LOAD AND RESISTANCE FACTOR RATING (LRFD) 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
							LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	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(Inv)	N/A	1	1.32	--	1.75	0.285	1.77	35'	EL	17.0	0.659	3.12	35'	I	1.8	0.80	0.285	**1.32**	35'	EL	17.0	
DESIGN LOAD RATING		HL-93(Opr)	N/A	--	2.29	--	1.35	0.285	2.29	35'	EL	17.0	0.659	4.04	35'	I	1.8	N/A	--	--	--	--	--	
DESIGN LOAD RATING		HS-20(Inv)	36.000	2	1.76	63.36	1.75	0.285	2.34	35'	EL	13.6	0.659	3.59	35'	I	1.8	0.80	0.285	**1.76**	35'	EL	17.0	
DESIGN LOAD RATING		HS-20(Opr)	36.000	--	3.04	109.44	1.35	0.285	3.04	35'	EL	13.6	0.659	4.65	35'	I	1.8	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.01	40.64	1.40	0.285	5.05	35'	EL	17.0	0.659	9.23	35'	I	1.8	0.80	0.285	3.01	35'	EL	17.0	
LEGAL LOAD RATING	SV	SNGARBS2	20.000	--	2.61	52.20	1.40	0.285	4.30	35'	EL	13.6	0.659	6.98	35'	I	1.8	0.80	0.285	2.61	35'	EL	13.6	
LEGAL LOAD RATING	SV	SNAGRIS2	22.000	--	2.58	56.76	1.40	0.285	4.26	35'	EL	13.6	0.659	6.66	35'	I	1.8	0.80	0.285	2.58	35'	EL	13.6	
LEGAL LOAD RATING	SV	SNCOTTS3	27.250	--	1.51	41.15	1.40	0.285	2.53	35'	EL	17.0	0.659	4.69	35'	I	1.8	0.80	0.285	1.51	35'	EL	17.0	
LEGAL LOAD RATING	SV	SNAGGRS4	34.925	--	1.36	47.50	1.40	0.285	2.34	35'	EL	17.0	0.659	4.20	35'	I	1.8	0.80	0.285	1.36	35'	EL	17.0	
LEGAL LOAD RATING	SV	SNS5A	35.550	--	1.35	47.99	1.40	0.285	2.27	35'	EL	17.0	0.659	4.44	35'	I	1.8	0.80	0.285	1.35	35'	EL	17.0	
LEGAL LOAD RATING	SV	SNS6A	39.950	--	1.31	52.33	1.40	0.285	2.19	35'	EL	17.0	0.659	4.17	35'	I	1.8	0.80	0.285	1.31	35'	EL	17.0	
LEGAL LOAD RATING	SV	SNS7B	42.000	3	1.25	52.50	1.40	0.285	2.09	35'	EL	17.0	0.659	4.27	35'	I	1.8	0.80	0.285	**1.25**	35'	EL	17.0	
LEGAL LOAD RATING	TTST	TNAGRIT3	33.000	--	1.61	53.13	1.40	0.285	2.71	35'	EL	17.0	0.659	4.87	35'	I	1.8	0.80	0.285	1.61	35'	EL	17.0	
LEGAL LOAD RATING	TTST	TNT4A	33.075	--	1.61	53.25	1.40	0.285	2.71	35'	EL	17.0	0.659	4.59	35'	I	1.8	0.80	0.285	1.61	35'	EL	17.0	
LEGAL LOAD RATING	TTST	TNT6A	41.600	--	1.41	58.66	1.40	0.285	2.37	35'	EL	17.0	0.659	4.50	35'	I	1.8	0.80	0.285	1.41	35'	EL	17.0	
LEGAL LOAD RATING	TTST	TNT7A	42.000	--	1.46	61.32	1.40	0.285	2.45	35'	EL	17.0	0.659	4.18	35'	I	1.8	0.80	0.285	1.46	35'	EL	17.0	
LEGAL LOAD RATING	TTST	TNT7B	42.000	--	1.43	60.06	1.40	0.285	2.41	35'	EL	17.0	0.659	4.06	35'	I	1.8	0.80	0.285	1.43	35'	EL	17.0	
LEGAL LOAD RATING	TTST	TNAGRIT4	43.000	--	1.45	62.35	1.40	0.285	2.42	35'	EL	13.6	0.659	3.90	35'	I	1.8	0.80	0.285	1.45	35'	EL	17.0	
LEGAL LOAD RATING	TTST	TNAGT5A	45.000	--	1.34	60.30	1.40	0.285	2.25	35'	EL	17.0	0.659	4.12	35'	I	1.8	0.80	0.285	1.34	35'	EL	17.0	
LEGAL LOAD RATING	TTST	TNAGT5B	45.000	--	1.29	58.05	1.40	0.285	2.17	35'	EL	17.0	0.659	3.68	35'	I	1.8	0.80	0.285	1.29	35'	EL	17.0	

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.

COMMENTS:

1.
2.
3.
4.

(#) CONTROLLING LOAD RATING

(1) DESIGN LOAD RATING (HL-93)

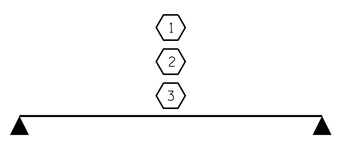
(2) DESIGN LOAD RATING (HS-20)

(3) LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



LRFR SUMMARY

FOR SPAN 'A'

PROJECT NO. 17BP.8.R.115

RANDOLPH COUNTY

STATION: 17+24.00 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LRFR SUMMARY FOR
35' CORED SLAB UNIT
75° SKEW
SPAN A
(NON-INTERSTATE TRAFFIC)

NORTH CAROLINA PROFESSIONAL SEAL 24939 ENGINEER BYRON E. ATKINSON

4/18/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			20

ASSEMBLED BY: B.E. LANNING DATE: 12/16
CHECKED BY : B.E. ATKINSON DATE: 01/17
DESIGN ENGINEER OF RECORD: B.E. ATKINSON DATE: 03/17

DRAWN BY : CVC 6/10
CHECKED BY : DNS 6/10

4/18/2017
11:49:03 AM
User: blanning
Filename: P:\NC Bridges\MI6005_CH Eng_Div. 8 Br. Repl. 16 Bridges\MI6005.02_Randolph 128\17BP8R115\Structures\401.005.17BP8R115_SMU_LRFR1.dgn