

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	1.57	--	1.75	0.63	1.99	85'	I	40.9	0.78	1.57	85'	I	7.6	0.80	0.63	1.75	85'	I	40.9	
	HL-93(Opr)	N/A	--	2.07	--	1.35	0.63	2.58	85'	I	40.9	0.78	2.07	85'	I	7.6	N/A	--	--	--	--	--	
	HS-20(Inv)	36.000	2	2.05	73.80	1.75	0.63	2.66	85'	I	40.9	0.78	2.05	85'	I	7.6	0.80	0.63	2.34	85'	I	40.9	
	HS-20(Opr)	36.000	--	2.70	97.20	1.35	0.63	3.45	85'	I	40.9	0.78	2.70	85'	I	7.6	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	5.06	68.31	1.4	0.68	7.04	85'	EL	40.9	0.68	7.38	85'	EL	7.6	0.80	0.68	5.06	85'	EL	40.9
		SNGARBS2	20.000	--	3.72	74.40	1.4	0.68	5.18	85'	EL	40.9	0.68	5.17	85'	EL	7.6	0.80	0.68	3.72	85'	EL	40.9
		SNAGRIS2	22.000	--	3.51	77.22	1.4	0.68	4.88	85'	EL	40.9	0.68	4.77	85'	EL	7.6	0.80	0.68	3.51	85'	EL	40.9
		SNCOTTS3	27.250	--	2.51	68.40	1.4	0.68	3.50	85'	EL	40.9	0.68	3.60	85'	EL	7.6	0.80	0.68	2.51	85'	EL	40.9
		SNAGGRS4	34.925	--	2.08	72.64	1.4	0.68	2.90	85'	EL	40.9	0.68	2.94	85'	EL	7.6	0.80	0.68	2.08	85'	EL	40.9
		SNS5A	35.550	--	2.04	72.52	1.4	0.68	2.84	85'	EL	40.9	0.68	2.97	85'	EL	7.6	0.80	0.68	2.04	85'	EL	40.9
		SNS6A	39.950	--	1.86	74.31	1.4	0.68	2.59	85'	EL	40.9	0.68	2.66	85'	EL	7.6	0.80	0.68	1.86	85'	EL	40.9
	SNS7B	42.000	--	1.77	74.34	1.4	0.68	2.47	85'	EL	40.9	0.68	2.62	85'	EL	7.6	0.80	0.68	1.77	85'	EL	40.9	
	TTST	TNAGRIT3	33.000	--	2.27	74.91	1.4	0.68	3.16	85'	EL	40.9	0.68	3.23	85'	EL	7.6	0.80	0.68	2.27	85'	EL	40.9
		TNT4A	33.075	--	2.28	75.41	1.4	0.68	3.17	85'	EL	40.9	0.68	3.16	85'	EL	7.6	0.80	0.68	2.28	85'	EL	40.9
		TNT6A	41.600	--	1.86	77.38	1.4	0.68	2.58	85'	EL	40.9	0.68	2.78	85'	EL	7.6	0.80	0.68	1.86	85'	EL	40.9
		TNT7A	42.000	--	1.86	78.12	1.4	0.68	2.59	85'	EL	40.9	0.68	2.71	85'	EL	7.6	0.80	0.68	1.86	85'	EL	40.9
		TNT7B	42.000	--	1.92	80.64	1.4	0.68	2.67	85'	EL	40.9	0.68	2.55	85'	EL	7.6	0.80	0.68	1.92	85'	EL	40.9
		TNAGRIT4	43.000	--	1.83	78.69	1.4	0.68	2.55	85'	EL	40.9	0.68	2.48	85'	EL	7.6	0.80	0.68	1.83	85'	EL	40.9
TNACT5A		45.000	--	1.73	77.85	1.4	0.68	2.41	85'	EL	40.9	0.68	2.45	85'	EL	7.6	0.80	0.68	1.73	85'	EL	40.9	
TNACT5B	45.000	3	1.71	76.95	1.4	0.68	2.38	85'	EL	40.9	0.68	2.36	85'	EL	7.6	0.80	0.68	1.71	85'	EL	40.9		

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)

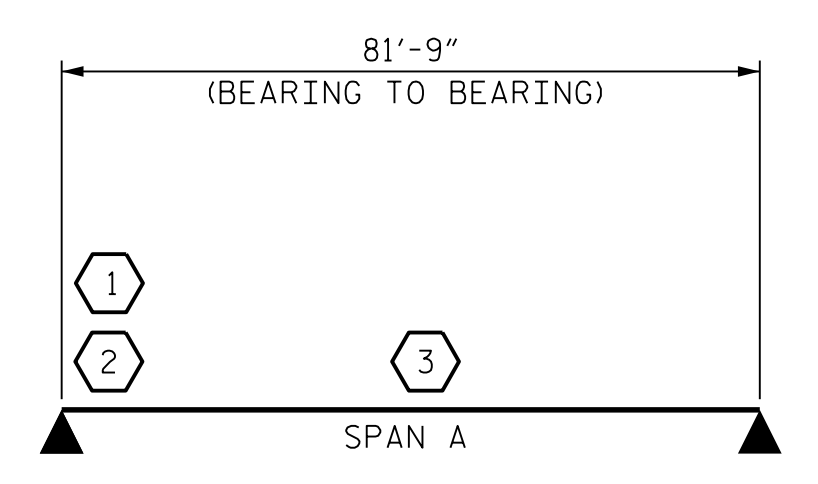
2 DESIGN LOAD RATING (HS-20)

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-5624
BRUNSWICK COUNTY
 STATION: 17+46.00 -L-

CDM Smith

CDM SMITH
 5400 Glenwood Avenue, Suite 400
 Raleigh, NC 27612-3228
 NC COA No. F-1255

NORTH CAROLINA
 PROFESSIONAL
 SEAL
 16301
 ENGINEER
 TING FANG
 2/14/2021

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	DRAWN BY: JJR DATE: 8/19	DWG. No.
	CHECKED BY: VDK DATE: 8/19	
	DESIGN ENGINEER: THF DATE: 11/20	

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-04
1			3			TOTAL SHEETS
2			4			20