

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

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
						LIVE-LOAD FACTORS ( $\gamma_{LL}$ )	MOMENT					SHEAR					LIVE-LOAD FACTORS ( $\gamma_{LL}$ )	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 (INVENTORY)	N/A	①	1.08	--	1.75	0.899	1.08	A	I	28.0	1.014	1.37	A	I	45.2	0.80	0.775	1.41	B	I	48.9	1;2	
	HL-93 (OPERATING)	N/A	+	1.40	--	1.35	0.899	1.40	A	I	28.0	1.022	2.24	C	I	78.6	N/A	--	--	--	--	--	1;2	
	HS-20 (INVENTORY)	36.000	②	1.37	49:32	1.75	0.899	1.37	A	I	28.0	10:14	2.09	A	I	33.8	0.80	0.775	1.56	B	I	48.9	1;2	
	HS-20 (OPERATING)	36.000	+	1.77	63:72	1.35	0.899	1.77	A	I	28.0	1.022	2.99	C	I	78.6	N/A	--	--	--	--	--	1;2	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	+	3.67	49:55	1.40	0.899	3.67	A	I	28.0	1.022	7.65	C	I	78.6	0.80	0.775	3.70	B	I	48.9	1;2
		SNGRBS2	20.000	+	2.67	53:40	1.40	0.899	2.81	A	I	28.0	1.022	5.35	C	I	78.6	0.80	0.775	2.67	B	I	48.9	1;2
		SNAGRIS2	22.000	+	2.50	55:00	1.40	0.899	2.70	A	I	28.0	1.022	4.94	B	I	78.6	0.80	0.775	2.50	B	I	48.9	1;2
		SNCOTTS3	27.250	+	1.83	49:87	1.40	0.899	1.83	A	I	28.0	1.022	3.67	C	I	78.6	0.80	0.775	1.84	B	I	48.9	1;2
		SNAGGRS4	34.925	+	1.50	52:39	1.40	0.899	1.56	A	I	28.0	1.014	2.75	A	I	33.8	0.80	0.775	1.50	B	I	48.9	1;2
		SNS5A	35.550	+	1.47	52:26	1.40	0.899	1.52	A	I	28.0	1.022	2.88	B	I	19.1	0.80	0.775	1.47	B	I	48.9	1;2
		SNS6A	39.950	+	1.34	53:53	1.40	0.899	1.41	A	I	28.0	1.022	2.60	B	I	19.1	0.80	0.775	1.34	B	I	48.9	1;2
		SNS7B	42.000	+	1.27	53:34	1.40	0.899	1.34	A	I	28.0	1.022	2.49	C	I	78.6	0.80	0.775	1.27	B	I	48.9	1;2
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	+	1.63	53:79	1.40	0.899	1.72	A	I	28.0	1.022	3.09	B	I	19.1	0.80	0.775	1.63	B	I	48.9	1;2
		TNT4A	33.075	+	1.63	53:91	1.40	0.899	1.73	A	I	28.0	1.022	3.26	B	I	78.6	0.80	0.775	1.63	B	I	48.9	1;2
		TNT6A	41.600	+	1.32	54:91	1.40	0.899	1.43	A	I	28.0	1.022	2.68	B	I	19.1	0.80	0.775	1.32	B	I	48.9	1;2
		TNT7A	42.000	+	1.32	55:44	1.40	0.899	1.44	A	I	28.0	1.022	2.63	B	I	19.1	0.80	0.775	1.32	B	I	48.9	1;2
		TNT7B	42.000	+	1.35	56:70	1.40	0.899	1.51	A	I	28.0	1.022	2.48	B	I	19.1	0.80	0.775	1.35	B	I	48.9	1;2
		TNAGRIT4	43.000	+	1.30	55:90	1.40	0.899	1.42	A	I	28.0	1.022	2.44	B	I	19.1	0.80	0.775	1.30	B	I	48.9	1;2
		TNAGT5A	45.000	+	1.23	55:35	1.40	0.899	1.34	A	I	28.0	1.022	2.33	B	I	19.1	0.80	0.775	1.23	B	I	48.9	1;2
TNAGT5B	45.000	③	1.22	54:90	1.40	0.899	1.32	A	I	28.0	1.014	2.03	A	I	33.8	0.80	0.775	1.22	B	I	48.9	1;2		

**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. SPANS B AND C LENGTHS AND RATING FACTORS ARE EQUAL.  
 2. THE REDUCTION OF LOAD DISTRIBUTION FACTOR FOR MOMENT IN LONGITUDINAL BEAMS ON SKEWED SUPPORTS (AASHTO TABLE 4.6.2.2.2E-1) WAS NOT APPLIED.

# CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

② DESIGN LOAD RATING (HS-20)

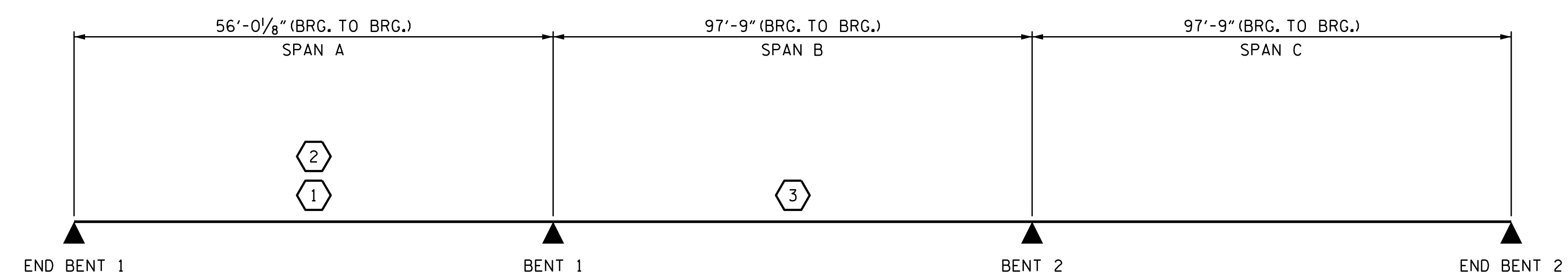
③ LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

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GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. R-2915B  
ASHE COUNTY  
 STATION: 242+67.42 -L-

ASSEMBLED BY : T.J. KIRSCHBAUM DATE : 5/8/14  
 CHECKED BY : R.F. WERTMAN DATE : 7/31/14  
 DRAWN BY : MAA 1/08 REV. 11/2/08RR MAA/GM  
 CHECKED BY : GM/DI 2/08 REV. 10/1/11 MAA/GM

PLANS PREPARED BY:  
**Gannett Fleming**  
 Excellence Delivered As Promised  
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 Suite 170  
 Raleigh NC 27606-4279  
 (919) 859-4880  
 NC Lic. No. F-0270

THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 LRFR SUMMARY FOR  
 PRESTRESSED  
 CONCRETE GIRDERS  
 (NON-INTERSTATE TRAFFIC)  
 SBL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S04-4
1			3			TOTAL SHEETS
2			4			35