

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			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ _{LL})	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 _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.25	--	1.75	0.80	1.56	B	E	62.83	0.84	1.37	B	E	11.97	0.80	0.80	1.25	B	E	62.83		
	HL-93 (OPERATING)	N/A		1.82	--	1.35	0.80	2.02	B	E	62.83	0.84	1.82	B	E	11.97	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36,000	②	1.84	66.24	1.75	0.80	2.31	B	E	62.83	0.84	1.99	B	E	11.97	0.80	0.80	1.84	B	E	62.83		
	HS-20 (OPERATING)	36,000		2.63	94.68	1.35	0.80	2.99	B	E	62.83	0.84	2.63	B	E	11.97	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH		4.87	60.88	1.40	0.80	7.62	B	E	62.83	0.84	7.10	A	E	21.88	0.80	0.80	4.87	B	E	62.83		
		S3C		2.84	61.06	1.40	0.80	4.45	B	E	62.83	0.84	4.08	A	E	21.88	0.80	0.80	2.84	B	E	62.83		
		S3A		2.69	61.20	1.40	0.80	4.21	B	E	62.83	0.84	3.86	A	E	21.88	0.80	0.80	2.69	B	E	62.83		
		S4A		2.34	62.60	1.40	0.80	3.66	B	E	62.83	0.84	3.33	A	E	21.88	0.80	0.80	2.34	B	E	62.83		
		S5A		2.06	62.83	1.40	0.80	3.23	B	E	62.83	0.84	2.99	B	E	11.97	0.80	0.80	2.06	B	E	62.83		
		S6A		1.86	64.17	1.40	0.80	2.90	B	E	62.83	0.84	2.66	B	E	11.97	0.80	0.80	1.86	B	E	62.83		
		S7B		1.68	64.68	1.40	0.80	2.63	B	E	62.83	0.84	2.44	B	E	11.97	0.80	0.80	1.68	B	E	62.83		
		S7A		1.65	66.00	1.40	0.80	2.57	B	E	62.83	0.84	2.43	B	E	11.97	0.80	0.80	1.65	B	E	62.83		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A			2.28	64.41	1.40	0.80	3.56	B	E	62.83	0.84	3.19	B	E	11.97	0.80	0.80	2.28	B	E	62.83	
		T5B			2.00	64.00	1.40	0.80	3.14	B	E	62.83	0.84	2.94	B	E	11.97	0.80	0.80	2.00	B	E	62.83	
		T6A			1.82	65.52	1.40	0.80	2.84	B	E	62.83	0.84	2.65	B	E	11.97	0.80	0.80	1.82	B	E	62.83	
		T7A			1.67	66.80	1.40	0.80	2.61	B	E	62.83	0.84	2.37	A	E	21.88	0.80	0.80	1.67	B	E	62.83	
	T7B			1.74	69.60	1.40	0.80	2.69	A	E	55.83	0.84	2.34	B	E	11.97	0.80	0.80	1.74	B	E	62.83		

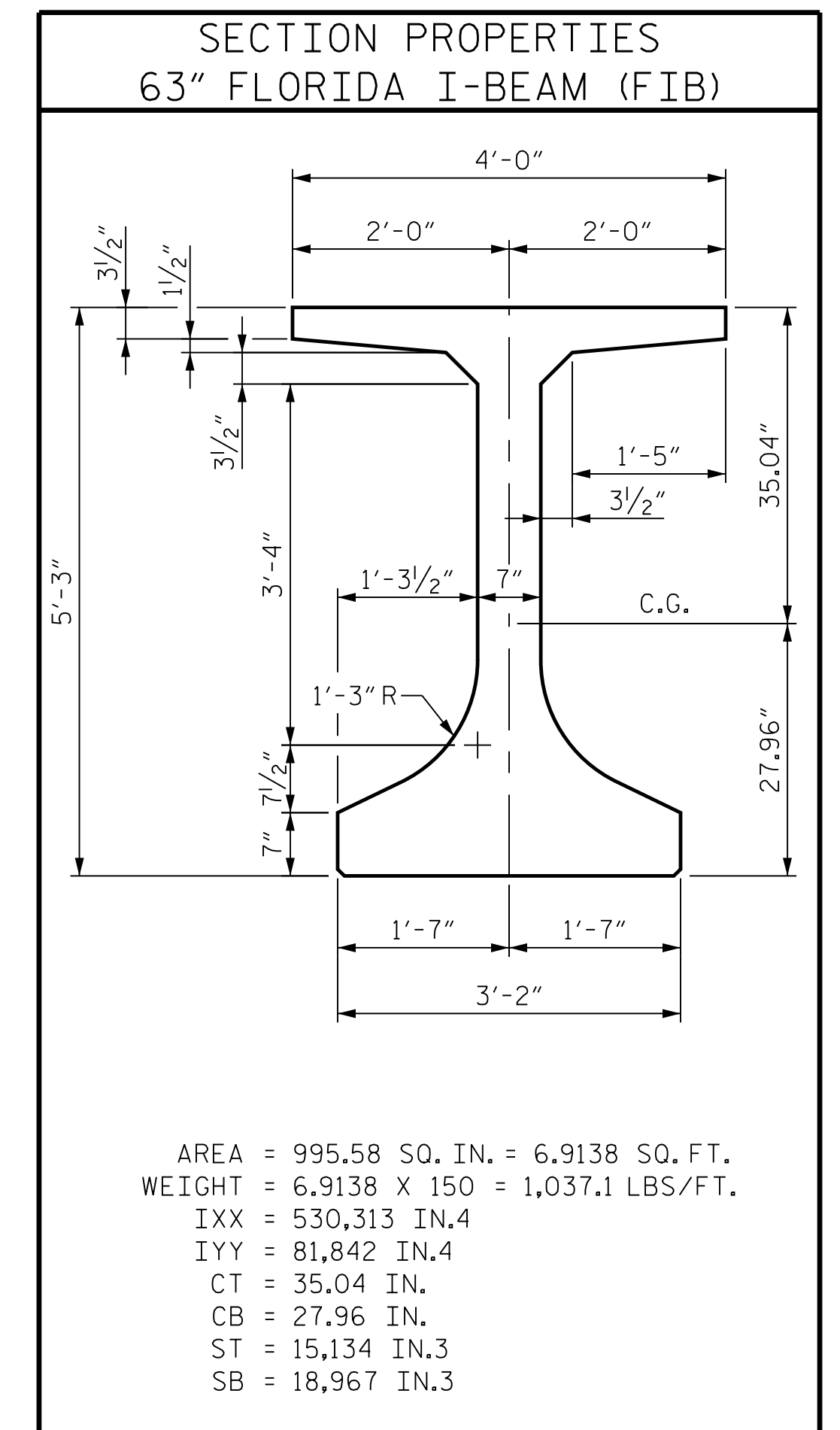
LOAD FACTORS

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.



CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

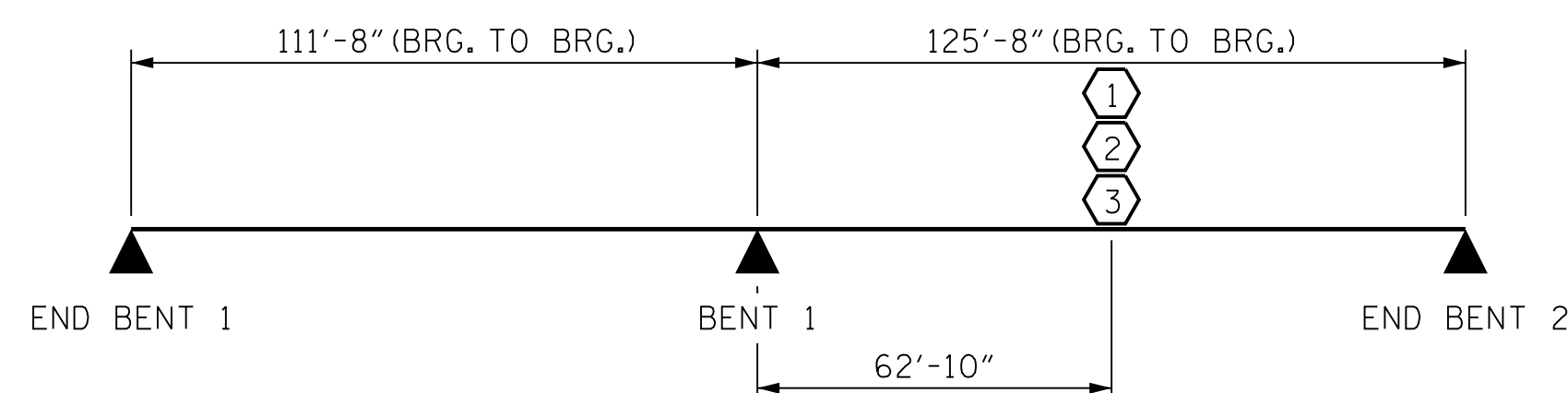
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
E - EXTERIOR GIRDER



LRFR SUMMARY

PROJECT NO. U-2579AB
 FORSYTH COUNTY
 STATION: 47+28.33 -Y15REV-

SHEET 4 OF 4



Dominic A. Coletti 10/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS (INTERSTATE TRAFFIC)

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	--	--	3	--	--
2	--	--	4	--	--

SHEET NO. S03-04
TOTAL SHEETS 61



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

PLOT DRIVER: NCDOT_pdf_color_eng-50dpi
 USER: PPETERSO DATE: 10/14/2021
 FILE: ... \GENERAL DRAWING LR

DES BY: <u>S. NIFONG</u>	DATE: <u>04/19</u>	DWG BY: <u>B. PETERSON</u>	DATE: <u>04/19</u>
DES CHK: <u>A. MILLER</u>	DATE: <u>04/19</u>	CHK BY: <u>S. NIFONG</u>	DATE: <u>04/19</u>