

3/18/2022 11:06:13 AM G:\Projects\2020\Division 6 (Mott) Mac - NV5\I-5987B\Structures\Site 9 (L over Little Marsh Swamp)\Drawings\Final\I5987B_SMU_LRFR_770164.dgn

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

LEVEL	VEHICLE	WEIGHT (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE II LIMIT STATE					COMMENT NUMBER			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ _L)	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 _L)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.12	--	1.75	0.818	1.58	B	I	55.771	1.059	1.20	B	I	11.154	0.80	0.818	1.12	B	I	55.771		
	HL-93 (OPERATING)	N/A		1.59	--	1.35	0.818	2.05	B	I	55.771	1.059	1.59	B	I	11.154	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.60	57.6	1.75	0.818	2.26	B	I	55.771	1.059	1.69	B	I	11.154	0.80	0.818	1.60	B	I	55.771		
	HS-20 (OPERATING)	36.000		2.22	79.9	1.35	0.818	2.93	B	I	55.771	1.059	2.22	B	I	11.154	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH	12.500		4.18	52.3	1.40	0.818	7.38	B	I	55.771	1.059	5.92	B	I	11.154	0.80	0.818	4.18	B	I	55.771	
		S3C	21.500		2.44	52.5	1.40	0.818	4.31	B	I	55.771	1.059	3.42	B	I	11.154	0.80	0.818	2.44	B	I	55.771	
		S3A	22.750		2.31	52.6	1.40	0.818	4.08	B	I	55.771	1.059	3.24	B	I	11.154	0.80	0.818	2.31	B	I	55.771	
		S4A	26.750		2.02	54.0	1.40	0.818	3.56	B	I	55.771	1.059	2.79	B	I	11.154	0.80	0.818	2.02	B	I	55.771	
		S5A	30.500		1.78	54.3	1.40	0.818	3.14	B	I	55.771	1.059	2.52	B	I	11.154	0.80	0.818	1.78	B	I	55.771	
		S6A	34.500		1.60	55.2	1.40	0.818	2.83	B	I	55.771	1.059	2.25	B	I	11.154	0.80	0.818	1.60	B	I	55.771	
		S7B	38.500		1.45	55.8	1.40	0.818	2.57	B	I	55.771	1.059	2.07	B	I	11.154	0.80	0.818	1.45	B	I	55.771	
		S7A	40.000	③	1.43	57.2	1.40	0.818	2.52	B	I	55.771	1.059	2.07	B	I	11.154	0.80	0.818	1.43	B	I	55.771	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A	28.250		1.97	55.7	1.40	0.818	3.48	B	I	55.771	1.059	2.69	B	I	11.154	0.80	0.818	1.97	B	I	55.771	
		T5B	32.000		1.73	55.4	1.40	0.818	3.06	B	I	55.771	1.059	2.49	B	I	11.154	0.80	0.818	1.73	B	I	55.771	
		T6A	36.000		1.58	56.9	1.40	0.818	2.78	B	I	55.771	1.059	2.26	B	I	11.154	0.80	0.818	1.58	B	I	55.771	
		T7A	40.000		1.45	58.0	1.40	0.818	2.56	B	I	55.771	1.059	2.06	B	I	11.154	0.80	0.818	1.45	B	I	55.771	
	T7B	40.000		1.52	60.8	1.40	0.818	2.68	B	I	55.771	1.059	1.97	B	I	11.154	0.80	0.818	1.52	B	I	55.771		

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 STRESS FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.
 DISTANCE FROM LEFT END OF SPAN IS MEASURED FROM \bar{C} BEARING.

③ CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

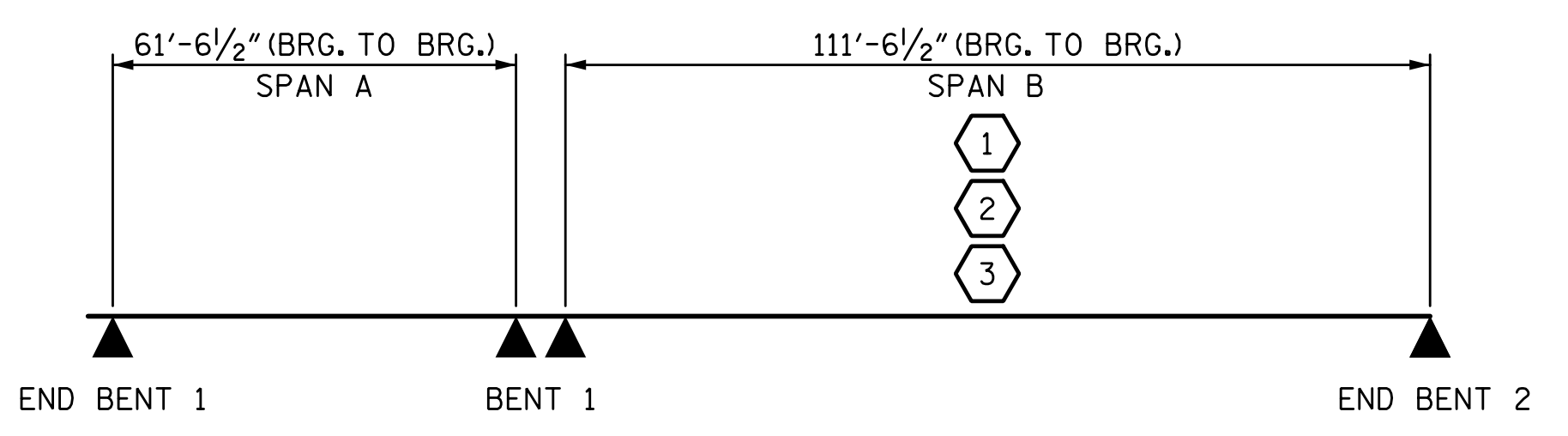
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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

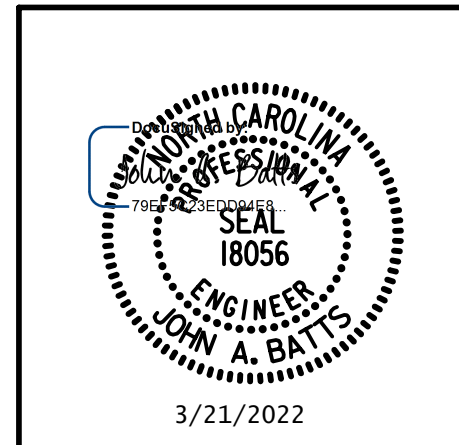


LRFR SUMMARY

PROJECT NO. I-5987B
ROBESON COUNTY
 STATION: 803+15.00 -L-

SHEET 5 OF 5

DRAWN BY: S.D. COOPER DATE: 3-22
 CHECKED BY: J.A. BATTS DATE: 3-22
 DESIGN ENGINEER OF RECORD: J.A. BATTS DATE: 3-22



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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S9-5
1			3			TOTAL SHEETS
2			4			69

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**