

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 (FH)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FH)	LIVE-LOAD FACTORS (γ _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (FH)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.02	--	1.75	0.917	1.47	1	EXT.	43.8	1.115	1.11	1	INT.	17.1	0.80	0.917	1.02	1	INT.	43.8		
	HL-93 (OPERATING)	N/A		1.48	--	1.35	0.917	1.90	1	EXT.	43.8	1.115	1.48	1	INT.	17.1	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.39	50.0	1.75	0.917	1.99	1	EXT.	43.8	1.115	1.45	1	INT.	17.1	0.80	0.917	1.39	1	INT.	43.8		
	HS-20 (OPERATING)	36.000		1.92	69.1	1.35	0.917	2.58	1	EXT.	43.8	1.115	1.92	1	INT.	17.1	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.23	43.6	1.40	0.917	5.80	1	EXT.	43.8	1.115	4.61	1	INT.	17.1	0.80	0.917	3.23	1	INT.	43.8	
		SNGARBS2	20.000		2.36	47.2	1.40	0.917	4.24	1	EXT.	43.8	1.115	3.23	1	INT.	17.1	0.80	0.917	2.36	1	INT.	43.8	
		SNAGRIS2	22.000		2.22	48.8	1.40	0.917	3.98	1	EXT.	43.8	1.115	2.98	1	INT.	17.1	0.80	0.917	2.22	1	INT.	43.8	
		SNCOTTS3	27.250		1.61	43.8	1.40	0.917	2.88	1	EXT.	43.8	1.115	2.23	1	INT.	17.1	0.80	0.917	1.61	1	INT.	43.8	
		SNAGGRS4	34.925		1.33	46.4	1.40	0.917	2.38	1	EXT.	43.8	1.115	1.82	1	INT.	17.1	0.80	0.917	1.33	1	INT.	43.8	
		SNS5A	35.550		1.30	46.2	1.40	0.917	2.33	1	EXT.	43.8	1.115	1.84	1	INT.	17.1	0.80	0.917	1.30	1	INT.	43.8	
		SNS6A	39.950		1.18	47.1	1.40	0.917	2.12	1	EXT.	43.8	1.115	1.67	1	INT.	17.1	0.80	0.917	1.18	1	INT.	43.8	
	SNS7B	42.000		1.13	47.4	1.40	0.917	2.02	1	EXT.	43.8	1.115	1.63	1	INT.	17.1	0.80	0.917	1.13	1	INT.	43.8		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.44	47.5	1.40	0.917	2.59	1	EXT.	43.8	1.115	2.00	1	INT.	17.1	0.80	0.917	1.44	1	INT.	43.8	
		TNT4A	33.075		1.45	47.9	1.40	0.917	2.59	1	EXT.	43.8	1.115	1.96	1	INT.	17.1	0.80	0.917	1.45	1	INT.	43.8	
		TNT6A	41.600		1.18	49.0	1.40	0.917	2.11	1	EXT.	43.8	1.115	1.74	1	INT.	17.1	0.80	0.917	1.18	1	INT.	43.8	
		TNT7A	42.000		1.18	49.5	1.40	0.917	2.11	1	EXT.	43.8	1.115	1.70	1	INT.	17.1	0.80	0.917	1.18	1	INT.	43.8	
		TNT7B	42.000		1.21	50.8	1.40	0.917	2.17	1	EXT.	43.8	1.115	1.59	1	INT.	17.1	0.80	0.917	1.21	1	INT.	43.8	
		TNAGRIT4	43.000		1.16	49.8	1.40	0.917	2.08	1	EXT.	43.8	1.115	1.54	1	INT.	17.1	0.80	0.917	1.16	1	INT.	43.8	
TNAGT5A		45.000		1.09	49.0	1.40	0.917	1.96	1	EXT.	43.8	1.115	1.52	1	INT.	17.1	0.80	0.917	1.09	1	INT.	43.8		
TNAGT5B	45.000	③	1.08	48.6	1.40	0.917	1.94	1	EXT.	43.8	1.115	1.46	1	INT.	17.1	0.80	0.917	1.08	1	INT.	43.8			

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)

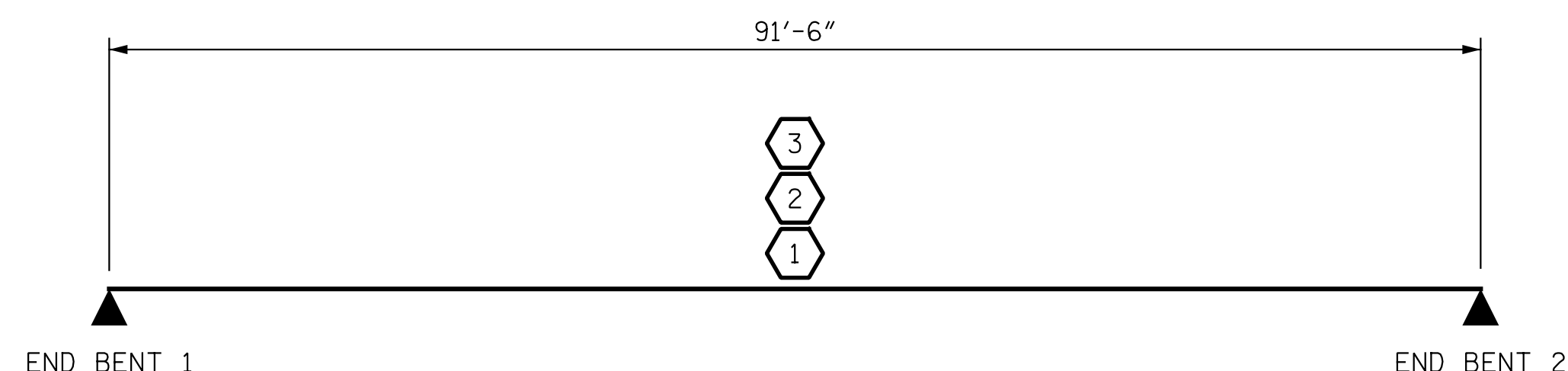
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

INT. - INTERIOR GIRDER
EXT. - EXTERIOR GIRDER



LRFR SUMMARY

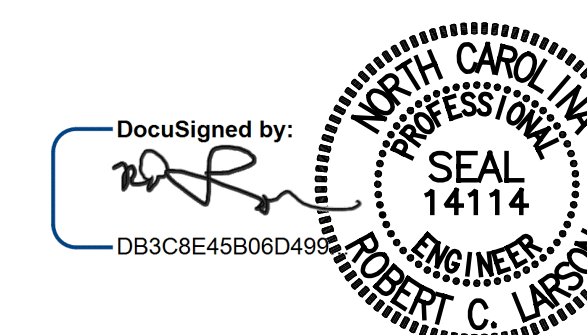
PROJECT NO. R-2514D
JONES COUNTY
 STATION: 363+38.90 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

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

STD. NO. LRFR1 LEFT LANE STR-#3



DocuSigned by:

 DB3C8E45B06D499

4/10/2015

REVISIONS						SHEET NO. S03-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS S03-23
2			4			

DESIGN ENGINEER OF RECORD:		DATE: 4/10/2015
DRAWN BY: E. C. DECOLA		DATE: 03/02/14
CHECKED BY: R. C. LARSON		DATE: 03/07/14
DRAWN BY: MAA 1/08	REV. 11/2/08RR	MAA/GM
CHECKED BY: GM/DI 2/08	REV. 10/1/11	MAA/GM

**KCI Associates
 of North Carolina, P.A.**

SUNITE 220, LANDMARK CENTER # 400 SIX FORKS RD, RALEIGH, N.C. 27609-5200 (919) 783-9244

DWG. REF. NO. 4 OF 23