

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																										
LOAD TYPE		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	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	Ⓐ	1.352	--	1.75	0.252	1.95	40'	EL	19.423	0.653	1.35	40'	EL	7.769	0.80	0.252	1.72	40'	EL	19.423			
		HL-93 (OPERATING)	N/A		1.753	--	1.35	0.252	2.52	40'	EL	19.423	0.653	1.75	40'	EL	7.769	N/A	--	--	--	--	--			
		HS-20 (INVENTORY)	36.000	Ⓑ	1.544	55.583	1.75	0.252	2.45	40'	EL	19.423	0.653	1.54	40'	EL	7.769	0.80	0.252	2.14	40'	EL	19.423			
		HS-20 (OPERATING)	36.000		2.001	72.053	1.35	0.252	3.17	40'	EL	19.423	0.653	2.00	40'	EL	7.769	N/A	--	--	--	--	--			
LEGAL LOAD		SINGLE VEHICLE (SV)		SNSH	13.500		3.929	53.037	1.4	0.252	5.64	40'	EL	19.423	0.653	3.93	40'	EL	7.769	0.80	0.252	3.99	40'	EL	19.423	
				SNGARBS2	20.000		2.985	59.708	1.4	0.252	4.63	40'	EL	15.538	0.653	2.99	40'	EL	7.769	0.80	0.252	3.28	40'	EL	19.423	
				SNAGRIS2	22.000		2.852	62.746	1.4	0.252	4.53	40'	EL	15.538	0.653	2.85	40'	EL	7.769	0.80	0.252	3.23	40'	EL	15.538	
				SNCOTTS3	27.250		1.980	53.947	1.4	0.252	2.82	40'	EL	19.423	0.653	1.98	40'	EL	7.769	0.80	0.252	1.99	40'	EL	19.423	
				SNAGGRS4	34.925		1.782	62.222	1.4	0.252	2.54	40'	EL	19.423	0.653	1.78	40'	EL	7.769	0.80	0.252	1.79	40'	EL	19.423	
				SNS5A	35.550		1.746	62.059	1.4	0.252	2.47	40'	EL	19.423	0.653	1.89	40'	EL	7.769	0.80	0.252	1.75	40'	EL	19.423	
				SNS6A	39.950		1.662	66.381	1.4	0.252	2.35	40'	EL	19.423	0.653	1.79	40'	EL	7.769	0.80	0.252	1.66	40'	EL	19.423	
				SNS7B	42.000		1.585	66.556	1.4	0.252	2.24	40'	EL	19.423	0.653	1.86	40'	EL	7.769	0.80	0.252	1.58	40'	EL	19.423	
		TRUCK TRACTOR SEMI-TRAILER (TTST)		TNAGRIT3	33.000		2.045	67.476	1.4	0.252	2.89	40'	EL	19.423	0.653	2.07	40'	EL	7.769	0.80	0.252	2.04	40'	EL	19.423	
				TNT4A	33.075		1.951	64.520	1.4	0.252	2.93	40'	EL	19.423	0.653	1.95	40'	EL	7.769	0.80	0.252	2.07	40'	EL	19.423	
				TNT6A	41.600		1.757	73.106	1.4	0.252	2.49	40'	EL	19.423	0.653	1.91	40'	EL	7.769	0.80	0.252	1.76	40'	EL	19.423	
				TNT7A	42.000		1.795	75.386	1.4	0.252	2.55	40'	EL	19.423	0.653	1.79	40'	EL	7.769	0.80	0.252	1.80	40'	EL	19.423	
				TNT7B	42.000		1.729	72.638	1.4	0.252	2.61	40'	EL	19.423	0.653	1.73	40'	EL	7.769	0.80	0.252	1.84	40'	EL	19.423	
				TNAGRIT4	43.000		1.661	71.441	1.4	0.252	2.53	40'	EL	15.538	0.653	1.66	40'	EL	7.769	0.80	0.252	1.79	40'	EL	19.423	
				TNAGT5A	45.000		1.659	74.644	1.4	0.252	2.35	40'	EL	19.423	0.653	1.77	40'	EL	7.769	0.80	0.252	1.66	40'	EL	19.423	
				TNAGT5B	45.000	Ⓒ	1.568	70.561	1.4	0.252	2.28	40'	EL	19.423	0.653	1.57	40'	EL	7.769	0.80	0.252	1.61	40'	EL	19.423	
EMERGENCY VEHICLE (EV)		EV2	28.750		2.266	65.134	1.3	0.252	3.56	40'	EL	15.538	0.653	2.27	40'	EL	7.769	0.80	0.252	2.38	40'	EL	15.538			
		EV3	43.000	Ⓓ	1.532	65.869	1.3	0.252	2.32	40'	EL	19.423	0.653	1.55	40'	EL	7.769	0.80	0.252	1.53	40'	EL	19.423			

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:

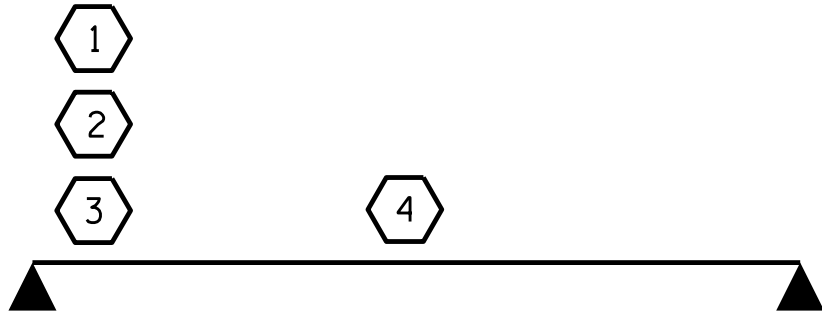
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

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	



LRFR SUMMARY
FOR SPAN C

PROJECT NO. HB-0030

MACON COUNTY

STATION: 16+10.49 -L-

SHEET 7 OF 7

DRAWN BY : G.DWIGHT LOFLIN DATE : 01-2025
CHECKED BY : LOGAN C. YARBROUGH DATE : 01-2025
DESIGN ENGINEER OF RECORD: LOGAN C. YARBROUGH DATE : 08-2025

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DRMP
8210 UNIVERSITY EXECUTIVE
PARK DRIVE SUITE 220,
CHARLOTTE, NC 28262
(704) 549-4260

NC LICENSE NO. F-1524



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SPAN C

LRFR SUMMARY FOR
40' CORED SLAB UNIT
60° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO. S-07
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 26
2			4			