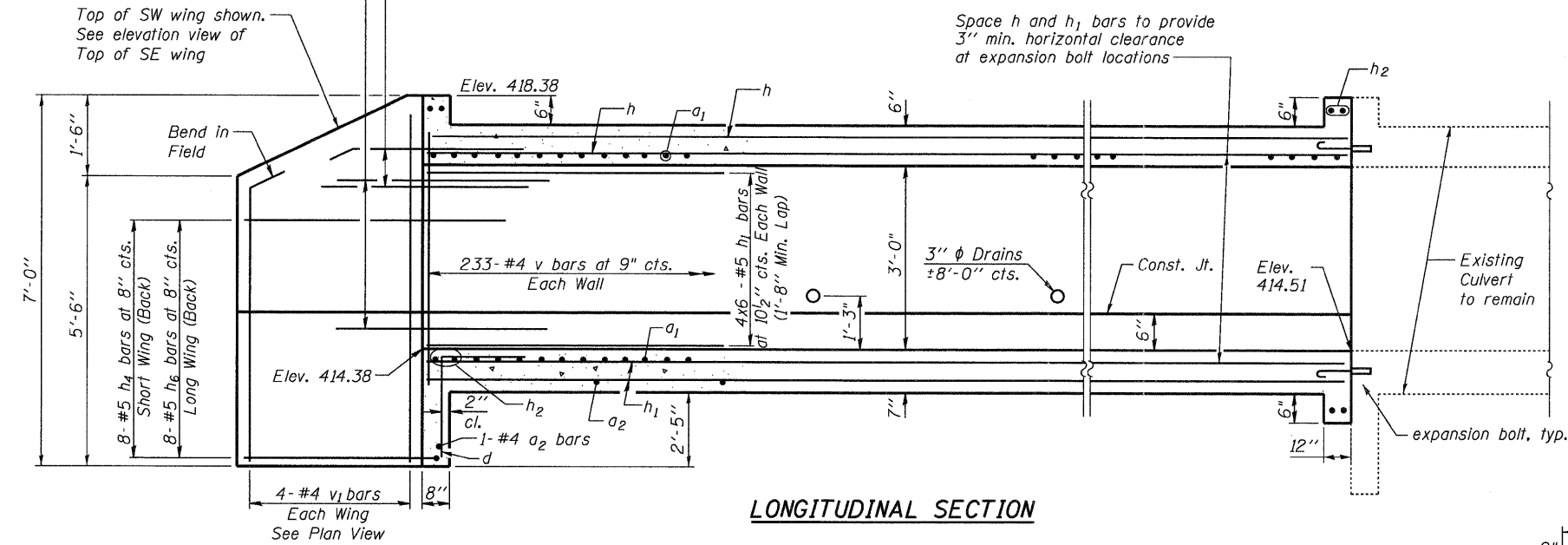
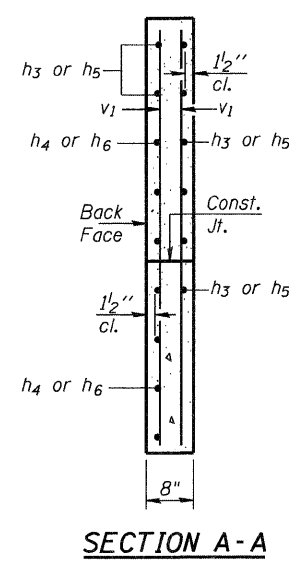


(Front)  
 5-#5  $h_3$  bars at 8" cts. Short Wing  
 5-#5  $h_5$  bars at 8" cts. Long Wing

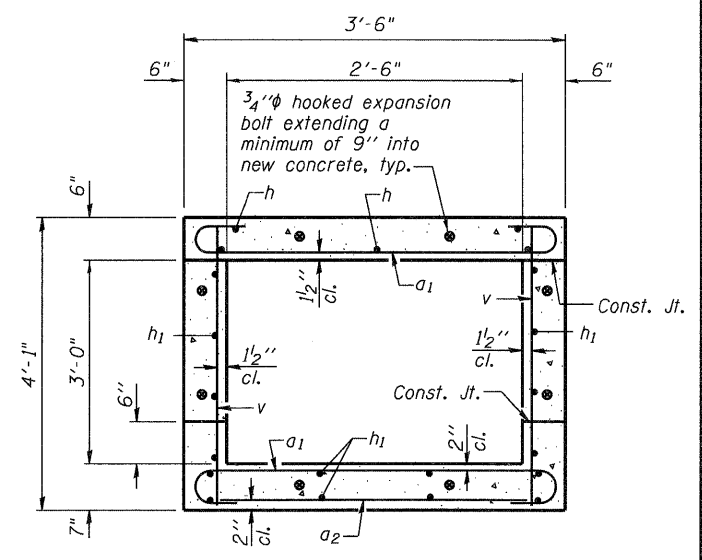
(Back)  
 2-#5  $h_3$  bars at 8" cts. Short Wing  
 2-#5  $h_5$  bars at 8" cts. Long Wing



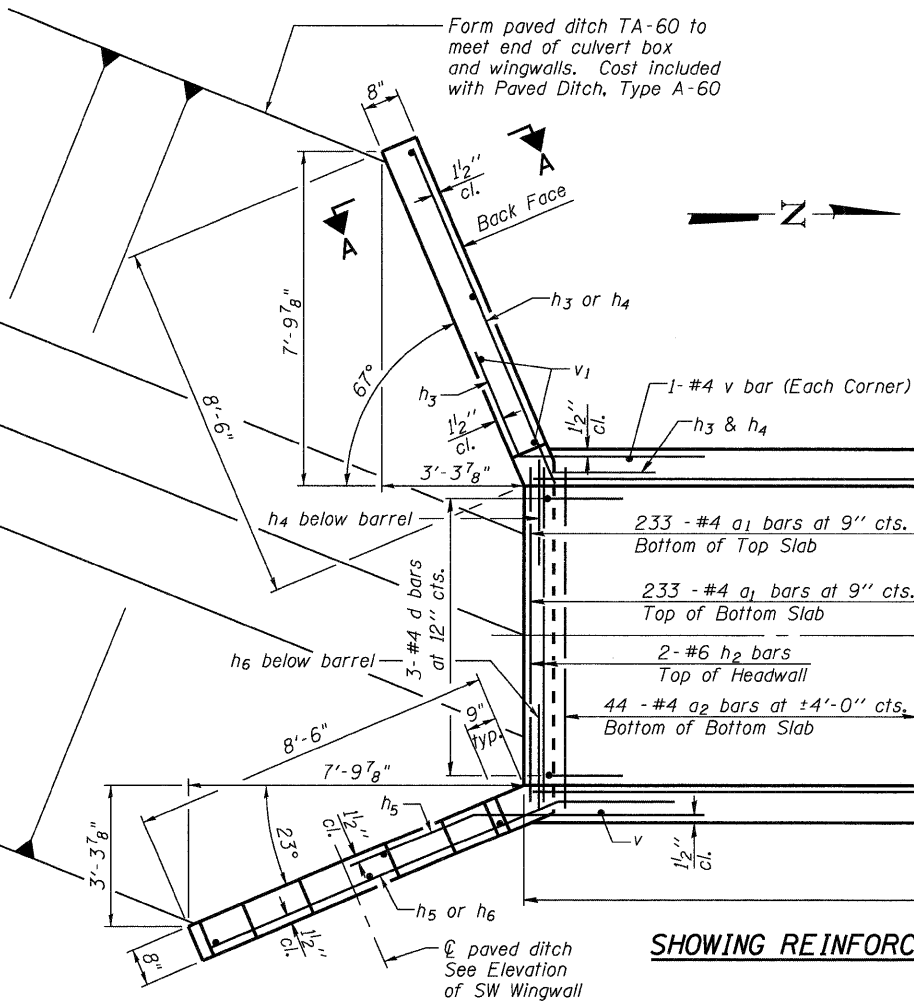
**LONGITUDINAL SECTION**



**SECTION A-A**



**SECTION THRU BARREL**



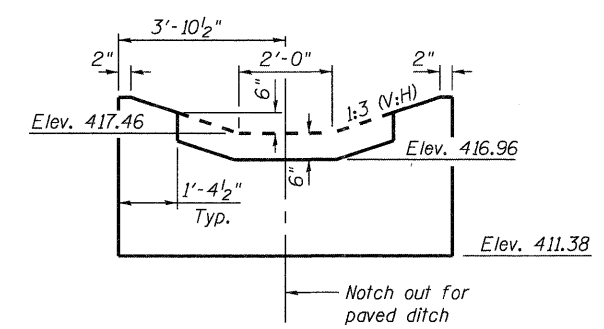
**SHOWING REINFORCEMENT**

**SHOWING OUTLINES**

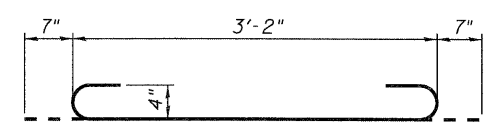
**PLAN**

**NOTES**

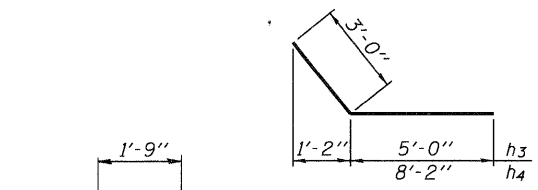
A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.  
 Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.  
 Bars indicated thus 4 x 6-#5 etc. indicates 4 lines of bars with 6 lengths per line.



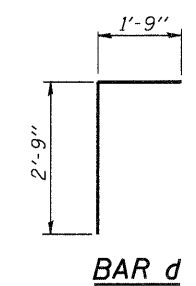
**ELEVATION - SE WINGWALL**



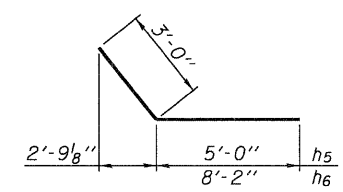
**BAR a1**



**BARS h3 & h4**



**BAR d**



**BARS h5 & h6**

**DESIGN STRESSES**

$f_y = 60,000$  psi  
 $f'_c = 3,500$  psi

**LOADING HS 20-44 & ALT.**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
$a_1$	466	#4	4'-4"	U
$a_2$	45	#4	3'-2"	—
$d$	3	#4	4'-6"	T
$h$	30	#6	30'-10"	—
$h_1$	96	#5	30'-6"	—
$h_2$	8	#6	3'-2"	—
$h_3$	7	#5	8'-0"	—
$h_4$	8	#5	11'-2"	—
$h_5$	7	#5	8'-0"	—
$h_6$	8	#5	11'-2"	—
$v$	468	#4	3'-9"	—
$v_1$	8	#4	6'-8"	—
Concrete Box Culverts		Cu. Yd.	46.9	
Reinforcement Bars		Pound	7450	
Expansion Bolts $3/4"$		Each	8	

**CB** Coombe-Bloxdorf P.C.  
 - CIVIL ENGINEERS -  
 - STRUCTURAL ENGINEERS -  
 - LAND SURVEYORS -  
 Design Firm License No. 184-002703

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DESIGNED - MCB  
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 DRAWN - MML  
 CHECKED - MCB

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CULVERT EXTENSION DETAILS  
 STATION 1211+00

SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-1B-1	MADISON	712	537

CONTRACT NO. 76A91  
 ILLINOIS FED. AID PROJECT