

LOAD FACTORS:

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

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR STEEL GIRDERS

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 (%LL)	MOMENT					SHEAR					LIVE-LOAD FACTORS (%LL)	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (++)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (++)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (++)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.15	--	1.75	0.857	1.15	A	EL	226.39	0.985	1.23	B	2	33.34	1.30	0.857	1.28	B	ER	119.65		
	HL-93 (OPERATING)	N/A		1.50	--	1.35	0.857	1.50	A	EL	226.39	0.985	1.61	B	2	33.34	1.00	0.857	1.67	B	ER	119.65		
	HS-20 (INVENTORY)	36.00	②	2.10	75.60	1.75	0.857	2.10	B	ER	119.65	0.985	2.24	B	2	33.34	1.30	0.857	2.29	B	ER	119.65		
	HS-20 (OPERATING)	36.00		2.29	82.44	1.35	0.857	2.74	B	ER	119.65	0.985	2.92	B	2	33.34	1.00	0.857	2.29	B	ER	119.65		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		5.65	76.28	1.40	0.857	5.65	B	ER	119.65	0.857	7.31	B	ER	30.34	1.30	0.857	5.72	B	ER	119.65	
		SNGARBS2	20.000		4.01	80.20	1.40	0.857	4.27	B	ER	119.65	0.985	5.00	B	2	33.34	1.30	0.857	4.01	B	ER	119.65	
		SNAGRIS2	22.000		3.70	81.40	1.40	0.857	4.00	B	ER	119.65	0.985	4.57	B	2	33.34	1.30	0.857	3.70	B	ER	119.65	
		SNCOTTS3	27.250		2.84	77.39	1.40	0.857	3.19	B	ER	119.65	0.985	3.64	B	2	33.34	1.30	0.857	2.84	B	ER	119.65	
		SNAGGRS4	34.925		2.28	79.63	1.40	0.857	2.63	B	ER	119.65	0.985	2.87	B	2	33.34	1.30	0.857	2.28	B	ER	119.65	
		SNS5A	35.550		2.24	79.63	1.40	0.857	2.59	B	ER	119.65	0.985	2.84	B	2	33.34	1.30	0.857	2.24	B	ER	119.65	
		SNS6A	39.950		2.02	80.70	1.40	0.857	2.36	B	ER	119.65	0.985	2.54	B	2	33.34	1.30	0.857	2.02	B	ER	119.65	
		SNS7B	42.000		1.92	80.64	1.40	0.857	2.26	B	ER	119.65	0.985	2.43	B	2	33.34	1.30	0.857	1.92	B	ER	119.65	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		2.45	80.85	1.40	0.857	2.81	B	ER	119.65	0.985	3.07	B	2	33.34	1.30	0.857	2.45	B	ER	119.65	
		TNT4A	33.075		2.44	80.70	1.40	0.857	2.80	B	ER	119.65	0.985	3.05	B	2	33.34	1.30	0.857	2.44	B	ER	119.65	
		TNT6A	41.600		1.96	81.54	1.40	0.857	2.30	B	ER	119.65	0.985	2.49	B	2	33.34	1.30	0.857	1.96	B	ER	119.65	
		TNT7A	42.000		1.96	82.32	1.40	0.857	2.30	B	ER	119.65	0.985	2.46	B	2	33.34	1.30	0.857	1.96	B	ER	119.65	
		TNT7B	42.000		1.98	83.16	1.40	0.857	2.32	B	ER	119.65	0.985	2.42	B	2	33.34	1.30	0.857	1.98	B	ER	119.65	
		TNAGRIT4	43.000		1.92	82.56	1.40	0.857	2.26	B	ER	119.65	0.985	2.36	B	2	33.34	1.30	0.857	1.92	B	ER	119.65	
FATIGUE	TNACT5A	45.000		1.83	82.35	1.40	0.857	2.16	B	ER	119.65	0.985	2.28	B	2	33.34	1.30	0.857	1.83	B	ER	119.65		
	TNACT5B	45.000	③	1.82	81.90	1.40	0.857	2.14	B	ER	119.65	0.985	2.26	B	2	33.34	1.30	0.857	1.82	B	ER	119.65		
FATIGUE	HL-93 (INVENTORY)	$\gamma_{LL}=0.75$		1.04																				

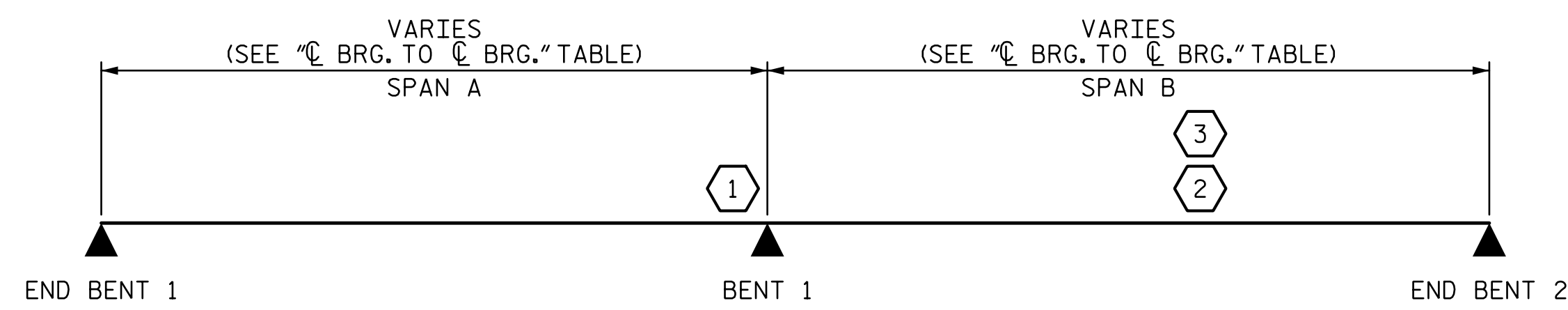
NOTES:

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:

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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

GDR.	SPAN A	SPAN B
1	226'-4 1/16"	229'-11"
2	211'-9 3/8"	222'-3 3/16"
3	197'-2 1/8"	214'-8 1/8"
4	182'-6 13/16"	207'-0 11/16"
5	167'-11 3/16"	199'-5 3/16"

PROJECT NO. R-2707C  
CLEVELAND COUNTY  
STATION: 596+50.98 -L-

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD				SHEET NO. S8-4	
		LRFR SUMMARY FOR STEEL GIRDERS (NON-INTERSTATE TRAFFIC) (SITE 6R)					
		REVISIONS					
		NO.	BY:	DATE:	NO.	BY:	DATE:
		1			3		
		2			4		

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DRAWN BY: ACA DATE: 10-16  
CHECKED BY: PEK DATE: 10-16  
DESIGN ENGINEER OF RECORD: P. KELLY DATE: 10-16