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
							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	1.05	--	1.75	0.272	1.44	B	ER	34.5	0.574	1.05	A	ER	1.45	0.80	0.272	1.22	B	ER	34.500	
		HL-93(Opr)	N/A	--	1.36	--	1.35	0.272	1.86	B	ER	34.5	0.574	1.36	A	ER	1.45	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.20	43.0	1.75	0.272	1.86	B	ER	34.5	0.574	1.20	A	ER	1.45	0.80	0.272	1.59	B	ER	34.500	
		HS-20(Opr)	36.000	--	1.55	55.8	1.35	0.272	2.42	B	ER	34.5	0.574	1.55	A	ER	1.45	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.93	39.5	1.40	0.284	5.20	A	ER	14.5	0.574	2.93	A	ER	1.45	0.80	0.272	3.55	B	ER	34.500	
		SNGARBS2	20.000	--	2.26	45.2	1.40	0.272	3.90	B	ER	34.5	0.574	2.26	A	ER	1.45	0.80	0.272	2.66	B	ER	34.500	
		SNAGRIS2	22.000	--	2.18	47.9	1.40	0.272	3.71	B	ER	34.5	0.574	2.18	A	ER	1.45	0.80	0.272	2.53	B	ER	34.500	
		SNCOTTS3	27.250	--	1.48	40.2	1.40	0.272	2.59	B	ER	34.5	0.574	1.48	A	ER	1.45	0.80	0.272	1.77	B	ER	34.500	
		SNAGGRS4	34.925	--	1.36	47.5	1.40	0.272	2.17	B	ER	34.5	0.574	1.36	A	ER	1.45	0.80	0.272	1.48	B	ER	34.500	
		SNS5A	35.550	--	1.44	51.2	1.40	0.272	2.13	B	ER	34.5	0.574	1.44	A	ER	1.45	0.80	0.272	1.45	B	ER	34.500	
		SNS6A	39.950	--	1.33	53.2	1.40	0.272	1.95	B	ER	34.5	0.574	1.36	A	ER	1.45	0.80	0.272	1.33	B	ER	34.500	
		SNS7B	42.000	--	1.27	53.2	1.40	0.272	1.86	B	ER	34.5	0.574	1.38	A	ER	1.45	0.80	0.272	1.27	B	ER	34.500	
	TTST	TNAGRIT3	33.000	--	1.61	53.1	1.40	0.272	2.38	B	ER	34.5	0.574	1.61	A	ER	1.45	0.80	0.272	1.62	B	ER	34.500	
		TNT4A	33.075	--	1.50	49.5	1.40	0.272	2.39	B	ER	34.5	0.574	1.50	A	ER	1.45	0.80	0.272	1.63	B	ER	34.500	
		TNT6A	41.600	--	1.34	55.6	1.40	0.272	1.96	B	ER	34.5	0.574	1.45	A	ER	1.45	0.80	0.272	1.34	B	ER	34.500	
		TNT7A	42.000	--	1.35	56.5	1.40	0.272	1.97	B	ER	34.5	0.574	1.38	A	ER	1.45	0.80	0.272	1.35	B	ER	34.500	
		TNT7B	42.000	--	1.35	56.5	1.40	0.272	2.05	B	ER	34.5	0.574	1.35	A	ER	1.45	0.80	0.272	1.40	B	ER	34.500	
		TNAGRIT4	43.000	--	1.30	55.9	1.40	0.272	1.94	B	ER	34.5	0.574	1.30	A	ER	1.45	0.80	0.272	1.32	B	ER	34.500	
		TNAGT5A	45.000	--	1.25	56.1	1.40	0.272	1.83	B	ER	34.5	0.574	1.40	A	ER	1.45	0.80	0.272	1.25	B	ER	34.500	
		TNAGT5B	45.000	3	1.23	55.1	1.40	0.272	1.81	B	ER	34.5	0.574	1.23	A	ER	1.45	0.80	0.272	1.23	B	ER	34.500	

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)

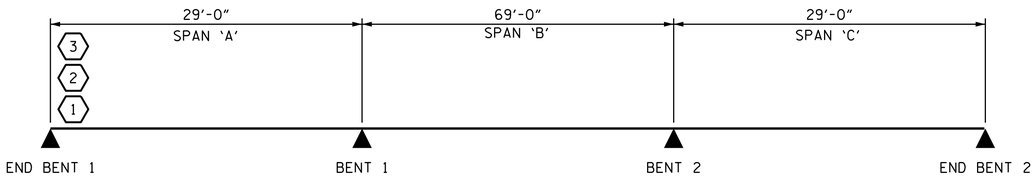
(2) DESIGN LOAD RATING (HS-20)

(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. B-5325
FRANKLIN COUNTY
STATION: 17+86.40 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS
(NON-INTERSTATE TRAFFIC)

9/18/2014

NORTH CAROLINA PROFESSIONAL SEAL 29441 ENGINEER KRISTY W. ALFORD

DocuSigned by:

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			28

ASSEMBLED BY : A.C. OUTLAW DATE : 8/22/13
CHECKED BY : E. I. OMILE DATE : 8/23/13
DRAWN BY : MAA 1/08
CHECKED BY : GM/DI 2/08
REV. 11/12/08RR MAA/GM
REV. 10/1/11 MAA/GM

17-SEP-2014 07:34
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jpadams

STD. NO. LRFR1