

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LOAD TYPE		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>	1.109	--	1.75	0.272	1.47	B	EL	44.250	0.493	1.26	B	EL	4.425	0.80	0.272	1.11	B	EL	44.250	
		HL-93 (OPERATING)	N/A		1.633	--	1.35	0.272	1.90	B	EL	44.250	0.493	1.63	B	EL	4.425	N/A	--	--	--	--	--	
		HS-20 (INVENTORY)	36.000	<div>⬡2</div>	1.507	54.255	1.75	0.272	1.99	B	EL	44.250	0.493	1.65	B	EL	4.425	0.80	0.272	1.51	B	EL	44.250	
		HS-20 (OPERATING)	36.000		2.140	77.039	1.35	0.272	2.59	B	EL	44.250	0.493	2.14	B	EL	4.425	N/A	--	--	--	--	--	
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		3.519	47.501	1.40	0.272	5.82	B	EL	44.250	0.493	5.05	B	EL	4.425	0.80	0.272	3.52	B	EL	44.250	
		SNGARBS2	20.000		2.572	51.43	1.40	0.272	4.25	B	EL	44.250	0.493	3.55	B	EL	4.425	0.80	0.272	2.57	B	EL	44.250	
		SNAGRIS2	22.000		2.415	53.122	1.40	0.272	4.00	B	EL	44.250	0.493	3.27	B	EL	4.425	0.80	0.272	2.41	B	EL	44.250	
		SNCOTTS3	27.250		1.749	47.674	1.40	0.272	2.89	B	EL	44.250	0.493	2.52	B	EL	4.425	0.80	0.272	1.75	B	EL	44.250	
		SNAGGRS4	34.925		1.443	50.381	1.40	0.272	2.39	B	EL	44.250	0.493	2.06	B	EL	4.425	0.80	0.272	1.44	B	EL	44.250	
		SNS5A	35.550		1.412	50.195	1.40	0.272	2.34	B	EL	44.250	0.493	2.07	B	EL	4.425	0.80	0.272	1.41	B	EL	44.250	
		SNS6A	39.950		1.287	51.435	1.40	0.272	2.13	B	EL	44.250	0.493	1.88	B	EL	4.425	0.80	0.272	1.29	B	EL	44.250	
		SNS7B	42.000		1.226	51.483	1.40	0.272	2.03	B	EL	44.250	0.493	1.83	B	EL	4.425	0.80	0.272	1.23	B	EL	44.250	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.568	51.733	1.40	0.272	2.59	B	EL	44.250	0.493	2.24	B	EL	4.425	0.80	0.272	1.57	B	EL	44.250	
		TNT4A	33.075		1.572	52.007	1.40	0.272	2.60	B	EL	44.250	0.493	2.20	B	EL	4.425	0.80	0.272	1.57	B	EL	44.250	
		TNT6A	41.600		1.278	53.170	1.40	0.272	2.11	B	EL	44.250	0.493	1.92	B	EL	4.425	0.80	0.272	1.28	B	EL	44.250	
		TNT7A	42.000		1.281	53.782	1.40	0.272	2.12	B	EL	44.250	0.493	1.89	B	EL	4.425	0.80	0.272	1.28	B	EL	44.250	
		TNT7B	42.000		1.315	55.229	1.40	0.272	2.18	B	EL	44.250	0.493	1.79	B	EL	4.425	0.80	0.272	1.31	B	EL	44.250	
		TNAGRIT4	43.000		1.258	54.101	1.40	0.272	2.08	B	EL	44.250	0.493	1.74	B	EL	4.425	0.80	0.272	1.26	B	EL	44.250	
		TNAGRT5A	45.000		1.190	53.537	1.40	0.272	1.97	B	EL	44.250	0.493	1.71	B	EL	4.425	0.80	0.272	1.19	B	EL	44.250	
		TNAGRT5B	45.000	<div>⬡3</div>	1.178	53.027	1.40	0.272	1.95	B	EL	44.250	0.493	1.66	B	EL	4.425	0.80	0.272	1.18	B	EL	44.250	
EMERGENCY VEHICLE (EV)		EV2	28.750		2.296	66.005	1.30	0.272	3.25	B	EL	44.250	0.493	2.49	B	EL	4.425	0.80	0.272	2.30	B	EL	44.250	
		EV3	43.000	<div>⬡4</div>	1.510	64.924	1.30	0.272	2.14	B	EL	44.250	0.493	1.67	B	EL	4.425	0.80	0.272	1.51	B	EL	44.250	

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:

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 **

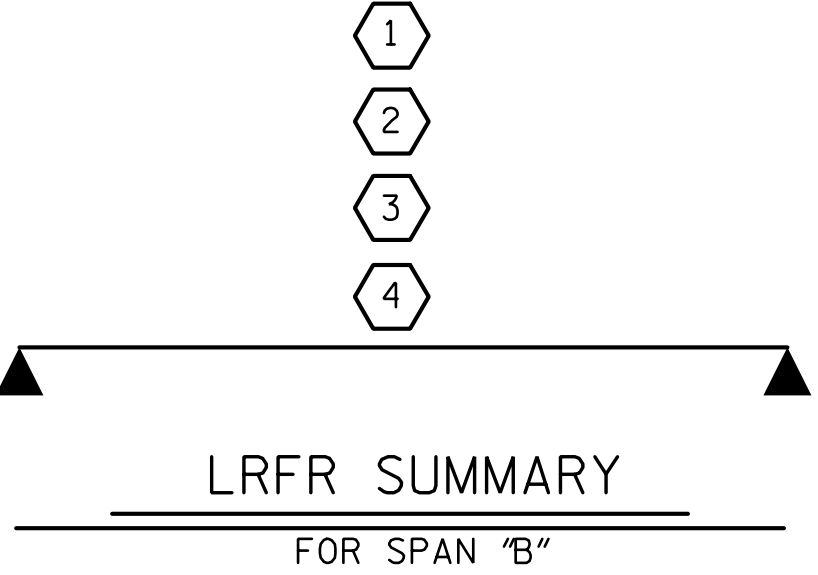
** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER

EL - EXTERIOR LEFT GIRDER

ER - EXTERIOR RIGHT GIRDER



PROJECT NO. DF18314.2075090
POLK COUNTY
STATION: 12+15.00 -L-

SHEET 2 OF 2

DRAWN BY : J. SCACCA DATE : 02/2025
CHECKED BY : M. KHIN DATE : 02/2025
DESIGN ENGINEER OF RECORD: T. R. LAWS DATE : 10/2025

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

Seal of the State of North Carolina
Professional Engineer
T. R. LAWS
10/7/2025

RS&H

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
90' BOX BEAM UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-6
2			4			TOTAL SHEETS 24

STD. NO. 33LRFR1_90S_90L

10/7/2025
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Acostam