54	0.00	64.6
3F1	3.82	5.97	3.41	6.66	0.00	78.4
4F1	3.75	5.57	3.34	6.22	0.00	90.3
5C1	3.91	5.80	3.49	6.49	0.00	139.5

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.3	72.3
OPER	151.3	-112.2	120.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.82	5.73	-17.55	4.41	-19.82	7.33	-15.24	5.64
OPER	HS20	-22.82	5.73	-17.55	4.41	-19.82	7.33	-15.24	5.64
OPER	2F1	-13.99	4.04	-10.76	3.10	0.00	0.00	0.00	0.00
OPER	3F1	-18.48	4.24	-14.21	3.26	0.00	0.00	0.00	0.00
OPER	4F1	-19.08	3.34	-14.68	2.57	0.00	0.00	0.00	0.00
OPER	5C1	-17.87	7.03	-13.75	5.41	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.95	9.87	HS 59.01	106.2
HS20	4.92	16.44	HS 98.34	177.0
2F1	8.02	29.87	0.00	120.3
3F1	6.07	28.43	0.00	139.7
4F1	5.88	36.09	0.00	158.8
5C1	6.28	17.14	0.00	251.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.1	-166.1	169.1	-166.1	165.4	-169.9	165.4	-169.9
OPER	279.4	-279.4	279.4	-279.4	275.6	-283.2	275.6	-283.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	93.24	L	71.73	132.24	0.0	67.74	52.11	160.24	
		-51.67	R	-39.75	200.20	0.0	-37.40	-28.77	176.98	0.00
OPER	HS20	93.24	L	71.73	132.24	0.0	67.74	52.11	160.24	
		-51.67	R	-39.75	200.20	0.0	-37.40	-28.77	176.98	0.00
OPER	2F1	61.53	L	47.33	150.24	0.0	0.00	0.00	0.00	
		-31.92	R	-24.56	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	77.76	L	59.81	146.24	0.0	0.00	0.00	0.00	
		-45.67	R	-35.13	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	79.23	L	60.95	146.24	0.0	0.00	0.00	0.00	
		-48.95	R	-37.65	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	75.97	L	58.44	144.24	0.0	0.00	0.00	0.00	
		-46.94	R	-36.11	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	3.29	1.77	3.29	HS	35.47	63.9
HS20	2.96	5.48	2.96	5.48	HS	59.12	106.4
2F1	4.48	8.87	4.48	8.87		0.00	67.2
3F1	3.55	6.20	3.55	6.20		0.00	81.5
4F1	3.48	5.78	3.48	5.78		0.00	93.9

5C1	3.63	6.03	3.63	6.03	0.00	145.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-7.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.4	-156.2	166.2	-175.4
OPER	300.6C	-268.7	268.7	-300.6C	309.0	-260.3	277.0	-292.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	66.16 L	50.89	134.63	0.0	45.53	35.02	162.63	
		-62.25 R	-47.88	200.20	0.0	-42.47	-32.67	176.98	86.10
OPER	HS20	66.16 L	50.89	134.63	0.0	45.53	35.02	162.63	
		-62.25 R	-47.88	200.20	0.0	-42.47	-32.67	176.98	86.10
OPER	2F1	42.76 L	32.90	152.63	0.0	0.00	0.00	0.00	
		-38.45 R	-29.58	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	52.25 L	40.20	148.63	0.0	0.00	0.00	0.00	
		-55.01 R	-42.32	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	48.39 L	37.22	144.63	0.0	0.00	0.00	0.00	
		-58.96 R	-45.36	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	51.89 L	39.92	146.63	0.0	0.00	0.00	0.00	
		-51.32 R	-39.47	188.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.80	2.51	2.51	2.82	HS	50.18	90.3
HS20	4.67	4.18	4.19	4.70	HS	83.64	150.5
2F1	7.22	6.77	6.48	7.60		0.00	97.2
3F1	5.91	4.73	5.30	5.31		0.00	108.8
4F1	6.39	4.41	5.72	4.96		0.00	119.2
5C1	5.95	5.07	5.34	5.70		0.00	202.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 7.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.2	73.4
OPER	151.3	-110.4	122.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.47	3.11	-21.13	2.39	-23.07	4.78	-17.75	3.67
OPER	HS20	-27.47	3.11	-21.13	2.39	-23.07	4.78	-17.75	3.67
OPER	2F1	-16.65	2.18	-12.81	1.68	0.00	0.00	0.00	0.00
OPER	3F1	-22.50	3.12	-17.31	2.40	0.00	0.00	0.00	0.00
OPER	4F1	-23.34	3.34	-17.95	2.57	0.00	0.00	0.00	0.00
OPER	5C1	-21.74	4.95	-16.72	3.81	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	2.41	15.37	HS	48.24	86.8
HS20	4.02	25.61	HS	80.40	144.7
2F1	6.63	56.17		0.00	99.5
3F1	4.91	39.15		0.00	112.9
4F1	4.73	36.62		0.00	127.7
5C1	5.08	24.70		0.00	203.2

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-7.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.3	-171.0	164.3	-171.0	172.6	-162.6	172.6	-162.6
OPER	279.4	-279.4	279.4	-279.4	287.7	-271.1	287.7	-271.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	66.16	L	50.89	134.63	0.0	45.53	35.02	162.63	
		-62.25	R	-47.88	200.20	0.0	-42.47	-32.67	176.98	86.10
OPER	HS20	66.16	L	50.89	134.63	0.0	45.53	35.02	162.63	
		-62.25	R	-47.88	200.20	0.0	-42.47	-32.67	176.98	86.10
OPER	2F1	42.76	L	32.90	152.63	0.0	0.00	0.00	0.00	
		-38.45	R	-29.58	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	52.25	L	40.20	148.63	0.0	0.00	0.00	0.00	
		-55.01	R	-42.32	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	48.39	L	37.22	144.63	0.0	0.00	0.00	0.00	
		-58.96	R	-45.36	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	51.89	L	39.92	146.63	0.0	0.00	0.00	0.00	
		-51.32	R	-39.47	188.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.61	2.61	2.61	2.61	HS	52.19	93.9
HS20	4.35	4.35	4.35	4.35	HS	86.98	156.6
2F1	6.73	7.05	6.73	7.05		0.00	100.9
3F1	5.51	4.93	5.51	4.93		0.00	113.3
4F1	5.95	4.60	5.95	4.60		0.00	124.1

5C1	5.55	5.28	5.55	5.28		0.00	211.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-22.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	195.2	-146.3	176.0	-165.5
OPER	300.6C	-268.7	268.7	-300.6C	325.4	-243.9	293.4	-275.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	21.74	L	16.72	137.03	0.0	23.36	17.97	165.03	
		-75.31	L	-57.93	158.20	0.0	-62.52	-48.09	176.98	153.07
OPER	HS20	21.74	L	16.72	137.03	0.0	23.36	17.97	165.03	
		-75.31	L	-57.93	158.20	0.0	-62.52	-48.09	176.98	153.07
OPER	2F1	16.36	L	12.58	155.03	0.0	0.00	0.00	0.00	
		-44.99	R	-34.60	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.18	L	10.90	151.03	0.0	0.00	0.00	0.00	
		-64.36	R	-49.51	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.94	L	6.11	119.93	0.0	0.00	0.00	0.00	
		-68.98	R	-53.06	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.63	L	18.18	114.03	0.0	0.00	0.00	0.00	
		-59.16	R	-45.50	193.77	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.36	1.94	7.53	2.20	HS	38.87	70.0
HS20	13.93	3.24	12.56	3.66	HS	64.78	116.6
2F1	19.90	5.42	17.94	6.13		0.00	81.3
3F1	22.95	3.79	20.70	4.29		0.00	87.2
4F1	40.96	3.54	36.93	4.00		0.00	95.5
5C1	13.77	4.12	12.41	4.66		0.00	164.9

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Member I. D. S03
Check Point I. D. 7.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.2	74.5
OPER	151.3	-108.6	124.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.69	3.24	-25.14	2.49	-26.19	3.21	-20.15	2.47
OPER	HS20	-32.69	3.24	-25.14	2.49	-26.19	3.21	-20.15	2.47
OPER	2F1	-19.16	2.18	-14.73	1.68	0.00	0.00	0.00	0.00
OPER	3F1	-26.41	3.12	-20.31	2.40	0.00	0.00	0.00	0.00
OPER	4F1	-27.26	3.36	-20.97	2.59	0.00	0.00	0.00	0.00
OPER	5C1	-25.54	3.18	-19.65	2.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.99	22.99	HS 39.88	71.8
HS20	3.32	38.32	HS 66.46	119.6
2F1	5.67	57.00	0.00	85.1
3F1	4.11	39.73	0.00	94.6
4F1	3.98	36.92	0.00	107.6
5C1	4.25	38.99	0.00	170.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-22.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	157.7	-177.5	157.7	-177.5	182.5	-152.8	182.5	-152.8
OPER	279.4	-279.4	279.4	-279.4	304.1	-254.7	304.1	-254.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	21.74	L	16.72	137.03	0.0	23.36	17.97	165.03	
		-75.31	L	-57.93	158.20	0.0	-62.52	-48.09	176.98	153.07
OPER	HS20	21.74	L	16.72	137.03	0.0	23.36	17.97	165.03	
		-75.31	L	-57.93	158.20	0.0	-62.52	-48.09	176.98	153.07
OPER	2F1	16.36	L	12.58	155.03	0.0	0.00	0.00	0.00	
		-44.99	R	-34.60	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.18	L	10.90	151.03	0.0	0.00	0.00	0.00	
		-64.36	R	-49.51	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	7.94	L	6.11	119.93	0.0	0.00	0.00	0.00	
		-68.98	R	-53.06	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	23.63	L	18.18	114.03	0.0	0.00	0.00	0.00	
		-59.16	R	-45.50	193.77	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.81	2.03	7.81	2.03	HS	40.58	73.0
HS20	13.02	3.38	13.02	3.38	HS	67.63	121.7
2F1	18.60	5.66	18.60	5.66		0.00	84.9
3F1	21.45	3.96	21.45	3.96		0.00	91.0
4F1	38.28	3.69	38.28	3.69		0.00	99.7

5C1	12.87	4.30	12.87	4.30	0.00	172.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.90	28.67	28.67	1.699	999999.000	102.951

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		30.80		103.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42	L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52	R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75	L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60	L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29	L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	13.40	1.19	12.16	1.36	HS	23.86	43.0
HS20	22.34	1.99	20.27	2.27	HS	39.77	71.6
2F1	33.22	4.33	30.15	4.95		0.00	65.0
3F1	23.16	2.91	21.02	3.33		0.00	66.9
4F1	21.52	2.44	19.53	2.79		0.00	65.8
5C1	26.59	2.75	24.13	3.14		0.00	109.8

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	63.3
OPER	151.3	-106.8	105.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.69	40.27	-25.14	30.98	-26.19	29.34	-20.15	22.57
OPER	HS20	-32.69	40.27	-25.14	30.98	-26.19	29.34	-20.15	22.57
OPER	2F1	-19.16	22.19	-14.73	17.07	0.00	0.00	0.00	0.00
OPER	3F1	-26.41	31.72	-20.31	24.40	0.00	0.00	0.00	0.00
OPER	4F1	-27.26	33.90	-20.97	26.07	0.00	0.00	0.00	0.00
OPER	5C1	-25.54	30.19	-19.65	23.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.70	1.57	HS 31.42	56.5
HS20	2.84	2.62	HS 52.36	94.2
2F1	4.99	4.75	0.00	71.3
3F1	3.56	3.32	0.00	76.4
4F1	3.39	3.11	0.00	84.0
5C1	3.67	3.49	0.00	139.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42	L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52	R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75	L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60	L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29	L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.58	1.25	12.58	1.25	HS	25.01	45.0
HS20	20.97	2.08	20.97	2.08	HS	41.68	75.0
2F1	31.18	4.54	31.18	4.54		0.00	68.1
3F1	21.74	3.05	21.74	3.05		0.00	70.1
4F1	20.20	2.55	20.20	2.55		0.00	69.0

5C1	24.95	2.88	24.95	2.88		0.00	115.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42	L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52	R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75	L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60	L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29	L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	13.40	1.19	12.16	1.36	HS	23.86	43.0
HS20	22.34	1.99	20.27	2.27	HS	39.77	71.6
2F1	33.22	4.33	30.15	4.95		0.00	65.0
3F1	23.16	2.91	21.02	3.33		0.00	66.9
4F1	21.52	2.44	19.53	2.79		0.00	65.8
5C1	26.59	2.75	24.13	3.14		0.00	109.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-8.8	10.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	63.3
OPER	151.3	-106.8	105.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-37.63	40.27	-28.95	30.98	-29.08	29.34	-22.37	22.57
OPER	HS20	-37.63	40.27	-28.95	30.98	-29.08	29.34	-22.37	22.57
OPER	2F1	-21.40	22.19	-16.46	17.07	0.00	0.00	0.00	0.00
OPER	3F1	-30.04	31.72	-23.11	24.40	0.00	0.00	0.00	0.00
OPER	4F1	-31.53	33.90	-24.26	26.07	0.00	0.00	0.00	0.00
OPER	5C1	-29.11	30.19	-22.39	23.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.70	1.57	HS 31.42	56.5
HS20	2.84	2.62	HS 52.36	94.2
2F1	4.99	4.75	0.00	71.3
3F1	3.56	3.32	0.00	76.4
4F1	3.39	3.11	0.00	84.0
5C1	3.67	3.49	0.00	139.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
Member I. D. S03		2F1		
Check Point I. D. 8.000		3F1		
		4F1		
		5C1		

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	HS20	15.49	L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26	R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42	L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52	R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94	L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75	L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08	L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60	L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02	L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29	L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.58	1.25	12.58	1.25	HS	25.01	45.0
HS20	20.97	2.08	20.97	2.08	HS	41.68	75.0
2F1	31.18	4.54	31.18	4.54		0.00	68.1
3F1	21.74	3.05	21.74	3.05		0.00	70.1
4F1	20.20	2.55	20.20	2.55		0.00	69.0

5C1	24.95	2.88	24.95	2.88		0.00	115.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Member I. D. S03
Check Point I. D. 8.100

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-19.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	193.2	-148.3	174.0	-167.5
OPER	300.6C	-268.7	268.7	-300.6C	322.1	-247.2	290.1	-279.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.67 L	8.97	105.93	0.0	23.35	17.96	169.81	
		-59.93 L	-46.10	148.63	0.0	-60.46	-46.51	157.85	181.77
OPER	HS20	11.67 L	8.97	105.93	0.0	23.35	17.96	169.81	
		-59.93 L	-46.10	148.63	0.0	-60.46	-46.51	157.85	181.77
OPER	2F1	11.27 R	8.67	179.81	0.0	0.00	0.00	0.00	
		-34.99 L	-26.91	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.45 L	10.35	123.93	0.0	0.00	0.00	0.00	
		-50.20 L	-38.61	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.30 L	11.00	119.93	0.0	0.00	0.00	0.00	
		-54.01 L	-41.55	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.43 L	20.33	122.81	0.0	0.00	0.00	0.00	
		-48.78 R	-37.53	202.46	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.28	2.45	7.45	2.77	HS 49.07	88.3
HS20	13.79	4.09	12.42	4.62	HS 81.78	147.2
2F1	28.58	7.07	25.74	7.98	0.00	106.0
3F1	23.94	4.93	21.57	5.56	0.00	113.3
4F1	22.52	4.58	20.29	5.17	0.00	123.6
5C1	12.19	5.07	10.98	5.72	0.00	202.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.8	0.0	8.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-75.3	64.3
OPER	151.3	-125.5	107.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-0.62	35.84	-0.48	27.57	-1.38	26.94	-1.06	20.72
OPER	HS20	-0.62	35.84	-0.48	27.57	-1.38	26.94	-1.06	20.72
OPER	2F1	-0.44	20.44	-0.34	15.72	0.00	0.00	0.00	0.00
OPER	3F1	-0.62	28.72	-0.48	22.10	0.00	0.00	0.00	0.00
OPER	4F1	-0.67	30.04	-0.51	23.11	0.00	0.00	0.00	0.00
OPER	5C1	-0.94	27.19	-0.73	20.92	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	54.66	1.79	HS 35.90	64.6
HS20	91.11	2.99	HS 59.84	107.7
2F1	288.17	5.25	0.00	78.7
3F1	200.87	3.73	0.00	85.9
4F1	187.89	3.57	0.00	96.4
5C1	132.98	3.94	0.00	157.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.100

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-19.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	159.1	-176.2	159.1	-176.2	180.5	-154.8	180.5	-154.8
OPER	279.4	-279.4	279.4	-279.4	300.8	-258.0	300.8	-258.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	11.67	L	8.97	105.93	0.0	23.35	17.96	169.81	
		-59.93	L	-46.10	148.63	0.0	-60.46	-46.51	157.85	181.77
OPER	HS20	11.67	L	8.97	105.93	0.0	23.35	17.96	169.81	
		-59.93	L	-46.10	148.63	0.0	-60.46	-46.51	157.85	181.77
OPER	2F1	11.27	R	8.67	179.81	0.0	0.00	0.00	0.00	
		-34.99	L	-26.91	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	13.45	L	10.35	123.93	0.0	0.00	0.00	0.00	
		-50.20	L	-38.61	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	14.30	L	11.00	119.93	0.0	0.00	0.00	0.00	
		-54.01	L	-41.55	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	26.43	L	20.33	122.81	0.0	0.00	0.00	0.00	
		-48.78	R	-37.53	202.46	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.73	2.56	7.73	2.56	HS	51.20	92.2
HS20	12.88	4.27	12.88	4.27	HS	85.34	153.6
2F1	26.70	7.37	26.70	7.37		0.00	110.6
3F1	22.37	5.14	22.37	5.14		0.00	118.2
4F1	21.04	4.78	21.04	4.78		0.00	129.0

5C1	11.38	5.29	11.38	5.29		0.00	211.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 HS20

Member I. D. S03 2F1
Check Point I. D. 8.200 3F1
4F1
5C1

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.4	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	61.69	R	47.46	200.20	0.0	46.48	35.76	172.20	
		-46.26	L	-35.58	134.63	0.0	-36.90	-28.38	157.85	110.02
OPER	HS20	61.69	R	47.46	200.20	0.0	46.48	35.76	172.20	
		-46.26	L	-35.58	134.63	0.0	-36.90	-28.38	157.85	110.02
OPER	2F1	40.21	R	30.93	182.20	0.0	0.00	0.00	0.00	
		-31.10	L	-23.92	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	48.36	R	37.20	186.20	0.0	0.00	0.00	0.00	
		-44.62	L	-34.32	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.16	R	33.97	190.20	0.0	0.00	0.00	0.00	
		-48.01	L	-36.93	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.23	L	44.79	125.20	0.0	0.00	0.00	0.00	
		-42.00	L	-32.31	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.94	3.46	2.63	3.88	HS	52.59	94.7
HS20	4.90	5.77	4.38	6.46	HS	87.65	157.8
2F1	7.52	8.58	6.72	9.61		0.00	100.9
3F1	6.25	5.98	5.59	6.70		0.00	128.6
4F1	6.85	5.56	6.12	6.23		0.00	150.1
5C1	5.19	6.36	4.64	7.12		0.00	185.7

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.200

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.2	65.4
OPER	151.3	-123.7	109.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-1.15	30.85	-0.88	23.73	-2.96	24.31	-2.28	18.70
OPER	HS20	-1.15	30.85	-0.88	23.73	-2.96	24.31	-2.28	18.70
OPER	2F1	-1.49	18.38	-1.14	14.14	0.00	0.00	0.00	0.00
OPER	3F1	-1.20	25.31	-0.92	19.47	0.00	0.00	0.00	0.00
OPER	4F1	-0.67	25.80	-0.51	19.85	0.00	0.00	0.00	0.00
OPER	5C1	-2.56	23.87	-1.97	18.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	25.06	2.12	HS 42.41	76.3
HS20	41.76	3.53	HS 70.68	127.2
2F1	83.14	5.93	0.00	89.0
3F1	103.24	4.31	0.00	99.1
4F1	185.21	4.22	0.00	114.1
5C1	48.31	4.57	0.00	182.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.200

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.7	-166.6	168.7	-166.6
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-277.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	61.69	R	47.46	200.20	0.0	46.48	35.76	172.20	
		-46.26	L	-35.58	134.63	0.0	-36.90	-28.38	157.85	110.02
OPER	HS20	61.69	R	47.46	200.20	0.0	46.48	35.76	172.20	
		-46.26	L	-35.58	134.63	0.0	-36.90	-28.38	157.85	110.02
OPER	2F1	40.21	R	30.93	182.20	0.0	0.00	0.00	0.00	
		-31.10	L	-23.92	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	48.36	R	37.20	186.20	0.0	0.00	0.00	0.00	
		-44.62	L	-34.32	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	44.16	R	33.97	190.20	0.0	0.00	0.00	0.00	
		-48.01	L	-36.93	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	58.23	L	44.79	125.20	0.0	0.00	0.00	0.00	
		-42.00	L	-32.31	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.73	3.60	2.73	3.60	HS	54.68	98.4
HS20	4.56	6.00	4.56	6.00	HS	91.13	164.0
2F1	6.99	8.93	6.99	8.93		0.00	104.9
3F1	5.81	6.22	5.81	6.22		0.00	133.7
4F1	6.37	5.78	6.37	5.78		0.00	156.2

5C1	4.83	6.61	4.83	6.61	0.00	193.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.1	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	286.9	-282.4	254.9	-314.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.91	R	76.08	202.59	0.0	72.00	55.39	174.59	
		-40.48	L	-31.14	134.63	0.0	-32.23	-24.79	157.85	110.02
OPER	HS20	98.91	R	76.08	202.59	0.0	72.00	55.39	174.59	
		-40.48	L	-31.14	134.63	0.0	-32.23	-24.79	157.85	110.02
OPER	2F1	63.71	R	49.01	184.59	0.0	0.00	0.00	0.00	
		-27.21	L	-20.93	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.13	R	62.41	188.59	0.0	0.00	0.00	0.00	
		-39.04	L	-30.03	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	82.23	R	63.25	188.59	0.0	0.00	0.00	0.00	
		-42.01	L	-32.32	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.63	L	64.33	127.59	0.0	0.00	0.00	0.00	
		-36.75	L	-28.27	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	4.19	1.55	4.66	HS	30.93	55.7
HS20	2.90	6.98	2.58	7.77	HS	51.55	92.8
2F1	4.50	10.38	4.00	11.55		0.00	60.0
3F1	3.54	7.23	3.14	8.05		0.00	72.3
4F1	3.49	6.72	3.10	7.48		0.00	83.7
5C1	3.43	7.68	3.05	8.55		0.00	121.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.2	66.5
OPER	151.3	-121.9	110.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.32	25.37	-2.55	19.52	-4.92	21.50	-3.79	16.54
OPER	HS20	-3.32	25.37	-2.55	19.52	-4.92	21.50	-3.79	16.54
OPER	2F1	-3.02	16.06	-2.32	12.35	0.00	0.00	0.00	0.00
OPER	3F1	-3.21	21.53	-2.47	16.56	0.00	0.00	0.00	0.00
OPER	4F1	-2.34	22.18	-1.80	17.06	0.00	0.00	0.00	0.00
OPER	5C1	-4.51	20.73	-3.47	15.94	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	14.86	2.62	HS 52.41	94.3
HS20	24.77	4.37	HS 87.35	157.2
2F1	40.35	6.90	0.00	103.5
3F1	37.94	5.15	0.00	118.4
4F1	52.02	5.00	0.00	134.9
5C1	27.02	5.35	0.00	213.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.1	-162.1	173.1	-162.1	159.4	-175.9	159.4	-175.9
OPER	279.4	-279.4	279.4	-279.4	265.7	-293.1	265.7	-293.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.91	R	76.08	202.59	0.0	72.00	55.39	174.59	
		-40.48	L	-31.14	134.63	0.0	-32.23	-24.79	157.85	110.02
OPER	HS20	98.91	R	76.08	202.59	0.0	72.00	55.39	174.59	
		-40.48	L	-31.14	134.63	0.0	-32.23	-24.79	157.85	110.02
OPER	2F1	63.71	R	49.01	184.59	0.0	0.00	0.00	0.00	
		-27.21	L	-20.93	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	81.13	R	62.41	188.59	0.0	0.00	0.00	0.00	
		-39.04	L	-30.03	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	82.23	R	63.25	188.59	0.0	0.00	0.00	0.00	
		-42.01	L	-32.32	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	83.63	L	64.33	127.59	0.0	0.00	0.00	0.00	
		-36.75	L	-28.27	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.61	4.34	1.61	4.34	HS	32.23	58.0
HS20	2.69	7.24	2.69	7.24	HS	53.72	96.7
2F1	4.17	10.77	4.17	10.77		0.00	62.5
3F1	3.28	7.51	3.28	7.51		0.00	75.3
4F1	3.23	6.98	3.23	6.98		0.00	87.2

5C1	3.18	7.98	3.18	7.98		0.00	127.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.0	22.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	165.5	-176.1	146.3	-195.3
OPER	300.6C	-268.7	268.7	-300.6C	275.8	-293.5	243.8	-325.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.03	R	88.49	204.98	0.0	90.18	69.37	176.98	
		-34.69	L	-26.69	134.63	0.0	-26.42	-20.32	157.85	0.00
OPER	HS20	115.03	R	88.49	204.98	0.0	90.18	69.37	176.98	
		-34.69	L	-26.69	134.63	0.0	-26.42	-20.32	157.85	0.00
OPER	2F1	79.32	R	61.01	186.98	0.0	0.00	0.00	0.00	
		-23.33	L	-17.94	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.67	R	77.44	186.98	0.0	0.00	0.00	0.00	
		-33.46	L	-25.74	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	107.42	R	82.63	190.98	0.0	0.00	0.00	0.00	
		-36.01	L	-27.70	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	100.66	R	77.43	188.98	0.0	0.00	0.00	0.00	
		-31.50	L	-24.23	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.44	5.08	1.27	5.63	HS	25.43	45.8
HS20	2.40	8.46	2.12	9.38	HS	42.39	76.3
2F1	3.48	12.58	3.07	13.95		0.00	46.1
3F1	2.74	8.77	2.42	9.73		0.00	55.7
4F1	2.57	8.15	2.27	9.04		0.00	61.3
5C1	2.74	9.32	2.42	10.33		0.00	96.9

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.1	67.6
OPER	151.3	-120.1	112.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-7.37	20.41	-5.67	15.70	-7.23	18.56	-5.56	14.27
OPER	HS20	-7.37	20.41	-5.67	15.70	-7.23	18.56	-5.56	14.27
OPER	2F1	-4.85	13.51	-3.73	10.40	0.00	0.00	0.00	0.00
OPER	3F1	-5.68	17.46	-4.37	13.43	0.00	0.00	0.00	0.00
OPER	4F1	-4.81	18.13	-3.70	13.95	0.00	0.00	0.00	0.00
OPER	5C1	-6.74	17.66	-5.18	13.59	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	9.78	3.31	HS 66.20	119.2
HS20	16.30	5.52	HS 110.33	198.6
2F1	24.74	8.33	0.00	125.0
3F1	21.13	6.45	0.00	148.3
4F1	24.97	6.21	0.00	167.7
5C1	17.84	6.38	0.00	255.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.0	22.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	177.6	-157.7	177.6	-157.7	152.7	-182.6	152.7	-182.6
OPER	279.4	-279.4	279.4	-279.4	254.5	-304.3	254.5	-304.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	115.03	R	88.49	204.98	0.0	90.18	69.37	176.98	
		-34.69	L	-26.69	134.63	0.0	-26.42	-20.32	157.85	0.00
OPER	HS20	115.03	R	88.49	204.98	0.0	90.18	69.37	176.98	
		-34.69	L	-26.69	134.63	0.0	-26.42	-20.32	157.85	0.00
OPER	2F1	79.32	R	61.01	186.98	0.0	0.00	0.00	0.00	
		-23.33	L	-17.94	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	100.67	R	77.44	186.98	0.0	0.00	0.00	0.00	
		-33.46	L	-25.74	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	107.42	R	82.63	190.98	0.0	0.00	0.00	0.00	
		-36.01	L	-27.70	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	100.66	R	77.43	188.98	0.0	0.00	0.00	0.00	
		-31.50	L	-24.23	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.33	5.26	1.33	5.26	HS	26.55	47.8
HS20	2.21	8.77	2.21	8.77	HS	44.25	79.7
2F1	3.21	13.04	3.21	13.04		0.00	48.1
3F1	2.53	9.09	2.53	9.09		0.00	58.2
4F1	2.37	8.45	2.37	8.45		0.00	64.0

5C1	2.53	9.66	2.53	9.66	0.00	101.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.68	28.67	28.67	1.699	999999.000	91.040

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		15.77		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	161.4	-180.2	142.2	-199.4
OPER	300.6C	-268.7	268.7	-300.6C	268.9	-300.4	236.9	-332.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	126.40	R	97.23	207.38	0.0	101.45	78.03	179.38	
		-28.91	L	-22.24	134.63	0.0	-22.01	-16.93	157.85	0.00
OPER	HS20	126.40	R	97.23	207.38	0.0	101.45	78.03	179.38	
		-28.91	L	-22.24	134.63	0.0	-22.01	-16.93	157.85	0.00
OPER	2F1	84.95	R	65.35	189.38	0.0	0.00	0.00	0.00	
		-19.44	L	-14.95	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	115.12	L	88.55	169.38	0.0	0.00	0.00	0.00	
		-27.89	L	-21.45	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	122.96	R	94.59	193.38	0.0	0.00	0.00	0.00	
		-30.01	L	-23.08	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	109.86	R	84.51	230.38	0.0	0.00	0.00	0.00	
		-26.25	L	-20.19	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.28	6.23	1.12	6.90	HS	22.49	40.5
HS20	2.13	10.39	1.88	11.49	HS	37.49	67.5
2F1	3.17	15.45	2.79	17.10		0.00	41.8
3F1	2.34	10.77	2.06	11.92		0.00	47.3
4F1	2.19	10.01	1.93	11.08		0.00	52.0
5C1	2.45	11.44	2.16	12.66		0.00	86.3

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-10.57	17.10	-8.13	13.16	-9.87	15.53	-7.59	11.95
OPER	HS20	-10.57	17.10	-8.13	13.16	-9.87	15.53	-7.59	11.95
OPER	2F1	-6.97	10.79	-5.36	8.30	0.00	0.00	0.00	0.00
OPER	3F1	-8.59	14.22	-6.61	10.94	0.00	0.00	0.00	0.00
OPER	4F1	-7.79	14.12	-6.00	10.87	0.00	0.00	0.00	0.00
OPER	5C1	-9.17	14.74	-7.05	11.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	6.72	4.01	HS 80.28	144.5
HS20	11.19	6.69	HS 133.80	240.8
2F1	16.97	10.61	0.00	159.1
3F1	13.78	8.05	0.00	185.0
4F1	15.18	8.10	0.00	218.7
5C1	12.90	7.76	0.00	310.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.3	-155.0	180.3	-155.0	148.6	-186.7	148.6	-186.7
OPER	279.4	-279.4	279.4	-279.4	247.7	-311.1	247.7	-311.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	126.40	R	97.23	207.38	0.0	101.45	78.03	179.38	
		-28.91	L	-22.24	134.63	0.0	-22.01	-16.93	157.85	0.00
OPER	HS20	126.40	R	97.23	207.38	0.0	101.45	78.03	179.38	
		-28.91	L	-22.24	134.63	0.0	-22.01	-16.93	157.85	0.00
OPER	2F1	84.95	R	65.35	189.38	0.0	0.00	0.00	0.00	
		-19.44	L	-14.95	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	115.12	L	88.55	169.38	0.0	0.00	0.00	0.00	
		-27.89	L	-21.45	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	122.96	R	94.59	193.38	0.0	0.00	0.00	0.00	
		-30.01	L	-23.08	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	109.86	R	84.51	230.38	0.0	0.00	0.00	0.00	
		-26.25	L	-20.19	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.18	6.46	1.18	6.46	HS	23.51	42.3
HS20	1.96	10.76	1.96	10.76	HS	39.19	70.5
2F1	2.92	16.00	2.92	16.00		0.00	43.7
3F1	2.15	11.16	2.15	11.16		0.00	49.5
4F1	2.01	10.37	2.01	10.37		0.00	54.4

5C1	2.26	11.85	2.26	11.85	0.00	90.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	160.0	-181.6	140.8	-200.8
OPER	300.6C	-268.7	268.7	-300.6C	266.7	-302.6	234.7	-334.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09	R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13	L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	HS20	131.09	R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13	L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	2F1	89.41	L	68.77	171.77	0.0	0.00	0.00	0.00	
		-15.55	L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12	L	90.86	171.77	0.0	0.00	0.00	0.00	
		-22.31	L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02	L	96.94	167.77	0.0	0.00	0.00	0.00	
		-24.01	L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03	R	86.95	228.77	0.0	0.00	0.00	0.00	
		-21.00	L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.22	7.85	1.07	8.68	HS 21.49	38.7
HS20	2.03	13.08	1.79	14.47	HS 35.81	64.5
2F1	2.98	19.46	2.62	21.52	0.00	39.4
3F1	2.26	13.56	1.99	15.00	0.00	45.7
4F1	2.12	12.60	1.86	13.94	0.00	50.3
5C1	2.36	14.41	2.08	15.93	0.00	83.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed 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 w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.70	13.19	-10.54	10.15	-12.82	12.46	-9.86	9.59
OPER	HS20	-13.70	13.19	-10.54	10.15	-12.82	12.46	-9.86	9.59
OPER	2F1	-9.35	8.10	-7.19	6.23	0.00	0.00	0.00	0.00
OPER	3F1	-11.89	10.98	-9.15	8.45	0.00	0.00	0.00	0.00
OPER	4F1	-11.77	10.00	-9.05	7.70	0.00	0.00	0.00	0.00
OPER	5C1	-11.82	11.94	-9.09	9.19	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.10	5.29	HS 101.95	183.5
HS20	8.50	8.82	HS 169.91	305.8
2F1	12.46	14.36	0.00	186.8
3F1	9.79	10.59	0.00	225.1
4F1	9.89	11.63	0.00	267.0
5C1	9.85	9.74	0.00	389.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-188.0
OPER	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09	R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13	L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	HS20	131.09	R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13	L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	2F1	89.41	L	68.77	171.77	0.0	0.00	0.00	0.00	
		-15.55	L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12	L	90.86	171.77	0.0	0.00	0.00	0.00	
		-22.31	L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02	L	96.94	167.77	0.0	0.00	0.00	0.00	
		-24.01	L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03	R	86.95	228.77	0.0	0.00	0.00	0.00	
		-21.00	L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.12	8.13	1.12	8.13	HS	22.47	40.4
HS20	1.87	13.55	1.87	13.55	HS	37.45	67.4
2F1	2.74	20.15	2.74	20.15		0.00	41.2
3F1	2.08	14.05	2.08	14.05		0.00	47.8
4F1	1.95	13.05	1.95	13.05		0.00	52.6

5C1	2.17	14.92	2.17	14.92	0.00	86.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	161.2	-180.3	142.1	-199.5
OPER	300.6C	-268.7	268.7	-300.6C	268.7	-300.6	236.8	-332.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.19	R	100.92	198.16	0.0	94.42	72.63	184.16	
		-17.35	L	-13.34	134.63	0.0	-13.21	-10.16	157.85	0.00
OPER	HS20	131.19	R	100.92	198.16	0.0	94.42	72.63	184.16	
		-17.35	L	-13.34	134.63	0.0	-13.21	-10.16	157.85	0.00
OPER	2F1	85.62	L	65.86	174.16	0.0	0.00	0.00	0.00	
		-11.66	L	-8.97	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	111.73	L	85.95	170.16	0.0	0.00	0.00	0.00	
		-16.73	L	-12.87	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	115.66	L	88.97	170.16	0.0	0.00	0.00	0.00	
		-18.00	L	-13.85	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	108.35	L	83.35	168.16	0.0	0.00	0.00	0.00	
		-15.75	L	-12.12	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value		Load Capacity (tons)
HS20	1.23	10.40	1.08	11.50	HS	21.66	39.0
HS20	2.05	17.33	1.80	19.17	HS	36.09	65.0
2F1	3.14	25.77	2.77	28.51		0.00	41.5
3F1	2.40	17.96	2.12	19.87		0.00	48.7
4F1	2.32	16.69	2.05	18.47		0.00	55.3
5C1	2.48	19.08	2.18	21.11		0.00	87.4

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.28	9.87	-14.06	7.59	-16.05	9.40	-12.35	7.23
OPER	HS20	-18.28	9.87	-14.06	7.59	-16.05	9.40	-12.35	7.23
OPER	2F1	-11.93	6.17	-9.18	4.75	0.00	0.00	0.00	0.00
OPER	3F1	-15.57	7.60	-11.98	5.84	0.00	0.00	0.00	0.00
OPER	4F1	-15.37	6.26	-11.82	4.81	0.00	0.00	0.00	0.00
OPER	5C1	-15.10	9.00	-11.62	6.92	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.76	7.18	HS 75.22	135.4
HS20	6.27	11.97	HS 125.37	225.7
2F1	9.60	19.14	0.00	144.1
3F1	7.36	15.55	0.00	169.3
4F1	7.46	18.88	0.00	201.4
5C1	7.59	13.12	0.00	303.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4	-154.9	180.4	-154.9	148.5	-186.8	148.5	-186.8
OPER	279.4	-279.4	279.4	-279.4	247.5	-311.3	247.5	-311.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	131.19	R	100.92	198.16	0.0	94.42	72.63	184.16	
		-17.35	L	-13.34	134.63	0.0	-13.21	-10.16	157.85	0.00
OPER	HS20	131.19	R	100.92	198.16	0.0	94.42	72.63	184.16	
		-17.35	L	-13.34	134.63	0.0	-13.21	-10.16	157.85	0.00
OPER	2F1	85.62	L	65.86	174.16	0.0	0.00	0.00	0.00	
		-11.66	L	-8.97	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	111.73	L	85.95	170.16	0.0	0.00	0.00	0.00	
		-16.73	L	-12.87	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	115.66	L	88.97	170.16	0.0	0.00	0.00	0.00	
		-18.00	L	-13.85	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	108.35	L	83.35	168.16	0.0	0.00	0.00	0.00	
		-15.75	L	-12.12	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.13	10.77	1.13	10.77	HS	22.64	40.8
HS20	1.89	17.94	1.89	17.94	HS	37.73	67.9
2F1	2.89	26.69	2.89	26.69		0.00	43.4
3F1	2.21	18.60	2.21	18.60		0.00	50.9
4F1	2.14	17.29	2.14	17.29		0.00	57.8

5C1	2.28	19.76	2.28	19.76	0.00	91.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.1	23.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	165.0	-176.5	145.9	-195.7
OPER	300.6C	-268.7	268.7	-300.6C	275.1	-294.2	243.1	-326.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	111.79	R	85.99	200.55	0.0	74.30	57.16	186.55	
		-11.56	L	-8.90	134.63	0.0	-8.81	-6.77	157.85	0.00
OPER	HS20	111.79	R	85.99	200.55	0.0	74.30	57.16	186.55	
		-11.56	L	-8.90	134.63	0.0	-8.81	-6.77	157.85	0.00
OPER	2F1	70.29	L	54.07	176.55	0.0	0.00	0.00	0.00	
		-7.78	L	-5.98	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	93.58	L	71.99	172.55	0.0	0.00	0.00	0.00	
		-11.15	L	-8.58	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	93.18	L	71.68	168.55	0.0	0.00	0.00	0.00	
		-12.00	L	-9.23	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.77	L	69.82	170.55	0.0	0.00	0.00	0.00	
		-10.50	L	-8.08	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.48	15.26	1.30	16.92	HS 26.10	47.0
HS20	2.46	25.44	2.17	28.21	HS 43.49	78.3
2F1	3.91	37.84	3.46	41.95	0.00	51.9
3F1	2.94	26.38	2.60	29.24	0.00	59.7
4F1	2.95	24.51	2.61	27.18	0.00	70.4
5C1	3.03	28.02	2.68	31.06	0.00	107.1

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.7	72.0
OPER	151.3	-112.8	119.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-23.37	6.65	-17.98	5.12	-19.54	6.39	-15.03	4.92
OPER	HS20	-23.37	6.65	-17.98	5.12	-19.54	6.39	-15.03	4.92
OPER	2F1	-14.70	4.16	-11.30	3.20	0.00	0.00	0.00	0.00
OPER	3F1	-19.56	4.12	-15.05	3.17	0.00	0.00	0.00	0.00
OPER	4F1	-19.48	3.39	-14.99	2.61	0.00	0.00	0.00	0.00
OPER	5C1	-18.98	5.90	-14.60	4.54	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)		Rating Value	Load Capacity (tons)
HS20	2.90	10.81	HS	57.93	104.3
HS20	4.83	18.03	HS	96.55	173.8
2F1	7.68	28.84		0.00	115.2
3F1	5.77	29.13		0.00	132.6
4F1	5.79	35.37		0.00	156.4
5C1	5.95	20.33		0.00	237.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
2.1	23.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	177.9	-157.4	177.9	-157.4	152.3	-183.0	152.3	-183.0
OPER	279.4	-279.4	279.4	-279.4	253.8	-305.0	253.8	-305.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	111.79	R	85.99	200.55	0.0	74.30	57.16	186.55	
		-11.56	L	-8.90	134.63	0.0	-8.81	-6.77	157.85	0.00
OPER	HS20	111.79	R	85.99	200.55	0.0	74.30	57.16	186.55	
		-11.56	L	-8.90	134.63	0.0	-8.81	-6.77	157.85	0.00
OPER	2F1	70.29	L	54.07	176.55	0.0	0.00	0.00	0.00	
		-7.78	L	-5.98	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	93.58	L	71.99	172.55	0.0	0.00	0.00	0.00	
		-11.15	L	-8.58	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	93.18	L	71.68	168.55	0.0	0.00	0.00	0.00	
		-12.00	L	-9.23	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	90.77	L	69.82	170.55	0.0	0.00	0.00	0.00	
		-10.50	L	-8.08	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.36	15.82	1.36	15.82	HS	27.25	49.0
HS20	2.27	26.37	2.27	26.37	HS	45.41	81.7
2F1	3.61	39.22	3.61	39.22		0.00	54.2
3F1	2.71	27.34	2.71	27.34		0.00	62.4
4F1	2.72	25.41	2.72	25.41		0.00	73.6

5C1	2.80	29.04	2.80	29.04	0.00	111.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.4	-170.1	152.2	-189.3
OPER	300.6C	-268.7	268.7	-300.6C	285.7	-283.6	253.7	-315.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	69.06 R	53.12	202.94	0.0	43.62	33.55	188.94	
		-5.78 L	-4.45	134.63	0.0	-4.40	-3.39	157.85	0.00
OPER	HS20	69.06 R	53.12	202.94	0.0	43.62	33.55	188.94	
		-5.78 L	-4.45	134.63	0.0	-4.40	-3.39	157.85	0.00
OPER	2F1	42.08 L	32.37	178.94	0.0	0.00	0.00	0.00	
		-3.89 L	-2.99	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	56.95 L	43.80	174.94	0.0	0.00	0.00	0.00	
		-5.58 L	-4.29	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	57.76 L	44.43	170.94	0.0	0.00	0.00	0.00	
		-6.00 L	-4.62	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	55.29 L	42.53	172.94	0.0	0.00	0.00	0.00	
		-5.25 L	-4.04	145.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.48	29.42	2.20	32.74	HS 44.09	79.4
HS20	4.14	49.04	3.67	54.57	HS 73.48	132.3
2F1	6.79	72.94	6.03	81.17	0.00	90.4
3F1	5.02	50.85	4.46	56.58	0.00	102.5
4F1	4.95	47.25	4.39	52.58	0.00	118.6
5C1	5.17	54.01	4.59	60.10	0.00	183.6

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

Rating Types and Vehicles
INV. OPER POST SPEC

HS20 HS20
2F1
3F1
4F1
5C1

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.6	73.0
OPER	151.3	-111.0	121.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-28.88	3.35	-22.21	2.58	-23.25	3.47	-17.88	2.67
OPER	HS20	-28.88	3.35	-22.21	2.58	-23.25	3.47	-17.88	2.67
OPER	2F1	-17.59	2.09	-13.53	1.61	0.00	0.00	0.00	0.00
OPER	3F1	-23.81	2.33	-18.32	1.79	0.00	0.00	0.00	0.00
OPER	4F1	-24.15	2.49	-18.58	1.92	0.00	0.00	0.00	0.00
OPER	5C1	-23.12	3.82	-17.78	2.94	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.31	21.06	HS 46.14	83.1
HS20	3.85	35.09	HS 76.90	138.4
2F1	6.31	58.17	0.00	94.7
3F1	4.66	52.19	0.00	107.2
4F1	4.60	48.82	0.00	124.1
5C1	4.80	31.87	0.00	192.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.6	-161.7	173.6	-161.7	158.7	-176.6	158.7	-176.6
OPER	279.4	-279.4	279.4	-279.4	264.5	-294.3	264.5	-294.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	69.06	R	53.12	202.94	0.0	43.62	33.55	188.94	
		-5.78	L	-4.45	134.63	0.0	-4.40	-3.39	157.85	0.00
OPER	HS20	69.06	R	53.12	202.94	0.0	43.62	33.55	188.94	
		-5.78	L	-4.45	134.63	0.0	-4.40	-3.39	157.85	0.00
OPER	2F1	42.08	L	32.37	178.94	0.0	0.00	0.00	0.00	
		-3.89	L	-2.99	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	56.95	L	43.80	174.94	0.0	0.00	0.00	0.00	
		-5.58	L	-4.29	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	57.76	L	44.43	170.94	0.0	0.00	0.00	0.00	
		-6.00	L	-4.62	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	55.29	L	42.53	172.94	0.0	0.00	0.00	0.00	
		-5.25	L	-4.04	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.30	30.54	2.30	30.54	HS	45.96	82.7
HS20	3.83	50.90	3.83	50.90	HS	76.59	137.9
2F1	6.28	75.71	6.28	75.71		0.00	94.3
3F1	4.64	52.77	4.64	52.77		0.00	106.8
4F1	4.58	49.04	4.58	49.04		0.00	123.6

5C1	4.78	56.06	4.78	56.06	0.00	191.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles

	INV.	OPER	POST	SPEC
	HS20	HS20		
		2F1		
		3F1		
		4F1		
		5C1		

Structure I. D. HAM500

Member I. D. S03

Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.5	70.2
OPER	151.3	-109.2	117.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-34.71	0.00	-26.70	0.00	-27.16	2.36	-20.89	1.82
OPER	HS20	-34.71	0.00	-26.70	0.00	-27.16	2.36	-20.89	1.82
OPER	2F1	-20.59	0.00	-15.84	0.00	0.00	0.00	0.00	0.00
OPER	3F1	-28.25	0.00	-21.73	0.00	0.00	0.00	0.00	0.00
OPER	4F1	-29.10	0.00	-22.39	0.00	0.00	0.00	0.00	0.00
OPER	5C1	-27.46	0.00	-21.13	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.89	29.72	HS 37.76	68.0
HS20	3.15	49.53	HS 62.93	113.3
2F1	5.31	999.00	0.00	79.6
3F1	3.87	999.00	0.00	88.9
4F1	3.75	999.00	0.00	101.3
5C1	3.98	999.00	0.00	159.1

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	HS20		
	2F1		
	3F1		
	4F1		
	5C1		

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	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	2F1	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	3F1	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	4F1	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	5C1	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0

5C1	999.00	999.00	999.00	999.00	0.00	999.0