

LOAD FACTORS

DESIGN LOAD RATING FACTORS

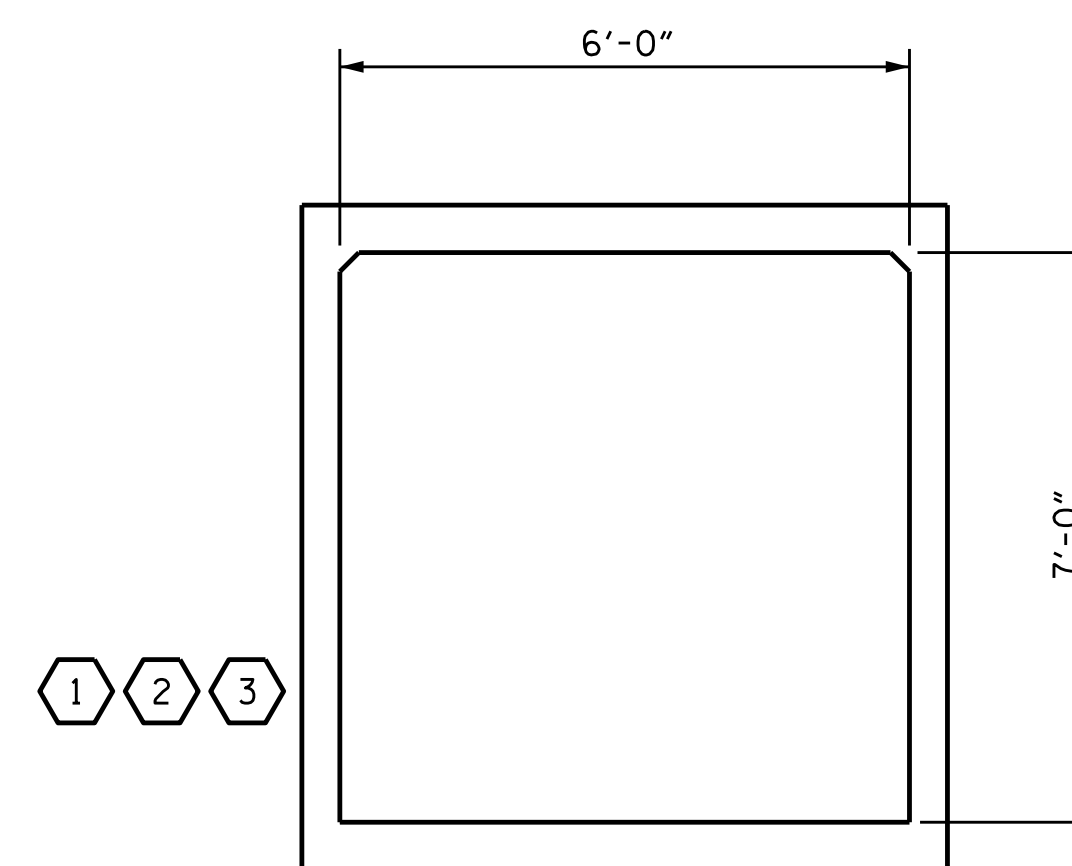
LOAD TYPE	MAX FACTOR	MIN FACTOR
DC	1.25	0.90
DW	1.50	0.65
EV	1.30	0.90
EH	1.35	0.90
ES	1.35	0.90
LS	1.75	--
WA	1.00	--

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 (γ _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	3.52	--	1.75	5.35	1	EXTERIOR WALL	4.19	3.52	1	EXTERIOR WALL	6.99		
	HL-93 (OPERATING)	N/A		4.56	--	1.35	6.93	1	EXTERIOR WALL	4.19	4.56	1	EXTERIOR WALL	6.99		
	HS-20 (INVENTORY)	36.000	②	3.52	126.61	1.75	5.35	1	EXTERIOR WALL	4.19	3.52	1	EXTERIOR WALL	6.99		
	HS-20 (OPERATING)	36.000		4.56	164.13	1.35	6.93	1	EXTERIOR WALL	4.19	4.56	1	EXTERIOR WALL	6.99		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH	12.500	③	4.40	54.95	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		S3C	21.500		4.40	94.52	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		S3A	22.750		4.40	100.01	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		S4A	26.750		4.40	117.60	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		S5A	30.500		4.40	134.09	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		S6A	34.500		4.40	151.67	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		S7B	38.500		4.40	169.26	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		S7A	40.000		4.40	175.85	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A	28.250		4.40	124.19	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		T5B	32.000		4.40	140.68	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		T6A	36.000		4.40	158.27	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
		T7A	40.000		4.40	175.85	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99	
	T7B	40.000		4.40	175.85	1.40	6.69	1	EXTERIOR WALL	4.19	4.40	1	EXTERIOR WALL	6.99		

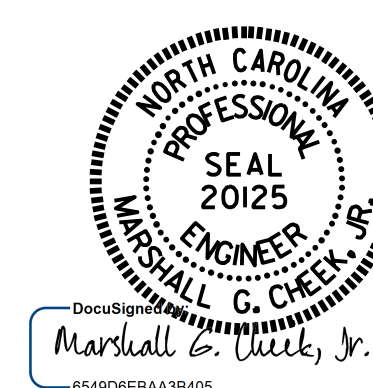
③	CONTROLLING LOAD RATING
①	DESIGN LOAD RATING (HL-93)
②	DESIGN LOAD RATING (HS-20)
③	LEGAL LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	



LRFR SUMMARY

PROJECT NO. U-2579C
FORSYTH COUNTY
 STATION: 397+73.00 -L-

SHEET 2 OF 5



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

7/27/2017

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C1-2
1			3			TOTAL SHEETS
2			4			5

ASSEMBLED BY : N.D'ALUIO	DATE : 3/31/16
CHECKED BY : H.A.LOCKLEAR	DATE : 4/6/16
DRAWN BY : WMC	7/11
CHECKED BY : GM	7/11
REV. 10/1/11	MAA/GM