

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:

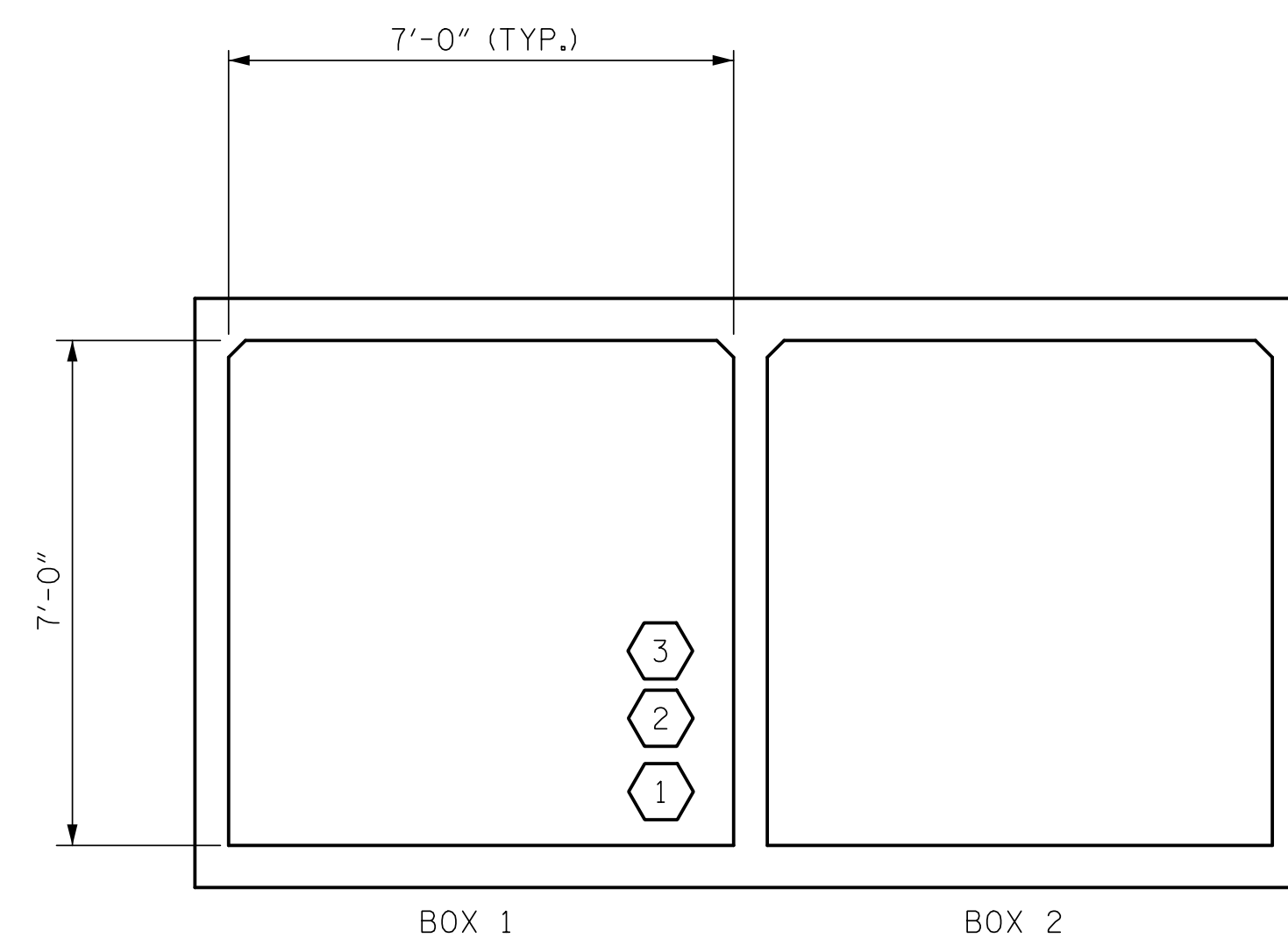
RATING FACTORS ARE BASED ON THE STRENGTH I LIMIT STATE.

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	

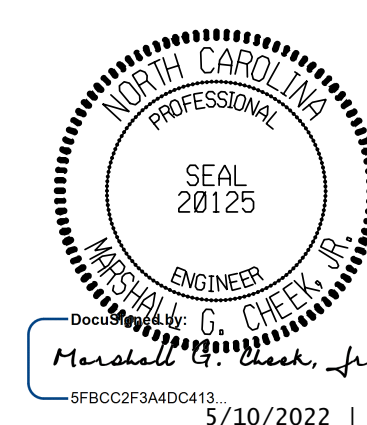
LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR REINFORCED CONCRETE BOX CULVERTS																
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE								COMMENT NUMBER		
						LIVE-LOAD FACTORS (%LL)	MOMENT				SHEAR					
							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	1.04	--	1.75	1.08	1	BOTT SLAB	7.75	1.04	1	BOTT SLAB	7.75		
	HL-93 (OPERATING)	N/A		1.35	--	1.35	1.40	1	BOTT SLAB	7.75	1.35	1	BOTT SLAB	7.75		
	HS-20 (INVENTORY)	36.000	2	1.13	40.68	1.75	1.17	1	BOTT SLAB	7.75	1.13	1	BOTT SLAB	7.75		
	HS-20 (OPERATING)	36.000		1.46	52.56	1.35	1.52	1	BOTT SLAB	7.75	1.46	1	BOTT SLAB	7.75		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH	12.500	3	2.26	28.25	1.40	2.34	1	BOTT SLAB	7.75	2.26	1	BOTT SLAB	7.75	
		S3C	21.500		2.38	51.17	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		S3A	22.750		2.38	54.15	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		S4A	26.750		2.38	63.67	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		S5A	30.500		2.38	72.59	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		S6A	34.500		2.38	82.11	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		S7B	38.500		2.38	91.63	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		S7A	40.000		2.38	95.20	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A	28.250		2.38	67.24	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		T5B	32.000		2.38	76.16	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		T6A	36.000		2.38	85.68	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
		T7A	40.000		2.38	95.20	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75	
	T7B	40.000		2.38	95.20	1.40	2.46	1	BOTT SLAB	7.75	2.38	1	BOTT SLAB	7.75		



LRFR SUMMARY  
(LOOKING DOWNSTREAM)

PROJECT NO. I-5987A  
ROBESON COUNTY  
 STATION: 354+06.00 -L-

SHEET 2 OF 13



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

DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS  
 706 HILLSBOROUGH STREET  
 SUITE 200  
 RALEIGH, NC 27603  
 PH (919) 773-8887  
 CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			C21-2
2			4			TOTAL SHEETS 13

ASSEMBLED BY : ZCS	DATE : 11/21
CHECKED BY : MGC	DATE : 12/21
DRAWN BY : WMC	7/II
CHECKED BY : GM	7/II
REV. 10/1/II	MAA/GM
REV. 12/17	MAA/THC