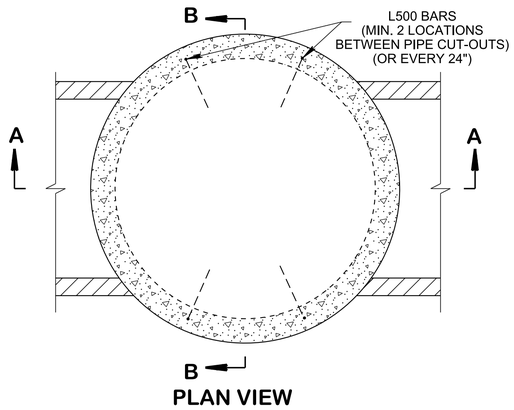
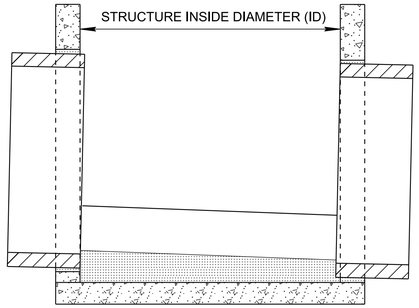
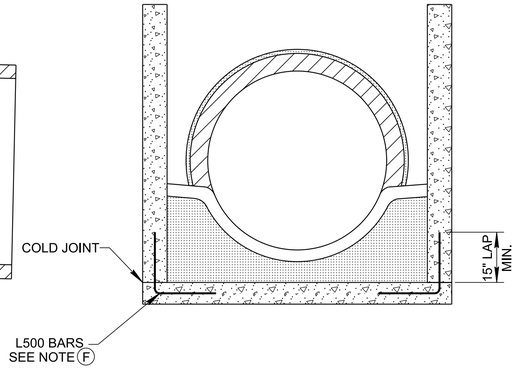


PLAN VIEW



SECTION A-A



SECTION B-B

PIPE CUT-OUT HOLE DIMENSIONS		
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES) (MIN.)
18	2½	25
24	3	32
30	3½	39
36	4	46
42	4½	53
48	5	60
54	5½	67
60	6	74
66	6½	81
72	7	88
78	7½	95

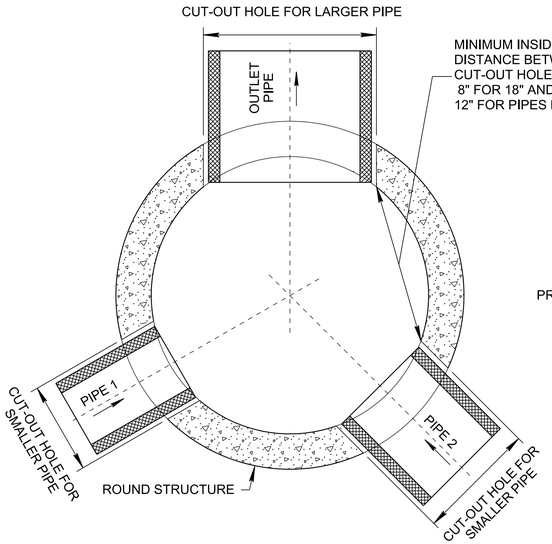
NON-MONOLITHIC STRUCTURES COLD JOINT DETAILS (H)

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B". WALL TYPE "A" AND TYPE "C" ALSO ACCEPTABLE. CUT-OUTS SHOULD BE 2" (MIN.) LARGER THAN OUTSIDE DIAMETER OF PIPE.

(2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.

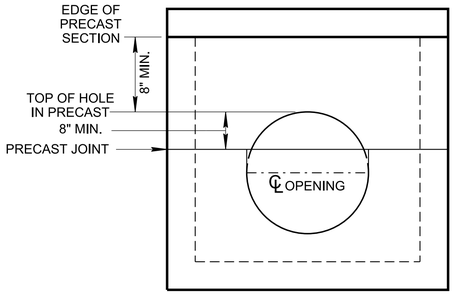
(3) GASKET IS REQUIRED AT ALL CONNECTIONS. IF GASKET CANNON BE INSTALLED, THEN THE FINAL INSTALLATION OF RCP (WALL TYPES A, B, ADN C) SHOULD NOT HAVE MORE THAN 2" GAP BETWEEN THE OUTSIDE DIAMETER OF PIPE AT THE CUT-OUT DIAMETER.

(4) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.



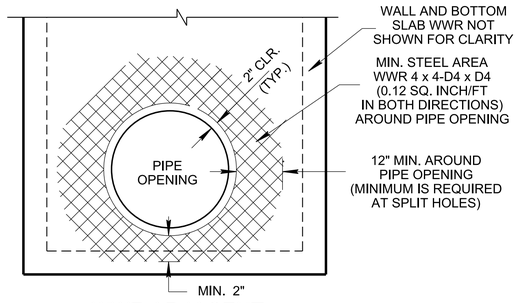
NOTE: IF SMALLER PIPE IS AN UNDERDRAIN, A 6" MINIMUM INSIDE OFFSET FROM AN ADJACENT HOLE IS REQUIRED. OFFSET MAY BE HORIZONTAL OR VERTICAL. UNDERDRAIN CONNECTIONS SHALL BE LOCATED A MINIMUM OF 8" BELOW THE BOTTOM OF THE TOP SLAB.

MULTIPLE PIPE CONNECTIONS TO A CIRCULAR STRUCTURES



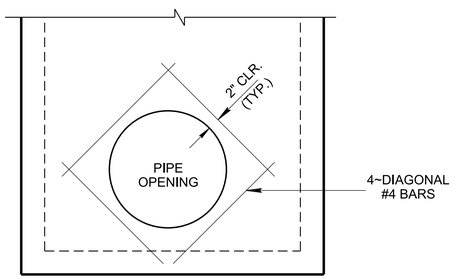
PARTIAL HOLE DETAIL

NOTE: WHEN PRECAST UNITS ARE BEING STACKED TO INCREASE STRUCTURE DEPTH, NO UPPER OR LOWER EDGE OF PIPE SHALL BE LESS THAN 8" FROM THE PRECAST JOINT.



WWR ADJACENT TO PIPE OPENINGS IN WALL

(ADDITIONAL WWR REQUIRED FOR 30" OR LARGER DIAMETER PIPES SEE NOTE (G))



ALTERNATIVE REBAR ADJACENT TO PIPE OPENINGS IN WALL

(ADDITIONAL REBAR REQUIRED FOR 30" OR LARGER DIAMETER PIPES SEE NOTE (G))

TOP SLAB TO WALL JOINT ALTERNATIVES

(DIMENSIONS VARY)

BOTTOM SLAB TO WALL JOINT ALTERNATIVES

(DIMENSIONS VARY)

ALTERNATIVE JOINT DETAILS

(ALL CONNECTION JOINT DETAILS ARE PER ASTM C478)

NOTE: WHEN ALTERNATIVE JOINT DETAIL IS PROVIDED, MINIMUM CLEAR DIMENSIONS AND INTERIOR SLAB THICKNESS SHOWN ON STANDARDS SHALL BE MAINTAINED.

GENERAL NOTES

(A) THIS DRAWING TO BE USED FOR ALL PRECAST CONCRETE ROUND STRUCTURES. ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) AND AASHTO LRFD UNLESS SUPERSEDED BY THE STANDARD DRAWINGS.

(B) REFER TO STANDARD DRAWING D-RS-1 FOR ROUND STRUCTURE GENERAL NOTES, ITEM NUMBERS AND DIMENSION INFORMATION.

(C) REFER TO STANDARD DRAWINGS D-RS-2 FOR ADDITIONAL CONSTRUCTION NOTES, WELDED WIRE REINFORCEMENT DIMENSIONS FOR WALLS AND BOTTOM SLABS.

(D) REFER TO STANDARD DRAWINGS D-RL-1 THRU D-RL-4 FOR ROUND STRUCTURE LID SECTIONS AND CURB INLET DETAILS.

(E) REFER TO STANDARD DRAWINGS D-RMH-1 FOR PRECAST MANHOLE STRUCTURES, D-RJB-1 FOR PRECAST ROUND JUNCTION BOX STRUCTURES AND D-RSB-1 FOR PRECAST ROUND SPRING DRAIN BOX STRUCTURES.

(F) FOR NON-MONOLITHIC CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE L500 BARS TO CONNECT CIRCULAR BASE SLAB TO WALL SECTIONS OF THE DRAINAGE STRUCTURE. THE CONTRACTOR SHALL ARRANGE L500 SO THAT A MINIMUM OF TWO VERTICAL STEEL BARS ARE PROVIDED BETWEEN EACH PIPE CUT OUT TO STRENGTHEN THE BASE TO WALL CONNECTION. THE MINIMUM COVER AROUND THE VERTICAL COMPONENT OF THE L500 BARS SHALL BE 1". L500 BAR DIMENSIONS SHALL BE A MINIMUM OF 20"x20". ALTERNATE JOINT DETAILS SHOWN ARE ALSO ACCEPTABLE.

(G) ADDITIONAL STEEL SHALL BE PROVIDED AROUND PIPE OPENINGS AS DETAILED ON THIS SHEET WHEN PIPE OPENING IS FOR A 30 INCH OR LARGER DIAMETER PIPE. PROVIDE WWR A MINIMUM OF 0.12 SQ. INCH/FT IN BOTH DIRECTIONS. ADDITIONAL STEEL AREA MAY BE ADDED TO THE MAIN STEEL AREA TO ELIMINATE THE NEED OF SECONDARY WWR MAT AROUND THE PIPE OPENINGS. AS ALTERNATIVE REBAR CAN BE USED. BEND OR TERMINATE BARS TO MAINTAIN 2" CLEARANCE AT SPLIT HOLES OR WHERE EDGE DISTANCE IS INSUFFICIENT FOR REINFORCEMENT.
REINFORCING STEEL: ASTM A615, F_y= 60,000 POUNDS PER SQUARE INCH.

(H) ALTERNATIVE FABRICATION METHODS, INCLUDING USING A SECONDARY POURED INTEGRAL BASE SLAB AS DESCRIBED IN ASTM C478, SECTION 15.1.2, MAY ALSO BE ALLOWED. FABRICATORS SHOULD SUBMIT PROPOSED ALTERNATIVE DETAILS FOR APPROVAL.

(I) CORE DRILLING (MAX. 36") OF A PRE-CASTED ROUND BASE (MAX. 76") MAY BE ACCEPTABLE.

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS FOR ROUND STRUCTURES

01-06-2024 D-RS-3

NOT TO SCALE