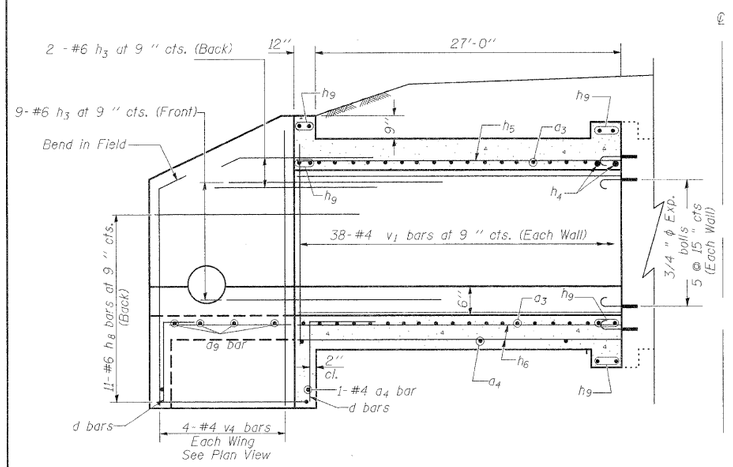
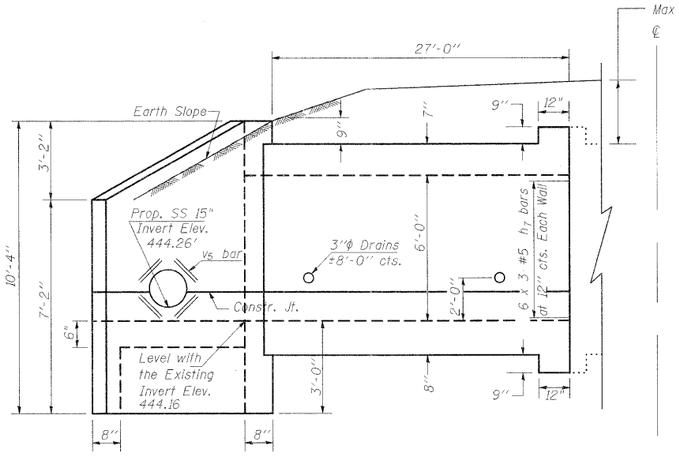
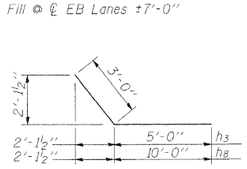
STATE OF ILLINOIS

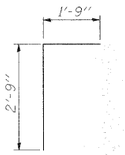
DEPARTMENT OF TRANSPORTATION



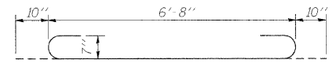




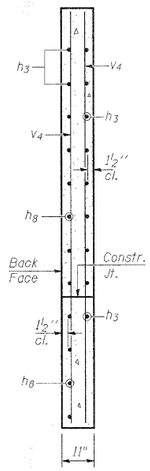
BARS h_3 & h_8



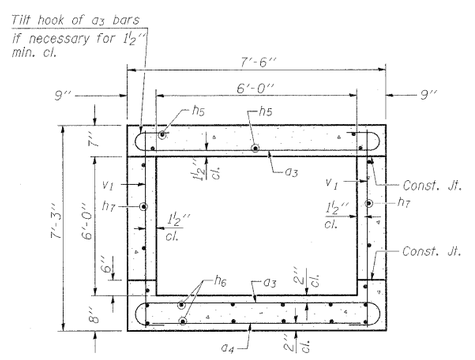
BAR d



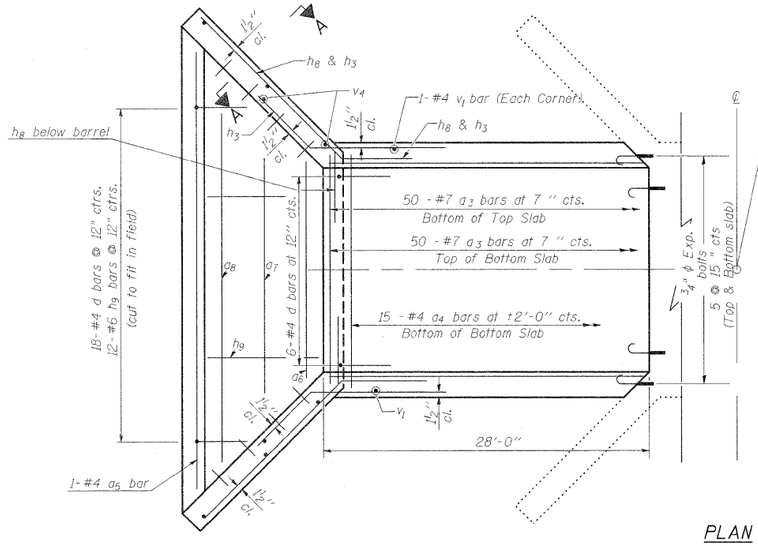
BAR a_3



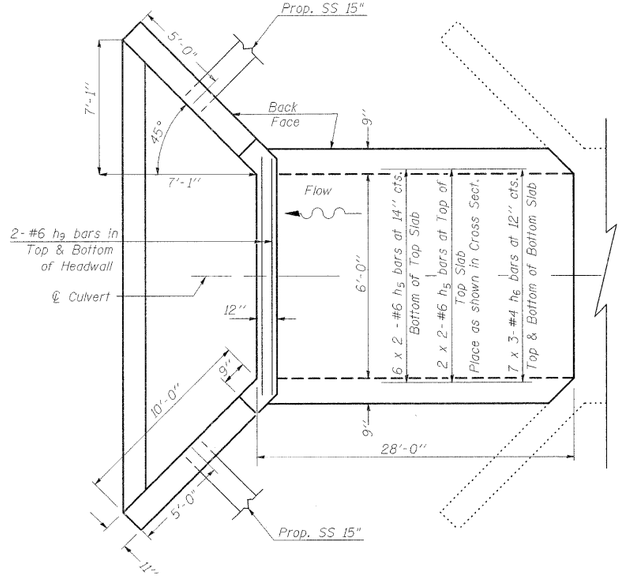
SECTION A-A



SECTION THRU BARREL



PLAN



NOTES

Bars indicated thus 12 x 4 - #5 etc. indicates 12 lines of bars with 4 lengths per line.

Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.

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.

All construction joints shall be bonded.

Expansion bolts shall be ¾" ϕ x 12" hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete and have a minimum certified proof load of 4,080 lbs.

* BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_3(F)	100	#7	8'-4"	
a_4(E)	15	#4	7'-2"	
a_6(E)	1	#4	19'-0"	
a_6(F)	1	#4	6'-0"	
a_7(E)	1	#4	10'-0"	
a_8(E)	1	#4	14'-0"	
a_9(F)	8	#4	1'-0"	
d(E)	6	#4	4'-6"	
h_3(E)	22	#6	8'-0"	
h_5(E)	16	#6	14'-10"	
h_6(E)	42	#4	15'-2"	
h_7(E)	36	#5	15'-6"	
h_8(E)	22	#6	13'-0"	
h_9(E)	24	#6	6'-6"	
v_1(E)	78	#4	6'-11"	
v_4(E)	8	#4	10'-0"	
v_5(E)	16	#4	1'-9"	
Concrete Box Culverts			Cu. Yd.	28.8
Reinforcement Bars Epoxy Coated			Pound	4619
¾" Expansion bolts			Each	20

* All Reinforcement Bars shall be Epoxy Coated

DESIGN STRESSES

fy = 60,000 psi

f'c = 3,500 psi

LOADING HS 20-44

Min. Bar Lap

#4 = 1'-4"

#5 = 1'-8"

#6 = 2'-0"

REVISIONS

DRAWN	2-04
REVISED	5-09 SHT CELL
REVISED	
REVISED	

BASED ON: SSB-H-0 6-1-2000

FILE NAME = c:\pw_work\pwidot\knightsm\d0157472\sht-pvtjoint.dgn	USER NAME = knightsm	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 3/22/2011	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BOX CULVERT EXTENSION STATION 850+03.00
6' X 6', SKEW 0° EXTEND 28'- 0 "

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1)R-1,RS-2,N-2,TS-3	WILLIAMSON	167	87
		CONTRACT NO. 78155		
	ILLINOIS FED. AID PROJECT			