

**GENERAL NOTES**

- At least 6'-0" of this culvert barrel shall be poured monolithically with the wingwalls.
- Exposed edges shall be beveled 3/4".
- Reinforcement bars shall conform to the requirements of ASTM A706 Gr. 60. See Special Provision.
- For backfilling and embankment, see standard specifications and roadway plans.
- It shall be the responsibility of the Contractor to divert the stream flow during construction in order to keep the construction areas free of water. The method of water diversion shall be subject to the approval of the Engineer and the cost shall be included with "Concrete Box Culverts".
- The Contractor shall field locate and protect all utilities before starting construction. The Contractor shall submit information regarding the protection of all utilities to the Engineer for review.
- B.F. denotes Back Face and F.F. denotes Front Face.
- There will be no additional compensation should any reinforcement need to be cut or bent in the field.
- Where called for, construction joints shall be bonded in accordance with section 503.09 (b) of the Standard Specifications.
- Layout of the Slope Protection System may be varied to suit ground conditions in the field as directed by the Engineer.
- Minimum bar lap lengths are as follows, unless noted otherwise.  

Barrels:	Bar Size	Min. Lap Length	Wingwalls:	Bar Size	Min. Lap Length
#4	1'-4"	1'-4"	#4	1'-4"	1'-4"
#5	1'-8"	1'-8"	#5	1'-8"	1'-8"
#6	2'-0"	2'-0"	#6	2'-0"	2'-0"
#7	2'-9"	2'-9"	#7	2'-9"	2'-9"
#8	3'-8"	3'-8"	#8	3'-8"	3'-8"
#9	4'-7"	4'-7"	#9	4'-7"	4'-7"
- Precast concrete box culverts will not be allowed.
- The pay item "Removal and Disposal of Unsuitable Material" shall include the excavation of unsuitable material for a depth of 2'-0 1/2" below the structure for a width of approximately 29'-9" within the limits of the West toewall and 2'-0" East of the end of the Drop Box as shown on the plans. The actual quantity shall be determined in the field by the Engineer.
- The pay item "Porous Granular Embankment, Special" shall include the placement of CA-1 and CA-7 below the structure for a width of approximately 29'-9" within the limits of the West toewall and 2'-0" East of the end of the Drop Box as shown on the plans. The actual quantity shall be determined in the field by the Engineer.
- All field tile removal shall be included in the cost of Removal of Existing Structures No. 1.

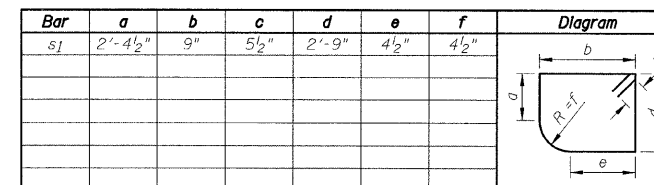
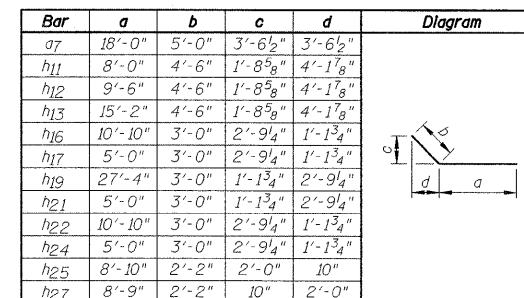
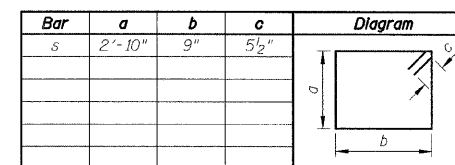
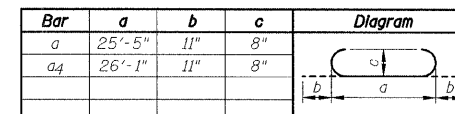
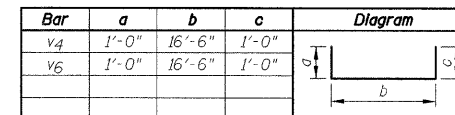
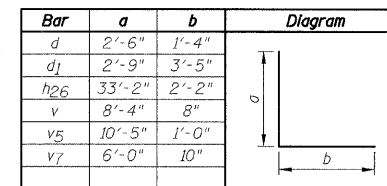
**TOTAL BILL OF MATERIAL**

ITEMS	UNITS	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	226
Porous Granular Embankment, Special	Cu. Yd.	226
Stone Riprap, Class A5	Sq. Yd.	480
Paved Ditch Removal	Foot	152
Removal of Existing Structures No. 1	Each	1
Reinforcement Bars	Pound	50,740
Steel Railing, Type SM	Foot	74
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	227.7

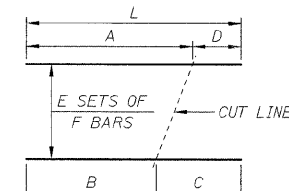
**BAR LIST**

Bar	No.	Size	Length	Shape
a	110	#8	27'-3"	U
a1	56	#8	25'-5"	U
a2	82	#8	9'-6"	U
a3	40	#8	25'-6"	U
a4	80	#8	27'-11"	U
a5	8	#8	13'-0"	U
a6	3	#4	34'-9"	U
a7	72	#5	23'-0"	U
a8	24	#5	27'-8"	U
a9	5	#5	27'-2"	U
b	36	#5	33'-2"	U
b1	20	#5	35'-0"	U
b2	10	#5	34'-4"	U
d	25	#4	3'-10"	U
d1	60	#7	6'-2"	U
h	124	#7	29'-6"	U
h1	156	#5	19'-11"	U
h2	2	#6	35'-8"	U
h3	4	#4	35'-8"	U
h4	3	#7	35'-8"	U
h5	2	#6	37'-0"	U
h6	4	#4	37'-0"	U
h7	3	#7	37'-0"	U
h8	42	#6	29'-2"	U
h9	18	#8	25'-10"	U
h10	11	#6	25'-10"	U
h11	6	#8	12'-6"	U
h12	14	#8	14'-0"	U
h13	8	#6	19'-8"	U
h14	10	#8	26'-5"	U
h15	5	#6	26'-5"	U
h16	12	#7	13'-10"	U
h17	9	#7	8'-0"	U
h18	6	#7	12'-2"	U
h19	6	#5	30'-4"	U
h20	5	#5	26'-7"	U
h21	1	#5	8'-0"	U
h22	6	#5	13'-10"	U
h23	5	#5	12'-4"	U
h24	1	#5	8'-0"	U
h25	6	#5	10'-6"	U
h26	12	#5	35'-4"	U
h27	6	#5	10'-11"	U
h28	4	#5	20'-0"	U
h29	8	#5	4'-0"	U
h30	3	#5	8'-0"	U
h31	4	#5	3'-0"	U
s	36	#5	8'-1"	U
s1	36	#5	7'-9"	U
v	210	#4	9'-0"	U
v1	10	#4	20'-9"	U
v2	20	#4	12'-9"	U
v3	3	#4	20'-10"	U
v4	7	#6	18'-6"	U
v5	9	#6	11'-5"	U
v6	4	#6	18'-6"	U
v7	87	#5	6'-10"	U

**BAR BENDING DIAGRAMS**

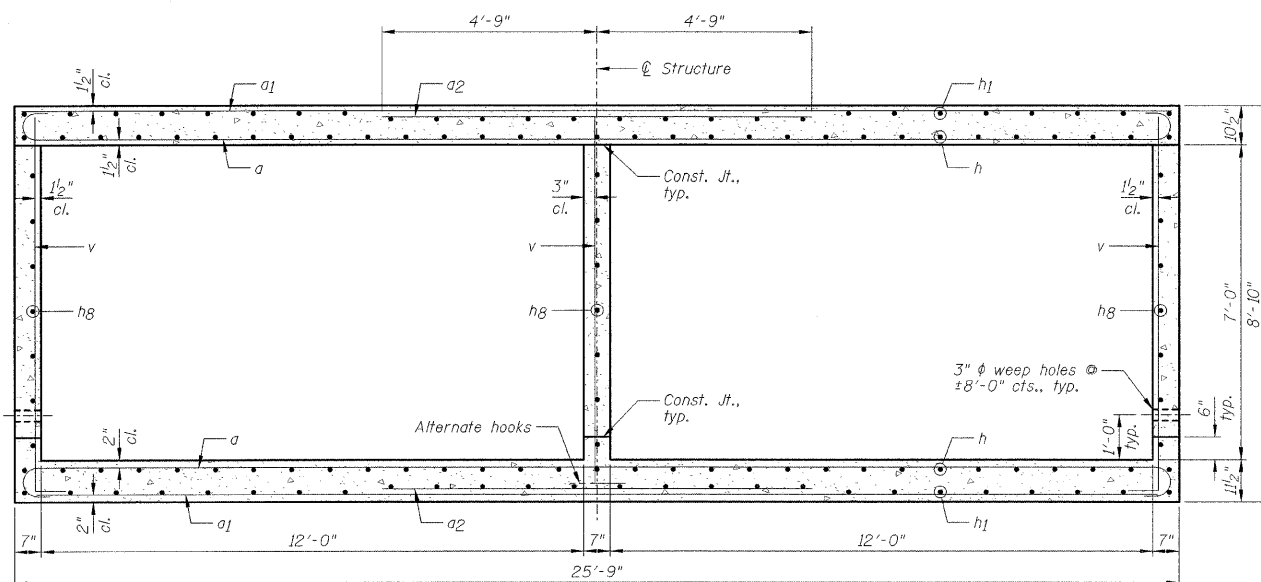


**BAR CUTTING DIAGRAM**



BAR	A	B	C	D	E	F	L
a3	23'-10"	1'-8"	23'-10"	1'-8"	2	20	25'-6"
a4	24'-5"	1'-8"	24'-5"	1'-8"	2	40	26'-1"
a5	8'-3"	4'-9"	8'-3"	4'-9"	2	4	13'-0"
a8	18'-7"	9'-1"	18'-7"	9'-1"	1	24	27'-8"
a9	18'-0"	9'-2"	18'-0"	9'-2"	1	5	27'-2"
a2	30'-5"	4'-11"	30'-5"	4'-11"	1	10	35'-4"
v1	12'-9"	8'-0"	12'-9"	8'-0"	1	10	20'-9"
v3	12'-9"	10'-10 3/8"	9'-11 3/8"	8'-1"	1	3	20'-10"
v4	10'-5"	8'-5"	8'-1"	6'-1"	1	7	16'-6"
v6	10'-5"	8'-6 3/4"	7'-11 1/4"	6'-1"	1	4	16'-6"

Note: "L" dimension does not take into account the hook length for the hooked bar a4, v4 and v6.



**SECTION THRU CULVERT**

DESIGNED - JML	REVISIONS	<b>LIVINGSTON COUNTY DEPARTMENT OF HIGHWAYS</b>	<b>GENERAL DATA</b>		<b>WESTON ROAD (C.H. 10) OVER HICKORY CREEK SECTION 09-00120-03-BR LIVINGSTON COUNTY STATION 23+87.00</b>	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
DRAWN - DJM	REVISIONS		SCALE:	SHEET NO. A2 OF 11 SHEETS		STA.	349	09-00120-03-BR	LIVINGSTON	34	13
CHECKED - MSW	REVISIONS		TO STA.			<b>S.N. 053-5014</b>		<b>CONTRACT NO. 87412</b>			
DATE - 10/21/09	REVISIONS							<small>FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT</small>			