

LOAD FACTORS:

DESIGN LOAD RATING FACTORS

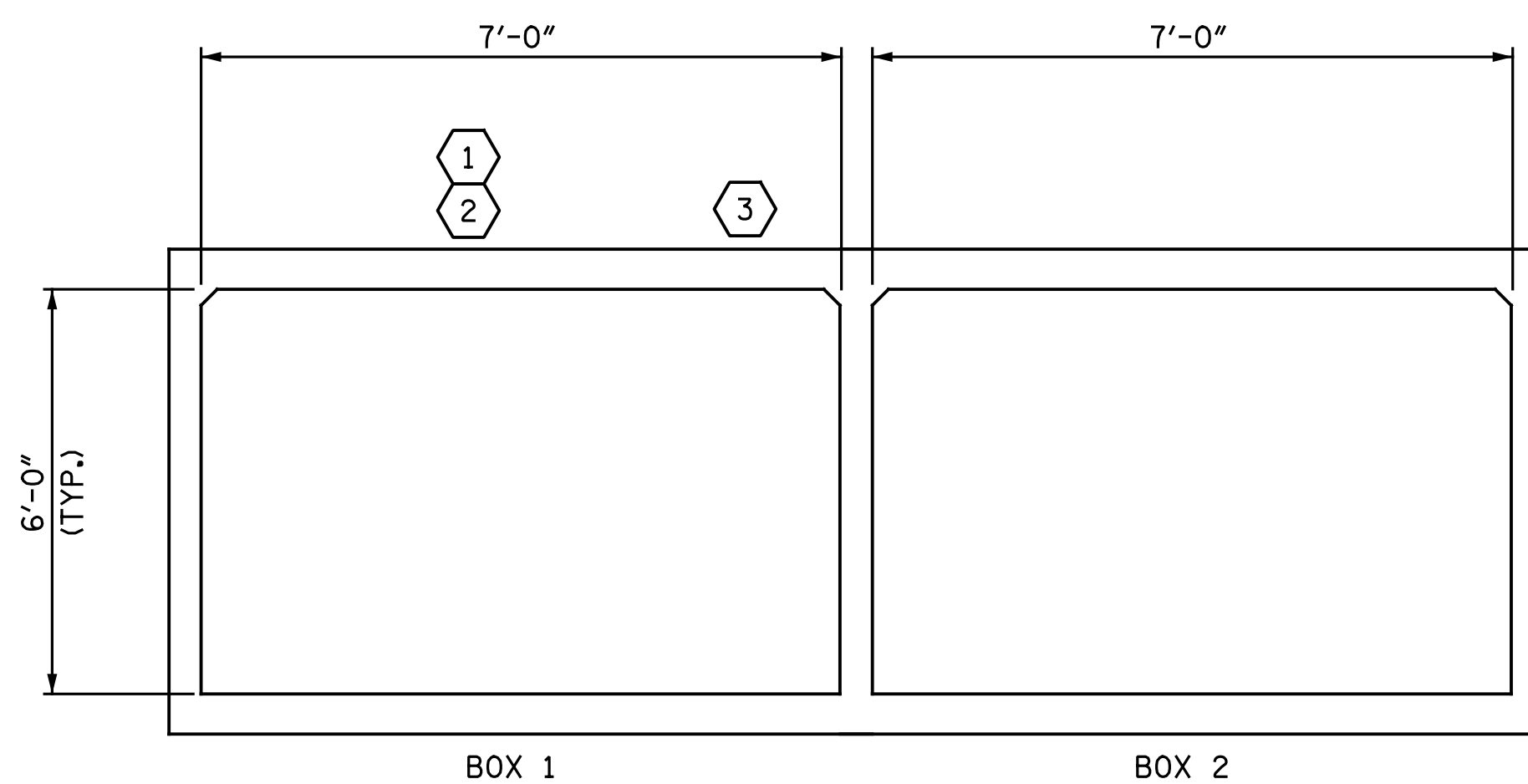
LOAD TYPE	MAX FACTOR	MIN FACTOR
DC	1.25	0.90
DW	1.50	0.65
EV	1.30	0.90
EH	1.35	0.90
ES	1.35	0.90
LS	1.75	--
WA	1.00	--

NOTE:

RATING FACTORS ARE BASED ON THE STRENGTH I LIMIT STATE.

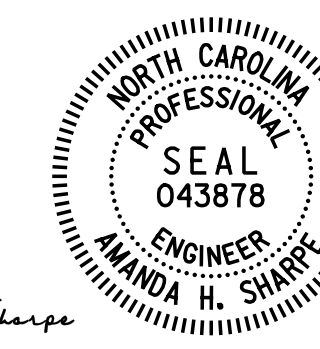
LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR REINFORCED CONCRETE BOX CULVERTS															
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE								COMMENT NUMBER	
						LIVE-LOAD FACTORS (%LL)	MOMENT				SHEAR				
							RATING FACTOR	BOX NO.	ELEMENT TYPE	DISTANCE FROM LEFT END OF ELEMENT (ft)	RATING FACTOR	BOX NO.	ELEMENT TYPE		DISTANCE FROM LEFT END OF ELEMENT (ft)
DESIGN LOAD RATING	HL-93 ( INVENTORY )	N/A	1	1.15	--	1.75	1.15	1	TOP SLAB	3.07	1.17	1	TOP SLAB	6.61	
	HL-93 ( OPERATING )	N/A		1.49	--	1.35	1.49	1	TOP SLAB	3.07	1.52	1	TOP SLAB	6.61	
	HS-20 ( INVENTORY )	36.000	2	1.15	41.40	1.75	1.15	1	TOP SLAB	3.07	1.23	1	TOP SLAB	6.61	
	HS-20 ( OPERATING )	36.000		1.50	54.00	1.35	1.50	1	TOP SLAB	3.07	1.60	1	TOP SLAB	6.61	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH		2.31	28.88	1.40	2.31	1	TOP SLAB	3.07	2.84	1	TOP SLAB	6.61	
		S3C	21.500		2.11	45.37	1.40	2.11	1	TOP SLAB	3.07	2.15	1	TOP SLAB	6.61
		S3A	22.750		2.11	48.00	1.40	2.11	1	TOP SLAB	3.07	2.11	1	TOP SLAB	6.61
		S4A	26.750		2.10	56.18	1.40	2.11	1	TOP SLAB	3.07	2.10	1	TOP SLAB	6.61
		S5A	30.500		2.04	62.22	1.40	2.19	1	TOP SLAB	3.07	2.04	1	TOP SLAB	6.61
		S6A	34.500		1.98	68.31	1.40	2.20	1	TOP SLAB	3.07	1.98	1	TOP SLAB	6.61
	TRUCK TRACTOR SEMI-TRAILER (TTST)	S7B	38.500	3	1.97	75.85	1.40	2.23	1	TOP SLAB	3.07	1.97	1	TOP SLAB	6.61
		S7A	40.000		1.98	79.20	1.40	2.20	1	TOP SLAB	3.07	1.98	1	TOP SLAB	6.61
		T4A	28.250		2.11	59.61	1.40	2.11	1	TOP SLAB	3.07	2.11	1	TOP SLAB	6.61
		T5B	32.000		2.10	67.20	1.40	2.11	1	TOP SLAB	3.07	2.10	1	TOP SLAB	6.61
		T6A	36.000		2.08	74.88	1.40	2.11	1	TOP SLAB	3.07	2.08	1	TOP SLAB	6.61
		T7A	40.000		2.08	83.20	1.40	2.11	1	TOP SLAB	3.07	2.08	1	TOP SLAB	6.61
	T7B	40.000		2.00	80.00	1.40	2.11	1	TOP SLAB	3.07	2.00	1	TOP SLAB	6.61	

#	CONTROLLING LOAD RATING
1	DESIGN LOAD RATING (HL-93)
2	DESIGN LOAD RATING (HS-20)
3	LEGAL LOAD RATING **
**	SEE CHART FOR VEHICLE TYPE



LRFR SUMMARY  
(LOOKING DOWNSTREAM)

PROJECT NO. I-5883  
HARNETT COUNTY  
 STATION: 1220+34.00 -L-



DocuSigned by:  
Amanda H. Sharpe  
51D8FF4E4CE402

12/11/2019

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 LRFR SUMMARY FOR  
 REINFORCED CONCRETE  
 BOX CULVERTS  
 (INTERSTATE TRAFFIC)

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			CI-7
2			4			TOTAL SHEETS 7

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DRAWN BY : N. B. SPEAKS DATE : 3-13-19  
 CHECKED BY : A. H. SHARPE DATE : 3-25-19