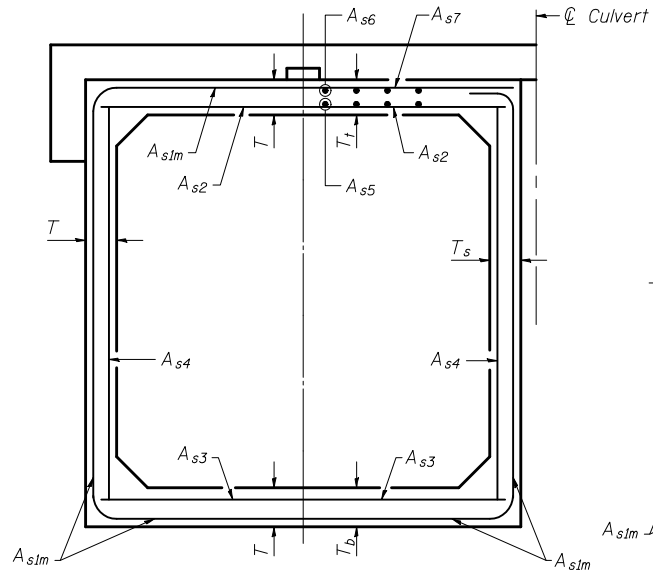
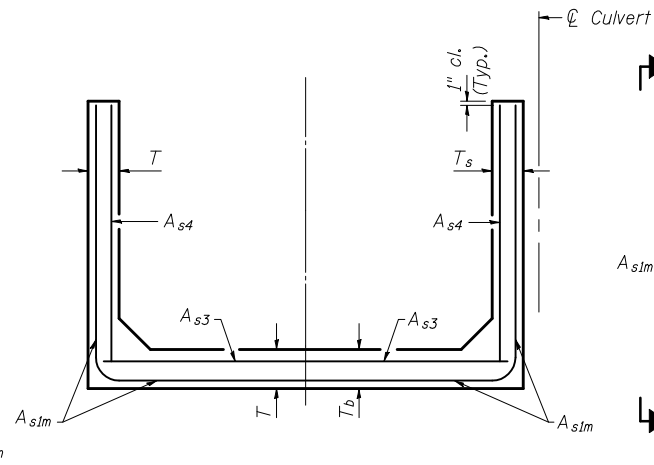


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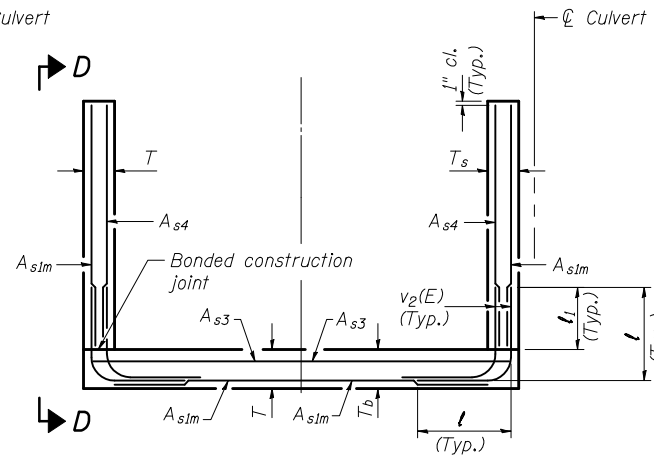
**SECTION B-B**

(AASHTO M 259 Details) (AASHTO M 273 Details)



**SECTION C-C**

(AASHTO M 259 Details) (AASHTO M 273 Details)



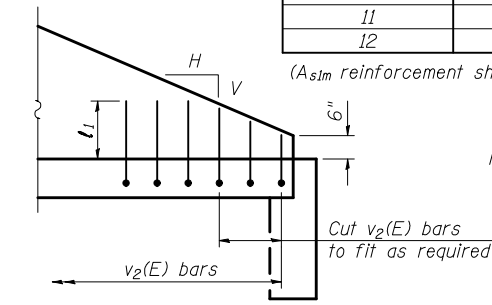
**ALTERNATE SECTION C-C**

(AASHTO M 259 Details) (AASHTO M 273 Details)

Rise (ft.) T(in.), T_s (in.)	Reinforcing Steel $A_{slm}$ (in. <sup>2</sup> /ft.)											
	2	3	4	5	6	7	8	9	10	11	12	
4	0.19	0.15										
5	0.26	0.21	0.18									
6		0.26	0.23	0.22								
7		0.33	0.59	0.27	0.28							
8			0.43	0.39	0.36	0.34	0.40					
9				0.43	0.40	0.37	0.36	0.48				
10				0.47	0.44	0.41	0.38	0.42	0.56			
11					0.54	0.46	0.41	0.38	0.50	0.65		
12					0.58		0.50	0.45	0.46		0.75	

**$l_1$  DIMENSION**

- #3 bar = 1'-4"
- #4 bar = 1'-9"
- #5 bar = 2'-3"
- #6 bar = 2'-8"



**SECTION D-D**

(Showing partial side elevation and conceptual layout of  $v_2(E)$  bars.)

( $A_{slm}$  reinforcement shall consist of welded wire fabric conforming to AASHTO M 55 or M 221).

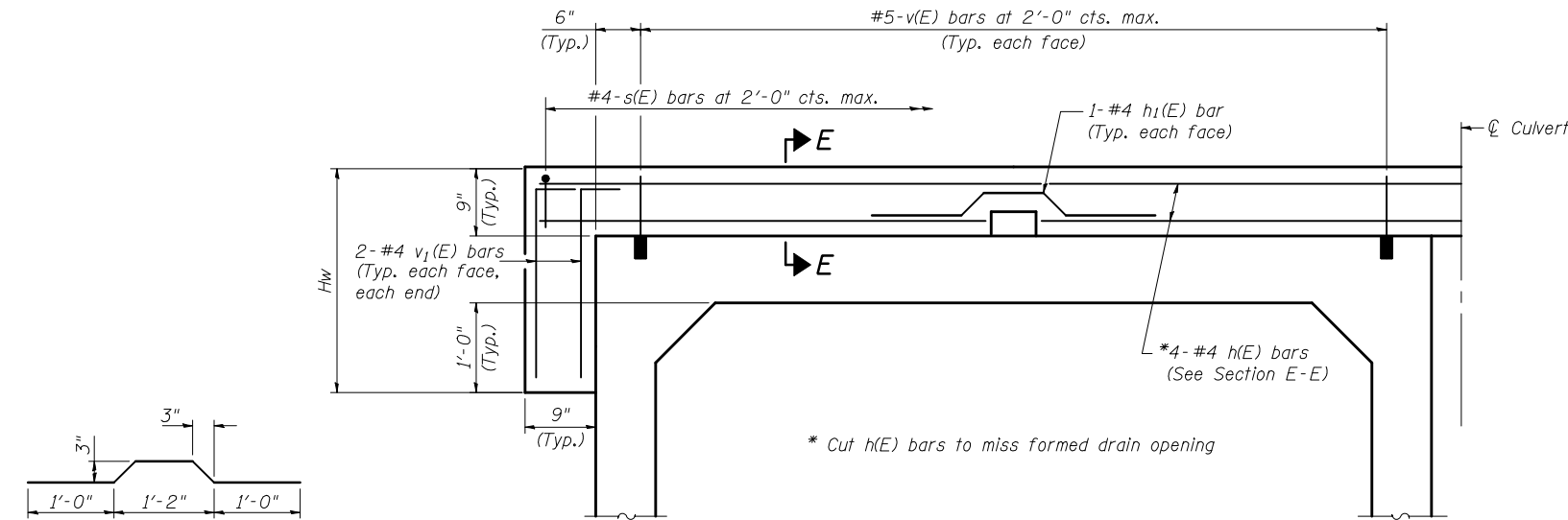
**Notes:**

Sections B-B and C-C and Partial Superimposed Headwall Elevation are symmetric about the  $\varnothing$  culvert through 180° rotation.

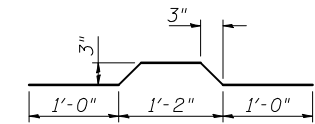
Alternate Section C-C is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section C-C.

The size and spacing of the  $v_2(E)$  bars shall provide a minimum reinforcement area along each face of the walls (in.<sup>2</sup>/ft.) equal to  $1.10 \cdot A_{slm}$ .  $v_2(E)$  bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.

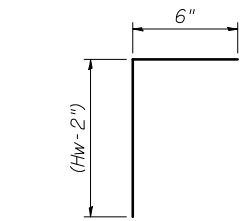
Bonded construction joints shall be prepared in accordance with Article 503.09 of the Standard Specifications.



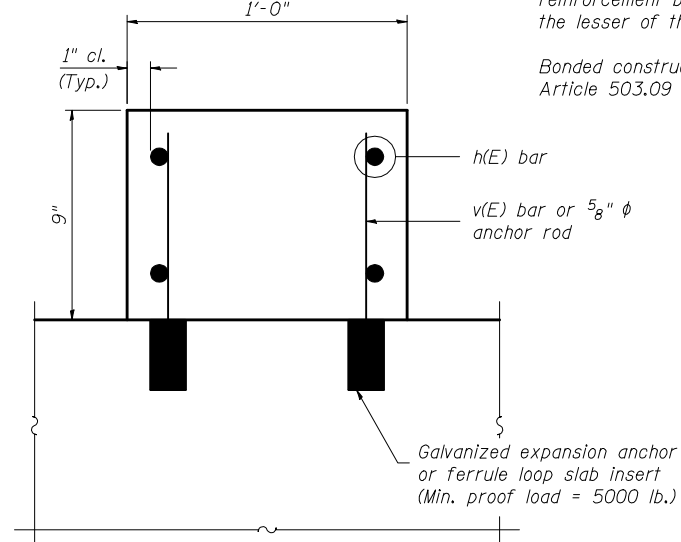
**PARTIAL SUPERIMPOSED HEADWALL ELEVATION**



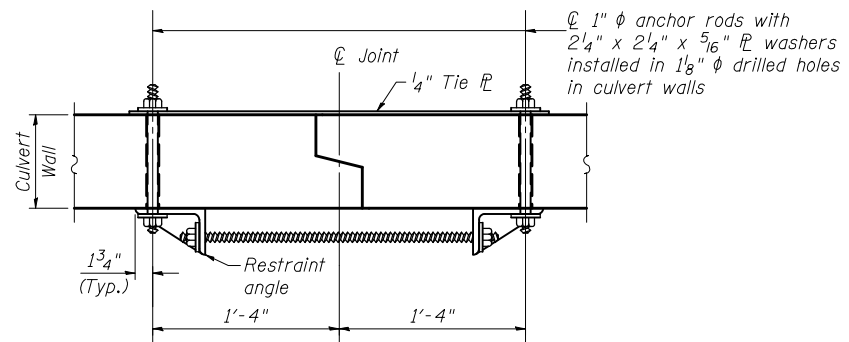
**BAR  $h_1(E)$**



**BAR  $v_1(E)$**

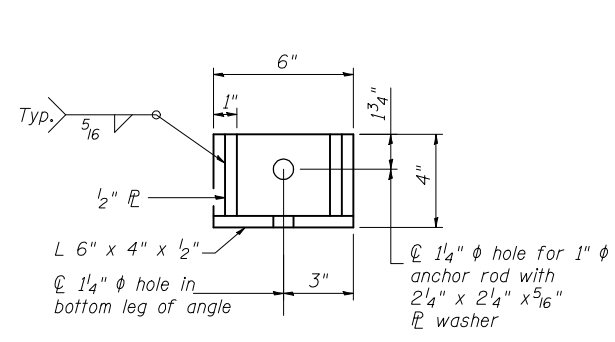


**SECTION E-E**

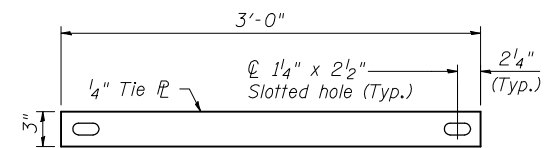


**SECTION A-A**

(Showing culvert tie details)



**RESTRAINT ANGLE DETAIL**



**TIE PLATE DETAIL**

DESIGNED -	200
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

(09-01-09)

**DOUBLE CELL PRECAST BOX CULVERT END SECTIONS**

(Sheet 2 of 2)

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	121R	MCLEAN	87	36
CONTRACT NO. 70592				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	