

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			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS ( $\gamma_{LL}$ )	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)	LIVE-LOAD FACTORS ( $\gamma_{LL}$ )	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.00	--	1.75	0.574	1.74	A	EL	51.978	0.881	2.62	B	I	31.937	0.80	0.595	<b>1.00</b>	B	I	<b>53.228</b>		
	HL-93 (OPERATING)	N/A	--	2.26	--	1.35	0.574	2.26	A	EL	51.978	0.881	3.39	B	I	31.937	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.41	50.853	1.75	0.574	2.46	A	EL	51.978	0.881	3.37	B	I	74.519	0.80	0.595	<b>1.41</b>	A	I	<b>51.978</b>		
	HS-20 (OPERATING)	36.000	--	3.19	114.671	1.35	0.574	3.19	A	EL	51.978	0.881	4.37	B	I	74.519	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	--	3.37	45.514	1.40	0.574	7.33	A	EL	51.978	0.881	10.19	B	I	74.519	0.80	0.595	3.37	A	I	51.978	
		SNGARBS2	20.000	--	2.43	48.649	1.40	0.574	5.29	A	EL	51.978	0.881	7.20	B	I	74.519	0.80	0.595	2.43	A	I	51.978	
		SNAGRIS2	22.000	--	2.27	49.974	1.40	0.574	4.94	A	EL	51.978	0.881	6.66	B	I	74.519	0.80	0.595	2.27	A	I	51.978	
		SNCOTTS3	27.250	--	1.68	45.653	1.40	0.574	3.64	A	EL	51.978	0.881	5.08	B	I	74.519	0.80	0.595	1.68	A	I	51.978	
		SNAGGRS4	34.925	--	1.37	47.819	1.40	0.574	2.98	A	EL	51.978	0.881	4.18	B	I	74.519	0.80	0.595	1.37	A	I	51.978	
		SNS5A	35.550	--	1.34	47.672	1.40	0.574	2.92	A	EL	51.978	0.881	4.22	B	I	74.519	0.80	0.595	1.34	A	I	51.978	
		SNS6A	39.950	--	1.22	48.653	1.40	0.574	2.65	A	EL	51.978	0.881	3.84	B	I	74.519	0.80	0.595	1.22	A	I	51.978	
	SNS7B	42.000	--	1.16	48.690	1.40	0.574	2.52	A	EL	51.978	0.881	3.75	B	I	74.519	0.80	0.595	1.16	A	I	51.978		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	--	1.48	48.887	1.40	0.574	3.22	A	EL	51.978	0.881	4.58	B	I	74.519	0.80	0.595	1.48	A	I	51.978	
		TNT4A	33.075	--	1.48	49.102	1.40	0.574	3.23	A	EL	51.978	0.881	4.47	B	I	74.519	0.80	0.595	1.48	A	I	51.978	
		TNT6A	41.600	--	1.20	50.011	1.40	0.574	2.61	A	EL	51.978	0.881	3.96	B	I	74.519	0.80	0.595	1.20	A	I	51.978	
		TNT7A	42.000	--	1.20	50.487	1.40	0.574	2.61	A	EL	51.978	0.881	3.89	B	I	74.519	0.80	0.595	1.20	A	I	51.978	
		TNT7B	42.000	--	1.23	51.605	1.40	0.574	2.67	A	EL	51.978	0.881	3.67	B	I	74.519	0.80	0.595	1.23	A	I	51.978	
		TNAGRIT4	43.000	--	1.18	50.735	1.40	0.574	2.57	A	EL	51.978	0.881	3.56	B	I	74.519	0.80	0.595	1.18	A	I	51.978	
TNAGT5A		45.000	--	1.12	50.297	1.40	0.574	2.43	A	EL	51.978	0.881	3.52	B	I	74.519	0.80	0.595	1.12	A	I	51.978		
TNAGT5B	45.000	③	1.11	49.900	1.40	0.574	2.41	A	EL	51.978	0.881	3.39	B	I	74.519	0.80	0.595	<b>1.11</b>	A	I	<b>51.978</b>			

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.

③ CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

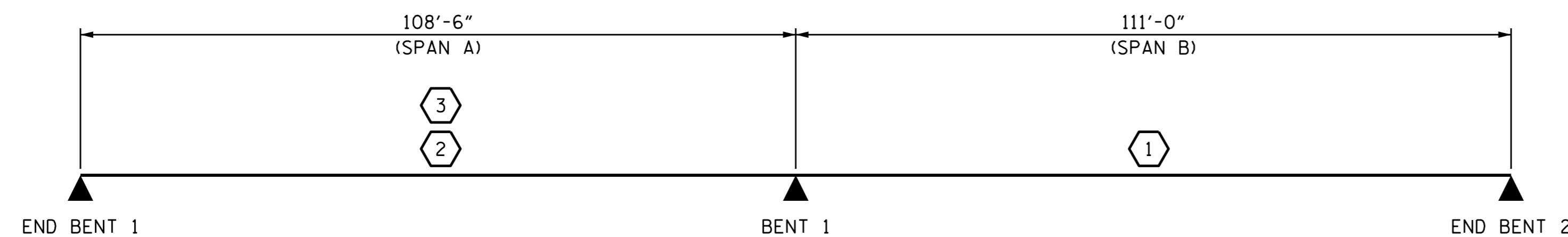
② DESIGN LOAD RATING (HS-20)

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. U-2524D  
GUILFORD COUNTY  
STATION: 25+18.62 -Y6-



DocuSigned by:  
Ting Fang 7/1/2016

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

DESIGN ENGINEER OF RECORD: P. K. NEWTON DATE: 5/13/16
ASSEMBLED BY: P. K. NEWTON DATE: 2/4/16 CHECKED BY: P. N. HOLDER DATE: 4/20/16
DRAWN BY: MAA 1/08 CHECKED BY: GM/DI 2/08
REV. 11/12/08RR MAA/GM REV. 10/1/11 MAA/GM

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

REVISIONS						SHEET NO. S1-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 33
2			4			