

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	1.26	--	1.75		1.26	N	ER	138.22							1.30							1,2,3	
	HL-93 (OPERATING)	N/A		1.58	--	1.35		1.58	N	ER	138.22							1.00							1,2,3	
	HS-20 (INVENTORY)	36.00	②	2.00	72.00	1.75		2.00	O	ER	78.08							1.30							1,2,3	
	HS-20 (OPERATING)	36.00		2.59	93.24	1.35		2.59	O	ER	78.08							1.00							1,2,3	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH		6.17	83.30	1.40		6.17	O	ER	78.08							1.30							1,2,3	
		SNGRBS2	20.000		4.35	87.00	1.40		4.35	O	ER	78.08							1.30							1,2,3
		SNAGRIS2	22.000		4.03	88.66	1.40		4.03	O	ER	78.08							1.30							1,2,3
		SNCOTTS3	27.250		3.07	83.66	1.40		3.07	O	ER	78.08							1.30							1,2,3
		SNAGGRS4	34.925		2.47	86.26	1.40		2.47	O	ER	78.08							1.30							1,2,3
		SNS5A	35.550		2.43	86.39	1.40		2.43	O	ER	78.08							1.30							1,2,3
		SNS6A	39.950		2.19	87.49	1.40		2.19	O	ER	78.08							1.30							1,2,3
	SNS7B	42.000		2.09	87.78	1.40		2.09	O	ER	78.08							1.30							1,2,3	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		2.67	88.11	1.40		2.67	O	ER	78.08							1.30							1,2,3
		TNT4A	33.075		2.66	87.98	1.40		2.66	O	ER	78.08							1.30							1,2,3
		TNT6A	41.600		2.14	89.02	1.40		2.14	O	ER	78.08							1.30							1,2,3
		TNT7A	42.000		2.14	89.88	1.40		2.14	O	ER	78.08							1.30							1,2,3
		TNT7B	42.000		2.16	90.72	1.40		2.16	O	ER	78.08							1.30							1,2,3
		TNAGRIT4	43.000		2.09	89.87	1.40		2.09	O	ER	78.08							1.30							1,2,3
TNAGT5A		45.000		1.99	89.55	1.40		1.99	O	ER	78.08							1.30							1,2,3	
TNAGT5B	45.000		③	1.98	89.10	1.40		1.98	O	ER	78.08							1.30							1,2,3	
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:

- STRENGTH I SHEAR AND SERVICE II LIMIT STATES NOT PROVIDED DUE TO CURVED GIRDER ANALYSIS LIMITATIONS.
- DISTRIBUTION FACTORS BASED ON A COMPLEX SYSTEM OF ANALYSIS FOR CURVED GIRDERS. THEREFORE, DISTRIBUTION FACTORS VARY AND ARE NOT SHOWN
- SPANS O-S AND T-V ARE IDENTICAL TO SPANS N-P.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93) **

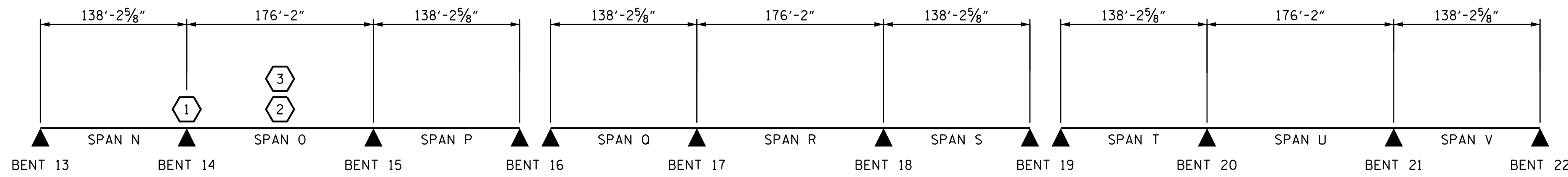
② DESIGN LOAD RATING (HS-20) **

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

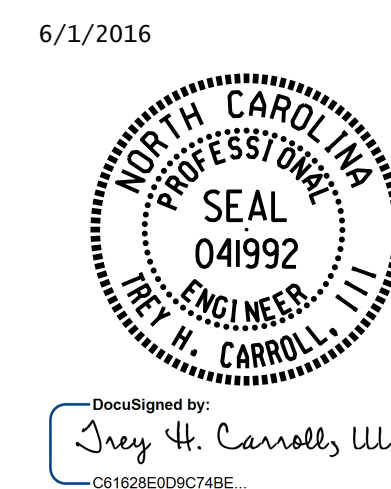
GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



PROJECT NO. B-4929
PENDER COUNTY
STATION: 38+13.81 -L2-

STEEL ALTERNATE



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
STEEL GIRDERS
(NON-INTERSTATE TRAFFIC)

LRFR SUMMARY

ASSEMBLED BY : T. H. CARROLL	DATE : 12/1/2015
CHECKED BY : T. R. PETERSON	DATE : 2/4/2016
DRAWN BY : MAA 1/08	REV. 11/12/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/11/11 MAA/GM

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-226
1			3			TOTAL SHEETS
2			4			278