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	1.009	--	1.75	0.785	1.32	C	ER	28.625	0.785	1.51	C	ER	34.35	0.80	0.785	1.01	B	ER	43.875	
		HL-93(Opr)	N/A	--	1.706	--	1.35	0.785	1.71	C	ER	28.625	0.785	1.95	C	ER	34.35	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.644	59.176	1.75	0.875	1.75	C	EL	28.625	0.878	1.81	C	EL	22.9	0.80	0.735	1.64	B	I	43.875	
		HS-20(Opr)	36.000	--	2.263	81.473	1.35	0.875	2.26	C	EL	28.625	0.878	2.35	C	EL	22.9	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.833	51.744	1.40	0.875	4.66	C	EL	28.625	0.878	4.76	C	EL	22.9	0.80	0.735	3.83	B	I	43.875	
		SNGARBS2	20.000	--	2.803	56.066	1.40	0.875	3.58	C	EL	28.625	0.878	3.57	C	EL	22.9	0.80	0.735	2.80	B	I	43.875	
		SNAGRIS2	22.000	--	2.633	57.928	1.40	0.875	3.44	C	EL	28.625	0.878	3.39	C	EL	22.9	0.80	0.735	2.63	B	I	43.875	
		SNCOTTS3	27.250	--	1.906	51.933	1.40	0.875	2.32	C	EL	28.625	0.878	2.40	C	EL	22.9	0.80	0.735	1.91	B	I	43.875	
		SNAGGRS4	34.925	--	1.572	54.911	1.40	0.875	1.98	C	EL	28.625	0.878	2.12	C	EL	22.9	0.80	0.735	1.57	B	I	43.875	
		SNS5A	35.550	--	1.539	54.706	1.40	0.875	1.94	C	EL	28.625	0.878	2.23	C	EL	22.9	0.80	0.735	1.54	B	I	43.875	
		SNS6A	39.950	--	1.404	56.071	1.40	0.875	1.79	C	EL	28.625	0.878	2.10	C	EL	22.9	0.80	0.735	1.40	B	I	43.875	
		SNS7B	42.000	--	1.336	56.124	1.40	0.875	1.71	C	EL	28.625	0.878	2.15	C	EL	22.9	0.80	0.735	1.34	B	I	43.875	
	TTST	TNAGRIT3	33.000	--	1.709	56.399	1.40	0.875	2.19	C	EL	28.625	0.878	2.44	C	EL	22.9	0.80	0.735	1.71	B	I	43.875	
		TNT4A	33.075	--	1.714	56.701	1.40	0.875	2.21	C	EL	28.625	0.878	2.31	C	EL	22.9	0.80	0.735	1.71	B	I	43.875	
		TNT6A	41.600	--	1.394	57.981	1.40	0.875	1.82	C	EL	28.625	0.878	2.47	C	EL	22.9	0.80	0.735	1.39	B	I	43.875	
		TNT7A	42.000	--	1.397	58.655	1.40	0.875	1.84	C	EL	28.625	0.878	2.23	C	EL	22.9	0.80	0.735	1.40	B	I	43.875	
		TNT7B	42.000	--	1.435	60.251	1.40	0.875	1.92	C	EL	28.625	0.878	2.03	C	EL	22.9	0.80	0.735	1.43	B	I	43.875	
		TNAGRIT4	43.000	--	1.372	59.007	1.40	0.875	1.82	C	EL	28.625	0.878	1.95	C	EL	22.9	0.80	0.735	1.37	B	I	43.875	
		TNAGT5A	45.000	--	1.297	58.386	1.40	0.875	1.71	C	EL	28.625	0.878	2.04	C	EL	22.9	0.80	0.735	1.30	B	I	43.875	
		TNAGT5B	45.000	3	1.285	57.824	1.40	0.875	1.68	C	EL	28.625	0.878	1.84	C	EL	22.9	0.80	0.735	1.28	B	I	43.875	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

	YEAR	ADTT
CURRENT	2008	702
FUTURE	2030	1212

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)

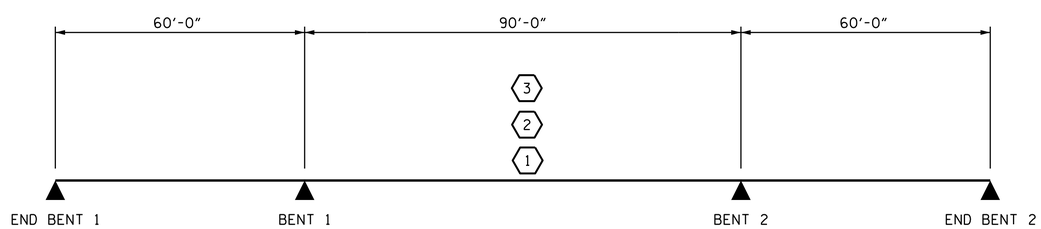
(2) DESIGN LOAD RATING (HS-20)

(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. U-3615B
GUILFORD COUNTY
STATION: 238+33.00-L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

NORTH CAROLINA PROFESSIONAL SEAL 16301 ENGINEER TING HSIUNG FANG

DocuSigned by: Ting H. Fang
E72088400997435...
12/3/2014

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

SHEET NO. S-5
TOTAL SHEETS 91

ASSEMBLED BY : E.I. OMILE DATE : 6-1-10
CHECKED BY : R.P. PATEL DATE : 7-2-10
DESIGN ENGINEER OF RECORD : E.I. OMILE DATE : 1-7-14
DRAWN BY : MAA 1/08
CHECKED BY : GM/DI 2/08
REV. 11/12/08R MAA/GM
REV. 10/1/11 MAA/GM

03-DEC-2014 11:03
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STR. #1 STD. NO. LRFR1