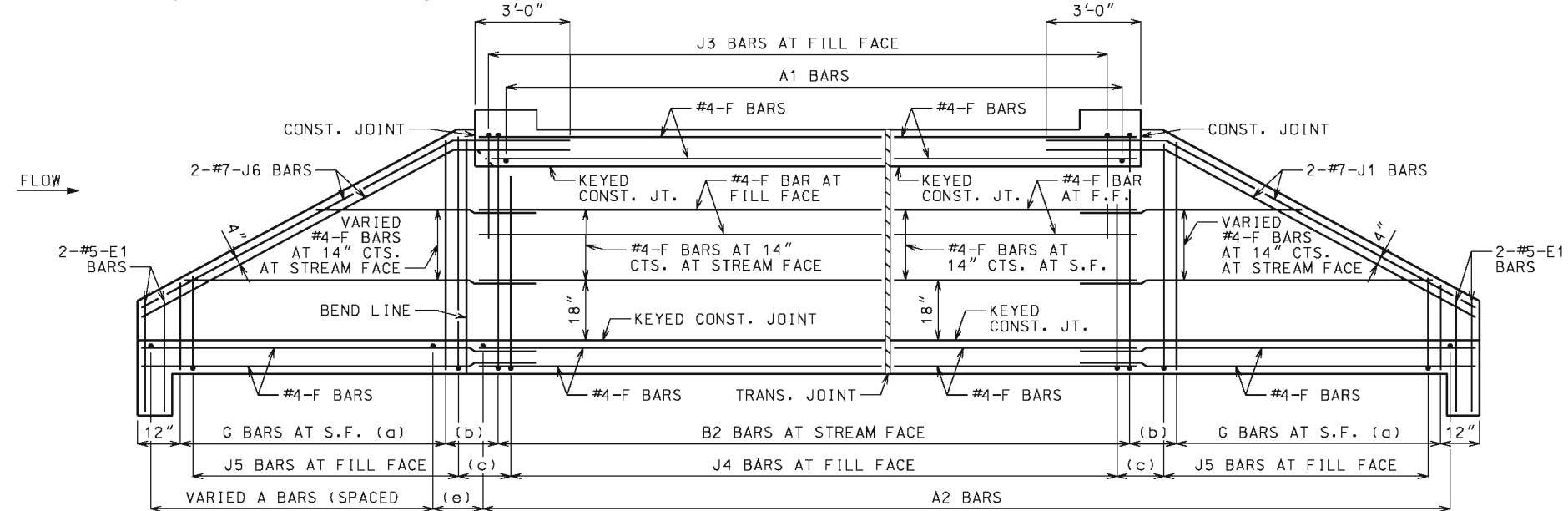


PLAN OF BOTTOM SLAB



DEVELOPED ELEVATION OF EXTERIOR WALL

J1 BARS MAY BE BENT IN FIELD OR SHOP.

LAYING OUT TRANSVERSE JOINTS

UNLESS SHOWN ON BRIDGE PLANS

USE A TRANSVERSE JOINT WHEN BARREL LENGTH IS OVER 80 FEET. USE ADDITIONAL JOINTS TO LIMIT CUT SECTION LENGTH AND END SECTION BARREL LENGTH MEASURED ALONG CENTERLINE OF CULVERT TO 50 FEET.

MINIMUM END SECTION LENGTH SHALL BE 3 FEET MEASURED ALONG THE SHORTEST WALL FROM THE INSIDE FACE OF HEADWALL TO THE TRANSVERSE JOINT.

TO AVOID LOCATING TRANSVERSE JOINTS UNDER A TRAVELED WAY WITH DESIGN FILLS 2 FEET OR LESS THE FOLLOWING SHALL APPLY:

- BARREL LENGTH UP TO 90 FEET WITHOUT A TRANSVERSE JOINT
- CUT SECTION LENGTHS UP TO 60 FEET

WHEN BARREL AND CUT SECTION LENGTH RESTRICTIONS REQUIRE TRANSVERSE JOINTS TO BE LOCATED UNDER A TRAVELED WAY WITH DESIGN FILLS 2 FEET OR LESS, THE JOINTS SHALL BE LOCATED TO MINIMIZE THE LENGTH OF JOINT UNDER THE TRAVELED WAY.

TRAVELED WAY IS THE ROADWAY WIDTH MINUS SHOULDER WIDTHS.

FOR CUT SECTION DETAILS, SEE 703.86.

GENERAL NOTES:

FOR SECTIONS THRU BARREL, WINGS AND HEADWALLS, SEE SHEET 3 OF 3. FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS, SEE 703.87. FOR J5 BARS, SEE 703.37.

CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY IN PLAN AND ELEVATION, SEE SHEET 3 OF 3 FOR DETAILS.

DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

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

LAP LONGITUDINAL BARS A MINIMUM OF 23" AT SPLICES.

BEVELED HEADWALL SHALL BE LOCATED AT UPSTREAM END.

(a) SAME SIZE AND SPACING AS ADJACENT B BARS

(b) VARIES, 12" MAXIMUM

(c) J4 BAR SPACING

(d) SAME SIZE AND SPACING AS A2 BARS

(e) A2 BAR SPACING

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

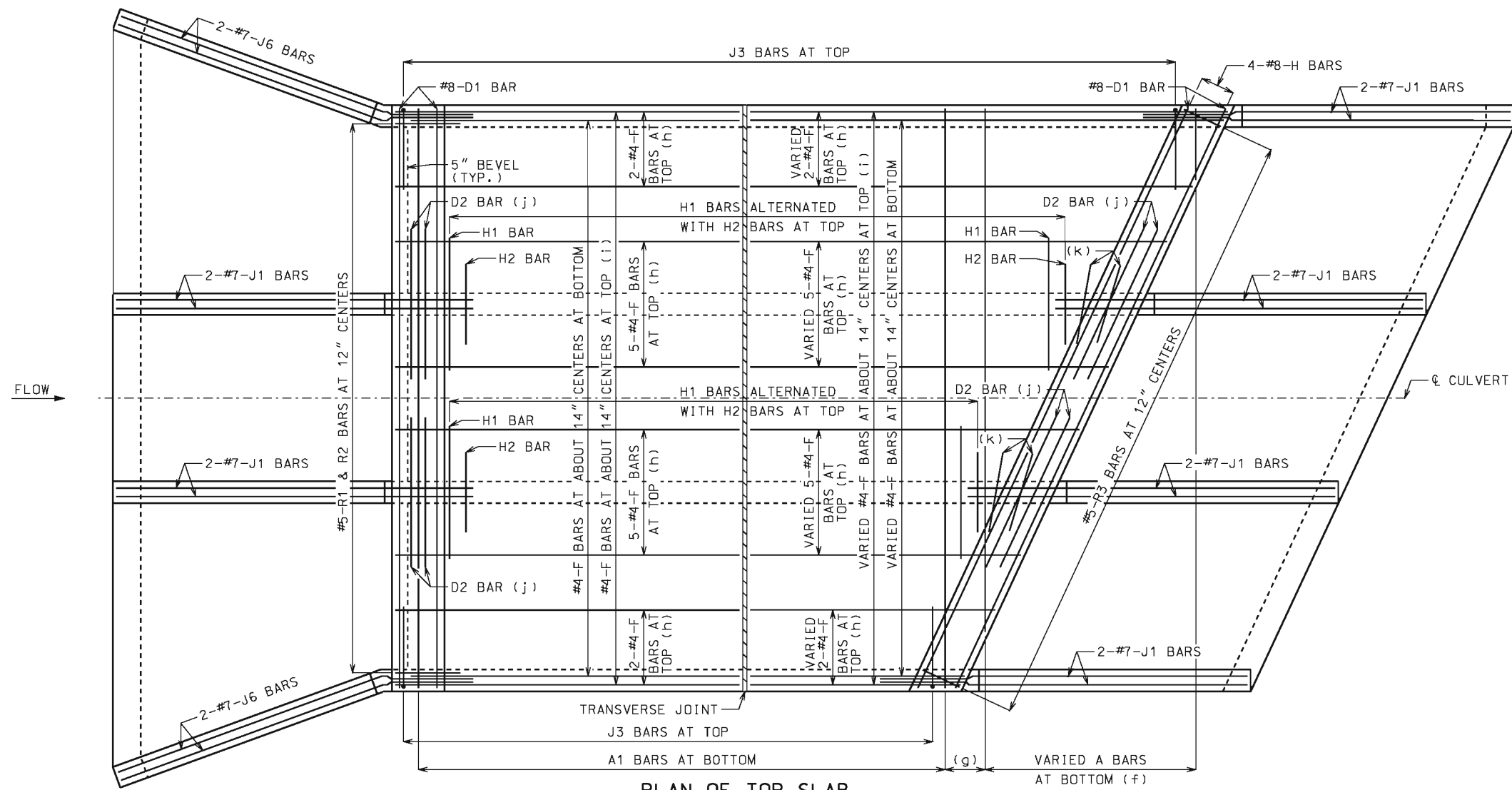
STATE OF MISSOURI
 DENNIS W. HECKMAN
 NUMBER PE-27141
 PROFESSIONAL ENGINEER

DATE EFFECTIVE: 12/01/2011
 DATE PREPARED: 5/13/2015

CONCRETE TRIPLE BOX CULVERT
 SKEW: RIGHT ADVANCE
 WINGS: FLARED
 REINFORCEMENT

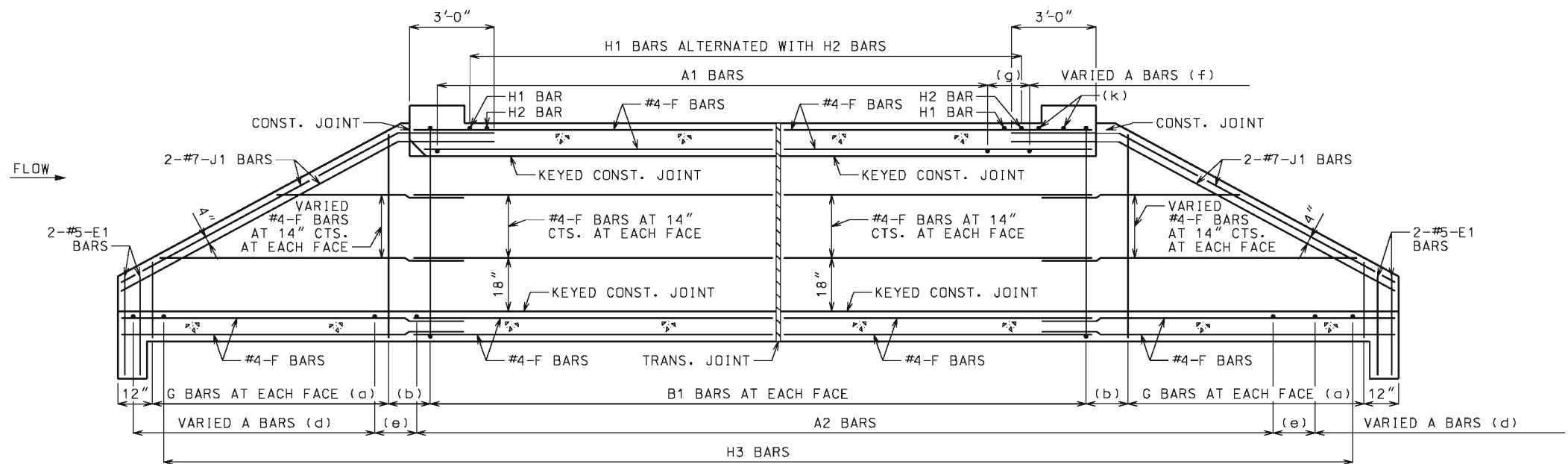
703.85C
 SHEET NO. 1 OF 3

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



PLAN OF TOP SLAB

B BARS IN WALLS ARE NOT SHOWN FOR CLARITY. FOR PLACEMENT, SEE SHEET 1 OF 3.



SECTION NEAR INTERIOR WALL

J1 BARS MAY BE BENT IN FIELD OR SHOP.

GENERAL NOTES:

FOR SECTIONS THRU BARREL, WINGS AND HEADWALLS, SEE SHEET 3 OF 3. FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS, SEE 703.87. FOR J5 BARS, SEE 703.37.

CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY IN PLAN AND SECTION, SEE SHEET 3 OF 3 FOR DETAILS.

DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

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

LAP LONGITUDINAL BARS A MINIMUM OF 23" AT SPLICES.

BEVELED HEADWALL SHALL BE LOCATED AT UPSTREAM END.

(a) SAME SIZE AND SPACING AS ADJACENT B BARS

(b) VARIES, 12" MAXIMUM

(c) NOT SPECIFIED ON THIS SHEET

(d) SAME SIZE AND SPACING AS A2 BARS

(e) A2 BAR SPACING

(f) SAME SIZE AND SPACING AS A1 BARS

(g) A1 BAR SPACING

(h) FOR DESIGN FILLS OVER 2'-0"

(i) FOR DESIGN FILLS 2'-0" OR LESS

(j) NOT REQUIRED FOR CLEAR SPANS ≤ 10'-0"

#8 FOR CLEAR SPAN > 10'-0"

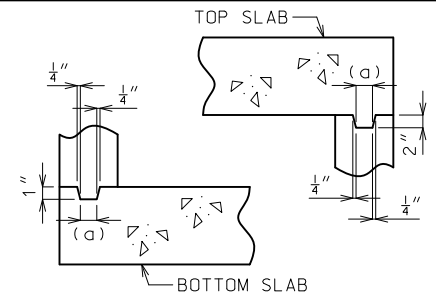
#9 FOR CLEAR SPAN > 13'-0"

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

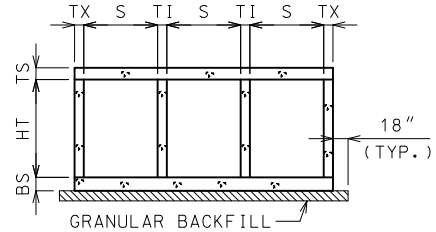
(k) H2 BARS AS REQUIRED, QUANTITY OF BARS VARIES WITH SKEW.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT SKEW: RIGHT ADVANCE WINGS: FLARED REINFORCEMENT	
	DATE EFFECTIVE: 12/01/2011 DATE PREPARED: 5/13/2015	703.85C SHEET NO. 2 OF 3

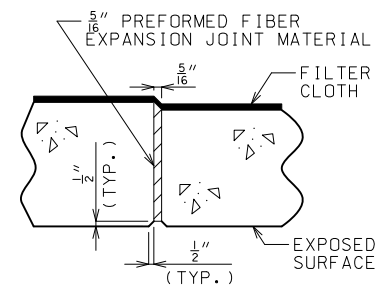
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



KEYED CONSTRUCTION JOINT
(a) APPROXIMATELY ONE-THIRD OF WALL THICKNESS

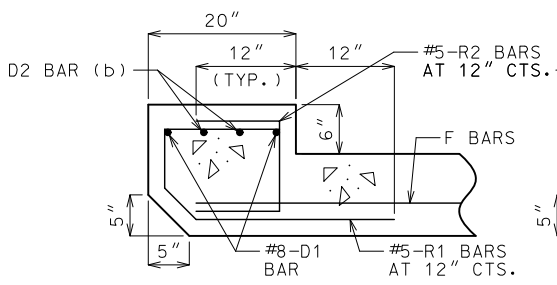


GRANULAR BACKFILL LIMITS AND MEMBER DIMENSIONS

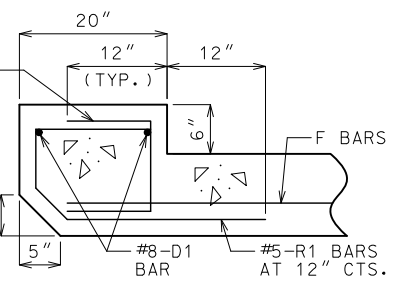


TRANSVERSE JOINT THRU BARREL
PREFORMED FIBER EXPANSION JOINT MATERIAL IN ACCORDANCE WITH SEC 1057 SHALL BE SECURELY STITCHED TO ONE FACE OF THE CONCRETE WITH 10 GAGE COPPER WIRE OR 12 GAGE SOFT DRAWN GALVANIZED STEEL WIRE.

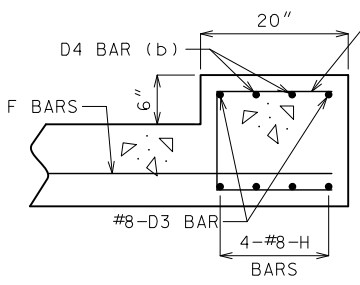
FILTER CLOTH 3 FEET IN WIDTH AND DOUBLE THICKNESS SHALL BE CENTERED ON TRANSVERSE JOINTS IN TOP SLAB AND SIDEWALLS WITH EDGES SEALED WITH MASTIC OR TWO SIDED TAPE. FILTER CLOTH SHALL BE A SEPARATION GEOTEXTILE IN ACCORDANCE WITH SEC 1011. COST OF FURNISHING AND INSTALLING FILTER CLOTH WILL BE CONSIDERED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



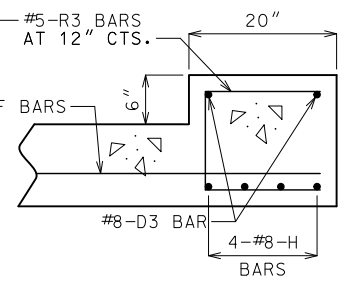
UPSTREAM HEADWALL REINFORCEMENT
NEAR INTERIOR WALL



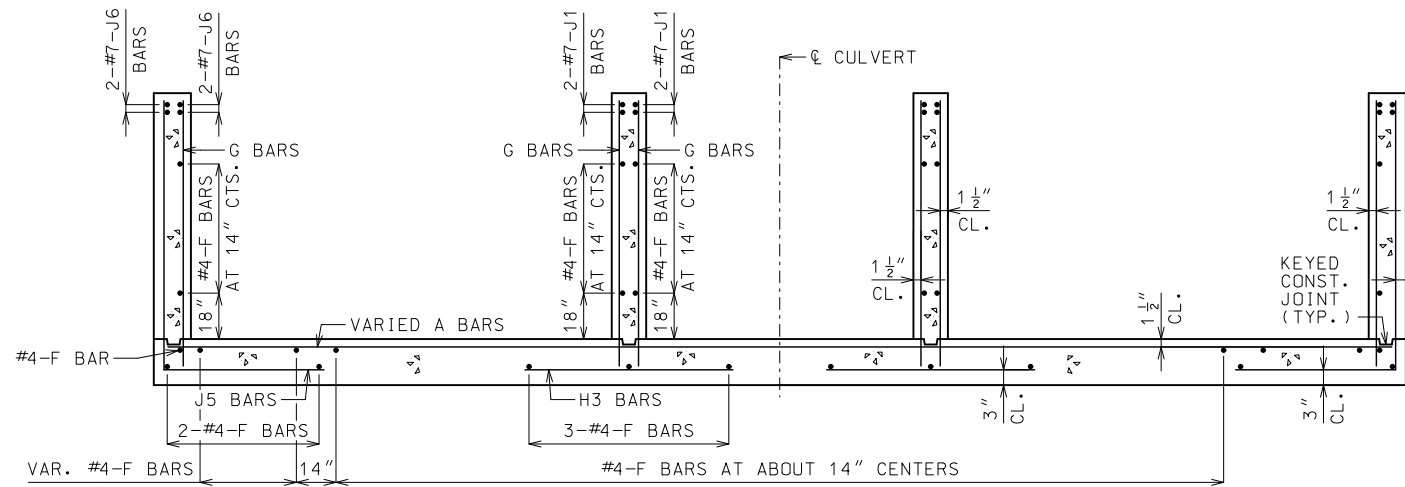
UPSTREAM HEADWALL REINFORCEMENT
NEAR MIDSPAN



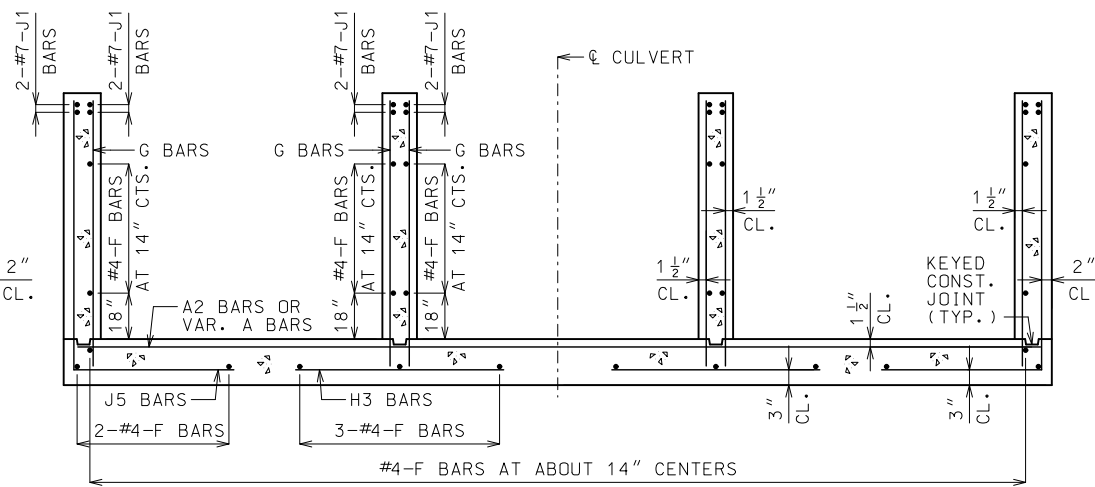
DOWNSTREAM HEADWALL REINFORCEMENT
NEAR INTERIOR WALL



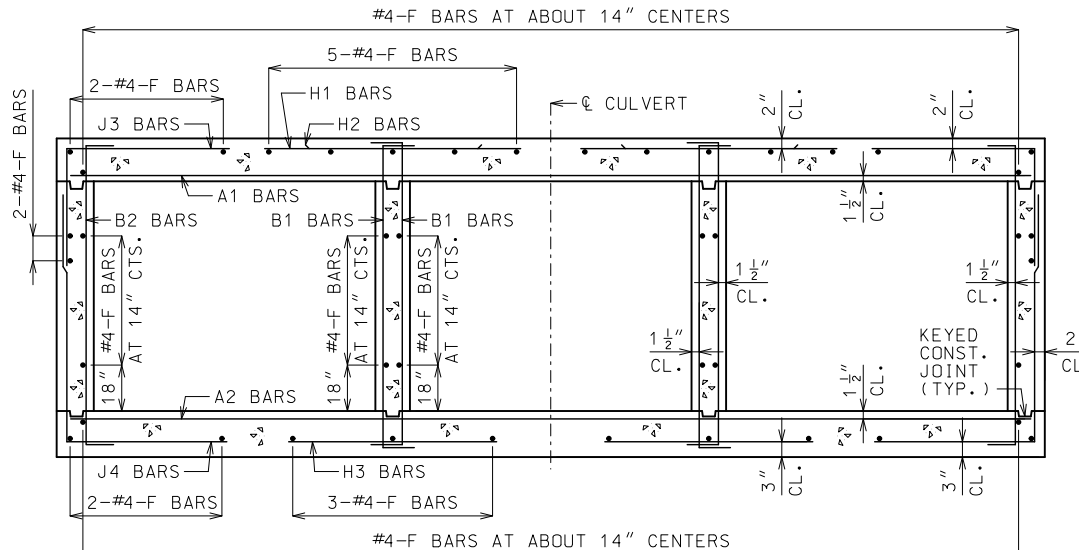
DOWNSTREAM HEADWALL REINFORCEMENT
NEAR MIDSPAN



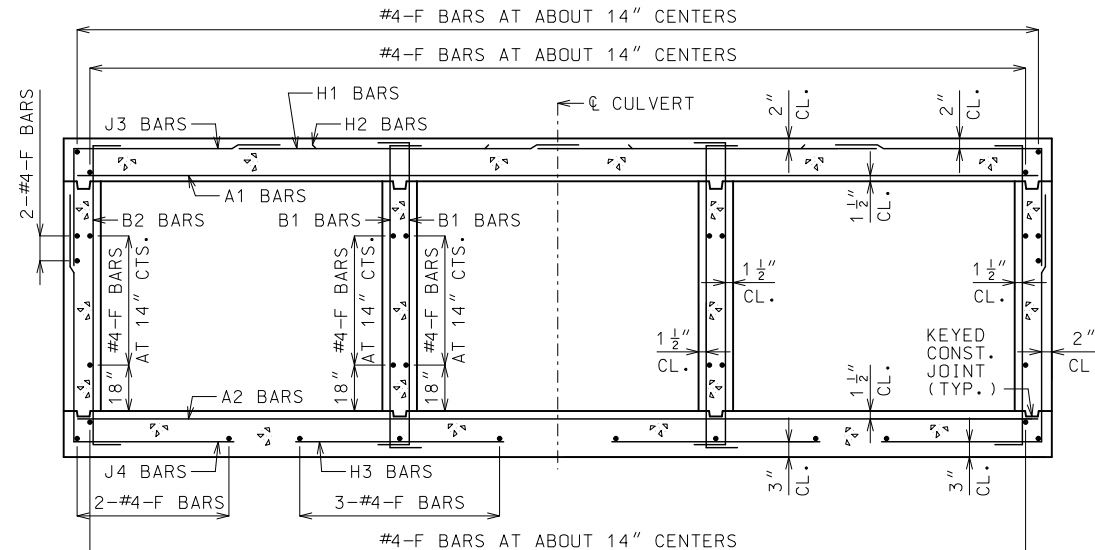
UPSTREAM FLARED WINGS REINFORCEMENT



DOWNSTREAM WINGS REINFORCEMENT



BARREL REINFORCEMENT
FOR DESIGN FILLS OVER 2'-0"



BARREL REINFORCEMENT
FOR DESIGN FILLS 2'-0" OR LESS

GENERAL NOTES:
FOR MEMBER THICKNESS AND FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS, SEE 703.87. FOR J5 BARS, SEE 703.37.
BARREL AND WINGS SECTIONS ARE SYMMETRICAL ABOUT AND NORMAL TO ϕ 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)	
	CONCRETE TRIPLE BOX CULVERT SKEW: RIGHT ADVANCE WINGS: FLARED SECTIONS	
	DATE EFFECTIVE: 01/01/2021 DATE PREPARED: 10/14/2020	703.85C SHEET NO. 3 OF 3

(b) NOT REQUIRED FOR CLEAR SPANS $\leq 10'-0"$ IF D2 AND D4 BARS ARE REQUIRED, THE MINIMUM LENGTH EACH SIDE OF ϕ WALL SHALL BE THE GREATER OF 48 BAR DIAMETERS OR 1/4 CLEAR SPAN. THE CLEAR SPAN IS PARALLEL TO LONG DIRECTION OF HEADWALL.
#8 FOR CLEAR SPAN $> 10'-0"$
#9 FOR CLEAR SPAN $> 13'-0"$

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