LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE CORED SLABS

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					
							LIVE-LOAD FACTORS $\gamma_{(LL)}$	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)	LIVE-LOAD FACTORS $\gamma_{(LL)}$	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING		HL-93(Inv)	N/A	1	1.04	--	1.75	0.271	1.06	A	EL	34.5	0.497	1.38	A	EL	6.90	0.80	0.271	1.04	A	EL	34.500	
		HL-93(Opr)	N/A	--	1.37	--	1.35	0.271	1.37	A	EL	34.5	0.497	1.79	A	EL	6.90	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.35	48.648	1.75	0.271	1.37	A	EL	34.5	0.497	1.72	A	EL	6.90	0.80	0.271	1.35	A	EL	34.500	
		HS-20(Opr)	36.000	--	1.78	64.139	1.35	0.271	1.78	A	EL	34.5	0.497	2.23	A	EL	6.90	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	--	3.02	40.742	1.40	0.271	3.84	A	EL	34.5	0.497	5.08	A	EL	6.90	0.80	0.271	3.02	A	EL	34.500	
		SNGARBS2	20.000	--	2.26	45.256	1.40	0.271	2.88	A	EL	34.5	0.497	3.62	A	EL	6.90	0.80	0.271	2.26	A	EL	34.500	
		SNAGRIS2	22.000	--	2.15	47.272	1.40	0.271	2.73	A	EL	34.5	0.497	3.37	A	EL	6.90	0.80	0.271	2.15	A	EL	34.500	
		SNCOTTS3	27.250	--	1.50	40.935	1.40	0.271	1.91	A	EL	34.5	0.497	2.54	A	EL	6.90	0.80	0.271	1.50	A	EL	34.500	
		SNAGGRS4	34.925	--	1.26	44.028	1.40	0.271	1.60	A	EL	34.5	0.497	2.11	A	EL	6.90	0.80	0.271	1.26	A	EL	34.500	
		SNS5A	35.550	--	1.23	43.812	1.40	0.271	1.57	A	EL	34.5	0.497	2.14	A	EL	6.90	0.80	0.271	1.23	A	EL	34.500	
		SNS6A	39.950	--	1.13	45.261	1.40	0.271	1.44	A	EL	34.5	0.497	1.96	A	EL	6.90	0.80	0.271	1.13	A	EL	34.500	
		SNS7B	42.000	--	1.08	45.318	1.40	0.271	1.37	A	EL	34.5	0.497	1.93	A	EL	6.90	0.80	0.271	1.08	A	EL	34.500	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	--	1.38	45.613	1.40	0.271	1.76	A	EL	34.5	0.497	2.33	A	EL	6.90	0.80	0.271	1.38	A	EL	34.500	
		TNT4A	33.075	--	1.39	45.939	1.40	0.271	1.77	A	EL	34.5	0.497	2.27	A	EL	6.90	0.80	0.271	1.39	A	EL	34.500	
		TNT6A	41.600	--	1.14	47.330	1.40	0.271	1.45	A	EL	34.5	0.497	2.06	A	EL	6.90	0.80	0.271	1.14	A	EL	34.500	
		TNT7A	42.000	--	1.14	48.071	1.40	0.271	1.46	A	EL	34.5	0.497	2.02	A	EL	6.90	0.80	0.271	1.14	A	EL	34.500	
		TNT7B	42.000	--	1.19	49.849	1.40	0.271	1.51	A	EL	34.5	0.497	1.88	A	EL	6.90	0.80	0.271	1.19	A	EL	34.500	
		TNAGRIT4	43.000	--	1.13	48.460	1.40	0.271	1.43	A	EL	34.5	0.497	1.82	A	EL	6.90	0.80	0.271	1.13	A	EL	34.500	
		TNAGT5A	45.000	--	1.06	47.774	1.40	0.271	1.35	A	EL	34.5	0.497	1.81	A	EL	6.90	0.80	0.271	1.06	A	EL	34.500	
		TNAGT5B	45.000	3	1.05	47.158	1.40	0.271	1.33	A	EL	34.5	0.497	1.73	A	EL	6.90	0.80	0.271	1.05	A	EL	34.500	

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.

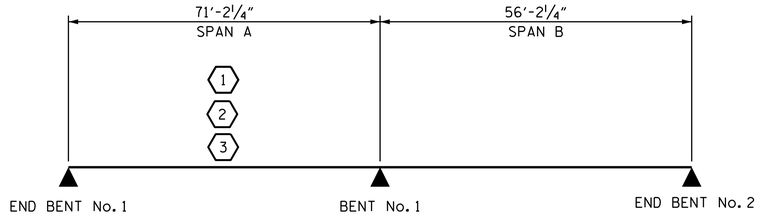
ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

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

PROJECT NO. B-5124
NASH COUNTY
STATION: 22+49.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
LRFR SUMMARY FOR PRESTRESSED CONCRETE CORED SLABS
(NON-INTERSTATE TRAFFIC)

NORTH CAROLINA PROFESSIONAL SEAL 14045 ENGINEER TIMOTHY L. COGGINS
3/9/2015
DocuSigned by: Tim Coggins DEFDA8D48FA47B...

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			71

ASSEMBLED BY : K. P. SEDAI DATE : 10/10/14
CHECKED BY : D. G. ELY DATE : 11/18/14
DESIGN ENGINEER OF RECORD : K. P. SEDAI DATE : 11/18/14
DRAWN BY : MAA 1/08
CHECKED BY : GM/DI 2/08
REV. 11/12/08RR MAA/GM
REV. 10/1/11 MAA/GM

06-MAR-2015 14:47
R:\Structures\FinalPlans\DocuSign Setup\401_005_B-5124_SMU_S1-0.dgn
nruffin

STR. #1 STD. NO. LRFR1