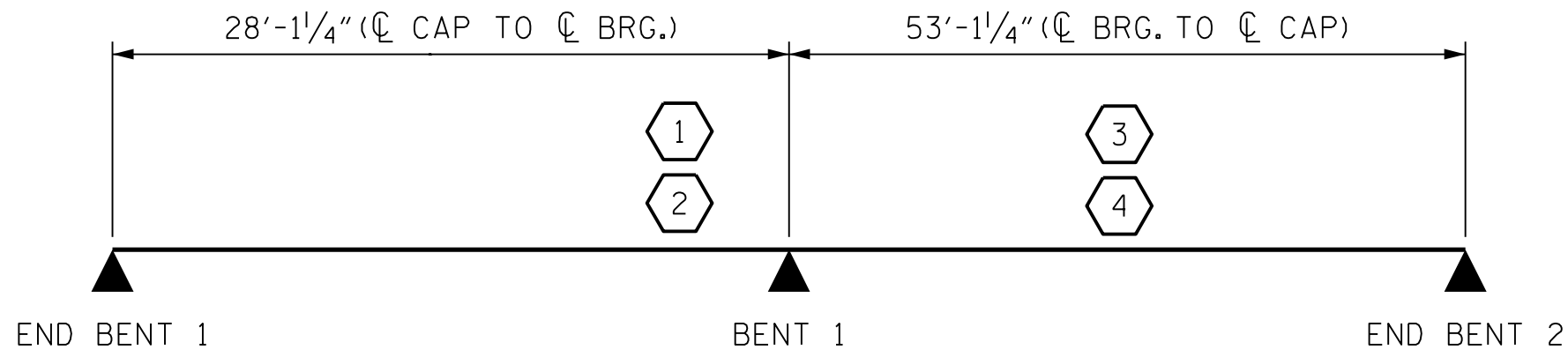


5/7/2025
7:21:40 PM
User: blanning
Filename: N:\NC Bridges\W3001.02_Polk 29\BP14-R041\Structures\401.009_BP14-R041_SMLLRFR-740029.dgn

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LEVEL	VEHICLE	WEIGHT (W) (TONS)	<div>⬡</div>	MINIMUM RATING FACTORS (RF)	TONS = W × 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	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	HL-93 (INVENTORY)	N/A	<div>⬡1</div>	1.66	--	1.75	0.966	1.87	A	I	8.4	1.055	1.66	A	I	25.3	0.80	0.816	2.00	B	I	26.6		
	HL-93 (OPERATING)	N/A		2.19	--	1.35	0.966	2.42	A	I	8.4	1.055	2.19	A	I	25.3	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	<div>⬡2</div>	2.27	81.72	1.75	0.966	2.39	A	I	8.4	1.055	2.27	A	I	25.3	0.80	0.816	2.48	B	I	31.9		
	HS-20 (OPERATING)	36.000		2.94	105.84	1.35	0.966	3.10	A	I	8.4	1.055	2.94	A	I	25.3	N/A	--	--	--	--	--		
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		5.11	68.99	1.40	0.966	5.33	A	I	8.4	1.055	5.44	A	I	19.7	0.80	0.816	5.11	B	I	26.6	
		SNGARBS2	20.000		3.97	79.40	1.40	0.966	4.39	A	I	8.4	1.055	4.36	A	I	19.7	0.80	0.816	3.97	B	I	31.9	
		SNAGRIS2	22.000		3.83	84.26	1.40	0.966	4.35	A	I	8.4	1.055	4.23	A	I	25.3	0.80	0.816	3.83	B	I	31.9	
		SNCOTTS3	27.250		2.55	69.49	1.40	0.966	2.61	A	I	8.4	1.055	2.71	A	I	19.7	0.80	0.816	2.55	B	I	31.9	
		SNAGGRS4	34.925		2.21	77.18	1.40	0.966	2.49	A	I	8.4	1.055	2.60	A	I	25.3	0.80	0.816	2.21	B	I	31.9	
		SNS5A	35.550		2.18	77.50	1.40	0.966	2.44	A	I	8.4	1.055	2.66	A	I	25.3	0.80	0.816	2.18	B	I	26.6	
		SNS6A	39.950		2.02	80.70	1.40	0.966	2.35	A	I	8.4	1.055	2.50	A	I	25.3	0.80	0.816	2.02	B	I	26.6	
		SNS7B	42.000		1.94	81.48	1.40	0.966	2.27	A	I	8.4	1.055	2.52	A	I	25.3	0.80	0.816	1.94	B	I	26.6	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		2.52	83.16	1.40	0.966	3.27	A	I	11.2	1.055	2.94	A	I	25.3	0.80	0.816	2.52	B	I	26.6	
		TNT4A	33.075		2.48	82.03	1.40	0.966	2.88	A	I	8.4	1.055	2.95	A	I	19.7	0.80	0.816	2.48	B	I	26.6	
		TNT6A	41.600		2.08	86.53	1.40	0.966	2.54	A	I	8.4	1.055	2.34	A	I	25.3	0.80	0.816	2.08	B	I	26.6	
		TNT7A	42.000		2.10	88.20	1.40	0.966	2.61	A	I	8.4	1.055	2.54	A	I	25.3	0.80	0.816	2.10	B	I	26.6	
		TNT7B	42.000		2.14	89.88	1.40	0.966	2.55	A	I	8.4	1.055	2.48	A	I	25.3	0.80	0.816	2.14	B	I	31.9	
		TNAGRIT4	43.000		2.07	89.01	1.40	0.966	2.52	A	I	8.4	1.065	2.53	B	I	15.9	0.80	0.816	2.07	B	I	31.9	
TNAGT5A		45.000		1.96	88.20	1.40	0.897	2.60	B	E	31.9	1.055	2.25	A	I	25.3	0.80	0.816	1.96	B	I	31.9		
TNAGT5B	45.000	<div>⬡3</div>	1.91	85.95	1.40	0.966	2.33	A	I	8.4	1.055	2.22	A	I	25.3	0.80	0.816	1.91	B	I	26.6			
EMERGENCY VEHICLE (EV)	TNAGT5A	28.750		2.82	81.08	1.30	0.966	3.29	A	I	8.4	1.055	3.25	A	I	25.3	0.80	0.816	2.82	B	I	31.9		
	TNAGT5B	43.000	<div>⬡4</div>	1.85	79.55	1.30	0.966	2.26	A	I	8.4	1.055	2.19	A	I	25.3	0.80	0.816	1.85	B	I	26.6		



LRFR SUMMARY

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 AND RIGHT EXTERIOR GIRDER ARE IDENTICAL.
-
-
-

⬡# CONTROLLING LOAD RATING

⬡1 DESIGN LOAD RATING (HL-93)

⬡2 DESIGN LOAD RATING (HS-20)

⬡3 LEGAL LOAD RATING **

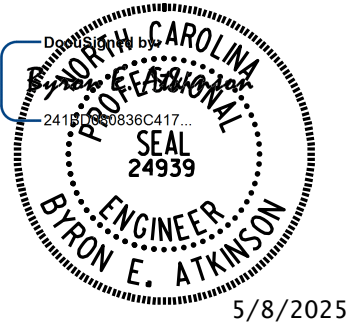
⬡4 EMERGENCY VEHICLE LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
E - EXTERIOR GIRDER

PROJECT NO. BP14.R041
POLK COUNTY
STATION: 20+97.50 -L-



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

MI ENGINEERING
1011 SCHAUß DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 29
2			4			

DRAWN BY : J.I. BREWER	DATE : 03/25
CHECKED BY : B.E. ATKINSON	DATE : 03/25
DESIGN ENGINEER OF RECORD : B.E. ATKINSON	DATE : 04/25