

# LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ <sub>L</sub> )	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)	LIVE-LOAD FACTORS (γ <sub>L</sub> )	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.13	--	1.75	0.971	1.13	E	EL/ER	46.375	0.971	1.21	B-D	EL/ER	10.908	0.80	0.971	1.23	E	EL/ER	46.375		
	HL-93 (OPERATING)	N/A		1.46	--	1.35	0.971	1.46	E	EL/ER	46.375	0.971	1.61	B-D	EL/ER	10.908	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.54	55.440	1.75	0.971	1.54	E	EL/ER	46.375	0.971	1.72	B-D	EL/ER	10.908	0.80	0.971	1.68	E	EL/ER	46.375		
	HS-20 (OPERATING)	36.000		2.00	72.000	1.35	0.971	2.00	E	EL/ER	46.375	0.971	2.26	B-D	EL/ER	10.908	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.96	53.460	1.40	0.971	4.54	E	EL/ER	46.375	0.971	5.62	B-D	EL/ER	10.908	0.80	0.971	3.96	E	EL/ER	46.375	
		SNGRBS2	20.000		2.88	57.600	1.40	0.971	3.30	E	EL/ER	46.375	0.971	3.88	B-D	EL/ER	10.908	0.80	0.971	2.88	E	EL/ER	46.375	
		SNAGRIS2	22.000		2.70	59.400	1.40	0.971	3.10	E	EL/ER	46.375	0.971	3.56	B-D	EL/ER	10.908	0.80	0.971	2.70	E	EL/ER	46.375	
		SNCOTTS3	27.250		1.97	53.683	1.40	0.971	2.26	E	EL/ER	46.375	0.971	2.73	B-D	EL/ER	10.908	0.80	0.971	1.97	E	EL/ER	46.375	
		SNAGGRS4	34.925		1.62	56.579	1.40	0.971	1.86	E	EL/ER	46.375	0.971	2.19	B-D	EL/ER	10.908	0.80	0.971	1.62	E	EL/ER	46.375	
		SNS5A	35.550		1.58	56.169	1.40	0.971	1.82	E	EL/ER	46.375	0.971	2.18	B-D	EL/ER	10.908	0.80	0.971	1.58	E	EL/ER	46.375	
		SNS6A	39.950		1.44	57.528	1.40	0.971	1.65	E	EL/ER	46.375	0.971	1.95	B-D	EL/ER	10.908	0.80	0.971	1.44	E	EL/ER	46.375	
		SNS7B	42.000		1.37	57.540	1.40	0.971	1.57	E	EL/ER	46.375	0.971	1.89	B-D	EL/ER	10.908	0.80	0.971	1.37	E	EL/ER	46.375	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.76	58.080	1.40	0.971	2.01	E	EL/ER	46.375	0.971	2.38	B-D	EL/ER	10.908	0.80	0.971	1.76	E	EL/ER	46.375	
		TNT4A	33.075		1.76	58.212	1.40	0.971	2.02	E	EL/ER	46.375	0.971	2.34	B-D	EL/ER	10.908	0.80	0.971	1.76	E	EL/ER	46.375	
		TNT6A	41.600		1.43	59.488	1.40	0.971	1.64	E	EL/ER	46.375	0.971	1.98	B-D	EL/ER	10.908	0.80	0.971	1.43	E	EL/ER	46.375	
		TNT7A	42.000		1.43	60.060	1.40	0.971	1.64	E	EL/ER	46.375	0.971	1.95	B-D	EL/ER	10.908	0.80	0.971	1.43	E	EL/ER	46.375	
		TNT7B	42.000		1.47	61.740	1.40	0.971	1.68	E	EL/ER	46.375	0.971	1.86	B-D	EL/ER	10.908	0.80	0.971	1.47	E	EL/ER	46.375	
		TNAGRIT4	43.000		1.41	60.630	1.40	0.971	1.61	E	EL/ER	46.375	0.971	1.82	B-D	EL/ER	10.908	0.80	0.971	1.41	E	EL/ER	46.375	
TNAGT5A	45.000		1.33	59.850	1.40	0.971	1.53	E	EL/ER	46.375	0.971	1.77	B-D	EL/ER	10.908	0.80	0.971	1.33	E	EL/ER	46.375			
TNAGT5B	45.000		③	1.32	59.400	1.40	0.971	1.51	E	EL/ER	46.375	0.971	1.72	B-D	EL/ER	10.908	0.80	0.971	1.32	E	EL/ER	46.375		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ <sub>DC</sub>	γ <sub>DW</sub>
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

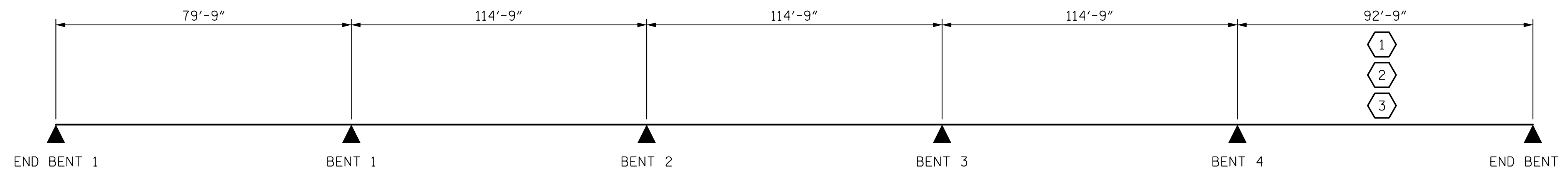
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

- 1.
- 2.
- 3.
- 4.

# 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



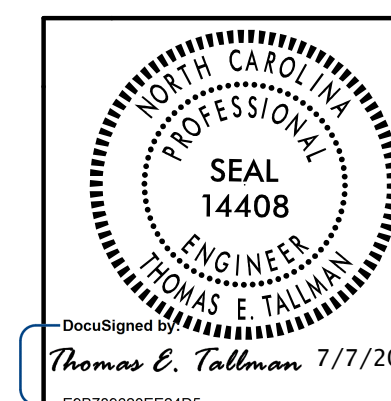
PROJECT NO. W-5516  
ROWAN COUNTY  
 STATION: 61+79.40 -L-

## LRFR SUMMARY

(DIMENSIONS SHOWN ARE C BEARING TO C BEARING)

ASSEMBLED BY : D. H. CARTER DATE MAY 2015  
 CHECKED BY : M. T. NEITHEISEL DATE MAY 2015  
 DRAWN BY : MAA 1/08  
 CHECKED BY : GM/DI 2/08

REV. 11/2/08RR MAA/GM  
 REV. 10/1/11 MAA/GM



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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS 41
2			4			