

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	1.03	--	1.75	0.880	1.35	A	EL	47.120	0.990	1.27	A	I	85.380	0.80	0.880	1.03	A	EL	47.120		
	HL-93 (OPERATING)	N/A		1.68	--	1.35	0.880	1.75	A	EL	47.120	0.990	1.68	A	I	85.380	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.42	51.120	1.75	0.880	1.86	A	EL	47.120	0.990	1.71	A	I	85.380	0.80	0.880	1.42	A	EL	47.120		
	HS-20 (OPERATING)	36.000		2.25	81.000	1.35	0.880	2.41	A	EL	47.120	0.990	2.25	A	I	85.380	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.34	45.090	1.40	0.880	5.48	A	EL	47.120	0.990	5.44	A	I	85.380	0.80	0.880	3.34	A	EL	47.120	
		SNGARBS2	20.000		2.43	48.600	1.40	0.880	3.98	A	EL	47.120	0.990	3.79	A	I	85.380	0.80	0.880	2.43	A	EL	47.120	
		SNAGRIS2	22.000		2.28	50.160	1.40	0.880	3.73	A	EL	47.120	0.990	3.49	A	I	85.380	0.80	0.880	2.28	A	EL	47.120	
		SNCOTTS3	27.250		1.66	45.235	1.40	0.880	2.72	A	EL	47.120	0.990	2.66	A	I	85.380	0.80	0.880	1.66	A	EL	47.120	
		SNAGGRS4	34.925		1.36	47.498	1.40	0.880	2.24	A	EL	47.120	0.990	2.16	A	I	85.380	0.80	0.880	1.36	A	EL	47.120	
		SNS5A	35.550		1.34	47.637	1.40	0.880	2.19	A	EL	47.120	0.990	2.17	A	I	85.380	0.80	0.880	1.34	A	EL	47.120	
		SNS6A	39.950		1.22	48.739	1.40	0.880	1.99	A	EL	47.120	0.990	1.96	A	I	85.380	0.80	0.880	1.22	A	EL	47.120	
	SNS7B	42.000		1.16	48.720	1.40	0.880	1.90	A	EL	47.120	0.990	1.90	A	I	85.380	0.80	0.880	1.16	A	EL	47.120		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.48	48.840	1.40	0.880	2.43	A	EL	47.120	0.990	2.36	A	I	85.380	0.80	0.880	1.48	A	EL	47.120	
		TNT4A	33.075		1.48	48.951	1.40	0.880	2.43	A	EL	47.120	0.990	2.31	A	I	85.380	0.80	0.880	1.48	A	EL	47.120	
		TNT6A	41.600		1.20	49.920	1.40	0.880	1.97	A	EL	47.120	0.990	2.00	A	I	85.380	0.80	0.880	1.20	A	EL	47.120	
		TNT7A	42.000		1.21	50.820	1.40	0.880	1.98	A	EL	47.120	0.990	1.97	A	I	85.380	0.80	0.880	1.21	A	EL	47.120	
		TNT7B	42.000		1.24	52.080	1.40	0.880	2.03	A	EL	47.120	0.990	1.87	A	I	85.380	0.80	0.880	1.24	A	EL	47.120	
		TNAGRIT4	43.000		1.18	50.740	1.40	0.880	1.94	A	EL	47.120	0.990	1.81	A	I	85.380	0.80	0.880	1.18	A	EL	47.120	
TNAGT5A		45.000		1.12	50.400	1.40	0.880	1.84	A	EL	47.120	0.990	1.78	A	I	85.380	0.80	0.880	1.12	A	EL	47.120		
TNAGT5B	45.000	③	1.11	49.950	1.40	0.880	1.82	A	EL	47.120	0.990	1.72	A	I	85.380	0.80	0.880	1.11	A	EL	47.120			

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:

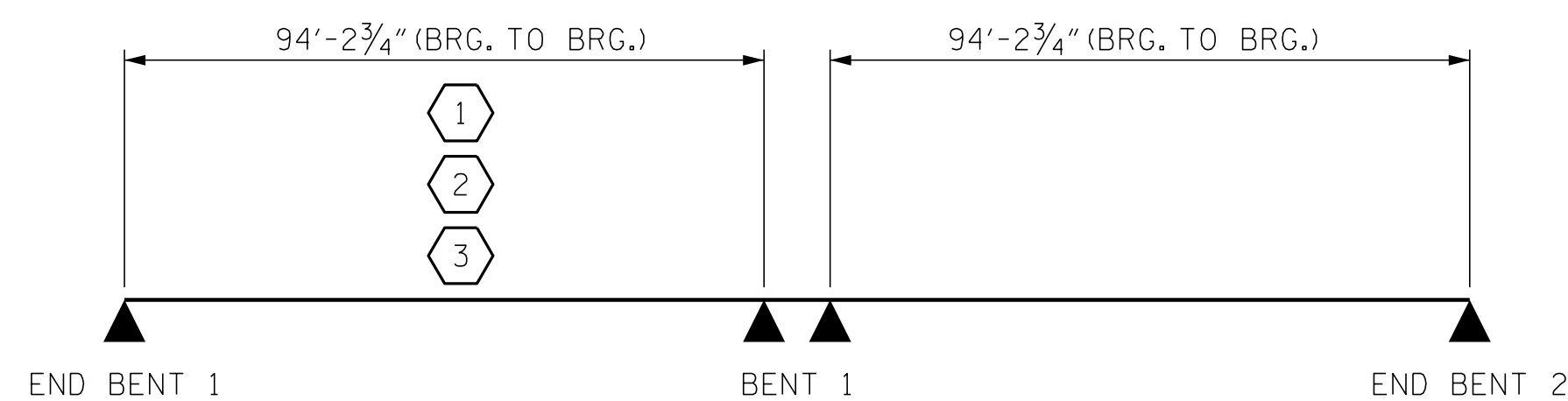
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

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 **
** SEE CHART FOR VEHICLE TYPE
GIRDER LOCATION
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER



LRFR SUMMARY

PROJECT NO. W-5600
JOHNSTON COUNTY
 STATION: 27+01.91 -Y7-

P:\2017\1712101\W-5600\USTO\Structures\DGM\Y7-over-L\W-5600_YT_LRFR_WE I.dgn 3/20/2019 10:06:39 AM

ASSEMBLED BY : D. HODGE	DATE : 12/17
CHECKED BY : G.M. GILLAND	DATE : 1/18
DRAWN BY : MAA 1/08	REV. 11/12/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/1/11 MAA/GM
	REV. 12/17 MAA/THC

DOCUMENT NOT CONSIDERED FINAL
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ENGINEER OF RECORD:
3/25/2019

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS (NON-INTERSTATE TRAFFIC)					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S3-4
					TOTAL SHEETS 32

STD. NO. LRFR1