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**	**1.08**	--	1.75	0.246	2.32	75'	ER	36.635	0.621	**1.08**	A	ER	**3.663**	0.80	0.246	1.74	A	ER	36.635	
		HL-93(Opr)	N/A	--	1.4	--	1.35	0.246	3.01	75'	ER	36.635	0.621	1.4	A	ER	3.663	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	**2**	**1.37**	49.291	1.75	0.246	3.05	75'	ER	36.635	0.621	**1.37**	A	ER	**3.663**	0.80	0.246	2.28	A	ER	36.635	
		HS-20(Opr)	36.000	--	1.78	63.896	1.35	0.246	3.95	75'	ER	36.635	0.621	1.77	A	ER	3.663	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	4.11	55.416	1.4	0.246	8.6	75'	ER	36.635	0.621	4.1	A	ER	3.663	0.80	0.246	5.16	A	ER	36.635	
		SNGARBS2	20.000	--	2.91	58.179	1.4	0.246	6.41	75'	ER	36.635	0.621	2.91	A	ER	3.663	0.80	0.246	3.84	A	ER	36.635	
		SNAGRIS2	22.000	--	2.7	59.317	1.4	0.246	6.07	75'	ER	36.635	0.621	2.7	A	ER	3.663	0.80	0.246	3.64	A	ER	36.635	
		SNCOTTS3	27.250	--	2.05	55.816	1.4	0.246	4.28	75'	ER	36.635	0.621	2.05	A	ER	3.663	0.80	0.246	2.57	A	ER	36.635	
		SNAGGRS4	34.925	--	1.69	59.126	1.4	0.246	3.58	75'	ER	36.635	0.621	1.69	A	ER	3.663	0.80	0.246	2.14	A	ER	36.635	
		SNS5A	35.550	--	1.71	60.826	1.4	0.246	3.5	75'	ER	36.635	0.621	1.71	A	ER	3.663	0.80	0.246	2.10	A	ER	36.635	
		SNS6A	39.950	--	1.56	62.254	1.4	0.246	3.21	75'	ER	36.635	0.621	1.56	A	ER	3.663	0.80	0.246	1.92	A	ER	36.635	
		SNS7B	42.000	--	1.53	64.153	1.4	0.246	3.05	75'	ER	36.635	0.621	1.53	A	ER	3.663	0.80	0.246	1.83	A	ER	36.635	
	TTST	TNAGRIT3	33.000	--	1.86	61.275	1.4	0.246	3.91	75'	ER	36.635	0.621	1.86	A	ER	3.663	0.80	0.246	2.34	A	ER	36.635	
		TNT4A	33.075	--	1.81	59.951	1.4	0.246	3.93	75'	ER	36.635	0.621	1.81	A	ER	3.663	0.80	0.246	2.36	A	ER	36.635	
		TNT6A	41.600	--	1.62	67.399	1.4	0.246	3.21	75'	ER	36.635	0.621	1.62	A	ER	3.663	0.80	0.246	1.93	A	ER	36.635	
		TNT7A	42.000	--	1.59	66.741	1.4	0.246	3.23	75'	ER	36.635	0.621	1.59	A	ER	3.663	0.80	0.246	1.93	A	ER	36.635	
		TNT7B	42.000	--	1.49	62.746	1.4	0.246	3.34	75'	ER	36.635	0.621	1.49	A	ER	3.663	0.80	0.246	2.00	A	ER	36.635	
		TNAGRIT4	43.000	--	1.45	62.230	1.4	0.246	3.18	75'	ER	36.635	0.621	1.45	A	ER	3.663	0.80	0.246	1.90	A	ER	36.635	
		TNAGT5A	45.000	--	1.43	64.540	1.4	0.246	2.99	75'	ER	36.635	0.621	1.43	A	ER	3.663	0.80	0.246	1.80	A	ER	36.635	
		TNAGT5B	45.000	**3**	**1.38**	61.956	1.4	0.246	2.96	75'	ER	36.635	0.621	**1.38**	A	ER	**3.663**	0.80	0.246	1.77	A	ER	36.635	

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.

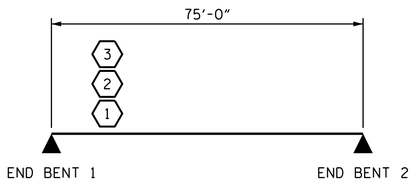
(#) CONTROLLING LOAD RATING

(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. 17BP.1.R.62
WASHINGTON COUNTY
STATION: 15+69.80 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER A. KEITH PASCHAL

DocuSigned by: A. Keith Paschal
F8B6AD6DB2FC48F...
4/24/2015

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			16

ASSEMBLED BY : L.B.LACORTE DATE : 3-25-15
CHECKED BY : P.N.HOLDER DATE : 4-9-15
DESIGN ENGINEER OF RECORD: L.B.LACORTE DATE : 4-9-15

24-APR-2015 13:33
S:\DPGI\Division1\17BP.1.R.62\pnholder\17BP.1.R.62_SD_BX.dgn
kpaschal

STD. NO. LRFR1