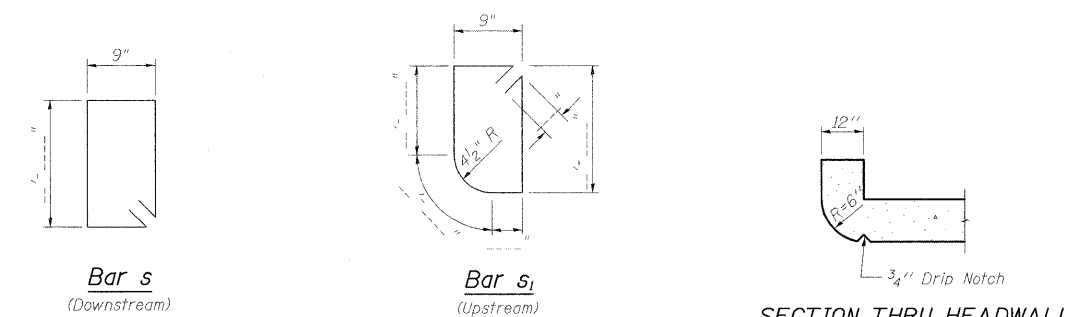
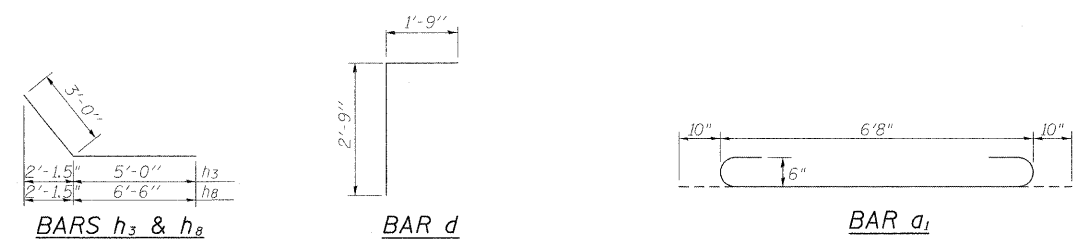
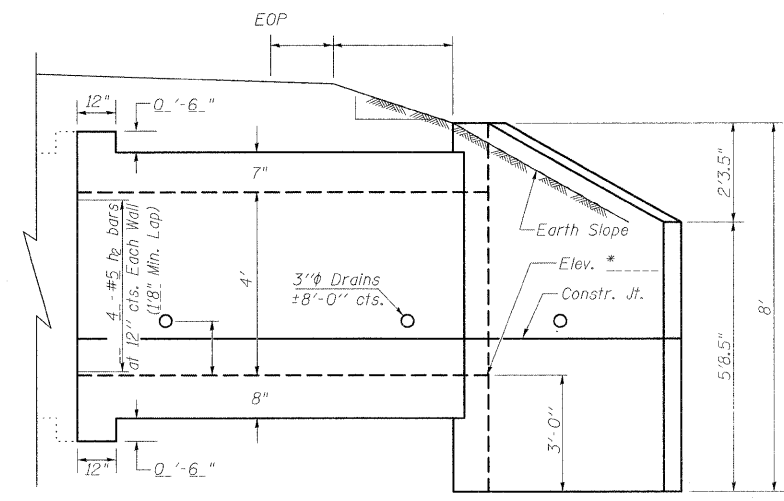
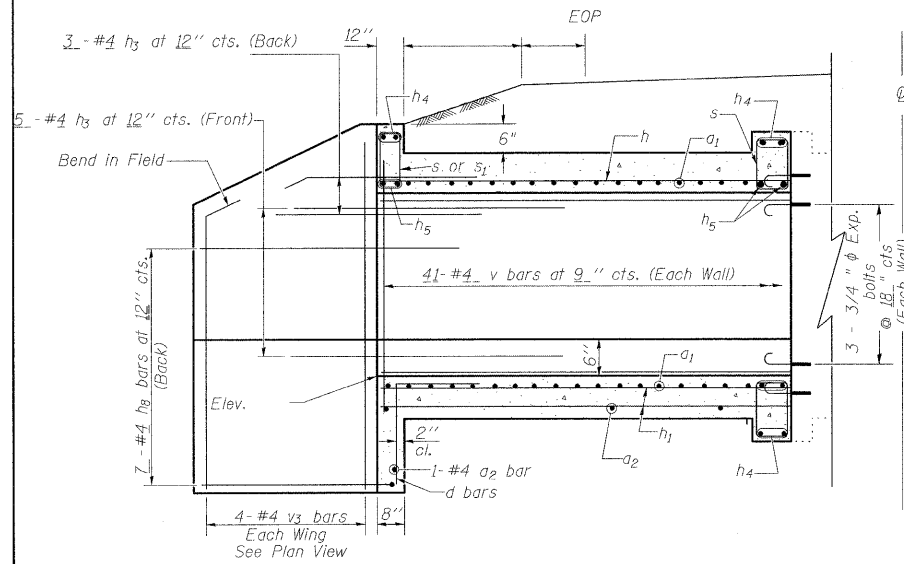
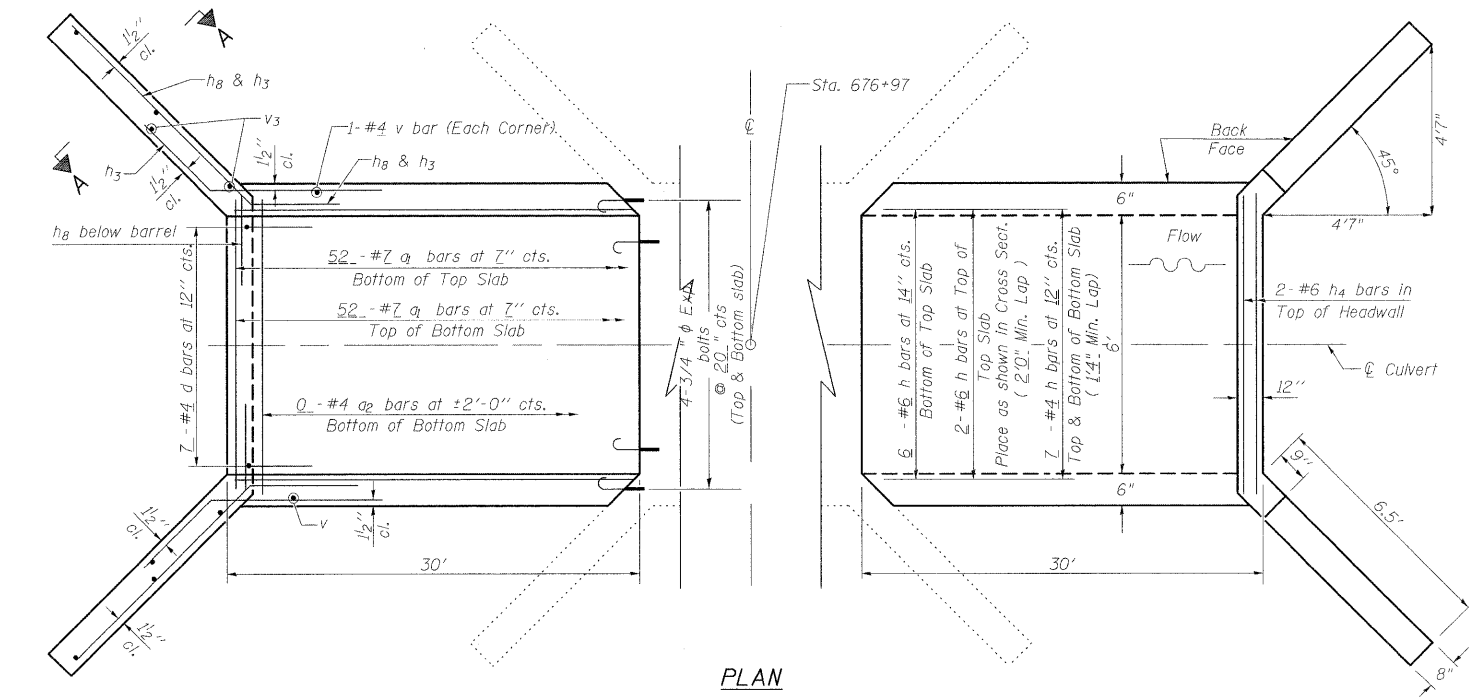


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**ELEVATION**  
Dimensions at Rt. L's to  $\phi$  Roadway

\* USFL 450.20 (WB IL 13)



**PLAN**

**NOTES**

Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.  
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.  
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 3/4 inch diameter x 12 inch hooked bolts. Hooked bolts shall extend a minimum of 9 inch into new concrete and have a minimum certified proof load of 4,080 lbs.

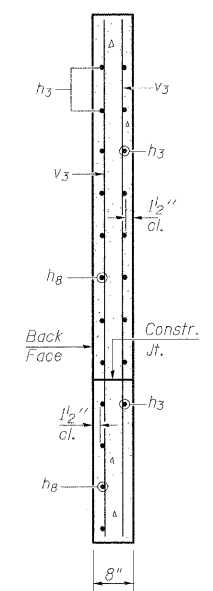
**DESIGN STRESSES**

$f_y = 60,000 \text{ psi}$   
 $f'_c = 3,500 \text{ psi}$

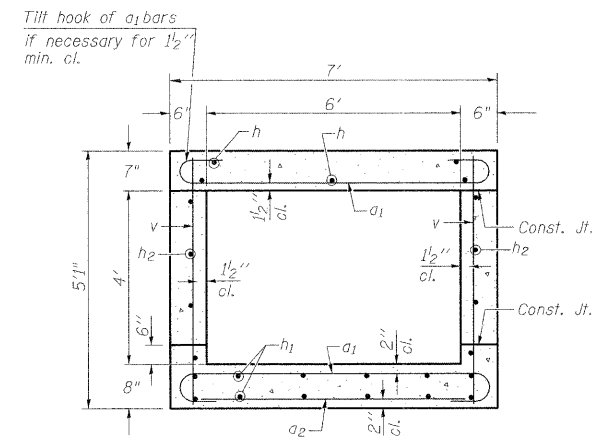
LOADING HS 20-44 & ALT.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a1	104	#7	8'-4"	U
a2	0	#4		
d	7	#4	4'-6"	L
h	8	#6	29'-9"	
h1	14	#4	29'-9"	
h2	8	#5	29'-9"	
h3	16	#4	8'-0"	
h4	6	#6	6'-9"	
h5	4	#6	6'-9"	
h8	14	#4	9'-6"	
s	0	#4		
s1	0	#4		
v	84	#4	4'-11"	
v3	8	#4	7'-9"	
Concrete Box Culverts Cu. Yd. 16.9				
Reinforcement Bars Pound 3270				
3/4" Expansion bolts Each 14				



**SECTION A-A**



**SECTION THRU BARREL**

**REVISIONS**

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

BASED ON: **SSB-H-0** 8-1-2000