

LOAD FACTORS:

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

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			
						LIVE-LOAD FACTORS (%LL)	MOMENT					SHEAR					LIVE-LOAD FACTORS (%LL)	MOMENT						
							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)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.05	--	1.75	0.774	1.54	A & B	1	47.35	0.963	1.40	A & B	2	66.57	1.00	0.774	1.05	A & B	1	47.35	1, 2	
	HL-93 (OPERATING)	N/A		2.00	--	1.35	0.774	2.00	A & B	1	47.35	0.963	2.00	A & B	2	8.90	N/A	-	-	-	-	-	-	2
	HS-20 (INVENTORY)	36.000	②	1.44	51.84	1.75	0.774	2.13	A & B	1	47.35	0.963	2.04	A & B	2	8.90	1.00	0.774	1.44	A & B	1	47.35	1, 2	
	HS-20 (OPERATING)	36.000		2.68	96.48	1.35	0.774	2.76	A & B	1	47.35	0.963	2.68	A & B	2	85.79	N/A	-	-	-	-	-	-	2
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.40	45.90	1.40	0.774	6.28	A & B	1	47.35	0.963	6.48	A & B	2	85.79	1.00	0.774	3.40	A & B	1	47.35	1, 2
		SNGARBS2	20.000		2.47	49.40	1.40	0.774	4.56	A & B	1	47.35	0.963	4.52	A & B	2	85.79	1.00	0.774	2.47	A & B	1	47.35	1, 2
		SNAGRIS2	22.000		2.31	50.82	1.40	0.774	4.27	A & B	1	47.35	0.963	4.16	A & B	2	85.79	1.00	0.774	2.31	A & B	1	47.35	1, 2
		SNCOTTS3	27.250		1.69	46.05	1.40	0.774	3.12	A & B	1	47.35	0.963	3.17	A & B	2	8.90	1.00	0.774	1.69	A & B	1	47.35	1, 2
		SNAGGRS4	34.925		1.39	48.55	1.40	0.774	2.56	A & B	1	47.35	0.963	2.57	A & B	2	85.79	1.00	0.774	1.39	A & B	1	47.35	1, 2
		SNS5A	35.550		1.36	48.35	1.40	0.774	2.51	A & B	1	47.35	0.963	2.58	A & B	2	85.79	1.00	0.774	1.36	A & B	1	47.35	1, 2
		SNS6A	39.950		1.24	49.54	1.40	0.774	2.28	A & B	1	47.35	0.963	2.33	A & B	2	85.79	1.00	0.774	1.24	A & B	1	47.35	1, 2
		SNS7B	42.000		1.18	49.56	1.40	0.774	2.17	A & B	1	47.35	0.963	2.27	A & B	2	8.90	1.00	0.774	1.18	A & B	1	47.35	1, 2
	TRUCK TRACTOR SEMI-TRAILER (T/S/T)	TNAGRIT3	33.000		1.51	49.83	1.40	0.774	2.78	A & B	1	47.35	0.963	2.81	A & B	2	85.79	1.00	0.774	1.51	A & B	1	47.35	1, 2
		TNT4A	33.075		1.51	49.94	1.40	0.774	2.79	A & B	1	47.35	0.963	2.75	A & B	2	85.79	1.00	0.774	1.51	A & B	1	47.35	1, 2
		TNT6A	41.600		1.23	51.17	1.40	0.774	2.26	A & B	1	47.35	0.963	2.38	A & B	2	8.90	1.00	0.774	1.23	A & B	1	47.35	1, 2
		TNT7A	42.000		1.23	51.66	1.40	0.774	2.26	A & B	1	47.35	0.963	2.34	A & B	2	85.79	1.00	0.774	1.23	A & B	1	47.35	1, 2
		TNT7B	42.000		1.26	52.92	1.40	0.774	2.32	A & B	1	47.35	0.963	2.23	A & B	2	85.79	1.00	0.774	1.26	A & B	1	47.35	1, 2
		TNAGRIT4	43.000		1.20	51.60	1.40	0.774	2.22	A & B	1	47.35	0.963	2.16	A & B	2	85.79	1.00	0.774	1.20	A & B	1	47.35	1, 2
TNAGT5A	45.000		1.14	51.30	1.40	0.774	2.10	A & B	1	47.35	0.963	2.12	A & B	2	85.79	1.00	0.774	1.14	A & B	1	47.35	1, 2		
TNAGT5B	45.000		③	1.13	50.85	1.40	0.774	2.09	A & B	1	47.35	0.963	2.05	A & B	2	8.90	1.00	0.774	1.13	A & B	1	47.35	1, 2	

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. A SERVICE III LIVE LOAD FACTOR OF 1.0 WAS USED TO BE CONSISTENT WITH THE VALUE USED DURING DESIGN.
 2. DISTANCE FROM LEFT END OF SPAN IS GIVEN WITH RESPECT TO CENTERLINE OF BEARING AND IS MEASURED ALONG THE CONTROLLING GIRDER.

③ CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

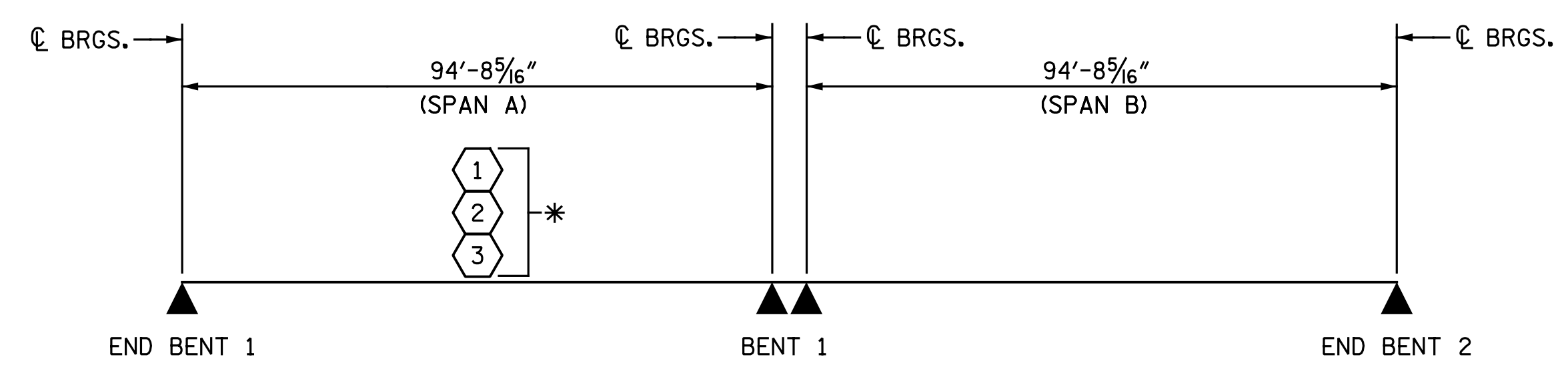
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

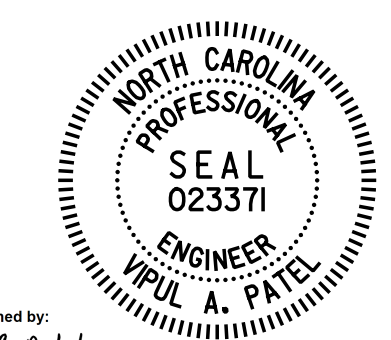
GIRDER LOCATION

GIRDER LOCATION IS PROVIDED USING GIRDER NUMBER, WHERE GIRDER 1 IS THE LEFT EXTERIOR GIRDER LOOKING AHEAD STATION. SEE "GIRDER LAYOUT" SHEET FOR ALL GIRDER LOCATIONS.



LRFR SUMMARY
 * TYPICAL SPANS A & B

PROJECT NO. I-5986B
 JOHNSTON COUNTY
 STATION: 28+39.21 -Y29-



DocuSigned by:
 Vipul A Patel
 4/13/2020

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 LRFR SUMMARY FOR
 PRESTRESSED
 CONCRETE GIRDERS
 (NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-4
1			3			TOTAL SHEETS
2			4			28

ASSEMBLED BY : N. B. SPEAKS	DATE : 8-7-19
CHECKED BY : V. A. PATEL	DATE : 8-26-19
DRAWN BY : MAA 1/08	REV. 11/12/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/1/11 MAA/GM
	REV. 12/17 MAA/THC