

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	STRENGTH I	1.25	1.50
	SERVICE II	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 II 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	1.14	--	1.75	0.891	1.14	A	E	107.27	1.056	1.68	A	I	107.27	1.30	0.891	1.95	A	E	42.91		
	HL-93 (OPERATING)	N/A		1.48	--	1.35	0.891	1.48	A	E	107.27	1.056	2.17	A	I	107.27	1.00	0.891	2.54	A	E	42.91		
	HS-20 (INVENTORY)	36.00	②	2.48	89.28	1.75	0.891	2.74	A	E	42.91	1.056	2.48	A	I	107.27	1.30	0.891	2.72	A	E	42.91		
	HS-20 (OPERATING)	36.00		3.22	115.92	1.35	0.891	3.55	A	E	42.91	1.056	3.22	A	I	107.27	1.00	0.891	3.54	A	E	42.91		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	③	6.40	86.40	1.40	0.891	8.07	A	E	42.91	1.056	7.96	A	I	107.27	1.30	0.891	6.40	A	E	42.91	
		SNGARBS2	20.000		4.63	92.60	1.40	0.891	5.84	A	E	42.91	1.056	5.47	A	I	107.27	1.30	0.891	4.63	A	E	42.91	
		SNAGRIS2	22.000		4.33	95.26	1.40	0.891	5.46	A	E	42.91	1.056	5.01	A	I	107.27	1.30	0.891	4.33	A	E	42.91	
		SNCOTTS3	27.250		3.20	87.20	1.40	0.891	4.03	A	E	42.91	1.056	3.95	A	I	107.27	1.30	0.891	3.20	A	E	42.91	
		SNAGGRS4	34.925		2.62	91.50	1.40	0.891	3.31	A	E	42.91	1.056	2.98	A	I	107.27	1.30	0.891	2.62	A	E	42.91	
		SNS5A	35.550		2.58	91.72	1.40	0.891	3.25	A	E	42.91	1.056	2.96	A	I	107.27	1.30	0.891	2.58	A	E	42.91	
		SNS6A	39.950		2.34	93.48	1.40	0.891	2.95	A	E	42.91	1.056	2.66	A	I	107.27	1.30	0.891	2.34	A	E	42.91	
		SNS7B	42.000		2.24	94.08	1.40	0.891	2.82	A	E	42.91	1.056	2.55	A	I	107.27	1.30	0.891	2.24	A	E	42.91	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		2.87	94.71	1.40	0.891	3.61	A	E	42.91	1.056	3.37	A	I	107.27	1.30	0.891	2.87	A	E	42.91	
		TNT4A	33.075		2.85	94.26	1.40	0.891	3.58	A	E	42.91	1.056	3.17	A	I	107.27	1.30	0.891	2.85	A	E	42.91	
		TNT6A	41.600		2.32	96.51	1.40	0.891	2.93	A	E	42.91	1.056	2.63	A	I	107.27	1.30	0.891	2.32	A	E	42.91	
		TNT7A	42.000		2.32	97.44	1.40	0.891	2.93	A	E	42.91	1.056	2.60	A	I	107.27	1.30	0.891	2.32	A	E	42.91	
		TNT7B	42.000		2.35	98.70	1.40	0.891	2.96	A	E	42.91	1.056	2.54	A	I	107.27	1.30	0.891	2.35	A	E	42.91	
		TNAGRIT4	43.000		2.27	97.61	1.40	0.891	2.86	A	E	42.91	1.056	2.47	A	I	107.27	1.30	0.891	2.27	A	E	42.91	
TNAGT5A	45.000		2.17	97.65	1.40	0.891	2.73	A	E	42.91	1.056	2.40	A	I	107.27	1.30	0.891	2.17	A	E	42.91			
TNAGT5B	45.000		2.14	96.30	1.40	0.891	2.69	A	E	42.91	1.056	2.36	A	I	107.27	1.30	0.891	2.14	A	E	42.91			
FATIGUE	HL-93 (INVENTORY)	$\gamma_{LL}=0.75$																						

NOTES:  
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE II LIMIT STATES.  
ALLOWABLE STRESS FOR SERVICE II LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:  
1.  
2.  
3.  
4.

# CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93) \*\*

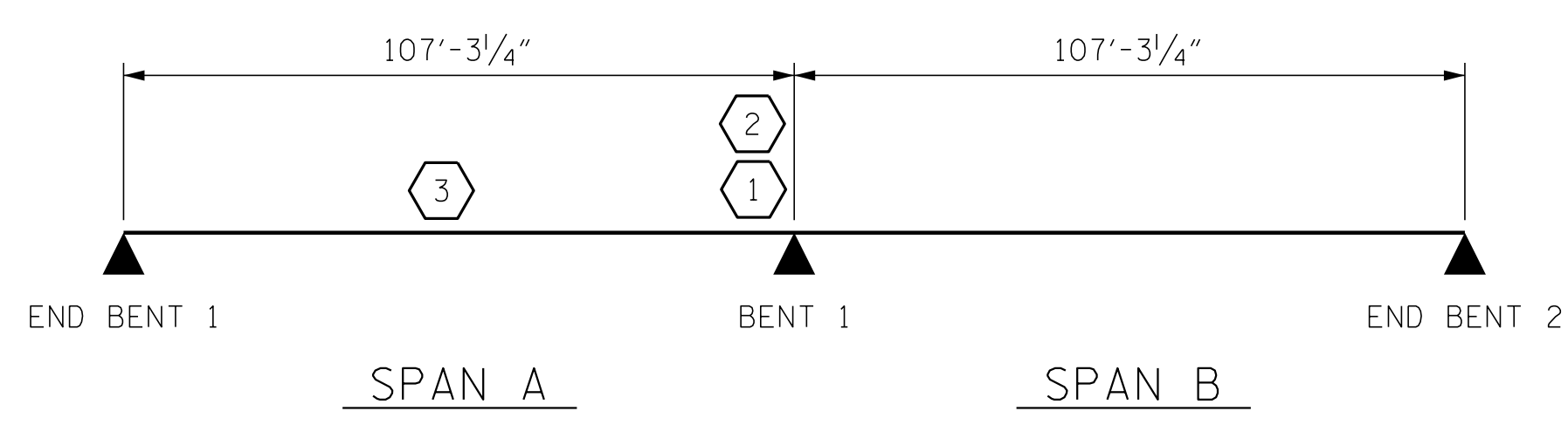
② DESIGN LOAD RATING (HS-20) \*\*

③ LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

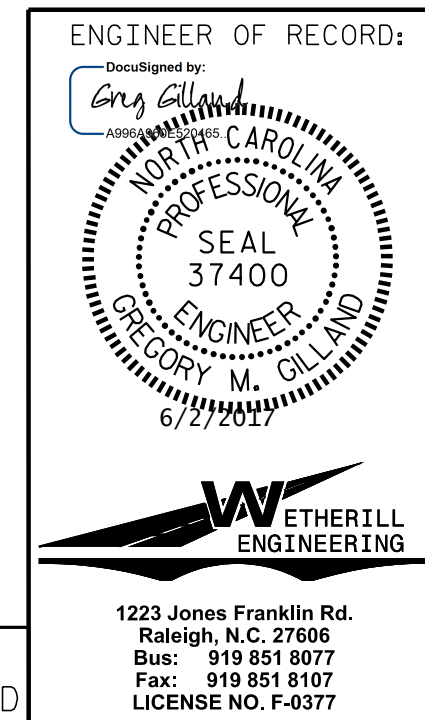
GIRDER LOCATION

I - INTERIOR GIRDER  
E - EXTERIOR GIRDER



LRFR SUMMARY

PROJECT NO. I-5786  
JOHNSTON COUNTY  
STATION: 20+25.64 -Y4-



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

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S02-4  
TOTAL SHEETS 31

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
Bus: 919 851 8077  
Fax: 919 851 8107  
LICENSE NO. F-0377

ASSEMBLED BY : D. HODGE	DATE : 5/17
CHECKED BY : B.C. HUNT	DATE : 5/17
DRAWN BY : MAA 1/08	REV. 11/2/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/1/11 MAA/GM