

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			
						LIVE-LOAD FACTORS (γ _{L1})	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ _{L1})	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	1.07	--	1.75	0.84	1.31	B	EL	44.07	1.02	1.45	B	I	79.94	0.80	0.80	1.07	B	I	44.07		
	HL-93 (OPERATING)	N/A		1.70	--	1.35	0.84	1.70	B	EL	44.07	1.02	1.91	B	I	79.94	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36,000	2	1.46	52.56	1.75	0.84	1.79	B	EL	44.07	1.02	1.97	B	I	79.94	0.80	0.82	1.46	B	I	44.07		
	HS-20 (OPERATING)	36,000		2.32	83.52	1.35	0.84	2.32	B	EL	44.07	1.02	2.58	B	I	79.94	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13,500		3.41	46.04	1.40	0.82	5.14	A	I	38.47	1.02	6.16	B	I	79.94	0.80	0.79	3.41	B	I	44.07	
		SNGARBS2	20,000		2.49	49.80	1.40	0.82	3.79	A	I	38.47	1.02	4.31	B	I	79.94	0.80	0.79	2.49	B	I	44.07	
		SNAGRIS2	22,000		2.34	51.48	1.40	0.82	3.56	A	I	38.47	1.02	3.98	B	I	79.94	0.80	0.79	2.34	B	I	44.07	
		SNCOTTS3	27,250		1.70	46.32	1.40	0.82	2.54	A	I	38.47	1.02	2.98	B	I	79.94	0.80	0.79	1.70	B	I	44.07	
		SNAGGRS4	34,925		1.40	48.90	1.40	0.82	2.11	A	I	38.47	1.02	2.36	B	I	79.94	0.80	0.79	1.40	B	I	44.07	
		SNS5A	35,550		1.37	48.70	1.40	0.82	2.07	A	I	38.47	1.02	2.38	B	I	79.94	0.80	0.79	1.37	B	I	44.07	
		SNS6A	39,950		1.25	49.94	1.40	0.82	1.89	A	I	38.47	1.02	2.15	B	I	79.94	0.80	0.79	1.25	B	I	44.07	
		SNS7B	42,000		1.19	49.98	1.40	0.82	1.80	A	I	38.47	1.02	2.09	B	I	79.94	0.80	0.79	1.19	B	I	44.07	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33,000		1.52	50.16	1.40	0.82	2.31	A	I	38.47	1.02	2.78	A	I	79.94	0.80	0.79	1.52	B	I	44.07	
		TNT4A	33,075		1.52	50.27	1.40	0.82	2.32	A	I	38.47	1.02	2.68	B	I	79.94	0.80	0.79	1.52	B	I	44.07	
		TNT6A	41,600		1.24	51.58	1.40	0.82	1.89	A	I	38.47	1.02	2.21	B	I	79.94	0.80	0.79	1.24	B	I	44.07	
		TNT7A	42,000		1.24	52.08	1.40	0.82	1.90	A	I	38.47	1.02	2.17	B	I	79.94	0.80	0.79	1.24	B	I	44.07	
		TNT7B	42,000		1.27	53.34	1.40	0.82	1.95	A	I	38.47	1.02	2.05	B	I	79.94	0.80	0.79	1.27	B	I	44.07	
		TNAGRIT4	43,000		1.22	52.46	1.40	0.82	1.86	A	I	38.47	1.02	2.11	B	I	79.94	0.80	0.79	1.22	B	I	44.07	
EMERGENCY VEHICLE (EV)	EV2	28,750		1.75	50.31	1.30	0.82	2.88	A	I	38.47	1.02	3.18	B	I	79.94	0.80	0.79	1.75	B	I	44.07		
	EV3	43,000	4	1.15	49.45	1.30	0.82	1.89	A	I	38.47	1.02	2.18	B	I	79.94	0.80	0.79	1.15	B	I	44.07		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ _{DC}	γ _{DW}
	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.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

2 DESIGN LOAD RATING (HS-20)

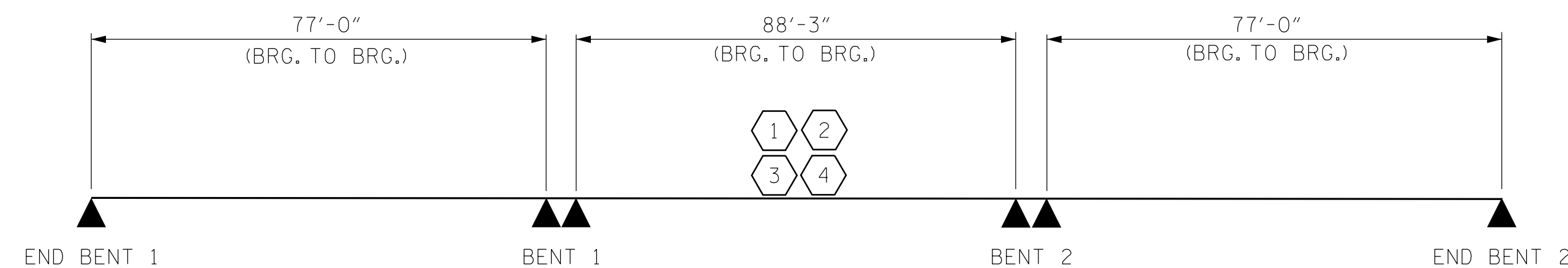
3 LEGAL LOAD RATING **

4 EMERGENCY VEHICLE LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

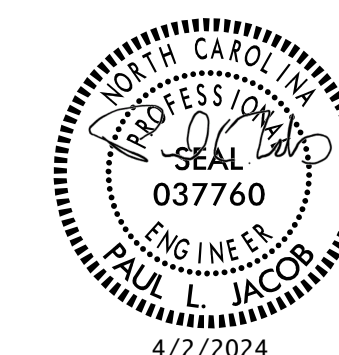
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. BR-0069
CASWELL COUNTY
 STATION: 20+18.00 -L-



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

ASSEMBLED BY : J. WEIGER	DATE : 5-2023
CHECKED BY : J. LOFTUS	DATE : 7-2023
DRAWN BY : MAA 1/08	REV. 11/12/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/1/11 MAA/GM
	REV. 04/23 BNB/AAI

moffatt & nichol
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 NC License NO.: F-0105

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			TOTAL SHEETS
2			4			38

STD. NO. LRFR1

3/20/2024 02:16:10 PM I:\1001-109\BR-0069\Structures\01-CADD\02-FinalDrawings\01_009_BR0069_SML_LRFR01_005_160001.dgn jloftus