

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 _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	1.08	--	1.75	0.86	1.27	A	EL	55.07	0.90	1.13	A	EL	77.38	0.80	0.86	1.08	A	EL	55.07		
	HL-93 (OPERATING)	N/A		1.57	--	1.35	0.86	1.65	A	EL	55.07	0.92	1.57	A	I	99.69	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.54	55.43	1.75	0.86	1.82	A	EL	55.07	0.92	1.67	A	I	99.69	0.80	0.86	1.54	A	EL	55.07		
	HS-20 (OPERATING)	36.000		2.20	79.12	1.35	0.86	2.36	A	EL	55.07	0.92	2.20	A	I	99.69	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH	12.500		4.01	50.15	1.40	0.86	5.92	A	EL	55.07	0.92	5.89	A	I	99.69	0.80	0.86	4.01	A	EL	55.07	
		S3C	21.500		2.34	50.39	1.40	0.86	3.46	A	EL	55.07	0.92	3.40	A	I	99.69	0.80	0.86	2.34	A	EL	55.07	
		S3A	22.750		2.22	50.49	1.40	0.86	3.27	A	EL	55.07	0.92	3.21	A	I	99.69	0.80	0.86	2.22	A	EL	55.07	
		S4A	26.750		1.94	51.85	1.40	0.86	2.86	A	EL	55.07	0.92	2.77	A	I	99.69	0.80	0.86	1.94	A	EL	55.07	
		S5A	30.500		1.71	52.11	1.40	0.86	2.52	A	EL	55.07	0.92	2.50	A	I	99.69	0.80	0.86	1.71	A	EL	55.07	
		S6A	34.500		1.54	53.14	1.40	0.86	2.27	A	EL	55.07	0.92	2.23	A	I	99.69	0.80	0.86	1.54	A	EL	55.07	
		S7B	38.500		1.40	53.77	1.40	0.86	2.06	A	EL	55.07	0.92	2.05	A	I	99.69	0.80	0.86	1.40	A	EL	55.07	
		S7A	40.000	③	1.37	54.86	1.40	0.86	2.02	A	EL	55.07	0.92	2.06	A	I	99.69	0.80	0.86	1.37	A	EL	55.07	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A	28.250		1.89	53.47	1.40	0.86	2.79	A	EL	55.07	0.92	2.67	A	I	99.69	0.80	0.86	1.89	A	EL	55.07	
		T5B	32.000		1.66	53.27	1.40	0.86	2.46	A	EL	55.07	0.92	2.48	A	I	99.69	0.80	0.86	1.66	A	EL	55.07	
		T6A	36.000		1.51	54.53	1.40	0.86	2.23	A	EL	55.07	0.92	2.24	A	I	99.69	0.80	0.86	1.51	A	EL	55.07	
		T7A	40.000		1.39	55.78	1.40	0.86	2.06	A	EL	55.07	0.92	2.06	A	I	99.69	0.80	0.86	1.39	A	EL	55.07	
	T7B	40.000		1.46	58.53	1.40	0.86	2.16	A	EL	55.07	0.92	1.97	A	I	99.69	0.80	0.86	1.46	A	EL	55.07		

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)

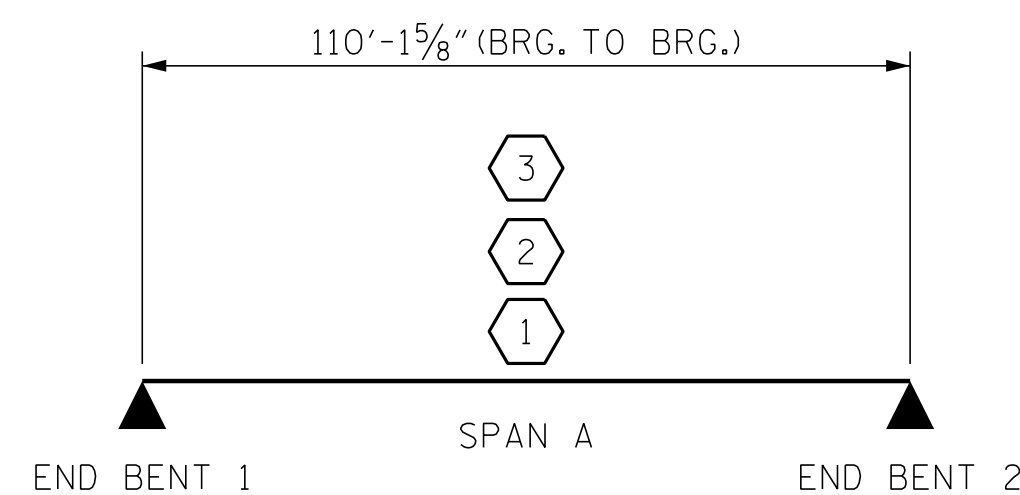
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. R-5719
WAYNE COUNTY
 STATION: 39+11.12 -L-

P:\2015\A-5719\Structures\DWG\Right Lane\A-5719_RT_LRFR.Dgn
 12/16/2016 1:34:51 PM

DRAWN BY : R. ASENCIO DATE : 12/5/15
 CHECKED BY : J. DILWORTH DATE : 12/8/15

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ENGINEER OF RECORD
12/12/2016

NORTH CAROLINA
PROFESSIONAL
SEAL
14091
ENGINEER
BOCK CHARLES HUN

Bock Charles Hunt
-F15C8978A8EC-

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
LRFR SUMMARY FOR
PRESTRESSED
CONCRETE GIRDERS
(INTERSTATE TRAFFIC)
RIGHT LANE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S02-4 TOTAL SHEETS 26
1			3			
2			4			