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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**	1.133	--	1.75	0.249	1.48	60′	EL	29.423	0.649	**1.13**	60′	EL	**5.885**	0.80	0.249	1.52	60′	EL	29.423	
		HL-93(Opr)	N/A	--	1.468	--	1.35	0.249	1.91	60′	EL	29.423	0.649	1.47	60′	EL	5.885	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	**2**	1.364	49.098	1.75	0.249	1.87	60′	EL	29.423	0.649	**1.36**	60′	EL	**5.885**	0.80	0.249	1.92	60′	EL	29.423	
		HS-20(Opr)	36.000	--	1.768	63.645	1.35	0.249	2.42	60′	EL	29.423	0.649	1.77	60′	EL	5.885	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.938	53.159	1.4	0.249	5.03	60′	EL	29.423	0.649	3.94	60′	EL	5.885	0.80	0.249	4.13	60′	EL	29.423	
		SNGARBS2	20.000	--	2.837	56.744	1.4	0.249	3.85	60′	EL	29.423	0.649	2.84	60′	EL	5.885	0.80	0.249	3.17	60′	EL	29.423	
		SNAGRIS2	22.000	--	2.648	58.256	1.4	0.249	3.69	60′	EL	29.423	0.649	2.65	60′	EL	5.885	0.80	0.249	3.03	60′	EL	29.423	
		SNCOTTS3	27.250	--	1.97	53.671	1.4	0.249	2.5	60′	EL	29.423	0.649	1.97	60′	EL	5.885	0.80	0.249	2.06	60′	EL	29.423	
		SNAGGRS4	34.925	--	1.661	58.001	1.4	0.249	2.13	60′	EL	29.423	0.649	1.66	60′	EL	5.885	0.80	0.249	1.75	60′	EL	29.423	
		SNS5A	35.550	--	1.696	60.293	1.4	0.249	2.08	60′	EL	29.423	0.649	1.7	60′	EL	5.885	0.80	0.249	1.71	60′	EL	29.423	
		SNS6A	39.950	--	1.558	62.257	1.4	0.249	1.93	60′	EL	29.423	0.649	1.56	60′	EL	5.885	0.80	0.249	1.58	60′	EL	29.423	
		SNS7B	42.000	--	1.51	63.41	1.4	0.249	1.84	60′	EL	29.423	0.649	1.55	60′	EL	5.885	0.80	0.249	1.51	60′	EL	29.423	
	TTST	TNAGRIT3	33.000	--	1.846	60.907	1.4	0.249	2.36	60′	EL	29.423	0.649	1.85	60′	EL	5.885	0.80	0.249	1.94	60′	EL	29.423	
		TNT4A	33.075	--	1.787	59.108	1.4	0.249	2.37	60′	EL	29.423	0.649	1.79	60′	EL	5.885	0.80	0.249	1.95	60′	EL	29.423	
		TNT6A	41.600	--	1.607	66.863	1.4	0.249	1.96	60′	EL	29.423	0.649	1.67	60′	EL	5.885	0.80	0.249	1.61	60′	EL	29.423	
		TNT7A	42.000	--	1.598	67.1	1.4	0.249	1.97	60′	EL	29.423	0.649	1.6	60′	EL	5.885	0.80	0.249	1.62	60′	EL	29.423	
		TNT7B	42.000	--	1.499	62.942	1.4	0.249	2.06	60′	EL	29.423	0.649	1.5	60′	EL	5.885	0.80	0.249	1.69	60′	EL	29.423	
		TNAGRIT4	43.000	--	1.447	62.223	1.4	0.249	1.95	60′	EL	29.423	0.649	1.45	60′	EL	5.885	0.80	0.249	1.60	60′	EL	29.423	
		TNAGT5A	45.000	--	1.455	65.474	1.4	0.249	1.83	60′	EL	29.423	0.649	1.45	60′	EL	5.885	0.80	0.249	1.50	60′	EL	29.423	
		TNAGT5B	45.000	**3**	1.374	61.845	1.4	0.249	1.8	60′	EL	29.423	0.649	**1.37**	60′	EL	**5.885**	0.80	0.249	1.48	60′	EL	29.423	

LOAD FACTORS:

	LIMIT STATE	γ_{DC}	γ_{DW}
DESIGN LOAD RATING FACTORS	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 'B'

PROJECT NO. 17BP.4.R.69

NASH COUNTY

STATION: 13+20.00 -L-

PLANS PREPARED BY:

CALYX ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27518
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

THIS STANDARD DRAWING REVIEWED & ADOPTED FOR USE AT THE REFERENCED LOCATION BY THE UNDERSIGNED:

NORTH CAROLINA PROFESSIONAL SEAL 966 ENGINEER L. KEVIN AUSTIN

DocuSigned by: L. Kevin Austin 12F7B372B2A4488...

1/3/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

LRFR SUMMARY FOR 60′ CORED SLAB UNIT 120° SKEW
(NON-INTERSTATE TRAFFIC)

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

STD. NO. 24LRFR1_60&120S_60L

ASSEMBLED BY :	W. B. ALLEN	DATE :	6/16
CHECKED BY :	W. A. DAVIS	DATE :	7/16
DRAWN BY : CVC	6/10		
CHECKED BY : DNS	6/10		

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