

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 (LL)	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 (LL)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.36	--	1.75	0.819	2.02	A	EL	31.5	0.925	1.36	A	I	4.7	0.80	0.819	1.96	A	EL	26.1		
	HL-93 (OPERATING)	N/A		1.78	--	1.35	0.819	2.62	A	EL	31.5	0.925	1.78	A	I	4.7	N/A	0.819	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.65	59.400	1.75	0.819	2.53	A	EL	31.5	0.925	1.65	A	I	4.7	0.80	0.819	2.46	A	EL	26.1		
	HS-20 (OPERATING)	36.000		2.16	77.760	1.35	0.819	3.28	A	EL	31.5	0.925	2.16	A	I	4.7	N/A	0.819	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		4.21	56.835	1.40	0.819	7.37	A	EL	26.1	0.925	5.24	A	I	4.7	0.80	0.819	4.21	A	EL	26.1	
		SNGARBS2	20.000		3.23	64.600	1.40	0.819	5.53	A	EL	31.5	0.925	3.77	A	I	4.7	0.80	0.819	3.23	A	EL	26.1	
		SNAGRIS2	22.000		3.06	67.320	1.40	0.819	5.24	A	EL	31.5	0.925	3.52	A	I	4.7	0.80	0.819	3.06	A	EL	26.1	
		SNCOTTS3	27.250		2.06	56.135	1.40	0.819	3.61	A	EL	26.1	0.925	2.58	A	I	4.7	0.80	0.819	2.06	A	EL	26.1	
		SNAGGRS4	34.925		1.77	61.817	1.40	0.819	3.09	A	EL	26.1	0.925	2.18	A	I	4.7	0.80	0.819	1.77	A	EL	26.1	
		SNS5A	35.550		1.73	61.502	1.40	0.819	3.03	A	EL	26.1	0.925	2.23	A	I	4.7	0.80	0.819	1.73	A	EL	26.1	
		SNS6A	39.950		1.60	63.920	1.40	0.819	2.80	A	EL	26.1	0.925	2.05	A	I	4.7	0.80	0.819	1.60	A	EL	26.1	
	SNS7B	42.000		1.53	64.260	1.40	0.819	2.67	A	EL	26.1	0.925	2.04	A	I	4.7	0.80	0.819	1.53	A	EL	26.1		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.98	65.340	1.40	0.819	3.46	A	EL	26.1	0.925	2.44	A	I	4.7	0.80	0.819	1.98	A	EL	26.1	
		TNT4A	33.075		1.99	65.819	1.40	0.819	3.46	A	EL	31.5	0.925	2.35	A	I	4.7	0.80	0.819	1.99	A	EL	26.1	
		TNT6A	41.600		1.63	67.808	1.40	0.819	2.85	A	EL	26.1	0.925	2.23	A	I	4.7	0.80	0.819	1.63	A	EL	26.1	
		TNT7A	42.000		1.65	69.300	1.40	0.819	2.88	A	EL	26.1	0.925	2.10	A	I	4.7	0.80	0.819	1.65	A	EL	26.1	
		TNT7B	42.000		1.72	72.240	1.40	0.819	2.95	A	EL	31.5	0.925	1.97	A	I	4.7	0.80	0.819	1.72	A	EL	26.1	
		TNAGRIT4	43.000		1.63	70.090	1.40	0.819	2.82	A	EL	31.5	0.925	1.90	A	I	4.7	0.80	0.819	1.63	A	EL	26.1	
TNAGT5A		45.000		1.53	68.850	1.40	0.819	2.68	A	EL	26.1	0.925	1.92	A	I	4.7	0.80	0.819	1.53	A	EL	26.1		
TNAGT5B	45.000	③	1.50	67.500	1.40	0.819	2.63	A	EL	26.1	0.925	1.80	A	I	4.7	0.80	0.819	1.50	A	EL	26.1			

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.

COMMENTS:

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

⊠ CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

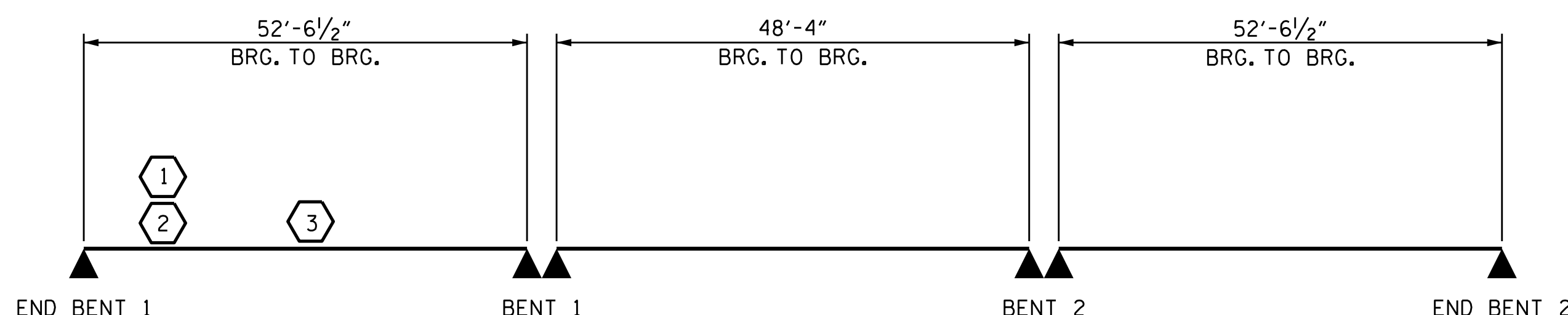
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

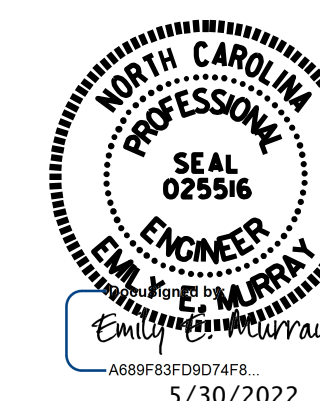
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. B-4593
PAMLICO COUNTY
 STATION: 17+02.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**LRFR SUMMARY FOR
 PRESTRESSED
 CONCRETE GIRDERS
 (NON-INTERSTATE TRAFFIC)**

ASSEMBLED BY: D.R. SMITH DATE: 11/18
 CHECKED BY: J.B. MCROY DATE: 11/18
 DESIGN ENGINEER OF RECORD: D.R. SMITH DATE: 11/18

20-MAY-2022 09:48
 *****SDGN*****
 patrick.holder AT C-1000409



5430 Wade Park Blvd., Suite 410
 Raleigh, NC 27607
 Tel. 919-854-0344 Fax. 919-854-0355
 NC License No. F-0765

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-4
2			4			TOTAL SHEETS 42