

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 _{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 (γ _{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	1.20	--	1.75	0.816	1.40	C	EL	31.700	0.931	1.40	C	I	4.100	0.80	0.775	1.20	C	I	31.700		
	HL-93 (OPERATING)	N/A		1.82	--	1.35	0.816	1.82	C	EL	31.700	0.931	1.83	C	I	4.100	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.54	55.44	1.75	0.816	1.80	C	EL	31.700	0.931	1.76	C	I	4.100	0.80	0.775	1.54	C	I	31.700		
	HS-20 (OPERATING)	36.000		2.31	83.16	1.35	0.816	2.34	C	EL	31.700	0.931	2.31	C	I	4.100	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.40	45.90	1.40	0.816	4.97	C	EL	31.700	0.931	5.51	C	I	4.100	0.80	0.775	3.40	C	I	31.700	
		SNGARBS2	20.000		2.57	51.40	1.40	0.816	3.75	C	EL	31.700	0.931	3.93	C	I	4.100	0.80	0.775	2.57	C	I	31.700	
		SNAGRIS2	22.000		2.45	53.90	1.40	0.816	3.58	C	EL	31.700	0.931	3.66	C	I	4.100	0.80	0.775	2.45	C	I	31.700	
		SNCOTTS3	27.250		1.69	46.05	1.40	0.816	2.47	C	EL	31.700	0.931	2.60	C	I	4.100	0.80	0.775	1.69	C	I	31.700	
		SNAGGRS4	34.925		1.43	49.94	1.40	0.816	2.09	C	EL	31.700	0.931	2.17	C	I	4.100	0.80	0.775	1.43	C	I	31.700	
		SNS5A	35.550		1.40	49.77	1.40	0.816	2.04	C	EL	31.700	0.931	2.15	C	I	4.100	0.80	0.775	1.40	C	I	31.700	
		SNS6A	39.950		1.29	51.54	1.40	0.816	1.88	C	EL	31.700	0.931	1.97	C	I	4.100	0.80	0.775	1.29	C	I	31.700	
		SNS7B	42.000		1.23	51.66	1.40	0.816	1.79	C	EL	31.700	0.931	1.94	C	I	4.100	0.80	0.775	1.23	C	I	31.700	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.57	51.81	1.40	0.816	2.29	C	EL	31.700	0.931	2.37	C	I	4.100	0.80	0.775	1.57	C	I	31.700	
		TNT4A	33.075		1.58	52.26	1.40	0.816	2.31	C	EL	31.700	0.931	2.33	C	I	4.100	0.80	0.775	1.58	C	I	31.700	
		TNT6A	41.600		1.30	54.08	1.40	0.816	1.89	C	EL	31.700	0.931	2.14	C	I	4.100	0.80	0.775	1.30	C	I	31.700	
		TNT7A	42.000		1.31	55.02	1.40	0.816	1.91	C	EL	31.700	0.931	2.04	C	I	4.100	0.80	0.775	1.31	C	I	31.700	
		TNT7B	42.000		1.36	57.12	1.40	0.816	1.98	C	EL	31.700	0.931	1.89	C	I	4.100	0.80	0.775	1.36	C	I	31.700	
		TNAGRIT4	43.000		1.29	55.47	1.40	0.816	1.88	C	EL	31.700	0.931	1.87	C	I	4.100	0.80	0.775	1.29	C	I	31.700	
TNAGT5A	45.000		1.21	54.45	1.40	0.816	1.77	C	EL	31.700	0.931	1.91	C	I	4.100	0.80	0.775	1.21	C	I	31.700			
TNAGT5B	45.000		③	1.19	53.55	1.40	0.816	1.74	C	EL	31.700	0.931	1.77	C	I	4.100	0.80	0.775	1.19	C	I	31.700		
EMERGENCY VEHICLE	EV2	28.750		④	1.82	52.33	1.30	0.816	2.86	C	EL	31.700	0.931	2.91	C	I	4.100	0.80	0.775	1.82	C	I	31.700	
	EV3	43.000		④	1.19	51.17	1.30	0.816	1.87	C	EL	31.700	0.931	1.83	C	I	4.100	0.80	0.775	1.19	C	I	31.700	

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)

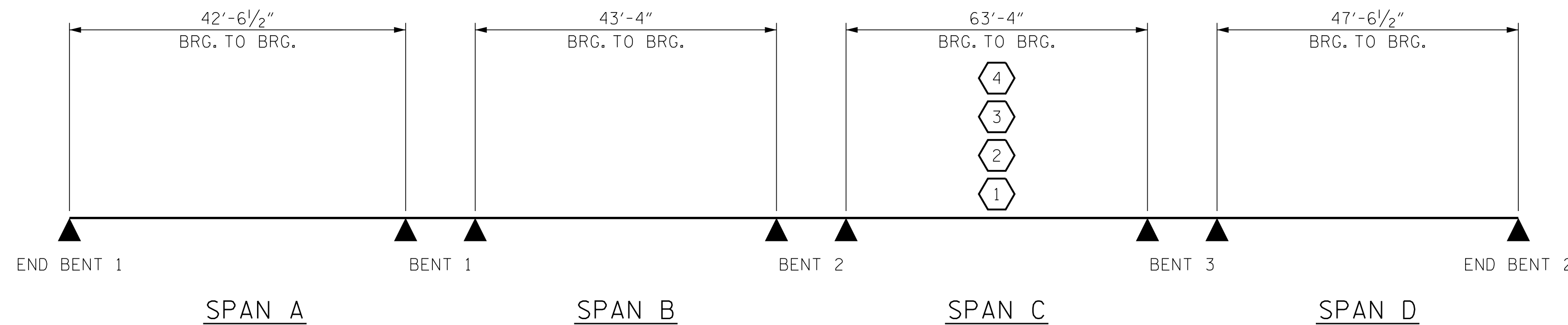
③ LEGAL LOAD RATING **

④ EMERGENCY VEHICLE LOAD RATING

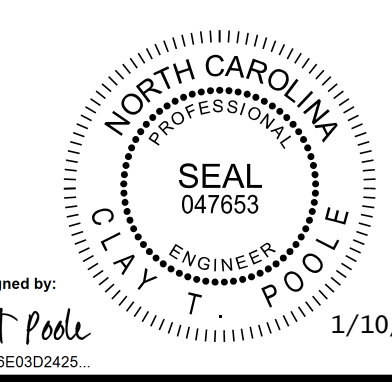
** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



PROJECT NO. B-5156
PENDER COUNTY
 STATION: 22+90.50 -L-



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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-5
1			3			TOTAL SHEETS
2			4			45

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