

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

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{dc}	γ_{Dw}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

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			
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT						
							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)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.55	--	1.75	0.268	1.79	A	EL	44.25	0.493	1.55	A	EL	4.425	0.80	0.268	1.66	A	EL	44,250		
	HL-93(0pr)	N/A	--	2	--	1.35	0.268	2.32	A	EL	44.25	0.493	2.00	A	EL	4,425	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	2.02	72.867	1.75	0.268	2.43	A	EL	44.25	0.493	2.02	A	EL	4.425	0.80	0.268	2.25	A	EL	44,250		
	HS-20(0pr)	36.000	--	2.62	94.458	1.35	0.268	3.15	A	EL	44.25	0.493	2.62	A	EL	4,425	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	5.26	70.945	1.4	0.268	7.10	A	EL	44.25	0.493	6.19	A	EL	4,425	0.80	0.268	5.26	A	EL	44,250	
		SNGARBS2	20.000	--	3.84	76.813	1.4	0.268	5.19	A	EL	44.25	0.493	4.35	A	EL	4,425	0.80	0.268	3.84	A	EL	44,250	
		SNAGRIS2	22.000	--	3.61	79.339	1.4	0.268	4.87	A	EL	44.25	0.493	4.01	A	EL	4,425	0.80	0.268	3.61	A	EL	44,250	
		SNCOTTS3	27.250	--	2.61	71.202	1.4	0.268	3.53	A	EL	44.25	0.493	3.08	A	EL	4,425	0.80	0.268	2.61	A	EL	44,250	
		SNAGGRS4	34.925	--	2.15	75.246	1.4	0.268	2.91	A	EL	44.25	0.493	2.52	A	EL	4,425	0.80	0.268	2.15	A	EL	44,250	
		SNS5A	35.550	--	2.11	74.969	1.4	0.268	2.85	A	EL	44.25	0.493	2.54	A	EL	4,425	0.80	0.268	2.11	A	EL	44,250	
		SNS6A	39.950	--	1.92	76.820	1.4	0.268	2.60	A	EL	44.25	0.493	2.30	A	EL	4,425	0.80	0.268	1.92	A	EL	44,250	
	SNS7B	42.000	--	1.83	76.892	1.4	0.268	2.47	A	EL	44.25	0.493	2.24	A	EL	4,425	0.80	0.268	1.83	A	EL	44,250		
	TTST	TNAGRIT3	33.000	--	2.34	77.265	1.4	0.268	3.16	A	EL	44.25	0.493	2.75	A	EL	4,425	0.80	0.268	2.34	A	EL	44,250	
		TNT4A	33.075	--	2.35	77.675	1.4	0.268	3.17	A	EL	44.25	0.493	2.69	A	EL	4,425	0.80	0.268	2.35	A	EL	44,250	
		TNT6A	41.600	--	1.91	79.411	1.4	0.268	2.58	A	EL	44.25	0.493	2.35	A	EL	4,425	0.80	0.268	1.91	A	EL	44,250	
		TNT7A	42.000	--	1.91	80.325	1.4	0.268	2.58	A	EL	44.25	0.493	2.31	A	EL	4,425	0.80	0.268	1.91	A	EL	44,250	
		TNT7B	42.000	--	1.96	82.487	1.4	0.268	2.65	A	EL	44.25	0.493	2.20	A	EL	4,425	0.80	0.268	1.96	A	EL	44,250	
		TNAGRIT4	43.000	--	1.88	80.802	1.4	0.268	2.54	A	EL	44.25	0.493	2.14	A	EL	4,425	0.80	0.268	1.88	A	EL	44,250	
TNAGT5A		45.000	--	1.78	79.959	1.4	0.268	2.40	A	EL	44.25	0.493	2.10	A	EL	4,425	0.80	0.268	1.78	A	EL	44,250		
TNAGT5B	45.000	3	1.76	79.198	1.4	0.268	2.38	A	EL	44.25	0.493	2.03	A	EL	4,425	0.80	0.268	1.76	A	EL	44,250			

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)

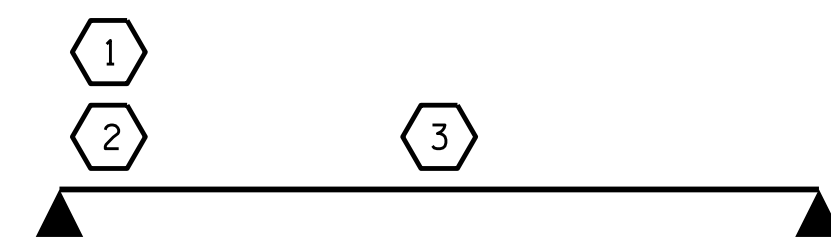
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

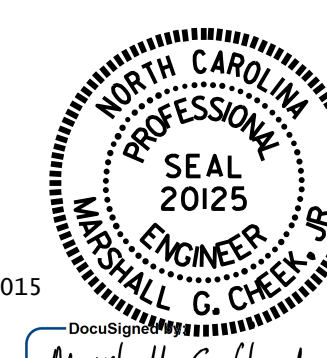
GIRDER LOCATION

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



LRFR SUMMARY
SPAN A

PROJECT NO. B-5341
ROCKINGHAM COUNTY
STATION: 16+43.00 -L-



10/22/2015

DRAWN BY : B.N. GRADY DATE : 7/15
CHECKED BY : M.G. CHEEK DATE : 8/15
DESIGN ENGINEER OF RECORD: B.N. GRADY DATE : 7/15

22-OCT-2015 07:16
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bngrady

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.
LRFR SUMMARY FOR 90' BOX BEAM UNIT 90° SKEW (NON-INTERSTATE TRAFFIC)						S-3
REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	23
1			3			
2			4			