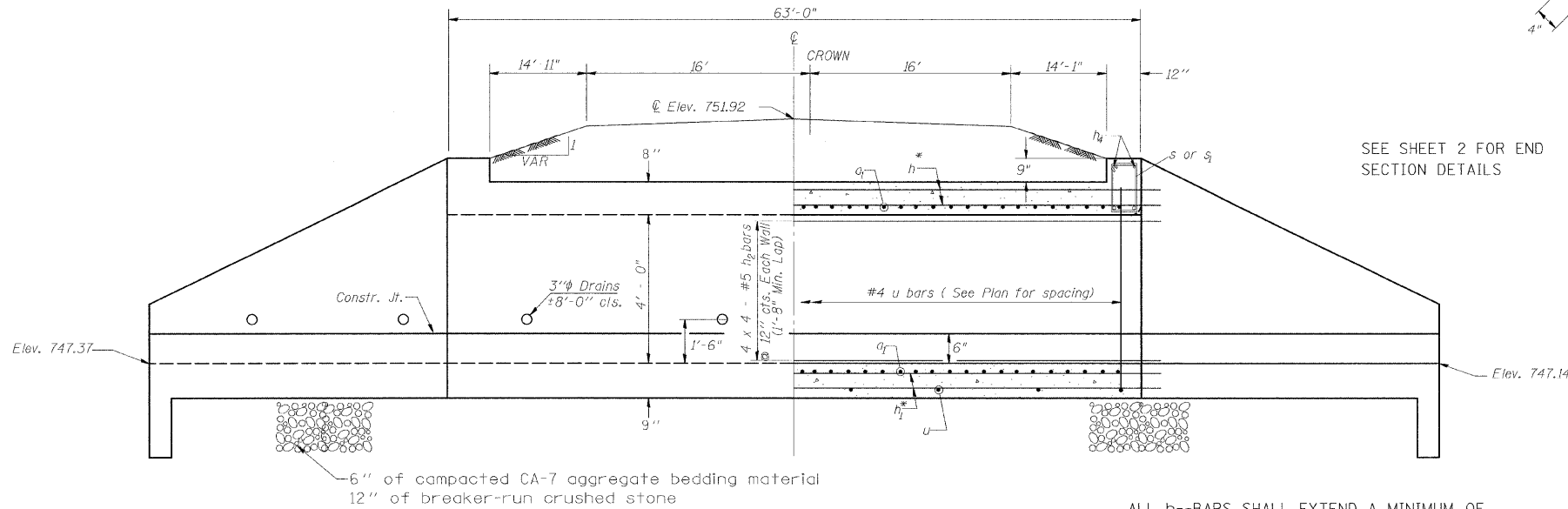


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
611	1021	HENRY	41	19
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONCRETE BOX CULVERTS

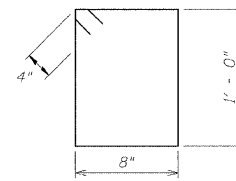
STA 284 + 80.47



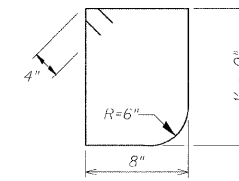
HALF ELEVATION

HALF LONG. SECTION

SEE SHEET 2 FOR END SECTION DETAILS

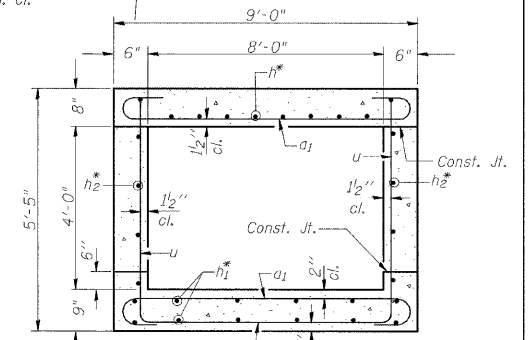


BAR S

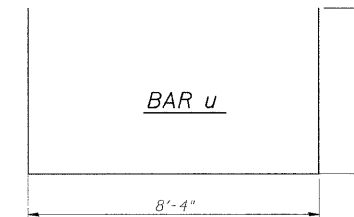


BAR S1

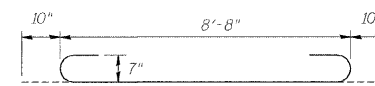
Till hook of a1 bars if necessary for 1/2" min. cl.



SECTION THRU BARREL



BAR u



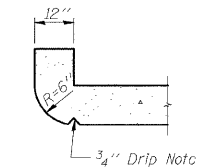
BAR a1

ALL h-BARS SHALL EXTEND A MINIMUM OF ONE (1) LAP LENGTH INTO PROPOSED END SECTIONS
D-BARS WILL BE CAST-IN-PLACE WITH BOX CULVERT BARREL IN ACCORDANCE WITH CULVERT DETAILS

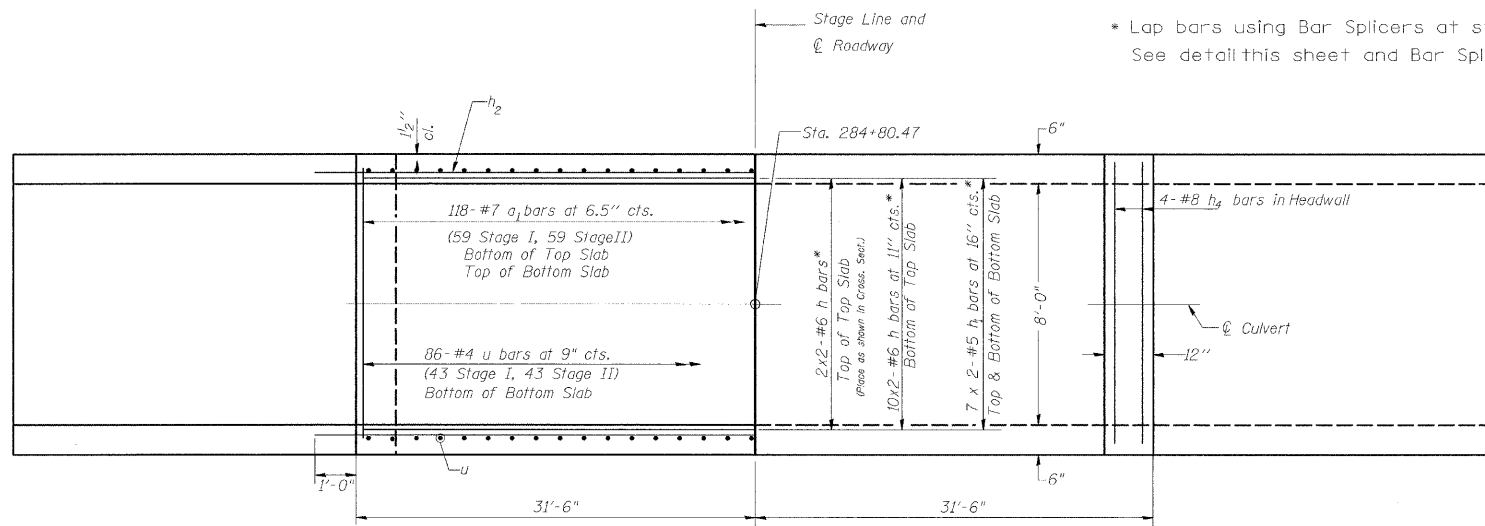
* Lap bars using Bar Splicers at stage construction line. See detail this sheet and Bar Splicer sheet

- #4 - 1'-4"
- #5 - 1'-8"
- #6 - 2'-0"

MINIMUM LAP



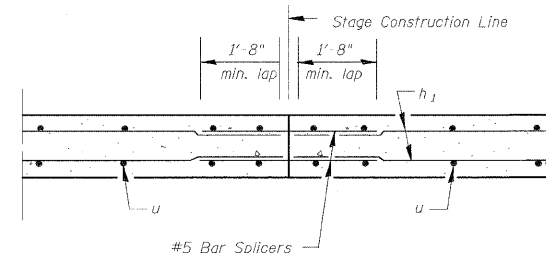
SECTION THRU HEADWALL (Up Stream End Only)



SHOWING REINFORCEMENT

SHOWING OUTLINES

PLAN



#5 Bar Splicers

STAGE LINE DETAILS

Bottom Slab Shown
Sidewalls and Top Slab Similar
See Bar Splicer Sheet for splicer details

LOADING HS20-44 & ALT.

DESIGN STRESSES

FIELD UNITS

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

BILL OF MATERIAL

Location	Spacing	Bar	No.	Size	Length	Shape	
Floor/Ceiling	6.5"	a1	236	#7	10'-4"	U	
Floor/Walls	9"	u	86	#4	18'-4"	—	
Floor	16"	h1	56	#5	17'-10"	—	
Ceiling	11"	h	48	#6	16'-10"	—	
Walls	12"	h2	32	#5	17'-10"	—	
Headwall - DS	11"	s	10	#5	4'-0"	—	
Headwall - US	11"	q	10	#5	3'-9"	—	
Headwall		h4	8	#5	8'-9"	—	
Concrete Box Culverts						Cu. Yd.	39.6
Reinforcement Bars						Pound	9090
Bar Splicers						Each	34

NOTES

Precast option is not allowed.

Reinforcement Bars shall conform to the requirements of ASTM A 106 Gr 60 (IL Modified) See Special Provisions.

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

All construction joints shall be bonded.

6" of compacted CA-7 aggregate bedding material shall be placed beneath the box culvert. The cost for the CA-7 aggregate shall be included in the cost of Concrete Box Culverts.

The cost of excavation and backfilling shall be included in the cost of Concrete Box Culverts.

WATERWAY INFORMATION

Drainage Area = 90.0 acres
Existing Low Grade Elevation: 754.35 ft. @ 284+00.
Proposed Low Grade Elevation: 754.35 ft. @ 284+00.

Flood	Frequency	Discharge	Headwater	Elev. (ft)
	Year	cfs	Existing	Proposed
Ten-Year	10	139	751.64	751.16
Design	50	192	752.73	752.08
Base	100	224	753.41	752.59
OVT (E)	243	267	754.35	
OVT (P)	436	301		754.35