

LOAD AND RESISTANCE FACTOR RATING (LRFD) 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								
						LIVELOAD FACTORS	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)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.058	--	1.75	0.267	1.29	A	EL	49.224	0.574	1.25	A	EL	9.845	0.80	0.267	1.06	A	EL	49.224		
	HL-93(0pr)	N/A	--	1.621	--	1.35	0.267	1.67	A	EL	49.224	0.574	1.62	A	EL	9.845	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.472	52.983	1.75	0.267	1.79	A	EL	49.224	0.574	1.67	A	EL	9.845	0.80	0.267	1.47	A	EL	49.224		
	HS-20(0pr)	36.000	--	2.168	78.052	1.35	0.267	2.32	A	EL	49.224	0.574	2.17	A	EL	9.845	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.488	47.092	1.4	0.267	5.3	A	EL	49.224	0.574	5.14	A	EL	9.845	0.80	0.267	3.49	A	EL	49.224	
		SNGARBS2	20.000	--	2.527	50.541	1.4	0.267	3.84	A	EL	49.224	0.574	3.6	A	EL	9.845	0.80	0.267	2.53	A	EL	49.224	
		SNAGRIS2	22.000	--	2.364	52.007	1.4	0.267	3.59	A	EL	49.224	0.574	3.32	A	EL	9.845	0.80	0.267	2.36	A	EL	49.224	
		SNCOTTS3	27.250	--	1.734	47.244	1.4	0.267	2.63	A	EL	49.224	0.574	2.56	A	EL	9.845	0.80	0.267	1.73	A	EL	49.224	
		SNAGGRS4	34.925	--	1.421	49.625	1.4	0.267	2.16	A	EL	49.224	0.574	2.09	A	EL	9.845	0.80	0.267	1.42	A	EL	49.224	
		SNS5A	35.550	--	1.391	49.463	1.4	0.267	2.11	A	EL	49.224	0.574	2.1	A	EL	9.845	0.80	0.267	1.39	A	EL	49.224	
		SNS6A	39.950	--	1.265	50.545	1.4	0.267	1.92	A	EL	49.224	0.574	1.9	A	EL	9.845	0.80	0.267	1.27	A	EL	49.224	
	SNS7B	42.000	--	1.204	50.587	1.4	0.267	1.83	A	EL	49.224	0.574	1.85	A	EL	9.845	0.80	0.267	1.20	A	EL	49.224		
	TTST	TNAGRIT3	33.000	--	1.54	50.804	1.4	0.267	2.34	A	EL	49.224	0.574	2.27	A	EL	9.845	0.80	0.267	1.54	A	EL	49.224	
		TNT4A	33.075	--	1.543	51.042	1.4	0.267	2.34	A	EL	49.224	0.574	2.23	A	EL	9.845	0.80	0.267	1.54	A	EL	49.224	
		TNT6A	41.600	--	1.251	52.049	1.4	0.267	1.9	A	EL	49.224	0.574	1.94	A	EL	9.845	0.80	0.267	1.25	A	EL	49.224	
		TNT7A	42.000	--	1.252	52.576	1.4	0.267	1.9	A	EL	49.224	0.574	1.9	A	EL	9.845	0.80	0.267	1.25	A	EL	49.224	
		TNT7B	42.000	--	1.281	53.819	1.4	0.267	1.95	A	EL	49.224	0.574	1.82	A	EL	9.845	0.80	0.267	1.28	A	EL	49.224	
		TNAGRIT4	43.000	--	1.229	52.851	1.4	0.267	1.87	A	EL	49.224	0.574	1.76	A	EL	9.845	0.80	0.267	1.23	A	EL	49.224	
TNAGT5A		45.000	--	1.164	52.365	1.4	0.267	1.77	A	EL	49.224	0.574	1.73	A	EL	9.845	0.80	0.267	1.16	A	EL	49.224		
TNAGT5B	45.000	3	1.154	51.925	1.4	0.267	1.75	A	EL	49.224	0.574	1.68	A	EL	9.845	0.80	0.267	1.15	A	EL	49.224			

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	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)

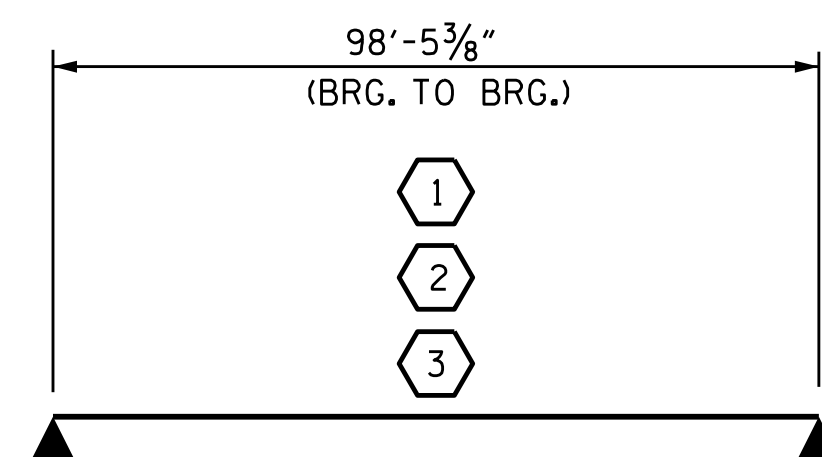
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

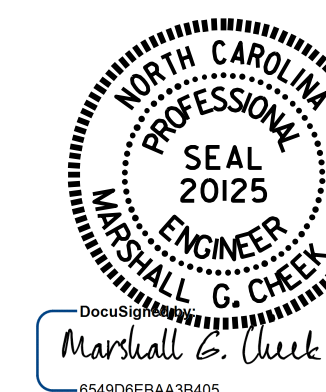
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. B-5397  
RUTHERFORD COUNTY  
STATION: 15+40.00 -L-



12/22/2016

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
LRFR SUMMARY FOR  
100' BOX BEAM UNIT  
105° SKEW  
(NON-INTERSTATE TRAFFIC)

ASSEMBLED BY : B. A. DUKE DATE : 6-24-16  
CHECKED BY : W. J. HARRIS DATE : 8-16  
DRAWN BY : TMG II/II  
CHECKED BY : AAC II/II

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

REVISIONS						SHEET NO. S-3
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 18
2			4			