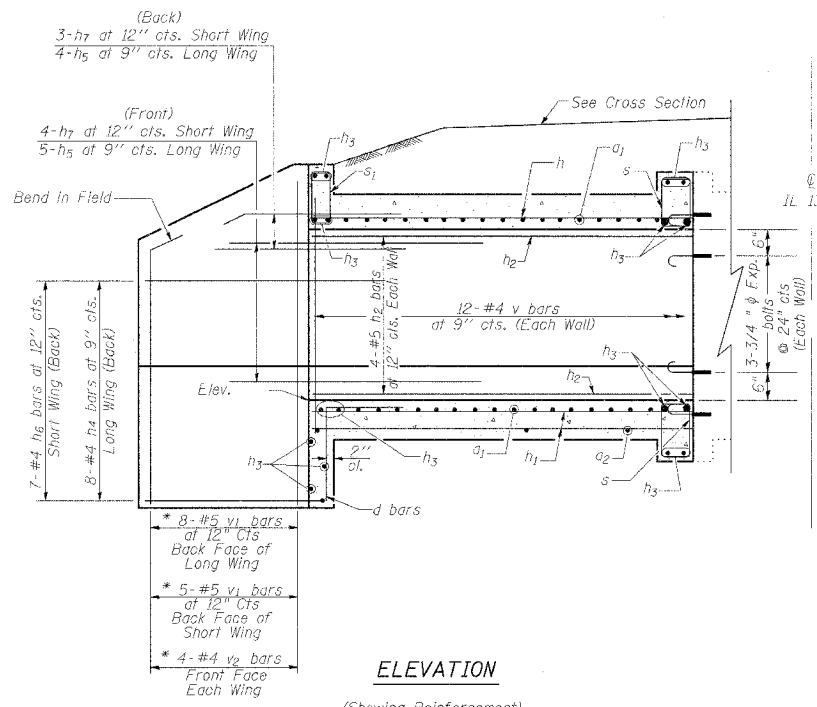
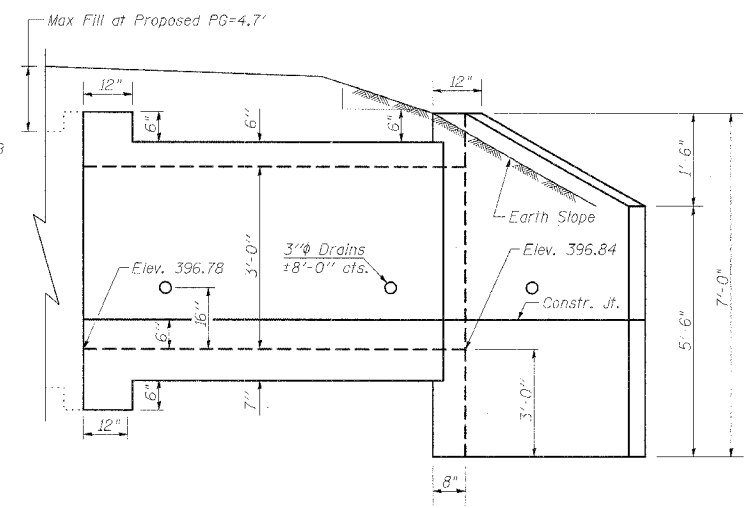


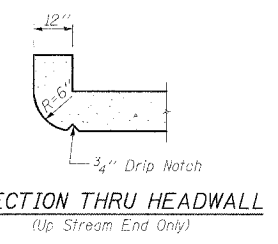
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 1 SHEETS
331	*	JACKSON	258	80	
STA.	TO STA.				
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		



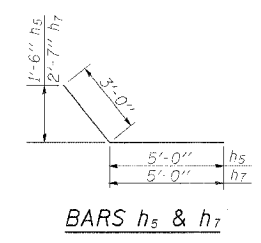
ELEVATION
(Showing Reinforcement)
* Bend or Cut in Field to Fit



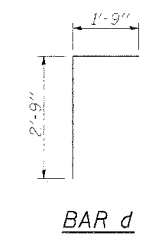
ELEVATION
(Showing Dimensions)



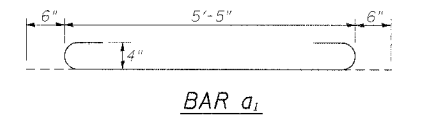
SECTION THRU HEADWALL
(Up Stream End Only)



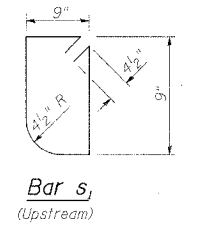
BARS h5 & h7



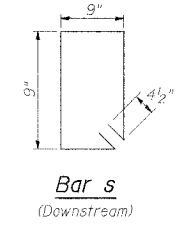
BAR d



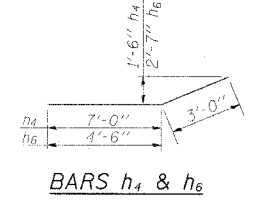
BAR a1



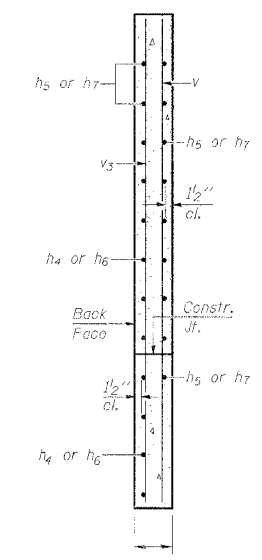
Bar s1
(Upstream)



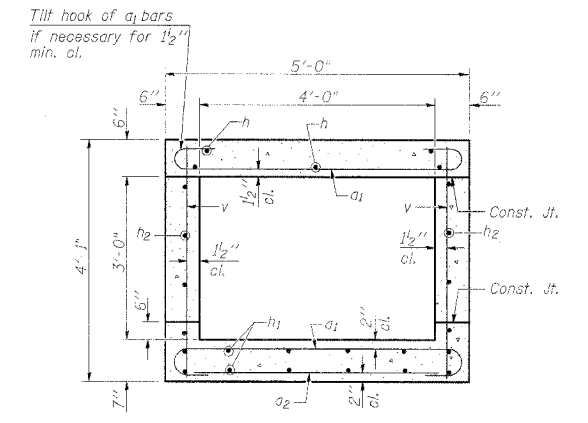
Bar s
(Downstream)



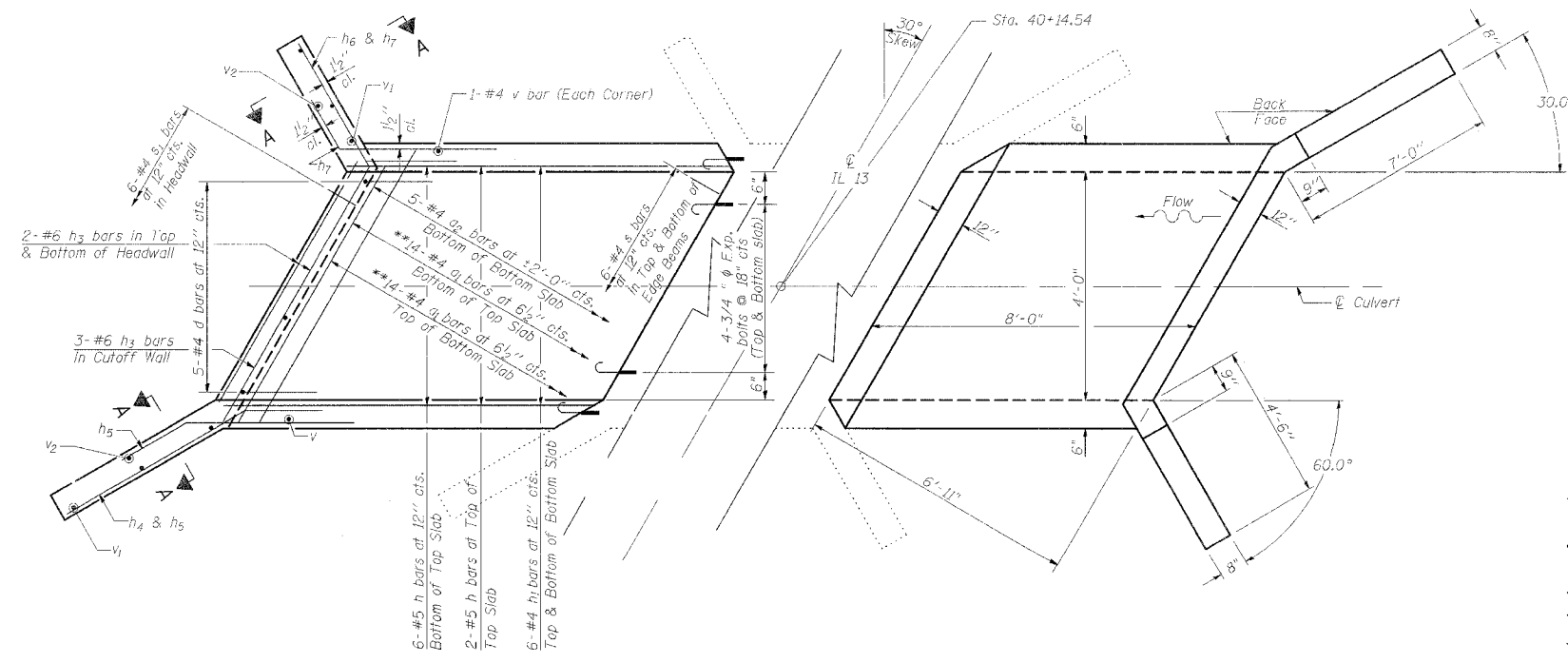
BARS h4 & h6



SECTION A-A



SECTION THRU BARREL



PLAN
(Showing Reinforcement)

PLAN
(Showing Dimensions)

DESIGN STRESSES

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

LOADING HS 20-44

Allow 50#/sq. ft for Future Wearing Surface

DESIGN SPECIFICATIONS
2002 AASHTO

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53 Grade 60.
2. For backfilling and embankment, see Standard Specifications.
3. Precast culvert alternative is not allowed.
4. Exposed edges shall have a 3/4" chamfer.
5. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
6. All construction joints shall be bonded.
7. Expansion bolts shall be 3/4" 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
(cast-in-place 4'X3' box culvert extension)

Bar	No.	Size	Length	Shape
a1	28	#4	6'-5"	U
a2	5	#4	5'-5"	U
d	5	#4	4'-6"	U
h	8	#5	7'-8"	U
h1	12	#4	7'-8"	U
h2	8	#5	7'-8"	U
h3	15	#6	5'-5"	U
h4	8	#4	10'-0"	U
h5	9	#4	8'-0"	U
h6	7	#4	7'-6"	U
h7	7	#4	8'-0"	U
s	6	#4	3'-9"	U
s1	6	#4	3'-7"	U
v	26	#4	3'-9"	U
v1	13	#5	6'-9"	U
v2	8	#4	6'-9"	U

Concrete Box Culverts	Cu. Yd.	5.0
Reinforcement Bars	Pound	860
3/4" Expansion Bolts	Each	18

**CAST-IN-PLACE BOX CULVERT EXTENSION
AT SOUTHWEST QUADRANT OF
IL 13 AND GLENVIEW DR
STA 40+14.54**