

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{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 (γ_{LL})	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ_{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	1.17	--	1.75	0.887	1.17	B	E	135.02	1.103	1.17	B	I	287.54	1.30	0.887	1.19	B	E	226.53		
	HL-93 (OPERATING)	N/A		1.52	--	1.35	0.887	1.52	B	E	135.02	1.103	1.52	B	I	287.54	1.00	0.887	1.55	B	E	226.53		
	HS-20 (INVENTORY)	36.00	②	1.72	61.92	1.75	0.887	1.87	B	E	226.53	1.103	1.72	B	I	287.54	1.30	0.887	1.81	B	E	226.53		
	HS-20 (OPERATING)	36.00		2.23	80.28	1.35	0.887	2.43	B	E	226.53	1.103	2.23	B	I	287.54	1.00	0.887	2.35	B	E	226.53		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		4.42	59.67	1.40	0.887	5.72	B	E	226.53	1.103	5.40	B	I	287.54	1.30	0.887	4.42	B	E	226.53	
		SNGARBS2	20.000		3.14	62.80	1.40	0.887	4.06	B	E	226.53	1.103	3.75	B	I	287.54	1.30	0.887	3.14	B	E	226.53	
		SNAGRIS2	22.000		2.19	64.02	1.40	0.887	3.77	B	E	226.53	1.103	3.45	B	I	287.54	1.30	0.887	2.91	B	E	226.53	
		SNCOTTS3	27.250		2.20	59.95	1.40	0.887	2.85	B	E	226.53	1.103	2.69	B	I	287.54	1.30	0.887	2.20	B	E	226.53	
		SNAGGRS4	34.925		1.78	62.17	1.40	0.887	2.30	B	E	226.53	1.103	2.06	B	I	287.54	1.30	0.887	1.78	B	E	226.53	
		SNS5A	35.550		1.75	62.21	1.40	0.887	2.27	B	E	226.53	1.103	2.06	B	I	287.54	1.30	0.887	1.75	B	E	226.53	
		SNS6A	39.950		1.58	63.12	1.40	0.887	2.04	B	E	226.53	1.103	1.86	B	I	287.54	1.30	0.887	1.58	B	E	226.53	
		SNS7B	42.000		1.51	63.42	1.40	0.887	1.95	B	E	226.53	1.103	1.80	B	I	287.54	1.30	0.887	1.51	B	E	226.53	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.93	63.69	1.40	0.887	2.5	B	E	226.53	1.103	2.35	B	I	287.54	1.30	0.887	1.93	B	E	226.53	
		TNT4A	33.075		1.92	63.50	1.40	0.887	2.48	B	E	226.53	1.103	2.20	B	I	287.54	1.30	0.887	1.92	B	E	226.53	
		TNT6A	41.600		1.55	64.48	1.40	0.887	2.01	B	E	226.53	1.103	1.87	B	I	287.54	1.30	0.887	1.55	B	E	226.53	
		TNT7A	42.000		1.55	65.10	1.40	0.887	2.01	B	E	226.53	1.103	1.84	B	I	287.54	1.30	0.887	1.55	B	E	226.53	
		TNT7B	42.000		1.56	65.52	1.40	0.887	2.02	B	E	226.53	1.103	1.77	B	I	287.54	1.30	0.887	1.56	B	E	226.53	
		TNAGRIT4	43.000		1.52	65.36	1.40	0.887	1.96	B	E	226.53	1.103	1.73	B	I	287.54	1.30	0.887	1.52	B	E	226.53	
TNAGT5A	45.000		1.44	64.80	1.40	0.887	1.87	B	E	226.53	1.103	1.68	B	I	287.54	1.30	0.887	1.44	B	E	226.53			
TNAGT5B	45.000		③	1.43	64.35	1.40	0.887	1.85	B	E	226.53	1.103	1.64	B	I	287.54	1.30	0.887	1.43	B	E	226.53		
FATIGUE	HL-93 (INVENTORY)	$\gamma_{LL}=0.75$																						

NOTES:

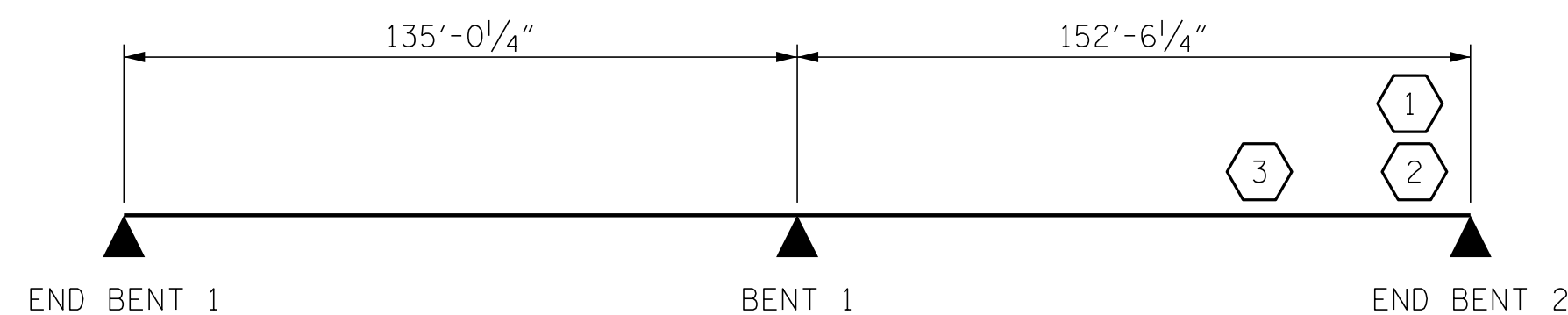
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE II LIMIT STATES.

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-5506
WAKE COUNTY
 STATION: 50+61.09 -L-

ENGINEER OF RECORD:
 Gregory M. Gilland
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 37400
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 7/31/2017
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 LRFR SUMMARY FOR
 STEEL GIRDERS
 (NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S01-4
1			3			TOTAL SHEETS 46
2			4			

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

ASSEMBLED BY : D. HODGE	DATE : 4/17
CHECKED BY : G.M. GILLAND	DATE : 4/17
DRAWN BY : MAA 1/08	REV. 11/2/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/1/11 MAA/GM