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
								MOMENT					SHEAR						MOMENT					
							LIVELOAD FACTORS	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)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING		HL-93(Inv)	N/A	**1**	1.234	--	1.75	0.268	1.77	A	EL	41.724	0.584	**1.23**	A	EL	**8.345**	0.80	0.268	1.43	A	EL	41.724	
		HL-93(Opr)	N/A	--	1.6	--	1.35	0.268	2.29	A	EL	41.724	0.584	1.6	A	EL	8.345	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	**2**	1.6	57.589	1.75	0.268	2.38	A	EL	41.724	0.584	**1.6**	A	EL	**8.345**	0.80	0.268	1.92	A	EL	41.724	
		HS-20(Opr)	36.000	--	2.074	74.652	1.35	0.268	3.08	A	EL	41.724	0.584	2.07	A	EL	8.345	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	4.442	59.964	1.4	0.268	6.87	A	EL	41.724	0.584	4.84	A	EL	8.345	0.80	0.268	4.44	A	EL	41.724	
		SNGARBS2	20.000	--	3.264	65.272	1.4	0.268	5.05	A	EL	41.724	0.584	3.41	A	EL	8.345	0.80	0.268	3.26	A	EL	41.724	
		SNAGRIS2	22.000	--	3.072	67.575	1.4	0.268	4.75	A	EL	41.724	0.584	3.16	A	EL	8.345	0.80	0.268	3.07	A	EL	41.724	
		SNCOTTS3	27.250	--	2.209	60.195	1.4	0.268	3.42	A	EL	41.724	0.584	2.41	A	EL	8.345	0.80	0.268	2.21	A	EL	41.724	
		SNAGGRS4	34.925	--	1.828	63.848	1.4	0.268	2.83	A	EL	41.724	0.584	1.98	A	EL	8.345	0.80	0.268	1.83	A	EL	41.724	
		SNS5A	35.550	--	1.789	63.597	1.4	0.268	2.77	A	EL	41.724	0.584	2	A	EL	8.345	0.80	0.268	1.79	A	EL	41.724	
		SNS6A	39.950	--	1.634	65.278	1.4	0.268	2.53	A	EL	41.724	0.584	1.82	A	EL	8.345	0.80	0.268	1.63	A	EL	41.724	
		SNS7B	42.000	--	1.556	65.343	1.4	0.268	2.41	A	EL	41.724	0.584	1.78	A	EL	8.345	0.80	0.268	1.56	A	EL	41.724	
	TTST	TNAGRIT3	33.000	--	1.99	65.683	1.4	0.268	3.08	A	EL	41.724	0.584	2.17	A	EL	8.345	0.80	0.268	1.99	A	EL	41.724	
		TNT4A	33.075	--	1.997	66.056	1.4	0.268	3.09	A	EL	41.724	0.584	2.12	A	EL	8.345	0.80	0.268	2.00	A	EL	41.724	
		TNT6A	41.600	--	1.626	67.64	1.4	0.268	2.51	A	EL	41.724	0.584	1.88	A	EL	8.345	0.80	0.268	1.63	A	EL	41.724	
		TNT7A	42.000	--	1.63	68.476	1.4	0.268	2.52	A	EL	41.724	0.584	1.84	A	EL	8.345	0.80	0.268	1.63	A	EL	41.724	
		TNT7B	42.000	--	1.678	70.459	1.4	0.268	2.59	A	EL	41.724	0.584	1.74	A	EL	8.345	0.80	0.268	1.68	A	EL	41.724	
		TNAGRIT4	43.000	--	1.603	68.913	1.4	0.268	2.48	A	EL	41.724	0.584	1.69	A	EL	8.345	0.80	0.268	1.60	A	EL	41.724	
		TNAGT5A	45.000	--	1.514	68.142	1.4	0.268	2.34	A	EL	41.724	0.584	1.67	A	EL	8.345	0.80	0.268	1.51	A	EL	41.724	
		TNAGT5B	45.000	**3**	1.499	67.445	1.4	0.268	2.32	A	EL	41.724	0.584	1.61	A	EL	8.345	0.80	0.268	**1.50**	A	EL	**41.724**	

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)

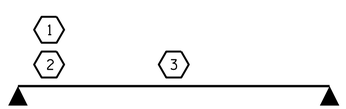
(2) DESIGN LOAD RATING (HS-20)

(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. B-5151
GRANVILLE COUNTY
STATION: 14+17.00 -L-

NORTH CAROLINA PROFESSIONAL SEAL 29441 ENGINEER KRISTY W. ALFORD

DocuSigned by: F2458389308F40E...

12/16/2014

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
LRFR SUMMARY FOR 85' BOX BEAM UNIT 105° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			17

ASSEMBLED BY : D. SHACKELFORD DATE : 01/2014
CHECKED BY : Fr. LEA DATE : 03/2014
DRAWN BY : TMG 11/11
CHECKED BY : AAC 11/11

02-DEC-2014 08:59
O:\Structures\Plans\Superstructure\B-5151_SD_BX.dgn
jpadams

STD. NO. 33LRFR1_75&105S_85L