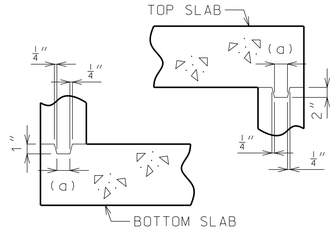
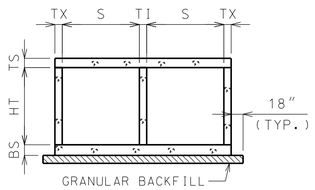
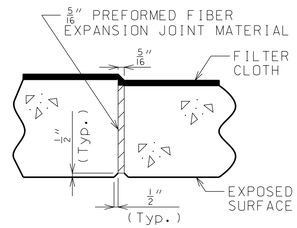


KEYED CONSTRUCTION JOINT

(a) APPROXIMATELY ONE-THIRD OF WALL THICKNESS



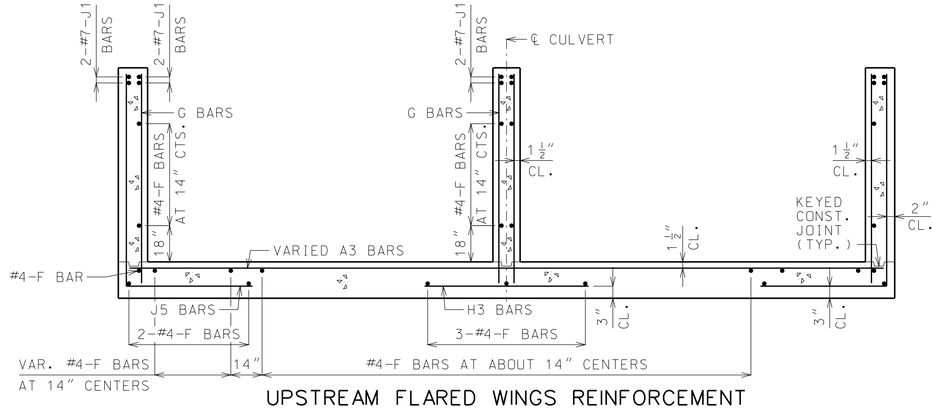
GRANULAR BACKFILL LIMITS AND MEMBER DIMENSIONS



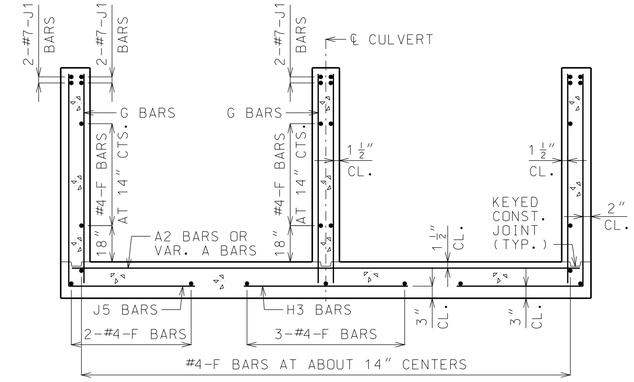
TRANSVERSE JOINT THRU BARREL

PREFORMED FIBER EXPANSION JOINT MATERIAL SHALL BE SECURELY STITCHED TO ONE FACE OF THE CONCRETE WITH NO. 10 GAGE COPPER WIRE OR NO. 12 GAGE SOFT DRAWN GALVANIZED STEEL WIRE.

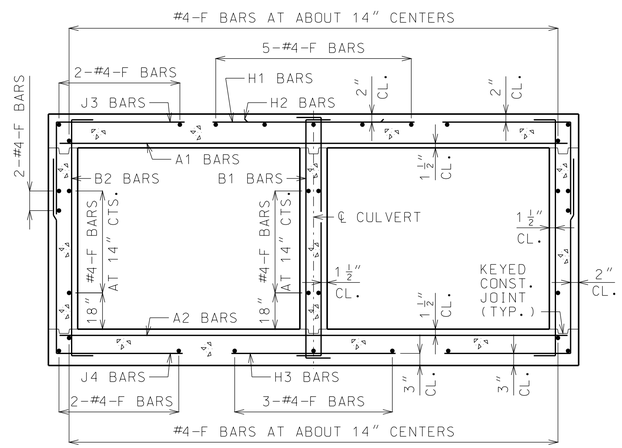
FILTER CLOTH 3 FEET IN WIDTH AND DOUBLE THICKNESS SHALL BE CENTERED ON TRANSVERSE JOINTS IN TOP SLAB AND SIDEWALLS WITH EDGES SEALED WITH MASTIC OR TWO SIDED TAPE. FILTER CLOTH SHALL BE A SUBSURFACE DRAINAGE GEOTEXTILE IN ACCORDANCE WITH SECTION 1011 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. COST OF FURNISHING AND INSTALLING FILTER CLOTH WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR OTHER ITEMS.



UPSTREAM FLARED WINGS REINFORCEMENT

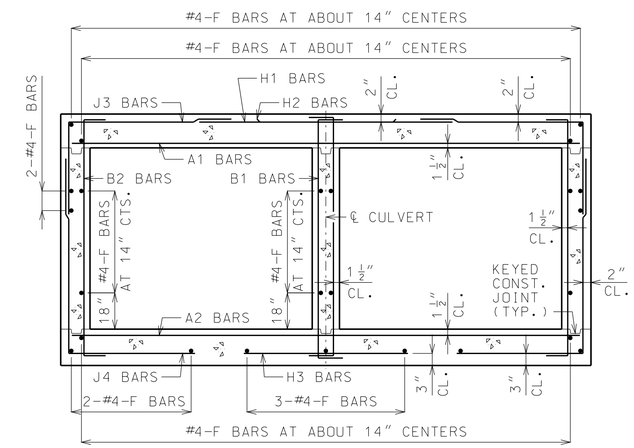


DOWNSTREAM WINGS REINFORCEMENT



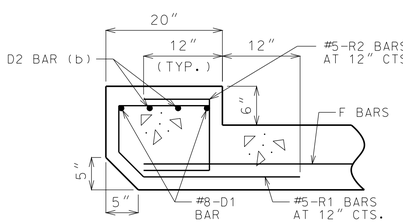
BARREL REINFORCEMENT

FOR DESIGN FILLS OVER 2'-0"



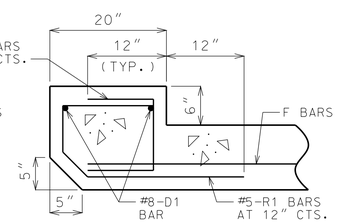
BARREL REINFORCEMENT

FOR DESIGN FILLS 2'-0" OR LESS



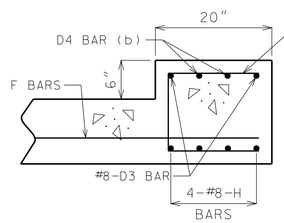
UPSTREAM HEADWALL REINFORCEMENT

NEAR INTERIOR WALL



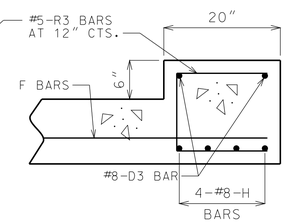
UPSTREAM HEADWALL REINFORCEMENT

NEAR MIDSPAN



DOWNSTREAM HEADWALL REINFORCEMENT

NEAR INTERIOR WALL



DOWNSTREAM HEADWALL REINFORCEMENT

NEAR MIDSPAN

(b) #8 FOR CLEAR SPAN > 10'-0"
#9 FOR CLEAR SPAN > 13'-0"
NOT REQUIRED FOR CLEAR SPANS ≤ 10'-0"

IF D2 AND D4 BARS ARE REQUIRED, THE MINIMUM LENGTH EACH SIDE OF ℄ WALL SHALL BE THE GREATER OF 48 BAR DIAMETERS OR 1/4 CLEAR SPAN. THE CLEAR SPAN IS PARALLEL TO LONG DIRECTION OF HEADWALL.

GENERAL NOTES:

FOR MEMBER THICKNESS AND FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS, SEE 703.47. FOR J5 BARS, SEE 703.37.

BARREL AND WINGS SECTIONS ARE SYMMETRICAL ABOUT AND NORMAL TO ℄ CULVERT. HEADWALL SECTIONS ARE NORMAL TO LONG DIRECTION OF HEADWALL.

DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2".

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.

CONCRETE DOUBLE BOX CULVERT

SKEW: RIGHT ADVANCE
WINGS: FLARED

SECTIONS

DATE EFFECTIVE: 10/01/2011	703.45C	SHEET NO. 3 OF 3
DATE PREPARED: 9/8/2011		

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