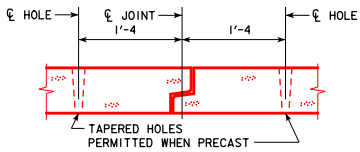
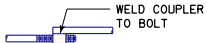


REVISED 07-2016 - CORRECTED TYPING - ENGLISH UNITS PRECAST/CULVERTS.DGN - PRCB G2-13 - THIS SHEET ISSUED 01-13.

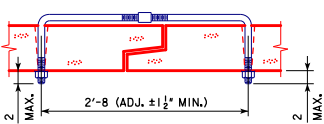


TYPICAL TIE LAYOUT

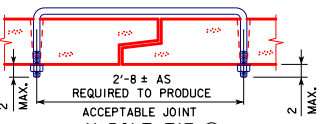
NOTE:
HOLES SHALL BE CAST OR DRILLED 1'-4" FROM CENTERLINE OF JOINTS AS SHOWN ABOVE, UNLESS FORMS ARE SET UP FOR 1'-4" SPACING FROM OUTSIDE OF JOINT.



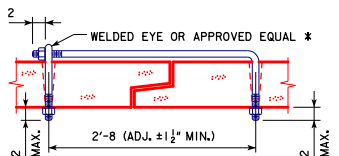
TOP VIEW



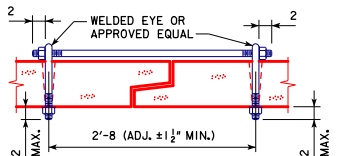
ADJUSTABLE TIE



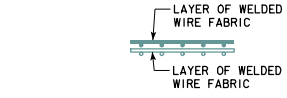
U BOLT TIE ⑥



EYE BOLT TIE

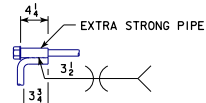


DOUBLE EYE BOLT TIE

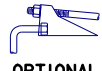


FABRIC LAYER DETAIL

NOTE:
WHEN MORE THAN ONE LAYER OF WELDED WIRE FABRIC IS USED TO OBTAIN THE REQUIRED REINFORCEMENT AREAS, THE WIRES OF THE WELDED WIRE FABRIC SHALL BE PLACED AS SHOWN.

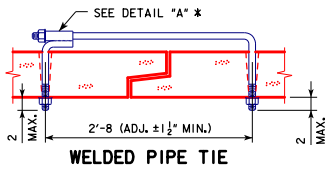


DETAIL "A"

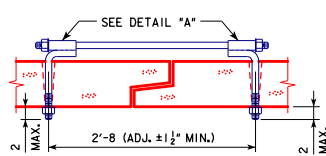


OPTIONAL CANOPY TIE

* THE CONNECTIONS SHALL BE PLACED AT THE DOWNSTREAM END WHEN THE CONNECTIONS ARE PLACED INSIDE OF STRUCTURE.

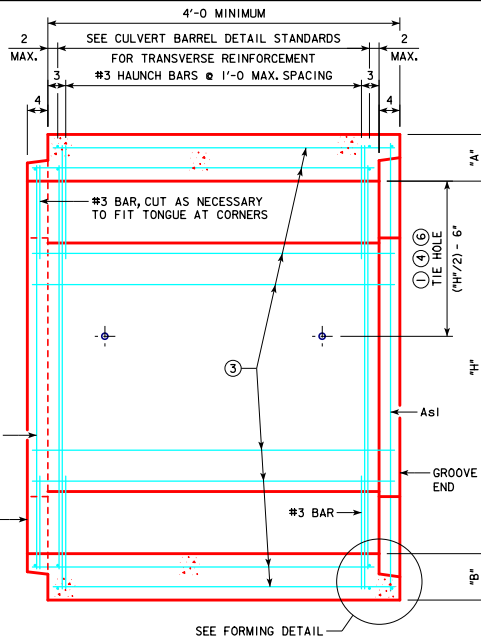


WELDED PIPE TIE

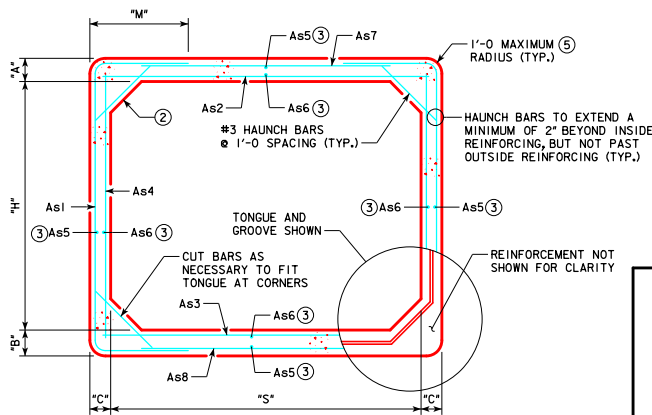


DOUBLE WELDED PIPE TIE

APPROVED CONCRETE BOX TIES



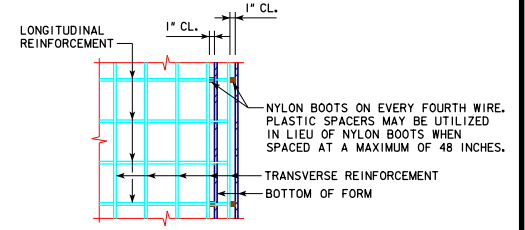
LONGITUDINAL BARREL SECTION
(REINFORCEMENT BAR OPTION SHOWN)



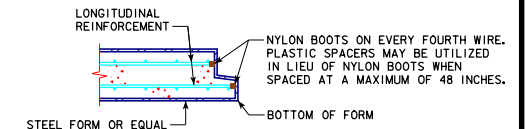
TRANSVERSE BARREL SECTION
(REINFORCEMENT BAR OPTION SHOWN)

NOTES:

- ① CULVERT TIES ARE TO BE 1"Ø RODS. SEE THIS SHEET FOR CONNECTION DETAILS.
- ② HAUNCH SIZES ARE TO BE 12" VERTICAL, 12" HORIZONTAL ON ALL BOX SIZES.
- ③ LONGITUDINAL REINFORCEMENT DENOTED AS As5 & As6 MUST BE PLACED IN SLAB, FLOOR, AND WALLS AND MUST BE 0.06 IN²/FT. MIN.
- ④ REFER TO APPLICABLE END SECTION DETAIL SHEET FOR BARREL TO END SECTION CONNECTION TIE HOLE LOCATIONS.
- ⑤ OPTIONAL SQUARED CORNERS WITH 3/4" TO 2" CHAMFER.
- ⑥ U BOLT TIES ARE REQUIRED FOR BIKE, PEDESTRIAN AND CATTLE PATHS WITH NUTS ON FILL SIDE.

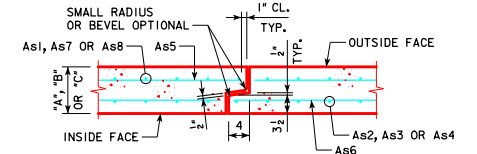


PLAN



SECTION

FORMING DETAIL



TONGUE AND GROOVE JOINT DETAIL

LATEST REVISION DATE 07-2016 APPROVED BY BRIDGE ENGINEER <i>Thomas E. Mc Donnell</i>	 Iowa Department of Transportation Highway Division
	STANDARD DESIGN SINGLE PRECAST REINFORCED CONCRETE BOX CULVERTS JANUARY, 2013
	TYPICAL CULVERT BARREL DETAILS

PRCB G2-13