

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 _{LL})	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ _{LL})	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPANS	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	SPANS		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.05	--	1.75	0.639	1.35	A	EL	43.80	0.901	1.13	B	EL	9.50	0.80	0.698	1.05	B	EL	50.50	--	
	HL-93 (OPERATING)	N/A		1.50	--	1.35	0.639	1.75	A	EL	43.80	0.901	1.50	B	EL	9.50	N/A	--	--	--	--	--	--	--
	HS-20 (INVENTORY)	36.000	②	1.47	53.00	1.75	0.639	1.83	A	EL	43.80	0.901	1.55	B	EL	9.50	0.80	0.698	1.47	B	EL	50.50	--	
	HS-20 (OPERATING)	36.000		2.05	74.00	1.35	0.639	2.38	A	EL	43.80	0.901	2.05	B	EL	9.50	N/A	--	--	--	--	--	--	--
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH	12.500		3.80	47.50	1.40	0.639	5.80	A	EL	43.80	0.901	5.43	B	EL	9.50	0.80	0.698	3.80	B	EL	50.50	--
		S3C	21.500		2.22	47.73	1.40	0.639	3.39	A	EL	43.80	0.901	3.14	B	EL	9.50	0.80	0.698	2.22	B	EL	50.50	--
		S3A	22.750		2.10	47.78	1.40	0.639	3.22	A	EL	43.80	0.901	2.97	B	EL	9.50	0.80	0.698	2.10	B	EL	50.50	--
		S4A	26.750		1.84	49.22	1.40	0.639	2.83	A	EL	43.80	0.901	2.57	B	EL	9.50	0.80	0.698	1.84	B	EL	50.50	--
		S5A	30.500		1.62	49.41	1.40	0.639	2.50	A	EL	43.80	0.901	2.32	B	EL	9.50	0.80	0.698	1.62	B	EL	50.50	--
		S6A	34.500		1.47	50.72	1.40	0.639	2.26	A	EL	43.80	0.901	2.08	B	EL	9.50	0.80	0.698	1.47	B	EL	50.50	--
		S7B	38.500		1.33	51.21	1.40	0.639	2.06	A	EL	43.80	0.901	1.92	B	EL	9.50	0.80	0.698	1.33	B	EL	50.50	--
		S7A	40.000	③	1.31	52.40	1.40	0.639	2.04	A	EL	43.80	0.901	1.94	B	EL	9.50	0.80	0.698	1.31	B	EL	50.50	--
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A	28.250		1.80	50.85	1.40	0.639	2.79	A	EL	43.80	0.901	2.48	B	EL	9.50	0.80	0.698	1.80	B	EL	50.50	--
		T5B	32.000		1.59	50.88	1.40	0.639	2.45	A	EL	43.80	0.901	2.31	B	EL	9.50	0.80	0.698	1.59	B	EL	50.50	--
		T6A	36.000		1.45	52.20	1.40	0.639	2.24	A	EL	43.80	0.901	2.10	B	EL	9.50	0.80	0.698	1.45	B	EL	50.50	--
		T7A	40.000		1.33	53.20	1.40	0.639	2.08	A	EL	43.80	0.901	1.94	B	EL	9.50	0.80	0.698	1.33	B	EL	50.50	--
		T7B	40.000		1.41	56.40	1.40	0.639	2.22	A	EL	43.80	0.901	1.84	B	EL	9.50	0.80	0.698	1.41	B	EL	50.50	--

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

- LEFT EXTERIOR GIRDER IS THE CONTROLLING EXTERIOR GIRDER.

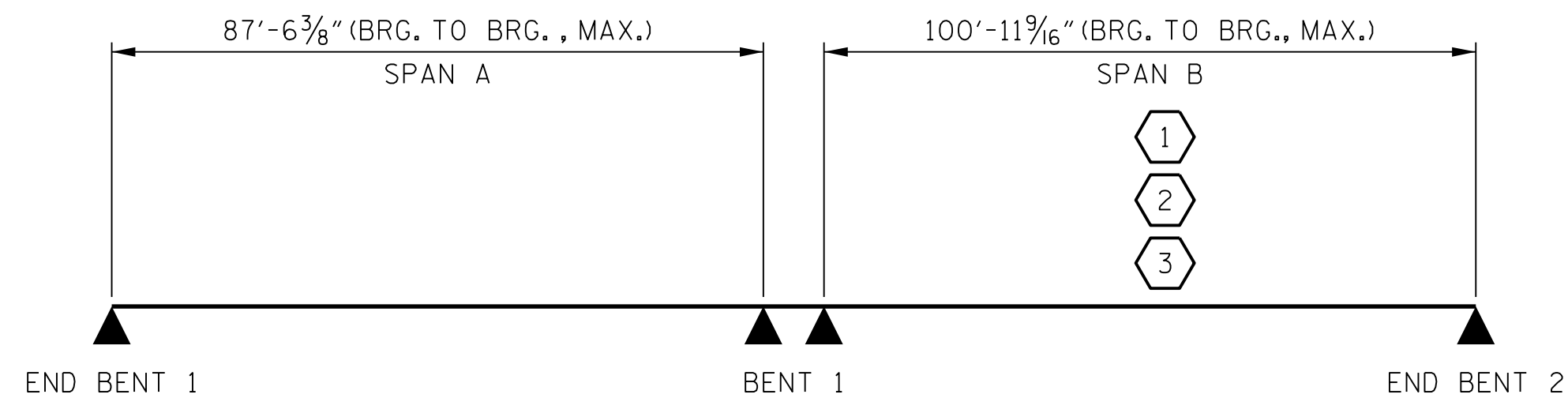
③ CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

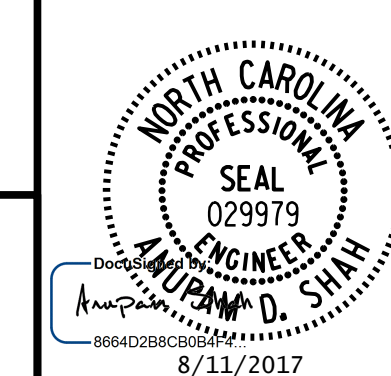


LRFR SUMMARY

PROJECT NO. I-4729A
 POLK COUNTY
 STATION: 21+44.22 -RP_F-

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

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



ASSEMBLED BY : K. E. LOFTON DATE : 5-17
 CHECKED BY : A. D. SHAH DATE : 7-17
 DRAWN BY : MAA 1/08 REV. 11/12/08RR MAA/GM
 CHECKED BY : GM/DI 2/08 REV. 10/1/11 MAA/GM

DRAWN BY : K. E. LOFTON DATE : 7-17
 CHECKED BY : A. D. SHAH DATE : 7-17
 DESIGN ENGINEER : S. PHAN DATE : 7-17

PLANS PREPARED BY :
PARSONS
 5540 CenterView Drive, Suite 217
 Raleigh, NC 27606-3386
 NC LICENSE No. F-0246
 FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REVISIONS						SHEET No.
No.	BY:	DATE:	No.	BY:	DATE:	TOTAL SHEETS
1			3			31
2			4			