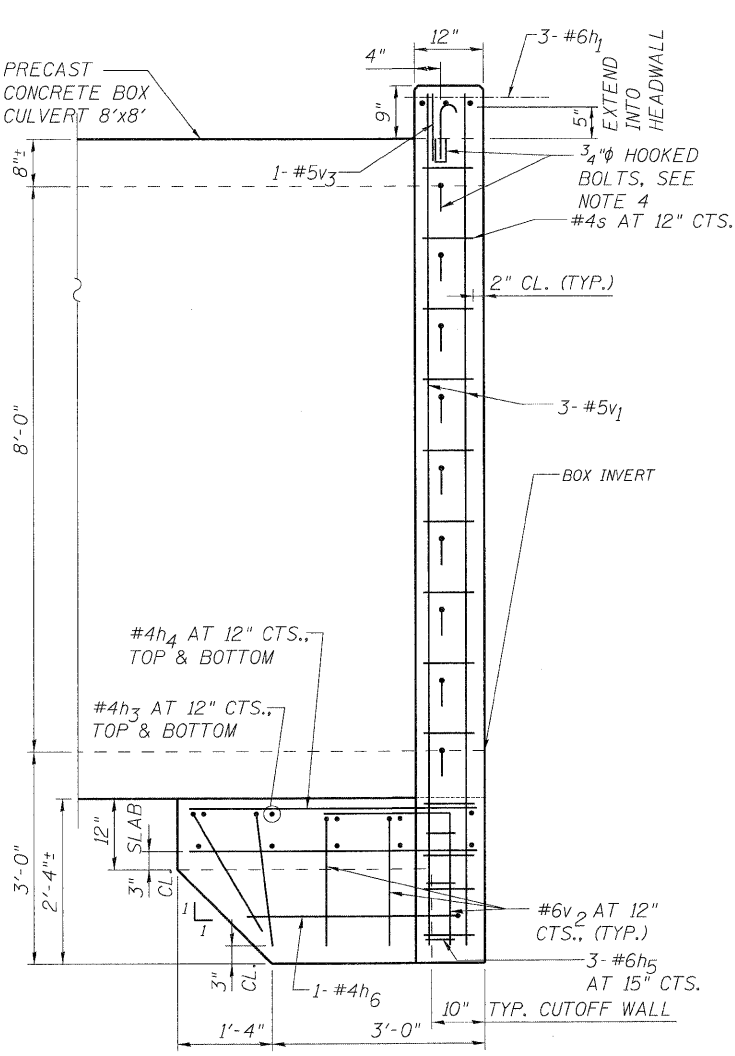
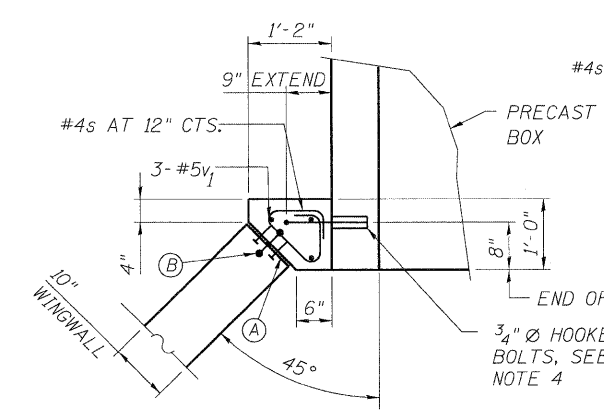


HEADWALL ELEVATION

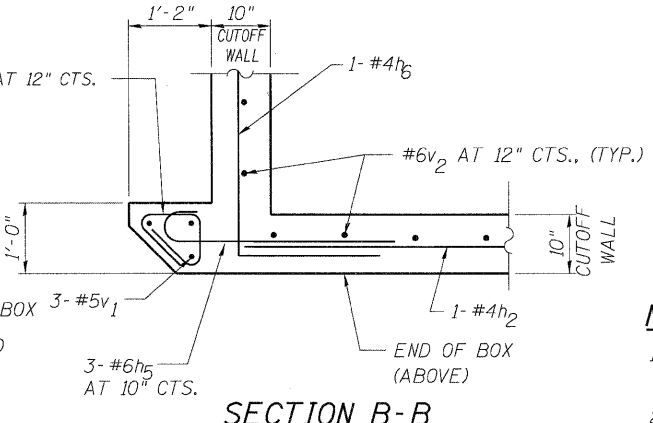


SIDE ELEVATION

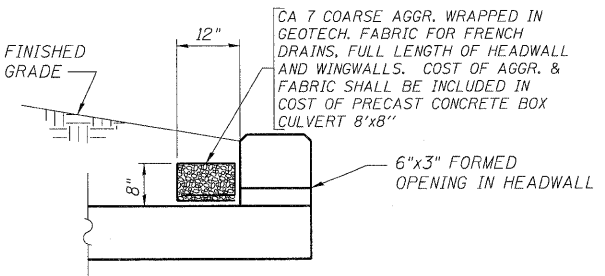
- (A) 1/2" PREMOULDED JOINT FILLER, INSTALL W/ 2 COLUMNS OF CONC. NAILS (FLAT HD. C.S.), 1" LONG, AT 12" CTS., VERTICAL.
- (B) 6" HOLLOW BULB TYPE NONMETALLIC WATER SEAL (6" FROM TOP OF WALL TO TOP OF FOOTING).



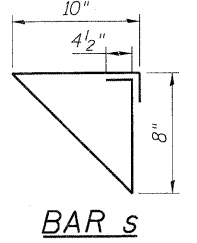
SECTION A-A



SECTION B-B



DRAINAGE DETAIL



BAR s

NOTES

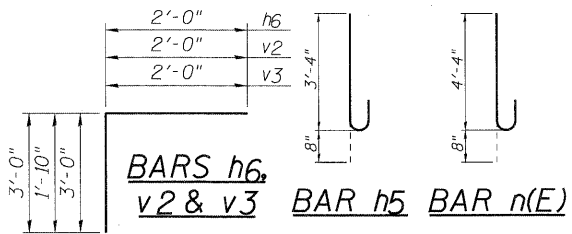
1. CONTRACTOR SHALL COORDINATE PRECAST CULVERT DIMENSIONS WITH SUPPLIER BEFORE ORDERING MATERIALS.
2. ALL EDGES SHALL HAVE STANDARD 3/4" CHAMFERS, EXCEPT AS NOTED.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. TO CONNECT CAST-IN-PLACE COLLAR TO PRECAST BOX, PROVIDE 3/4" HOOKED BOLTS WITH EMBEDDED INSERTS AT 12" MAXIMUM CENTERS. HOOKED BOLTS SHALL EXTEND 6" INTO HEADWALL AND 9" INTO SIDES OF COLLAR. COST SHALL BE INCLUDED IN THE PRECAST CONCRETE BOX CULVERT 8'x8' ITEM.
5. PROVIDE PROTECTIVE COAT ON TOP HORIZONTAL SURFACES AND TOP 6" ON INSIDE FACES OF HEADWALLS.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	19	#4	13'-0"	—
h ₁	6	#6	20'-11"	—
h ₂	19	#4	17'-4"	—
h ₃	20	#4	18'-7"	—
h ₄	76	#4	4'-0"	—
h ₅	12	#6	4'-0"	—
h ₆	2	#4	5'-0"	—
h ₇	2	#4	5'-0"	—
n(E)	74	#4	5'-1"	—
s	26	#4	3'-4"	—
s ₁	26	#4	3'-11"	—
t	160	#4	6'-2"	—
v	16	#4	16'-9"	—
v ₁	14	#5	12'-0"	—
v ₂	50	#6	3'-7"	—
v ₃	4	#5	5'-0"	—
v ₄	4	#4	16'-9"	—
v ₅	52	#4	10'-4"	—
w	20	#5	13'-2"	—
w ₁	20	#5	17'-6"	—
Item	Unit	Quantity		
EARTH EXCAVATION	CU YD	1100		
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	212		
POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	212		
STONE RIPRAP, CLASS A5	SQ YD	243		
FILTER FABRIC	SQ YD	407		
STRUCTURE EXCAVATION	CU YD	587		
REMOVAL OF EXISTING STRUCTURES	EACH	1		
PROTECTIVE COAT	SQ YD	17		
REINFORCEMENT BARS	POUND	3600		
REINFORCEMENT BARS, EPOXY COATED	POUND	250		
NAME PLATES	EACH	1		
CONCRETE BOX CULVERTS	CU YD	59		
PRECAST CONCRETE BOX CULVERT 8'x8'	FOOT	133		
GEOCOMPOSITE WALL DRAIN	SQ YD	62		
PIPE UNDERDRAINS FOR STRUCTURES, 4"	FOOT	80		
GRANULAR CULVERT BACKFILL	CU YD	1687		

DESIGNED	ST
CHECKED	SLV
DRAWN	ST
CHECKED	DJB

LONCO, INC.
CONSULTING ENGINEERS
1560 WALL ST., SUITE 222
NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100



HEADWALL DETAILS (EAST HEADWALL)
WEST RIVER ROAD OVER UNNAMED TRIBUTARY TO KANKAKEE RIVER
(0.1 MI NORTH OF IL ROUTE 113)
F.A.U. RT. 0327
SECTION 112 T-2
WILL COUNTY
STA. 82+55.73
STRUCTURE NO. 099-0520

SHEET NO. S2 OF S5 SHEETS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	0327	112 T-2	WILL	22	14
D-91-198-10			CONTRACT NO. 60J17		
FED. ROAD DIST. NO. _		ILLINOIS	FED. AID PROJECT		