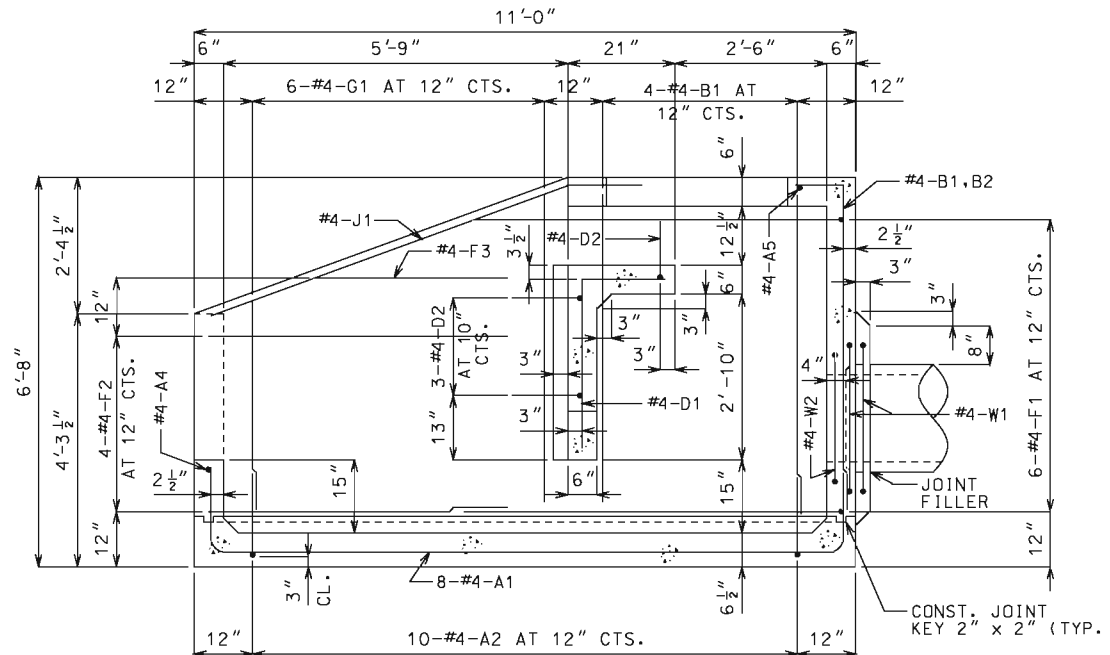
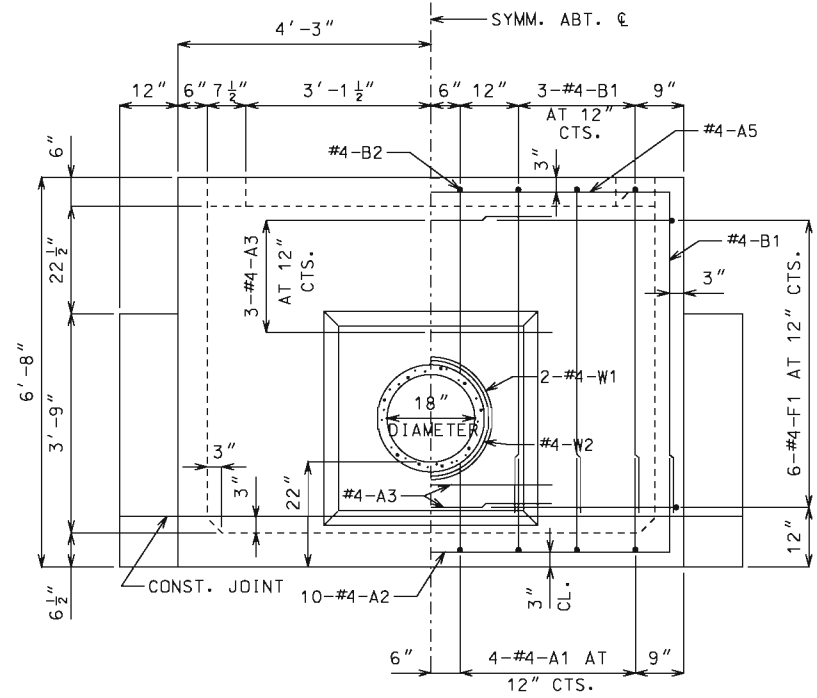


DOWNSTREAM ELEVATION



SECTION A - A



UPSTREAM ELEVATION

NOTE: BEND OR CUT A1 BARS IN FIELD TO CLEAR PIPE.

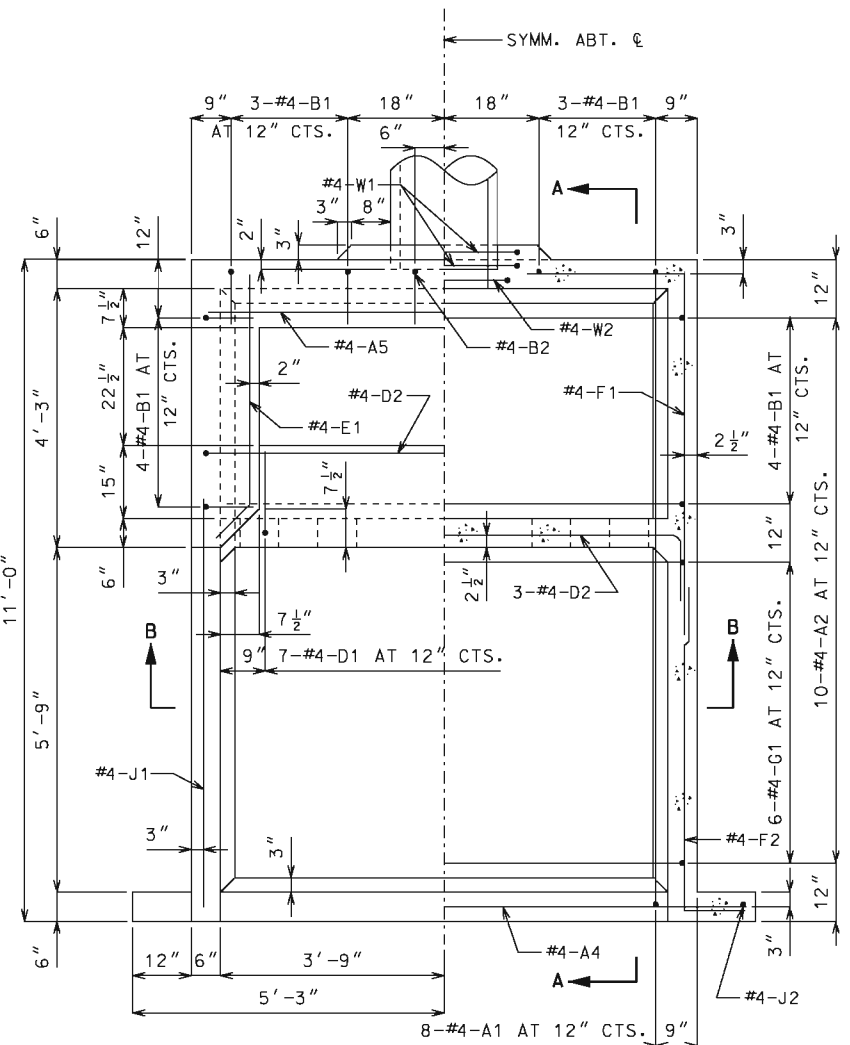
GENERAL NOTES:

DESIGN UNIT STRESSES
 CLASS B CONCRETE $f'_c = 3,000$ psi
 REINFORCING STEEL (GRADE 60) $f_y = 60,000$ psi

REINFORCING STEEL
 MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE $1\frac{1}{2}$ " UNLESS SHOWN OTHERWISE.

DIMENSIONS
 DRAWINGS ARE NOT TO SCALE. FOLLOW DIMENSIONS.

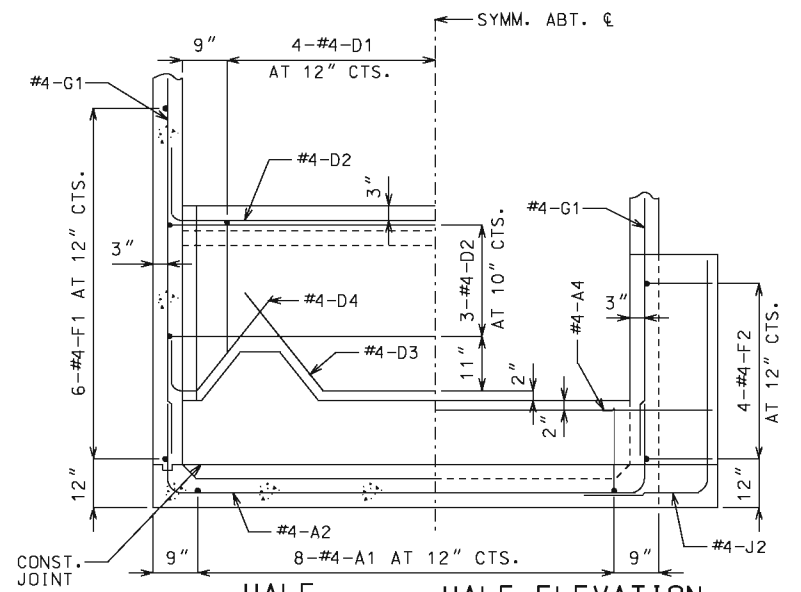
ESTIMATED QUANTITIES		
ITEM		TOTAL
CLASS B CONCRETE	CU. YD.	6.1
REINFORCING STEEL	LBS.	490



HALF PLAN HALF HORIZONTAL SECTION

NO.	REQ'D	MARK NO.	SHAPE NO.	VARIES (V)	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	BENDING DIAGRAMS			
					NO. EACH											LBS.	SHAPE 11	SHAPE 14	SHAPE 15
					B	C	D	E	F	H	K	FT. IN.							
8	4	A1	11										13-5	13-3	71				
10	4	A2	11										11-1	10-10	72				
5	4	A3	20										4-6	4-6	15				
1	4	A4	20										10-3	10-3	7				
1	4	A5	20										8-3	8-3	6				
14	4	B1	19										6-6	6-4	59				
2	4	B2	19										3-8	3-6	5				
7	4	D1	19										4-3	4-2	19				
4	4	D2	11										11-5	11-3	30				
1	4	D3	15										7-3	7-2	5				
2	4	D4	14										3-8	3-6	5				
2	4	E1	23										5-1	5-1	7				
12	4	F1	19										9-3	9-1	73				
8	4	F2	19										6-10	6-9	36				
2	4	F3	20										4-0	4-0	5				
12	4	G1	20	V	2								5-8	5-8	38				
													3-9	3-9	38				
													(INCREMENT = $4\frac{3}{8}$ INCHES)						
2	4	J1	20										7-5	7-5	10				
2	4	J2	19										6-0	5-11	8				
2	4	W1	16										8-2	8-2	11				
1	4	W2	16										6-11	6-11	5				

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STANDARD HOOKS.
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
 NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE.
 PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
 LENGTH = TOTAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
 V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
 NO.EA. = NUMBER OF BARS OF EACH LENGTH.



HALF SECTION B-B HALF ELEVATION OF LOWER BAFFLE AND WING

NOTE: BEND OR CUT D1 BARS IN FIELD TO CLEAR NOTCH IN BAFFLE WALL.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI

DENNIS W. HECKMAN
NUMBER PE-27141
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

PIPE CULVERT HEADWALL

ENERGY DISSIPATOR (IMPACT TYPE) FOR 18" CONCRETE PIPE

DATE EFFECTIVE: 07/01/2001

DATE PREPARED: 9/3/2009

604.10E

SHEET NO.

1 OF 1

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.