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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 × 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	1.10	--	1.75	0.844	1.45	A	EL	59.625	0.858	1.10	A	I	104.67	0.80	0.844	1.27	A	EL	59.625	
DESIGN LOAD RATING		HL-93 (OPERATING)	N/A		1.46	--	1.35	0.844	1.87	A	EL	59.625	0.858	1.46	A	I	104.67	N/A	- -	- -	- -	- -	- -	
DESIGN LOAD RATING		HS-20 (INVENTORY)	36.000	2	1.55	55.8	1.75	0.844	2.07	A	EL	59.625	0.858	1.55	A	I	104.67	0.80	0.844	1.82	A	EL	59.625	
DESIGN LOAD RATING		HS-20 (OPERATING)	36.000		2.04	73.4	1.35	0.844	2.68	A	EL	59.625	0.858	2.04	A	I	104.67	N/A	- -	- -	- -	- -	- -	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		4.37	59.0	1.40	0.844	6.23	A	EL	59.625	0.858	5.03	A	I	104.67	0.80	0.844	4.37	A	EL	59.625	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNGARBS2	20.000		3.14	62.8	1.40	0.844	4.47	A	EL	59.625	0.858	3.48	A	I	104.67	0.80	0.844	3.14	A	EL	59.625	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNAGRIS2	22.000		2.93	64.5	1.40	0.844	4.17	A	EL	59.625	0.858	3.19	A	I	104.67	0.80	0.844	2.93	A	EL	59.625	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNCOTTS3	27.250		2.17	59.1	1.40	0.844	3.09	A	EL	59.625	0.858	2.45	A	I	104.67	0.80	0.844	2.17	A	EL	59.625	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNAGGRS4	34.925		1.77	61.8	1.40	0.844	2.52	A	EL	59.625	0.858	1.97	A	I	104.67	0.80	0.844	1.77	A	EL	59.625	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNS5A	35.550		1.73	61.5	1.40	0.844	2.47	A	EL	59.625	0.858	1.97	A	I	104.67	0.80	0.844	1.73	A	EL	59.625	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNS6A	39.950		1.57	62.7	1.40	0.844	2.24	A	EL	59.625	0.858	1.77	A	I	104.67	0.80	0.844	1.57	A	EL	59.625	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNS7B	42.000		1.50	63.0	1.40	0.844	2.13	A	EL	59.625	0.858	1.72	A	I	104.67	0.80	0.844	1.50	A	EL	59.625	
LEGAL LOAD RATING	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.91	63.0	1.40	0.844	2.72	A	EL	59.625	0.858	2.14	A	I	104.67	0.80	0.844	1.91	A	EL	59.625	
LEGAL LOAD RATING	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNT4A	33.075		1.92	63.5	1.40	0.844	2.73	A	EL	59.625	0.858	2.10	A	I	104.67	0.80	0.844	1.92	A	EL	59.625	
LEGAL LOAD RATING	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNT6A	41.600		1.55	64.5	1.40	0.844	2.21	A	EL	59.625	0.858	1.79	A	I	104.67	0.80	0.844	1.55	A	EL	59.625	
LEGAL LOAD RATING	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNT7A	42.000		1.55	65.1	1.40	0.844	2.20	A	EL	59.625	0.858	1.76	A	I	104.67	0.80	0.844	1.55	A	EL	59.625	
LEGAL LOAD RATING	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNT7B	42.000		1.58	66.4	1.40	0.844	2.25	A	EL	59.625	0.858	1.69	A	I	104.67	0.80	0.844	1.58	A	EL	59.625	
LEGAL LOAD RATING	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT4	43.000		1.52	65.4	1.40	0.844	2.16	A	EL	59.625	0.858	1.64	A	I	104.67	0.80	0.844	1.52	A	EL	59.625	
LEGAL LOAD RATING	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGT5A	45.000		1.44	64.8	1.40	0.844	2.05	A	EL	59.625	0.858	1.60	A	I	104.67	0.80	0.844	1.44	A	EL	59.625	
LEGAL LOAD RATING	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGT5B	45.000	3	1.43	64.4	1.40	0.844	2.03	A	EL	59.625	0.858	1.56	A	I	104.67	0.80	0.844	1.43	A	EL	59.625	

LOAD FACTORS:

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

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.

(#) CONTROLLING LOAD RATING

(1) DESIGN LOAD RATING (HL-93)

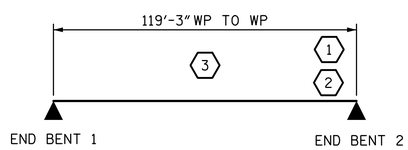
(2) DESIGN LOAD RATING (HS-20)

(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-2579B
FORSYTH COUNTY
STATION: 23+59.12 -Y5-

SHEET 5 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 2657 (HASTING HILLS RD.) BETWEEN SR 4393 & SR 2632 OVER -Y4RPD- (WINSTON-SALEM NORTHERN BELTWAY)

REVISIONS								SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:			S-632
1			3					TOTAL SHEETS
2			4					S-707

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DocuSigned by: Mark Averette
8/15/2014

DRAWN BY: S. D. COOPER DATE: 3-14
CHECKED BY: T. J. BEACH DATE: 3-14
DESIGN ENGINEER OF RECORD: M. AVERETTE DATE: 3-14

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