

LOAD FACTORS:

DESIGN LOAD RATING FACTORS

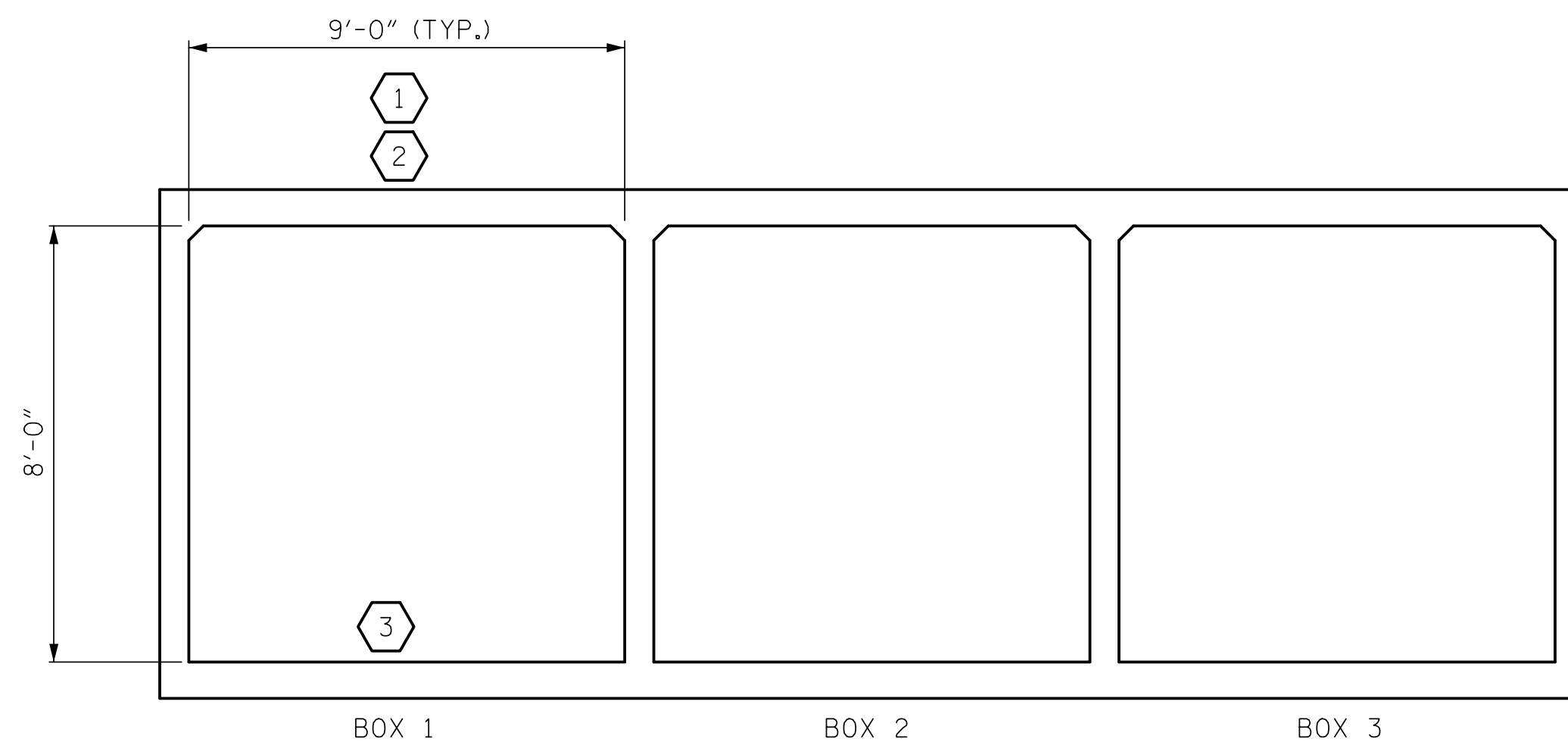
LOAD TYPE	MAX FACTOR	MIN FACTOR
DC	1.25	0.90
DW	1.50	0.65
EV	1.30	0.90
EH	1.35	0.90
ES	1.35	0.90
LS	1.75	--
WA	1.00	--

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 (%L)	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	1.17	--	1.75	1.17	1	TOP SLAB	4.50	1.53	1	BOTTOM SLAB	8.67		
	HL-93 (OPERATING)	N/A		1.52	--	1.35	1.52	1	TOP SLAB	4.50	1.98	1	BOTTOM SLAB	8.67		
	HS-20 (INVENTORY)	36.000	2	1.35	48.60	1.75	1.35	1	TOP SLAB	4.50	1.85	1	TOP SLAB	8.67		
	HS-20 (OPERATING)	36.000		1.76	63.36	1.35	1.76	1	TOP SLAB	4.50	2.39	1	TOP SLAB	8.67		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH		2.76	34.50	1.40	2.76	1	TOP SLAB	4.50	3.75	1	TOP SLAB	8.67		
		S3C	21.500		2.14	46.01	1.40	2.14	1	TOP SLAB	4.50	2.95	1	TOP SLAB	8.67	
		S3A	22.750		2.14	48.69	1.40	2.14	1	TOP SLAB	4.50	2.89	1	TOP SLAB	8.67	
		S4A	26.750		2.02	54.04	1.40	2.02	1	TOP SLAB	4.50	2.72	1	TOP SLAB	8.67	
		S5A	30.500		2.13	64.97	1.40	2.13	1	BOTTOM SLAB	4.50	2.55	1	BOTTOM SLAB	8.67	
		S6A	34.500		1.96	67.62	1.40	1.96	1	BOTTOM SLAB	4.50	2.36	1	BOTTOM SLAB	8.67	
		S7B	38.500	3	1.79	68.92	1.40	1.79	1	BOTTOM SLAB	4.50	2.28	1	BOTTOM SLAB	8.67	
		S7A	40.000		1.95	78.00	1.40	1.95	1	BOTTOM SLAB	4.50	2.36	1	BOTTOM SLAB	8.67	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A	28.250		2.14	60.46	1.40	2.14	1	TOP SLAB	4.50	2.82	1	BOTTOM SLAB	8.67	
		T5B	32.000		2.12	67.84	1.40	2.12	1	BOTTOM SLAB	4.50	2.58	1	BOTTOM SLAB	8.67	
		T6A	36.000		2.14	77.04	1.40	2.14	1	BOTTOM SLAB	4.50	2.54	1	BOTTOM SLAB	8.67	
		T7A	40.000		1.92	76.80	1.40	1.92	1	BOTTOM SLAB	4.50	2.33	1	BOTTOM SLAB	8.67	
	T7B	40.000		1.95	78.00	1.40	1.95	1	BOTTOM SLAB	4.50	2.48	1	BOTTOM SLAB	8.67		



LRFR SUMMARY  
(LOOKING DOWNSTREAM)

PROJECT NO. I-5987B  
ROBESON COUNTY  
 STATION: 902+33.00 -L-

SHEET 2 OF 9

	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 <table border="1"> <thead> <tr> <th>NO.</th> <th>BY:</th> <th>DATE:</th> <th>NO.</th> <th>BY:</th> <th>DATE:</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> <td>3</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td>4</td> <td></td> <td></td> </tr> </tbody> </table>		NO.	BY:	DATE:	NO.	BY:	DATE:	1			3			2			4		
NO.	BY:	DATE:	NO.	BY:	DATE:															
1			3																	
2			4																	
ASSEMBLED BY : STM DATE : 5/21 CHECKED BY : ZCS DATE : 10/21 DRAWN BY : WMC 7/II REV. 10/1/II MAA/GM CHECKED BY : GM 7/II REV. 12/17 MAA/THC	SHEET NO. C18-2 TOTAL SHEETS 9																			