

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{dc}	γ_{dw}
	STRENGTH I	1.25	1.50
	SERVICE II	1.00	1.00

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE II LIMIT STATE					COMMENT NUMBER			
						LIVE-LOAD FACTORS (γ_{LL})	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ_{LL})	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.46	--	1.75	0.58	1.46	B	E	0.00	0.78	3.54	B	I	66.34	1.30	0.58	1.75	B	E	0.00		
	HL-93 (OPERATING)	N/A		1.89	--	1.35	0.58	1.89	B	E	0.00	0.78	4.59	B	I	66.34	1.00	0.58	2.28	B	E	0.00		
	HS-20 (INVENTORY)	36.00	②	2.14	77.04	1.75	0.58	2.19	B	E	0.00	0.78	4.47	B	I	66.34	1.30	0.58	2.14	B	E	0.00		
	HS-20 (OPERATING)	36.00		2.78	100.15	1.35	0.58	2.84	B	E	0.00	0.78	5.79	B	I	66.34	1.00	0.58	2.78	B	E	0.00		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		6.51	87.89	1.40	0.58	6.69	B	E	33.17	0.90	13.09	C	I	46.20	1.30	0.58	6.51	B	E	33.17	
		SNGRBS2	20.000		4.87	97.40	1.40	0.58	4.90	B	E	0.00	0.78	9.34	B	I	66.34	1.30	0.58	4.87	B	E	0.00	
		SNAGRIS2	22.000		4.45	97.90	1.40	0.58	4.49	B	E	0.00	0.78	8.71	B	I	66.34	1.30	0.58	4.45	B	E	0.00	
		SNCOTTS3	27.250		3.28	89.38	1.40	0.58	3.37	B	E	33.17	0.90	6.55	C	I	46.20	1.30	0.58	3.28	B	E	33.17	
		SNAGGRS4	34.925		2.67	93.25	1.40	0.58	2.72	B	E	0.00	0.78	5.48	B	I	0.00	1.30	0.58	2.67	B	E	0.00	
		SNS5A	35.550		2.64	93.85	1.40	0.58	2.69	B	E	0.00	0.78	5.59	B	I	66.34	1.30	0.58	2.64	B	E	0.00	
		SNS6A	39.950		2.36	94.28	1.40	0.58	2.40	B	E	0.00	0.78	5.05	B	I	0.00	1.30	0.58	2.36	B	E	0.00	
		SNS7B	42.000		2.23	93.66	1.40	0.58	2.28	B	E	0.00	0.78	4.94	B	I	66.34	1.30	0.58	2.23	B	E	0.00	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		2.91	96.03	1.40	0.58	2.96	B	E	0.00	0.78	6.05	B	I	66.34	1.30	0.58	2.91	B	E	0.00	
		TNT4A	33.075		2.94	97.24	1.40	0.58	2.98	B	E	0.00	0.78	5.91	B	I	66.34	1.30	0.58	2.94	B	E	0.00	
		TNT6A	41.600		2.34	97.34	1.40	0.58	2.39	B	E	0.00	0.78	5.24	B	I	66.34	1.30	0.58	2.34	B	E	0.00	
		TNT7A	42.000		2.32	97.44	1.40	0.58	2.37	B	E	0.00	0.78	5.19	B	I	66.34	1.30	0.58	2.32	B	E	0.00	
		TNT7B	42.000		2.36	99.12	1.40	0.58	2.41	B	E	0.00	0.78	4.89	B	I	66.34	1.30	0.58	2.36	B	E	0.00	
		TNAGRIT4	43.000		2.22	95.46	1.40	0.58	2.27	B	E	0.00	0.78	4.71	B	I	66.34	1.30	0.58	2.22	B	E	0.00	
TNAGT5A	45.000		2.13	95.85	1.40	0.58	2.18	B	E	0.00	0.78	4.63	B	I	66.34	1.30	0.58	2.13	B	E	0.00			
TNAGT5B	45.000		③	2.08	93.60	1.40	0.58	2.13	B	E	0.00	0.78	4.47	B	I	66.34	1.30	0.58	2.08	B	E	0.00		
FATIGUE	HL-93 (INVENTORY)	$\gamma_{LL}=0.75$		--																				

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE II LIMIT STATES.
ALLOWABLE STRESS FOR SERVICE II LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

FATIGUE RATING IS NOT REQUIRED OR REPORTED SINCE GIRDER DESIGN DOES NOT INCLUDE FATIGUE-PRONE DETAILS.
RATING IS PROVIDED FOR BEAMS 1 THROUGH 4 OF THE WIDENING ONLY.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93) **

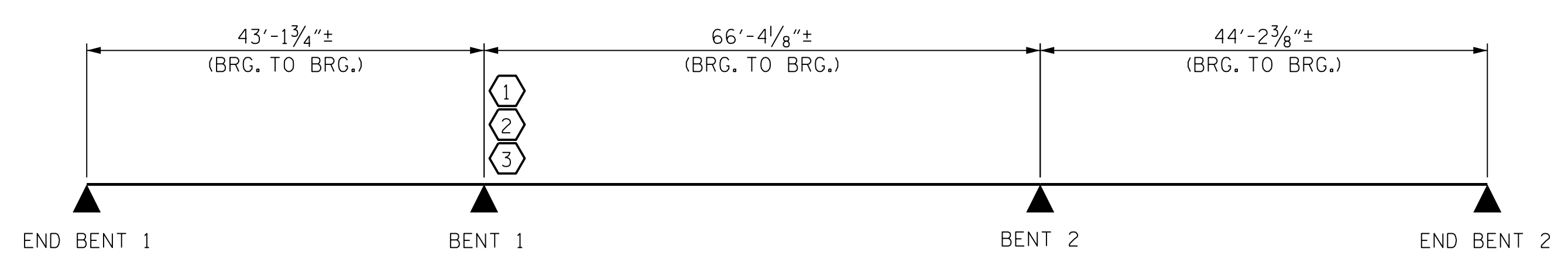
② DESIGN LOAD RATING (HS-20) **

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

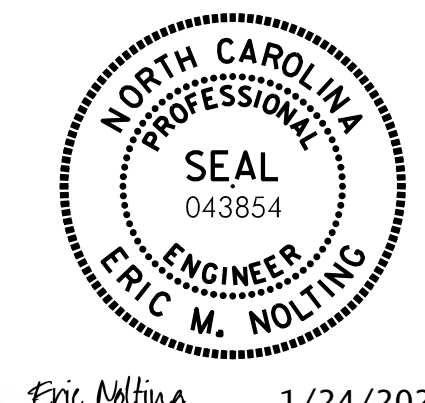
I - INTERIOR GIRDER
E - EXTERIOR GIRDER



SPAN A SPAN B SPAN C
LRFR SUMMARY

PROJECT NO. B-3186/B-5898
HAYWOOD COUNTY
STATION: 68+82.30± -L-LT-

SHEET 5 OF 5



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
LRFR SUMMARY FOR
STEEL GIRDERS
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS	
1	--	--	3	--	--	44	
2	--	--	4	--	--	44	

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Eric Nolting 1/24/2022
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DES BY: E. NOLTING	DATE: 07/21	DWG BY: B. PETERSON	DATE: 07/21
DES CHK: B. ROGERS	DATE: 07/21	CHK BY: B. ROGERS	DATE: 07/21