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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**	1.065	--	1.75	0.27	1.25	55'	EL	26.982	0.616	1.12	55'	EL	5.396	0.80	0.27	**1.07**	55'	EL	**26.982**	
		HL-93(Opr)	N/A	--	1.452	--	1.35	0.27	1.61	55'	EL	26.982	0.616	1.45	55'	EL	5.396	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	**2**	1.335	48.043	1.75	0.27	1.56	55'	EL	26.982	0.616	1.34	55'	EL	5.396	0.80	0.27	**1.33**	55'	EL	**26.982**	
		HS-20(Opr)	36.000	--	1.734	62.425	1.35	0.27	2.02	55'	EL	26.982	0.616	1.73	55'	EL	5.396	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.802	37.83	1.4	0.27	4.09	55'	EL	26.982	0.616	3.81	55'	EL	5.396	0.80	0.27	2.80	55'	EL	26.982	
		SNGARBS2	20.000	--	2.175	43.506	1.4	0.27	3.18	55'	EL	26.982	0.616	2.76	55'	EL	5.396	0.80	0.27	2.18	55'	EL	26.982	
		SNAGRIS2	22.000	--	2.099	46.173	1.4	0.27	3.07	55'	EL	26.982	0.616	2.58	55'	EL	5.396	0.80	0.27	2.10	55'	EL	26.982	
		SNCOTTS3	27.250	--	1.397	38.065	1.4	0.27	2.04	55'	EL	26.982	0.616	1.91	55'	EL	5.396	0.80	0.27	1.40	55'	EL	26.982	
		SNAGGRS4	34.925	--	1.2	41.922	1.4	0.27	1.75	55'	EL	26.982	0.616	1.62	55'	EL	5.396	0.80	0.27	1.20	55'	EL	26.982	
		SNS5A	35.550	--	1.172	41.648	1.4	0.27	1.71	55'	EL	26.982	0.616	1.66	55'	EL	5.396	0.80	0.27	1.17	55'	EL	26.982	
		SNS6A	39.950	--	1.089	43.514	1.4	0.27	1.59	55'	EL	26.982	0.616	1.53	55'	EL	5.396	0.80	0.27	1.09	55'	EL	26.982	
		SNS7B	42.000	--	1.038	43.587	1.4	0.27	1.52	55'	EL	26.982	0.616	1.53	55'	EL	5.396	0.80	0.27	1.04	55'	EL	26.982	
	TTST	TNAGRIT3	33.000	--	1.333	43.973	1.4	0.27	1.95	55'	EL	26.982	0.616	1.81	55'	EL	5.396	0.80	0.27	1.33	55'	EL	26.982	
		TNT4A	33.075	--	1.342	44.4	1.4	0.27	1.96	55'	EL	26.982	0.616	1.75	55'	EL	5.396	0.80	0.27	1.34	55'	EL	26.982	
		TNT6A	41.600	--	1.112	46.252	1.4	0.27	1.62	55'	EL	26.982	0.616	1.67	55'	EL	5.396	0.80	0.27	1.11	55'	EL	26.982	
		TNT7A	42.000	--	1.125	47.255	1.4	0.27	1.64	55'	EL	26.982	0.616	1.56	55'	EL	5.396	0.80	0.27	1.13	55'	EL	26.982	
		TNT7B	42.000	--	1.174	49.318	1.4	0.27	1.72	55'	EL	26.982	0.616	1.47	55'	EL	5.396	0.80	0.27	1.17	55'	EL	26.982	
		TNAGRIT4	43.000	--	1.111	47.786	1.4	0.27	1.62	55'	EL	26.982	0.616	1.42	55'	EL	5.396	0.80	0.27	1.11	55'	EL	26.982	
		TNAGT5A	45.000	--	1.041	46.851	1.4	0.27	1.52	55'	EL	26.982	0.616	1.44	55'	EL	5.396	0.80	0.27	1.04	55'	EL	26.982	
		TNAGT5B	45.000	**3**	1.023	46.02	1.4	0.27	1.49	55'	EL	26.982	0.616	1.35	55'	EL	5.396	0.80	0.27	**1.02**	55'	EL	**26.982**	

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)

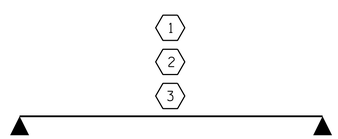
(2) DESIGN LOAD RATING (HS-20)

(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 'A'

PROJECT NO. 17.BP.1.R.99

PASQUOTANK COUNTY

STATION: 17+52.50 -L-

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 045282 ENGINEER GWENDOLEN F. WILSON

DocuSigned by: Gwendolen Wilson

10/12/2021

PLANS PREPARED BY:

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LRFR SUMMARY FOR 55' CORED SLAB UNIT 75° SKEW & 105° SKEW (NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			13

ASSEMBLED BY : W. B. ALLEN DATE : 7/19
CHECKED BY : G. F. WILSON DATE : 1/21

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

10/12/2021 10:44:07 AM R:\Structures\17BP.1.R.99_SMU_GD3_690025.dgn

STD. NO. 21LRFR1_75&105S_55L