

DATE: 2/27/2020  
TIME: 3:42:12 PM

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR STEEL STRINGERS																											
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	
						MOMENT					SHEAR					AXIAL					MOMENT						
						LIVE-LOAD FACTORS (γ <sub>LL</sub> )	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	STRINGER NUMBER	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	STRINGER NUMBER	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	STRINGER NUMBER	DISTANCE FROM LEFT END OF SPAN (ft)	LIVE-LOAD FACTORS (γ <sub>LL</sub> )	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		STRINGER NUMBER
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	1	2.57	--	1.75	FEM	3.99	B	8	7.88	FEM	4.21	C	8	0.00	FEM	12.41	C	5	319.34	1.30	FEM	2.57	B	3	48.69
	HL-93 (OPERATING)	N/A		3.36	--	1.35	FEM	5.20	B	8	7.88	FEM	5.46	C	8	210.47	FEM	15.63	D	4	246.50	1.00	FEM	3.36	D	6	119.09
	HS-20 (INVENTORY)	36.000	2	3.44	123.881	1.75	FEM	4.62	B	8	7.88	FEM	5.58	C	8	92.36	FEM	15.78	C	6	12.79	1.30	FEM	3.44	D	3	119.09
	HS-20 (OPERATING)	36.000		4.47	161.081	1.35	FEM	6.03	B	8	7.88	FEM	7.23	C	8	92.36	FEM	15.78	C	6	12.79	1.00	FEM	4.47	D	6	119.09
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH		5.65	70.628	1.40	FEM	7.10	B	8	7.88	FEM	11.15	D	4	167.05	FEM	15.78	C	6	12.79	1.30	FEM	5.65	B	8	56.99
		S3C		3.68	79.039	1.40	FEM	4.62	B	8	7.88	FEM	8.22	B	7	92.36	FEM	13.38	D	4	246.50	1.30	FEM	3.68	B	8	7.88
		S3A		3.60	82.010	1.40	FEM	4.53	B	8	7.88	FEM	8.09	D	7	92.36	FEM	13.70	D	4	246.50	1.30	FEM	3.60	B	8	7.88
		S4A		3.47	92.825	1.40	FEM	4.37	B	8	7.88	FEM	7.77	B	2	92.36	FEM	15.78	C	6	12.79	1.30	FEM	3.47	B	8	7.88
		S5A		3.20	111.790	1.40	FEM	3.99	B	8	7.88	FEM	7.15	B	8	116.61	FEM	15.62	D	4	246.50	1.30	FEM	3.20	B	8	7.88
		S6A		3.07	109.089	1.40	FEM	3.86	B	8	7.88	FEM	6.64	B	8	167.05	FEM	11.26	C	6	168.62	1.30	FEM	3.07	B	8	7.88
		S7B		2.92	116.755	1.40	FEM	3.80	B	8	7.88	FEM	6.31	B	8	167.05	FEM	15.78	C	6	12.79	1.30	FEM	2.92	D	6	119.09
		S7A		2.98	124.998	1.40	FEM	3.86	B	8	7.88	FEM	6.50	B	8	119.70	FEM	15.78	C	6	12.79	1.30	FEM	2.98	D	6	119.09
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A		3.60	118.960	1.40	FEM	4.53	B	8	7.88	FEM	7.76	B	8	167.05	FEM	15.78	C	6	12.79	1.30	FEM	3.60	B	8	7.88
		T5B		3.27	108.161	1.40	FEM	4.45	B	8	7.88	FEM	7.64	B	2	167.05	FEM	15.78	C	6	12.79	1.30	FEM	3.27	D	6	119.09
		T6A		3.15	131.020	1.40	FEM	4.25	B	8	7.88	FEM	7.24	B	8	96.30	FEM	15.78	C	6	12.79	1.30	FEM	3.15	D	6	119.09
	T7A		2.98	119.046	1.40	FEM	4.29	B	8	7.88	FEM	6.91	B	8	142.81	FEM	15.78	C	6	12.79	1.30	FEM	2.98	D	6	119.09	
	T7B		3.25	129.805	1.40	FEM	4.08	B	1	56.99	FEM	6.40	B	8	167.05	FEM	15.78	C	6	12.79	1.30	FEM	3.25	B	8	56.99	

**LOAD FACTORS:**

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ <sub>DC</sub>	γ <sub>DW</sub>
		STRENGTH I	1.25
	SERVICE II	1.00	1.00

**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:**

- LOAD RATING INCLUDES 1" PPC OVERLAY.
- 
- 
- 

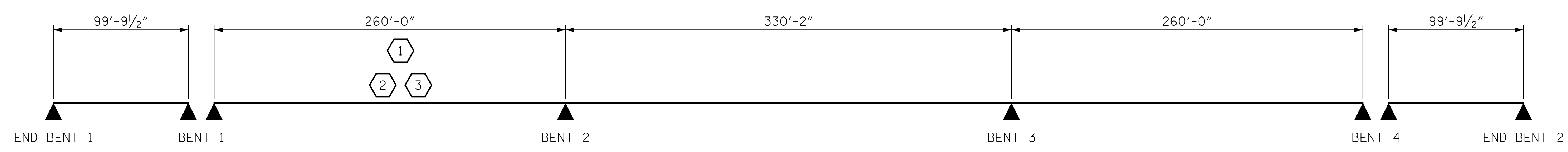
# CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE



LRFR SUMMARY

PROJECT NO. 15BPR.20  
HENDERSON COUNTY  
 STATION: 35+30.22 -L-

SHEET 3 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 LRFR SUMMARY FOR  
 STEEL STRINGERS  
 (INTERSTATE TRAFFIC)

ASSEMBLED BY : N. BROWN	DATE : 04/2019
CHECKED BY : J. LIU/J. SLOAN	DATE : 04/2019
DRAWN BY : MAA 1/08	REV. 11/12/08RRR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/1/11 MAA/GM
	REV. 12/17 MAA/THC

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			129

USER: MergeResourced  
 DGN: R:\Structures\04 Drawings\01\_09\_15\BPR20\_SML\_LRFR3.dgn