STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
DESIGN DIVISION
NASHVILLE, TENNESSEE 37243-0348

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

INSTRUCTIONAL BULLETIN NO. 14-06

Regarding Revised Standard Drawings

Effective for the August 29th Letting (June 18th turn-in), the following Standard Catch Basin Drawings are revised and Section V of the Design Guidelines is revised for this update. All number 4 bar stirrups have been replaced with two layers of number 5 bars. **Contractors may immediately substitute this revision for the current standard as an approved substitution.**

DRAWING NUMBER	CURRENT REVISION DATE	DESCRIPTION
D-CB-10RA	3-11-14	STANDARD PRECAST 48" CIRCULAR NO. 10 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-10S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 10 CATCH BASIN
D-CB-10SB	3-11-14	STANDARD 4' X 4' SQUARE CONCRETE NO. 10 CATCH BASIN
D-CB-12B	3-11-14	STANDARD RECTANGULAR BRICK NO. 12 CATCH BASIN
D-CB-12P	3-11-14	STANDARD PRECAST RECTANGULAR CONCRETE NO.12 CATCH BASIN
D-CB-12RA	3-11-14	STANDARD PRECAST 48" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-12RB	3-11-14	STANDARD PRECAST 60" AND 72" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-12RC	3-11-14	STANDARD PRECAST 84" THRU 120" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-12S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 12 CATCH BASIN
D-CB-12SB	3-11-14	STANDARD 4' X 4' SQUARE CONCRETE NO. 12 CATCH BASIN

DRAWING NUMBER	CURRENT REVISION DATE	DESCRIPTION
D-CB-12SC	3-11-14	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-12SD	3-11-14	STANDARD 7' X 7' SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-12SE	3-11-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-13B	3-11-14	STANDARD RECTANGULAR BRICK NO. 13 CATCH BASIN
D-CB-13P	3-11-14	STANDARD PRECAST RECTANGULAR CONCRETE NO. 13 CATCH BASIN
D-CB-13RA	3-11-14	STANDARD PRECAST 48" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-13RB	3-11-14	STANDARD PRECAST 60" AND 72" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-13RC	3-11-14	STANDARD PRECAST 84" THRU 120" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-13S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 13 CATCH BASIN
D-CB-14B	3-11-14	STANDARD RECTANGULAR BRICK NO. 14 CATCH BASIN
D-CB-14P	3-11-14	STANDARD PRECAST RECTANGULAR CONCRETE NO. 14 CATCH BASIN
D-CB-14RB	3-11-14	STANDARD PRECAST CIRCULAR NO. 14RB CATCH BASIN
D-CB-14S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 14 CATCH BASIN
D-CB-14SE	3-11-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 14 CATCH BASIN
D-CB-16B	3-11-14	STANDARD RECTANGULAR BRICK NO. 16 CATCH BASIN
D-CB-16S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 16 CATCH BASIN
D-CB-17S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 17 CATCH BASIN
D-CB-25B	3-11-14	STANDARD RECTANGULAR BRICK NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-25P	3-11-14	STANDARD PRECAST RECTANGULAR CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)

DRAWING NUMBER	CURRENT REVISION DATE	DESCRIPTION
D-CB-25RA	3-11-14	STANDARD PRECAST 48" CIRCULAR NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-25RB	3-11-14	STANDARD PRECAST CIRCULAR NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-25S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-25SB	3-11-14	STANDARD 4' X 4' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-25SC	3-11-14	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-25SD	3-11-14	STANDARD 7' X 7' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-25SE	3-11-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-26P	3-11-14	STANDARD PRECAST RECTANGULAR CONCRETE NO. 26 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-26S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 26 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-27S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 27 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB)
D-CB-28B	3-11-14	STANDARD RECTANGULAR BRICK NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB)
D-CB-28P	3-11-14	STANDARD PRECAST RECTANGULAR CONCRETE NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB)
D-CB-28RA	3-11-14	STANDARD PRECAST 48" CIRCULAR NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB)
D-CB-28RB	3-11-14	STANDARD PRECAST CIRCULAR NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB)
D-CB-28S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 28 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB)
D-CB-29P	3-11-14	STANDARD PRECAST RECTANGULAR CONCRETE NO. 29 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB)
D-CB-29S	3-11-14	STANDARD RECTANGULAR CONCRETE NO. 29 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB)

DRAWING NUMBER	CURRENT REVISION DATE	DESCRIPTION
D-CB-31R	3-11-14	STANDARD PRECAST CIRCULAR NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-31SD	3-11-14	STANDARD 7' X 7' SQUARE CONCRETE NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-31SE	3-11-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-38RB	3-11-14	STANDARD PRECAST CIRCULAR NO. 38 CATCH BASIN
D-CB-38SB	3-11-14	STANDARD 4' X 4' SQUARE CONCRETE NO. 38 CATCH BASIN
D-CB-38SC	3-11-14	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 38 CATCH BASIN
D-CB-39RB	3-11-14	STANDARD PRECAST CIRCULAR NO. 39 CATCH BASIN
D-CB-39SC	3-11-14	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 39 CATCH BASIN
D-CB-39SD	3-11-14	STANDARD 7' X 7' SQUARE CONCRETE NO. 39 CATCH BASIN
D-CB-39SE	3-11-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 39 CATCH BASIN
D-CB-40SE	3-11-14	STANDARD 9’ X 9’ SQUARE CONCRETE NO. 40. CATCH BASIN
D-CB-41P	3-11-14	STANDARD 4' X 3' PRECAST RECTANGULAR CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-41RB	3-11-14	STANDARD PRECAST CIRCULAR NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-41S	3-11-14	STANDARD 4' X 3' RECTANGULAR CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-41SB	3-11-14	STANDARD 4' X 4' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-41SC	3-11-14	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-41SD	3-11-14	STANDARD 7' X 7' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

DRAWING NUMBER	CURRENT REVISION DATE	DESCRIPTION
D-CB-41SE	3-11-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-42RB	3-11-14	STANDARD PRECAST CIRCULAR NO. 42 CATCH BASIN
D-CB-42SB	3-11-14	STANDARD 4' X 4' SQUARE CONCRETE NO. 42 CATCH BASIN
D-CB-42SC	3-11-14	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 42 CATCH BASIN
D-CB-42SD	3-11-14	STANDARD 7' X 7' SQUARE CONCRETE NO. 42 CATCH BASIN
D-CB-43R	3-11-14	STANDARD PRECAST CIRCULAR NO. 43R CATCH BASIN
D-CB-43SB	3-11-14	STANDARD 8' X 4' RECTANGULAR CONCRETE NO. 43SB CATCH BASIN
D-CB-43SC	3-11-14	STANDARD 8' X 5'2" RECTANGULAR CONCRETE NO. 43SC CATCH BASIN
D-CB-44SE	3-11-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 44 CATCH BASIN
D-CB-45S	3-11-14	STANDARD 8' X 4' RECTANGULAR CONCRETE NO. 45 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-46SE	3-11-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 46 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-51SC	3-11-14	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 51 CATCH BASIN (FOR USE IN FRONT OF CONCRETE RETAINING WALL)
D-CB-51SD	3-11-14	STANDARD 7' X 7' SQUARE CONCRETE NO. 51 CATCH BASIN FOR USE IN FRONT OF CONCRETE RETAINING WALL)
D-CB-51SE	3-11-14	STANDARD 9’ X 9’ SQUARE CONCRETE NO. 51 CATCH BASIN
D-CB-52SE	3-11-14	STANDARD 9’ x 9’ SQUARE CONCRETE NO. 52 CATCH BASIN
D-CB-99R	3-11-14	MISCELLANEOUS DETAILS FOR ROUND STRUCTURES
D-CB-99RA	3-19-14	BILL OF STEEL FOR ROUND STRUCTURES
D-MH-3	4-21-14	STANDARD PRECAST CIRCULAR LID DETAILS FOR NO. 3 MANHOLE
D-MH-4	4-1-14	STANDARD NO. 3 MANHOLE CASTINGS AND STEPS
D-MH-5	4-1-14	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 3 MANHOLE

IB 14-06

DRAWING NUMBER	CURRENT REVISION DATE	DESCRIPTION
D-MH-6	4-1-14	STANDARD 7' X 7' SQUARE CONCRETE NO. 3 MANHOLE
D-MH-7	4-1-14	STANDARD 9' X 9' SQUARE CONCRETE NO. 3 MANHOLE

D-MH-3A and D-MH-3B are voided by this IB.

Copies of the revised standard drawings are attached.

Jennifer Lloyd

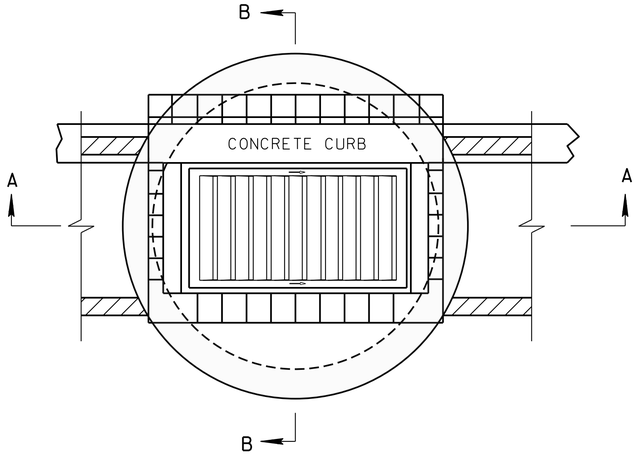
Jennifer Lloyd, PE
Civil Engineering Director
Roadway Design Division

JL:ARH:MWC
Attachments
4/22/14

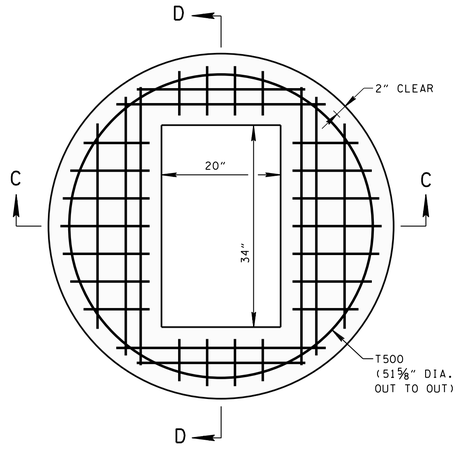
REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.

☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

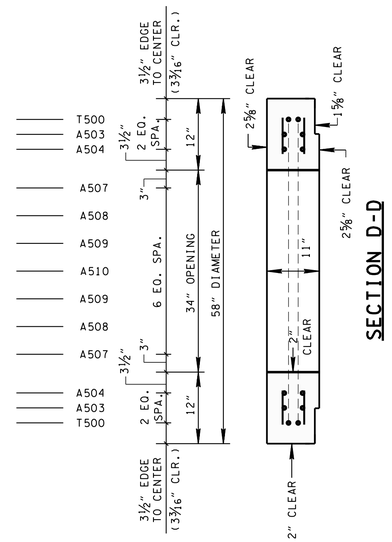
REV. 3-11-14: ELIMINATED STIRRUPS.



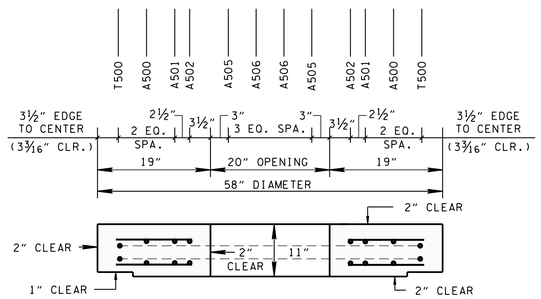
PLAN VIEW



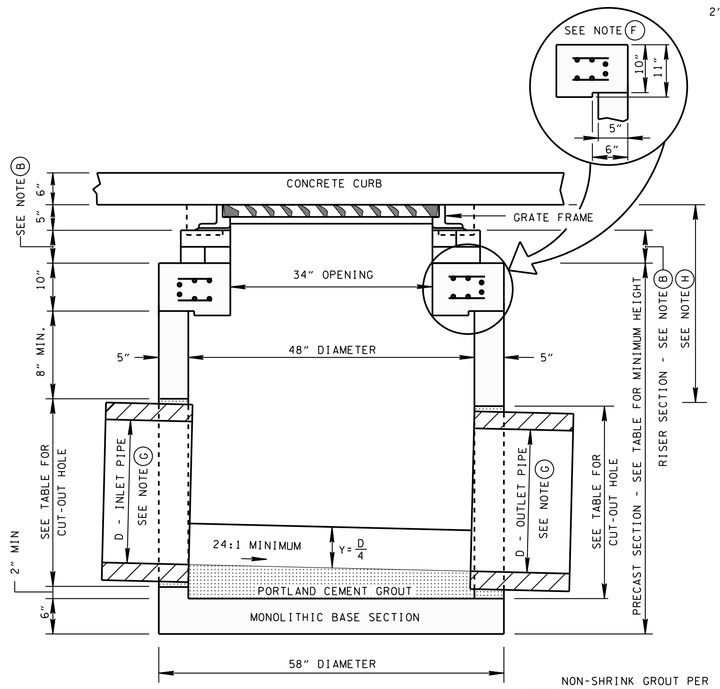
LID REINFORCING



SECTION D-D

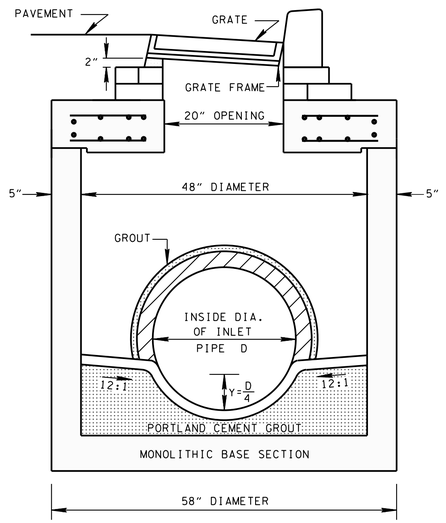


SECTION C-C



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	
18	2½	25	49	3.88
24	3	32	56	4.42

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_Y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-10.01 CATCH BASINS, TYPE 10, 0'-4' DEPTH THROUGH 611-10.05 CATCH BASINS, TYPE 10, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

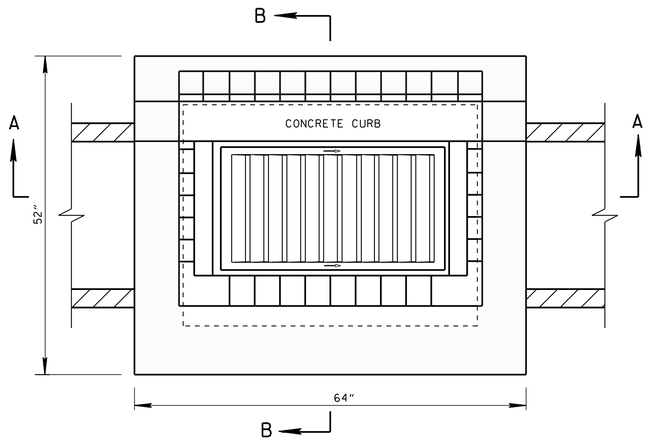
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

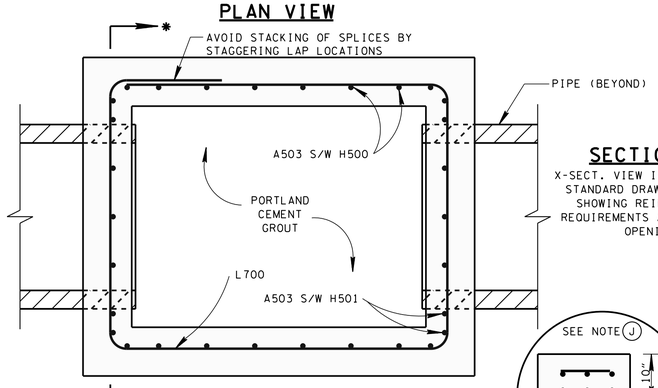
STANDARD PRECAST 48" CIRCULAR NO. 10 CATCH BASIN

(FOR USE WITH 6" NONMOUNTABLE CURB)

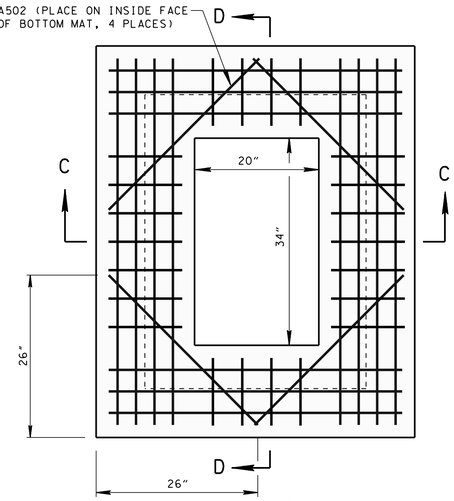
NOT TO SCALE | 9-5-02 | D-CB-10RA



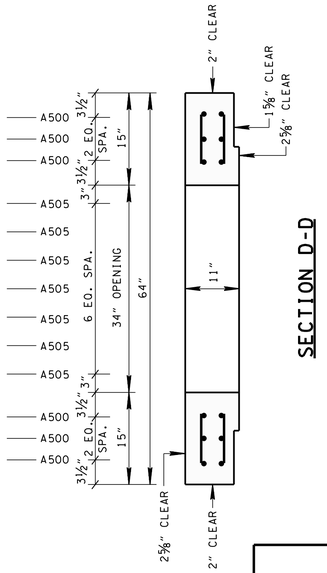
PLAN VIEW



SECTION E-E



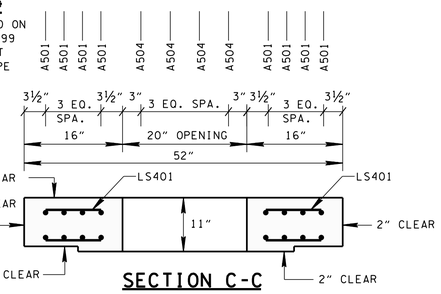
PLAN VIEW



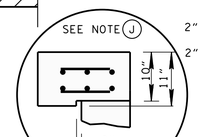
SECTION D-D

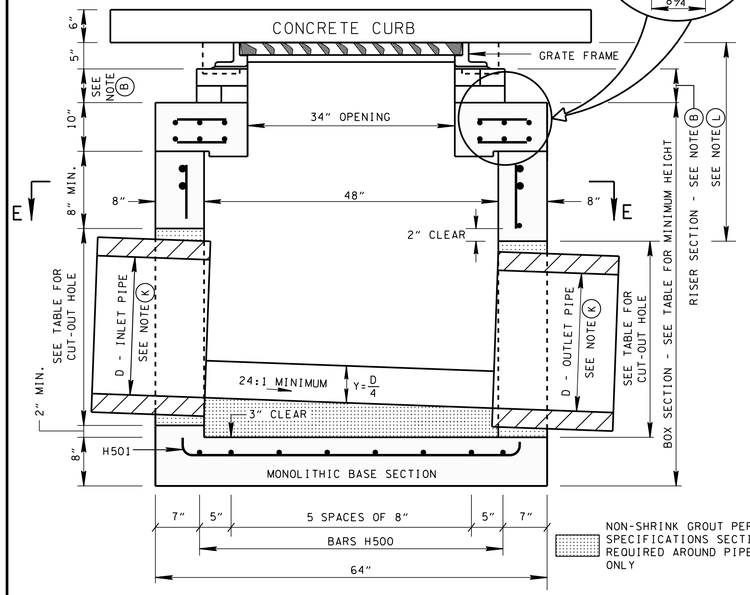
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

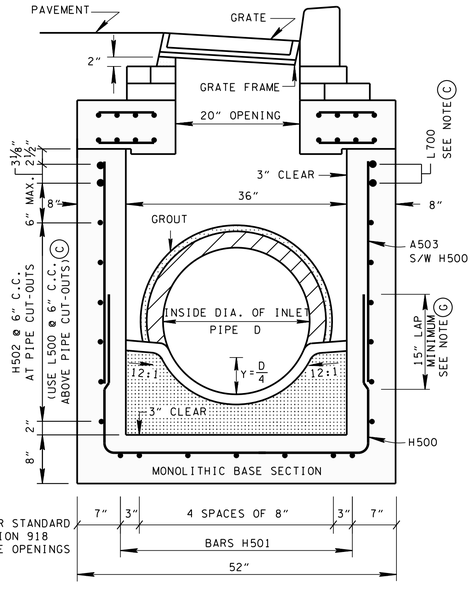


SECTION C-C





SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(4) 30	3½	39	65	4.96
(4) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 10-26-97: MODIFIED DRAWING NO. D-CB-12S BY REMOVING CURB OPENING AND CONVERTING IT TO NO. 10 CATCH BASIN.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 10S CONCRETE CATCH BASINS AND ALL PRECAST NO. 10S CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

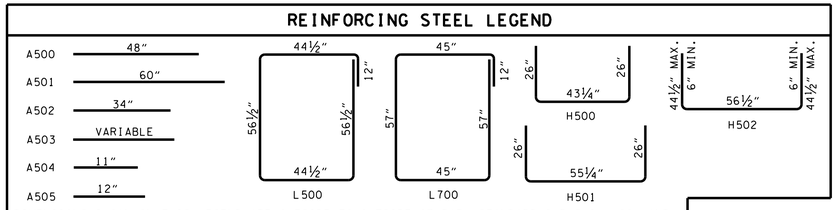
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-10.01 CATCH BASINS, TYPE 10, 0'-4' DEPTH THROUGH 611-10.05 CATCH BASINS, TYPE 10, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

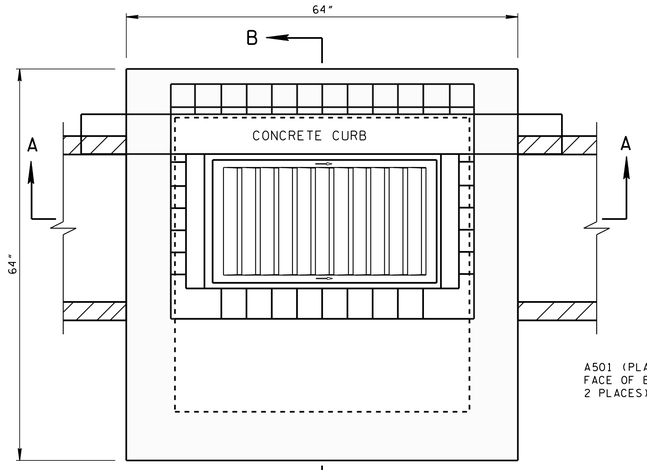
NOT TO SCALE

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

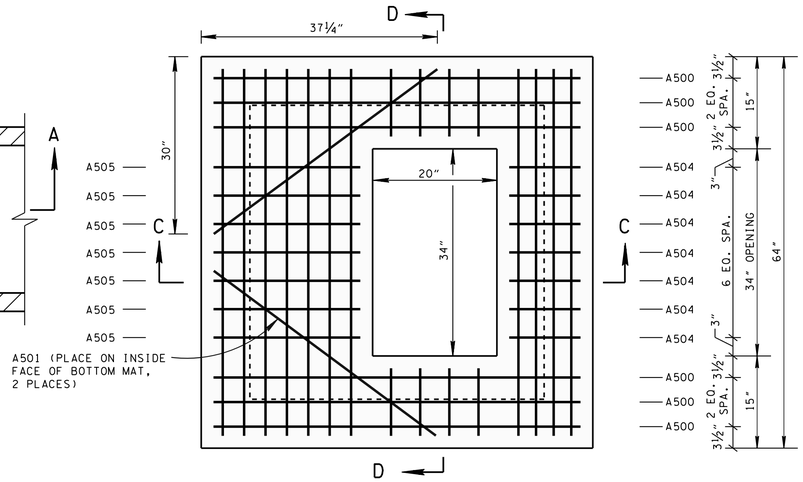
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO.10 CATCH BASIN

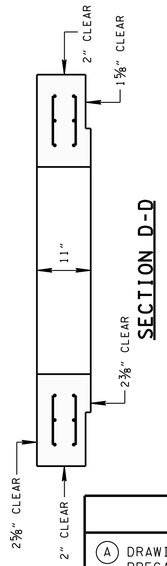
10-26-97 D-CB-10S



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	51	3.71
24	3	32	58	4.25
30	3½	39	65	4.79
36	4	46	72	5.33

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

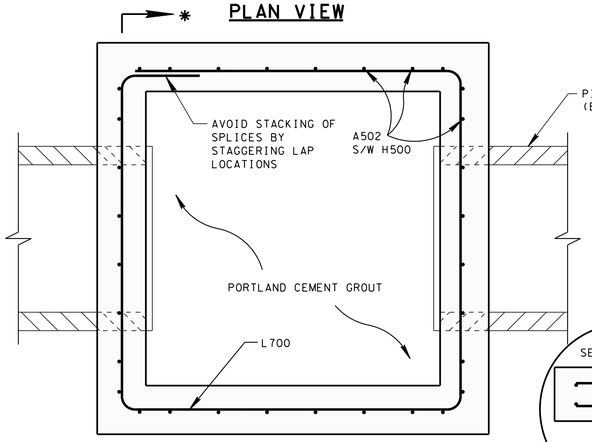
(2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.

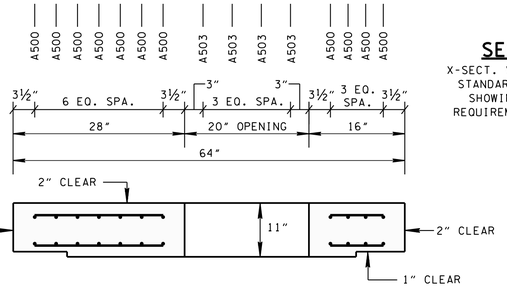
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

☐ REV. 3-11-14: ELIMINATED STIRRUPS.

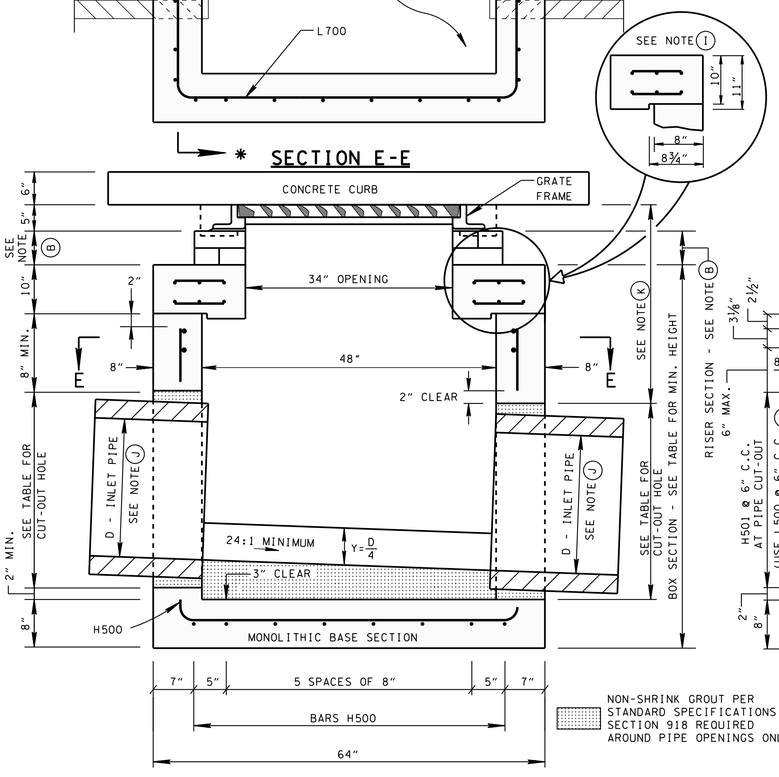




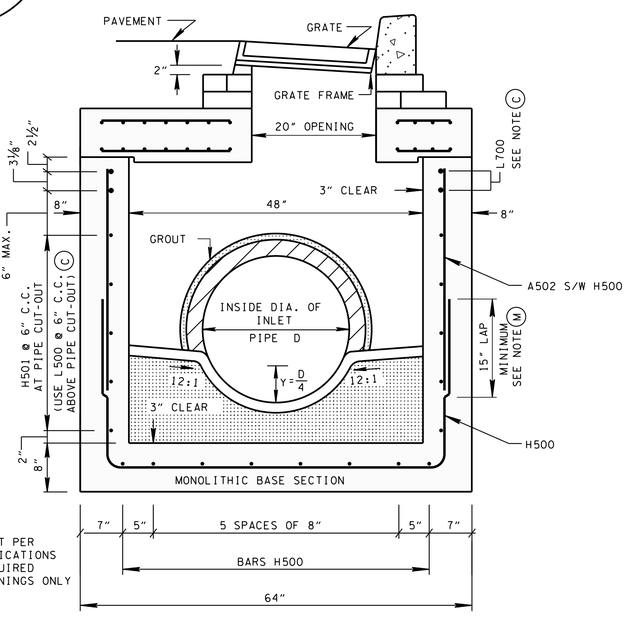
SECTION C-C

SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 10SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 10SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 21 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

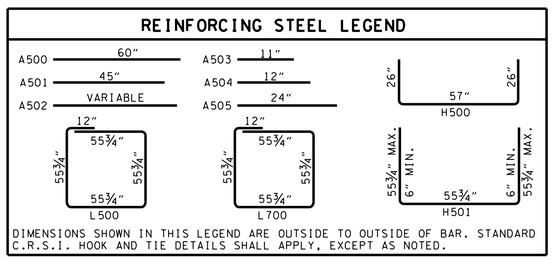
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 21 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-10.01 CATCH BASINS, TYPE 10, 0'-4' DEPTH THROUGH 611-10.07 CATCH BASINS, TYPE 10, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

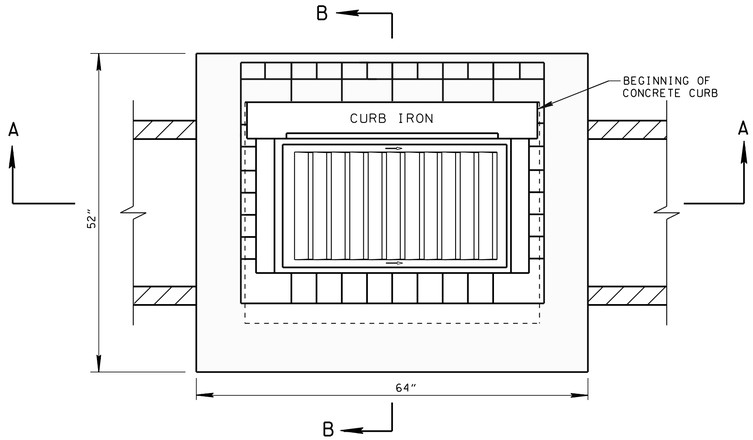
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 4' X 4' SQUARE CONCRETE NO.10 CATCH BASIN

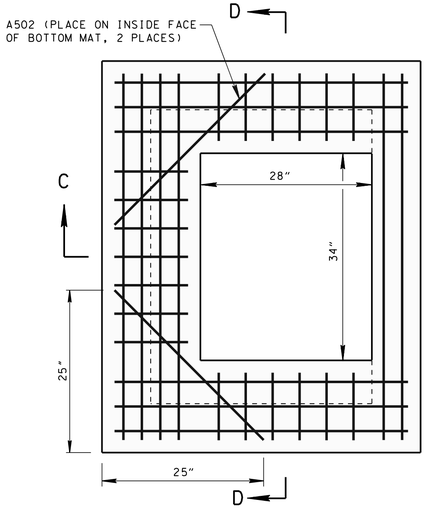
NOT TO SCALE

9-5-02

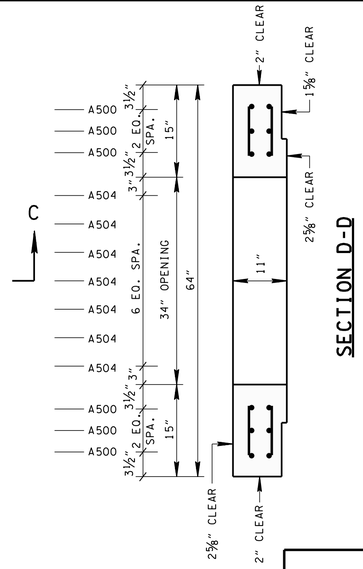
D-CB-10SB



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 8.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF PIPE OPENING (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(3) 30	3½	39	65	4.96
(3) 36	4	46	72	5.50

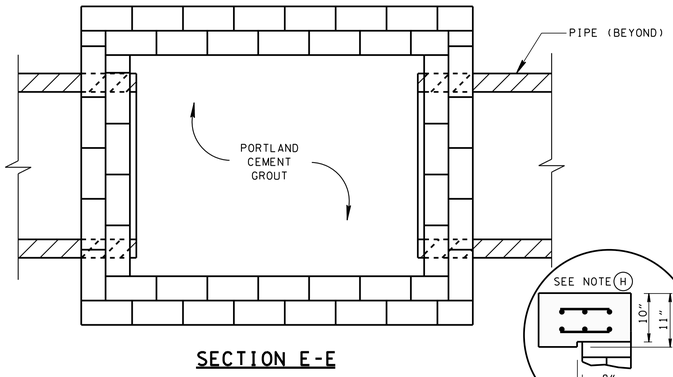
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

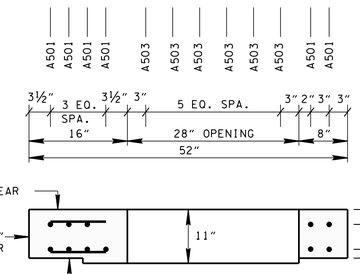
(3) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 1-19-96: MODIFIED DRAWING NO. D-CB-12S BY CHANGING MATERIAL IN SIDE WALLS FROM CONCRETE TO BRICK.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE Ⓒ CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV.4-15-97: CHANGED LABEL OF BASE SECTION.
- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEM IN GENERAL NOTE Ⓘ
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE Ⓒ

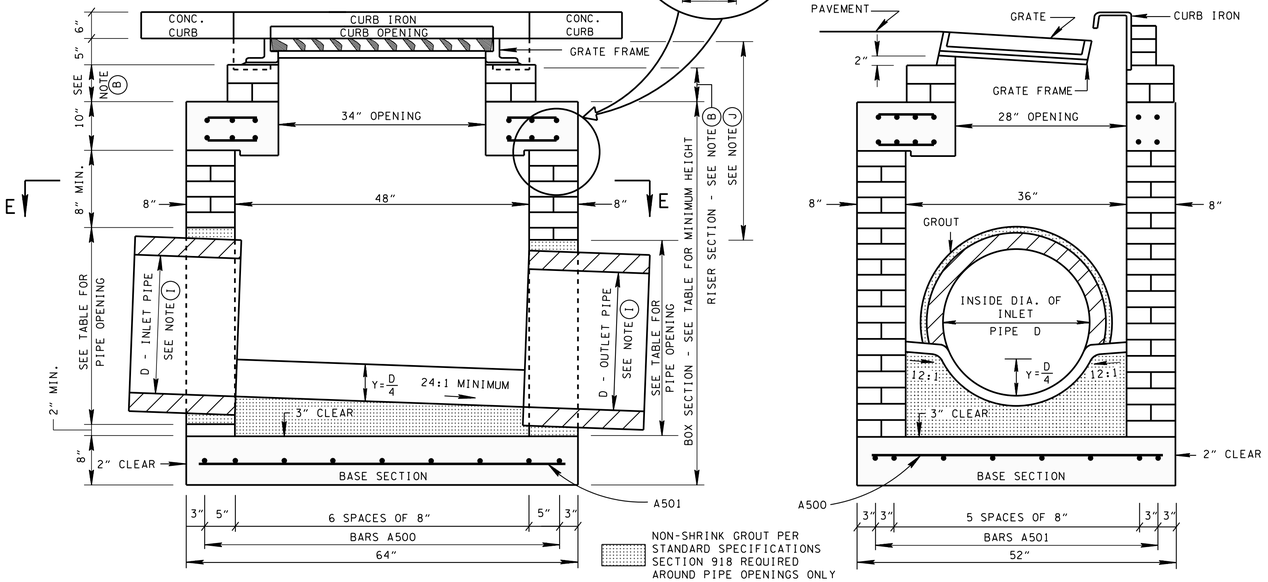
  REV. 8-01-12: REVISED CATCH BASIN TOP & BOTTOM SLABS FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION E-E



SECTION C-C



SECTION A-A

SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE USED FOR NO. 12 BRICK CATCH BASINS THAT ARE EIGHT FEET AND LESS IN DEPTH. SEE STANDARD DRAWINGS D-CB-12P AND D-CB-12S FOR DETAILS OF NO. 12 CONCRETE CATCH BASINS THAT ARE MORE THAN EIGHT FEET IN DEPTH.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) CAST-IN-PLACE CONCRETE USED IN BRICK CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS USED FOR LIDS AND FLOORS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.01 CATCH BASINS, TYPE 12, 0'-4' DEPTH AND 611-12.02 CATCH BASINS, TYPE 12, > 4'-8' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND

A500	48"	A503	11"
A501	60"	A504	12"
A502	33"		

DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

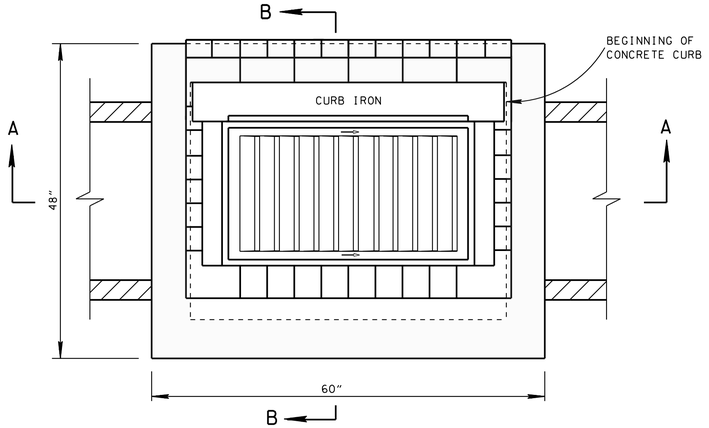
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

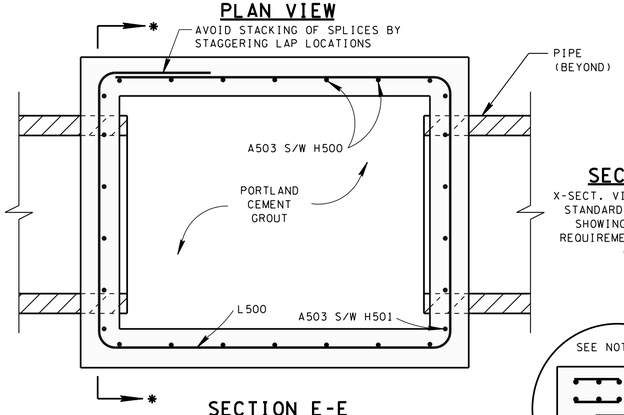
STANDARD RECTANGULAR BRICK NO. 12 CATCH BASIN

NOT TO SCALE

1-19-96 D-CB-12B



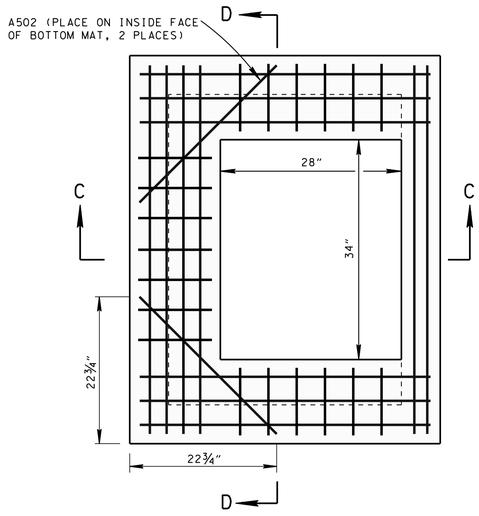
PLAN VIEW



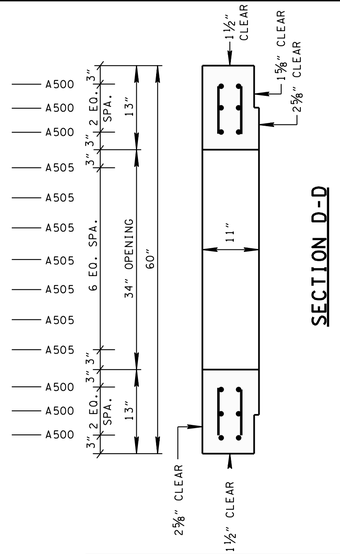
SECTION E-E

SECTION *-*

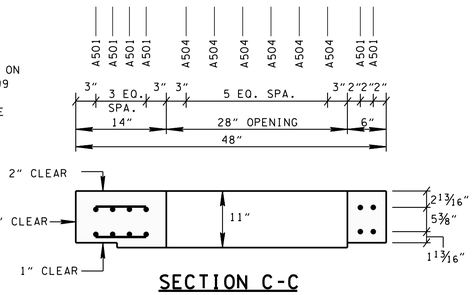
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



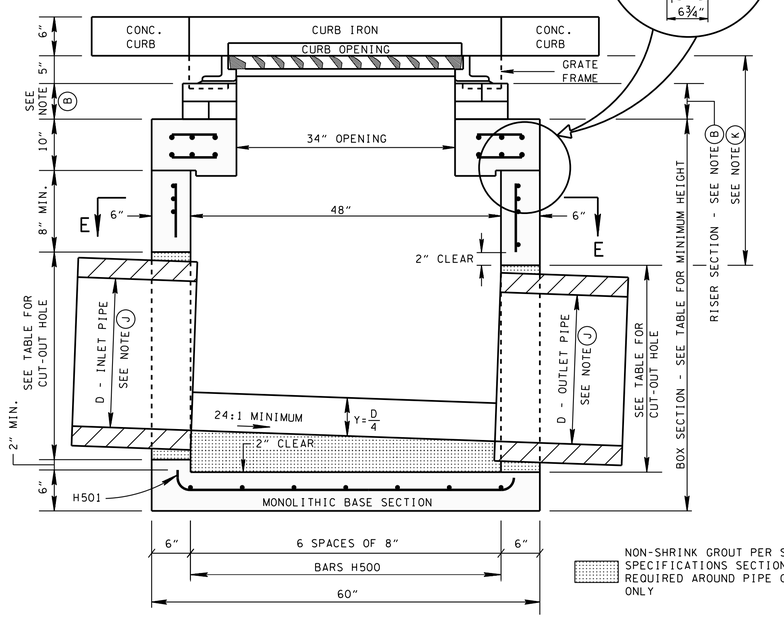
PLAN VIEW



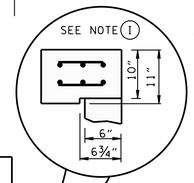
SECTION D-D



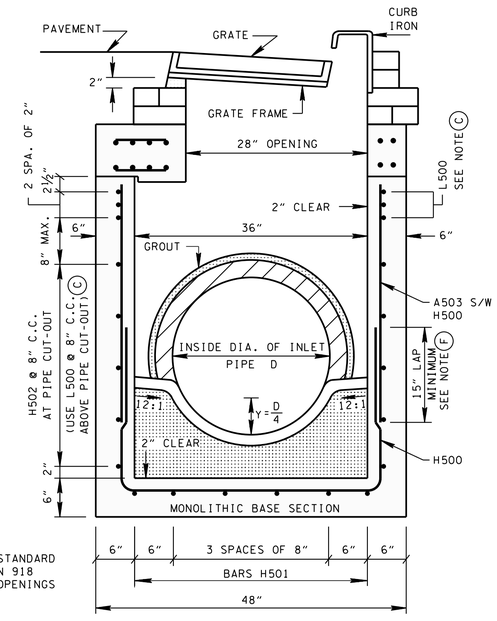
SECTION C-C



SECTION A-A



NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	49	3.88
24	3	32	56	4.42
(4) 30	3½	39	63	4.96
(4) 36	4	46	70	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (1)
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL PRECAST NO. 12 CONCRETE CATCH BASINS THAT ARE BETWEEN MINIMUM DEPTH AND TWELVE FEET. SEE STANDARD DRAWING D-CB-12S FOR DETAILS OF CAST-IN-PLACE NO. 12 CONCRETE CATCH BASINS AND PRECAST NO. 12 CONCRETE CATCH BASINS THAT ARE GREATER TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) ALL PRECAST ELEMENTS SHALL MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

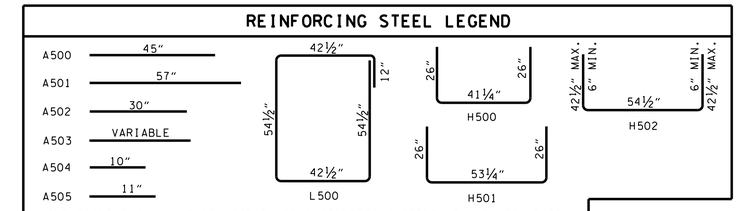
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.01 CATCH BASINS, TYPE 12, 0'-4' DEPTH THROUGH 611-12.03, CATCH BASINS, TYPE 12, > 8'-12' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

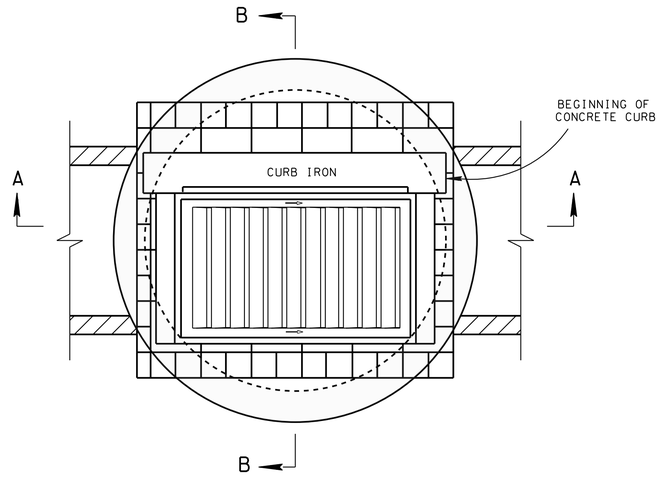
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

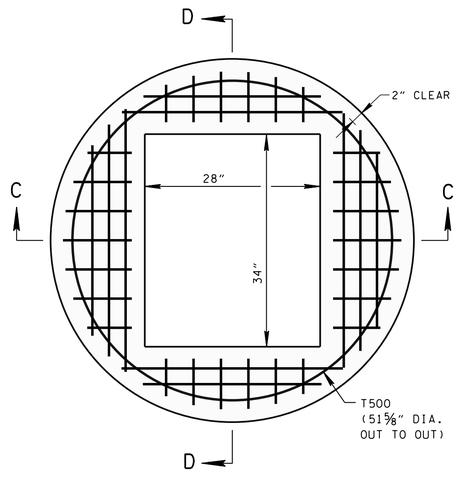
STANDARD PRECAST RECTANGULAR CONCRETE NO. 12 CATCH BASIN

NOT TO SCALE

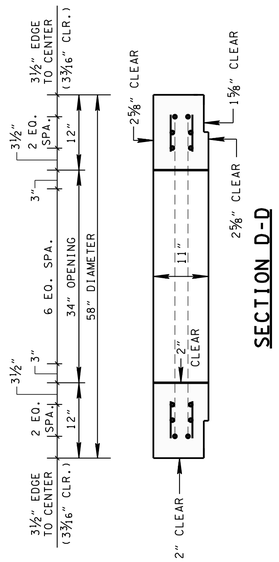
12-18-95 D-CB-12P



PLAN VIEW



LID REINFORCING



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	
18	2½	25	49	3.88
24	3	32	56	4.42

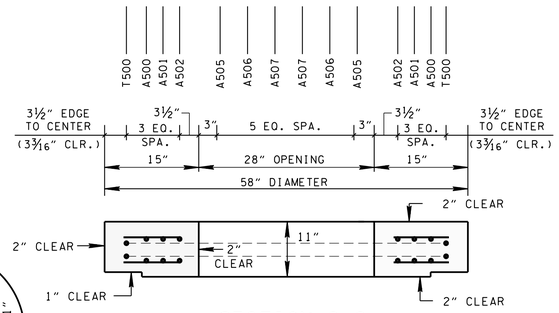
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

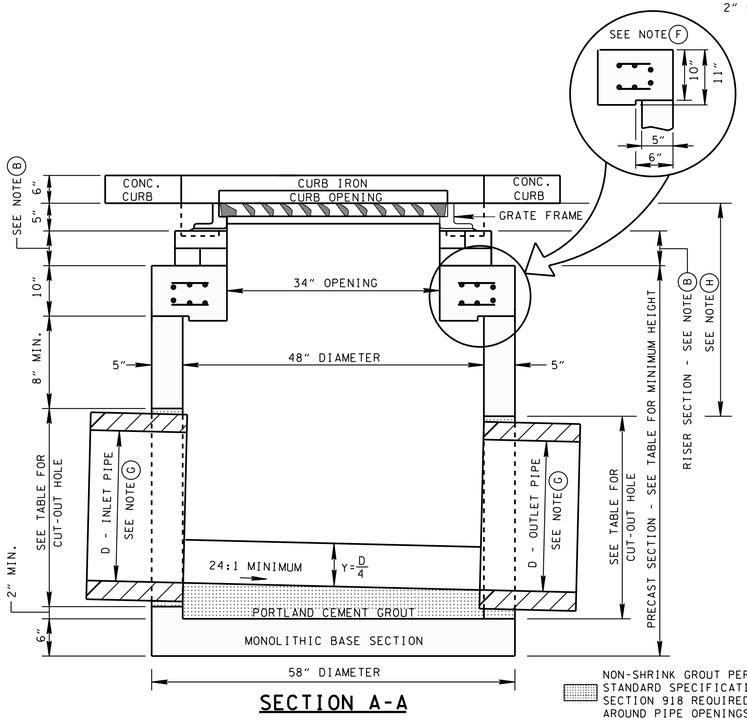
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 12-18-95: CHANGED BASE THICKNESS AND VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (F) CHANGED LABEL OF LAST FOUR GENERAL NOTES.
- ☐ REV. 4-15-97: CHANGED CATCH BASIN DIMENSION TABLE.
- ☐ REV. 1-19-99: CHANGED MINIMUM DEPTH TABLE AND DRAWING IN GENERAL TO REFLECT REDUCTION IN INVERT DROP ACROSS CATCH BASIN.
- ☐ REV. 12-18-99: MODIFIED CATCH BASIN DIMENSION TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

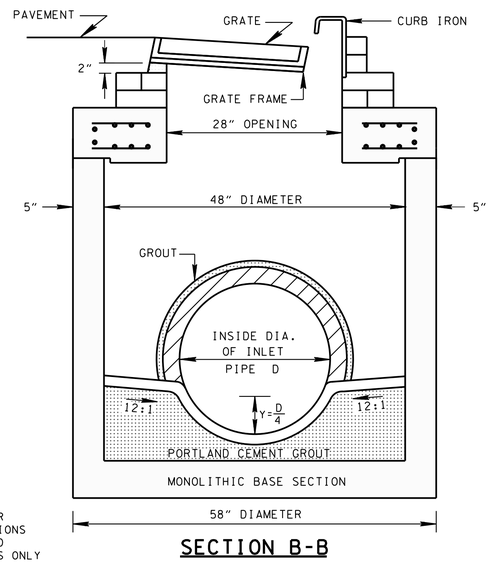
  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION C-C



SECTION A-A



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_Y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-12RB FOR DETAILS REGARDING 60" AND LARGER CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(K) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.01 CATCH BASINS, TYPE 12, 0'-4' DEPTH THROUGH 611-12.05 CATCH BASINS, TYPE 12, > 16'-20' DEPTH PER EACH. PAYMENT INCLUES RISER SECTION AND GRATE.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

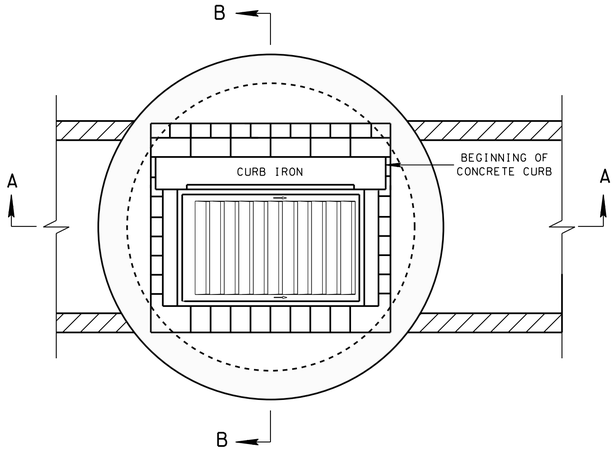
STANDARD PRECAST 48" CIRCULAR NO. 12 CATCH BASIN

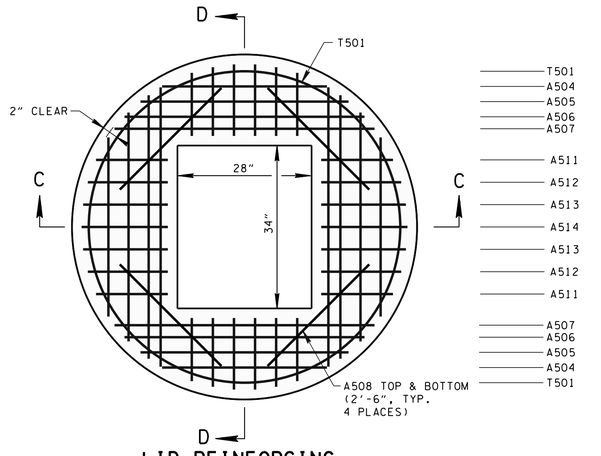
(FOR USE WITH 6" NONMOUNTABLE CURB)

NOT TO SCALE

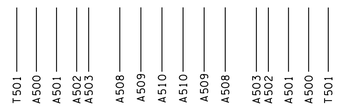
5-27-95

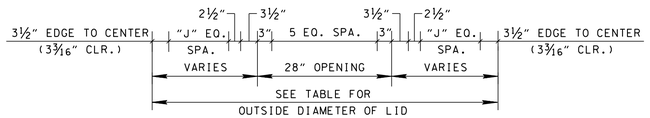
D-CB-12RA

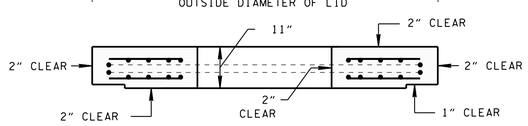




LID REINFORCING





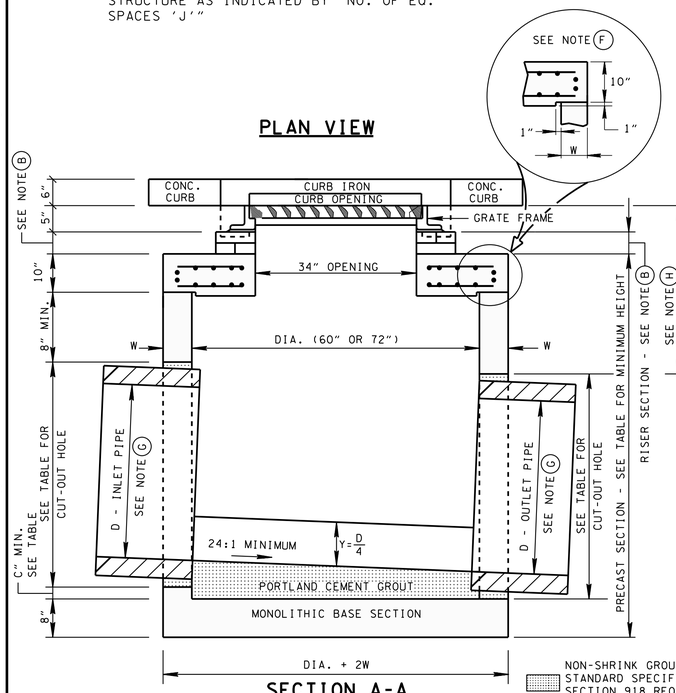


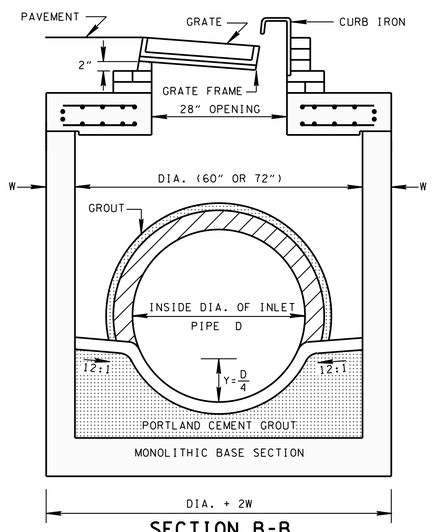
SECTION C-C

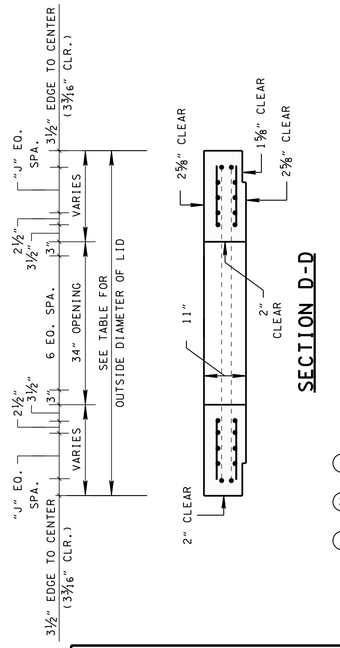
VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4

OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE AS INDICATED BY "NO. OF EQ. SPACES 'J'"







SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS						
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)		FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)	
			60"	72"	60"	72"
18	2½	25	51½	53	3.92	3.97
24	3	32	58½	60	4.46	4.51
30	3½	39	65½	67	5.00	5.05
36	4	46	72½	74	5.55	5.59
42	4½	53	79½	81	6.09	6.13
48	5	60	86½	88	6.63	6.67

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (F) HANGED LABEL OF LAST FOUR GENERAL NOTES.
- ☐ REV. 4-15-97: CHANGED CATCH BASIN DIMENSION TABLE.
- ☐ REV. 7-29-97: CHANGED HEIGHT OF CATCH BASIN.
- ☐ REV. 1-19-99: CHANGED MINIMUM DEPTH TABLE AND DRAWING IN GENERAL TO REFLECT REDUCTION IN INVERT DROP ACROSS CATCH BASIN.
- ☐ REV. 4-15-00: MOVED 84" AND 96" DIAMETER CATCH BASINS TO NEW STANDARD DRAWING D-CB-12RC. RENAMED SHEET.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH (FOR 60 INCH INSIDE DIAMETER CATCH BASIN) OR 22 INCH (FOR 72 INCH INSIDE DIAMETER CATCH BASIN) SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-12RA FOR DETAILS REGARDING 48" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(K) SEE STANDARD DRAWING D-CB-12RC FOR DETAILS REGARDING 84" THRU 120" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.01 CATCH BASINS, TYPE 12, 0'-4' DEPTH THROUGH 611-12.07, CATCH BASINS, TYPE 12, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-12.08, CATCH BASINS, TYPE 12, ____'- ____' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

CATCH BASIN DIMENSIONS						
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION C (INCHES)
60	6	10	72	36	24	2.5
72	7	10	86	48	30	3.0

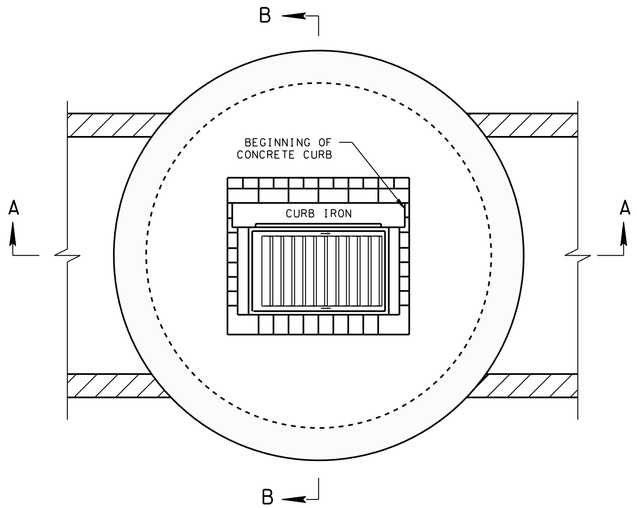
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST 60" AND 72" CIRCULAR NO. 12 CATCH BASIN
(FOR USE WITH 6" NONMOUNTABLE CURB)

NOT TO SCALE

12-18-93 D-CB-12RB

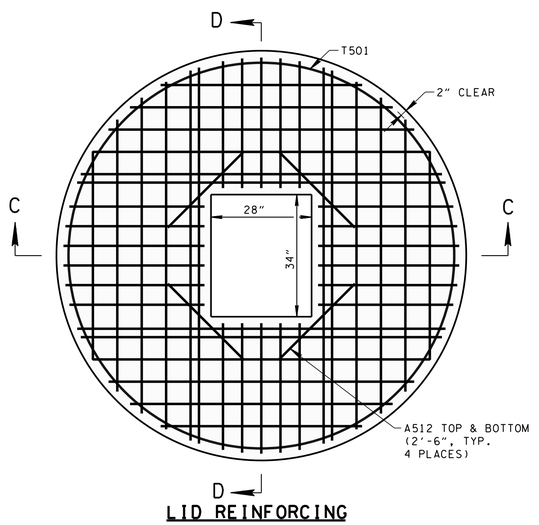


PLAN VIEW

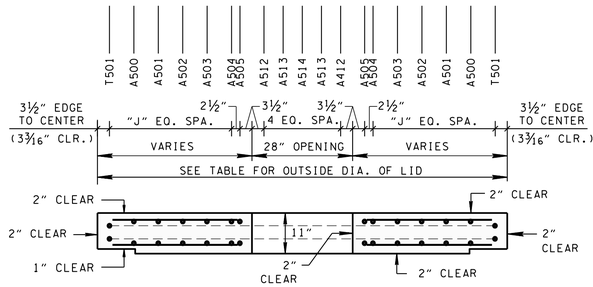
VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
84	100	5
96	114	6
108	128	7
120	142	8

OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

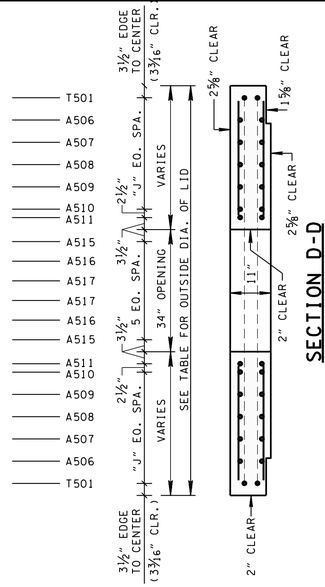
ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE AS INDICATED BY "NO. OF EQ. SPACES 'J'"



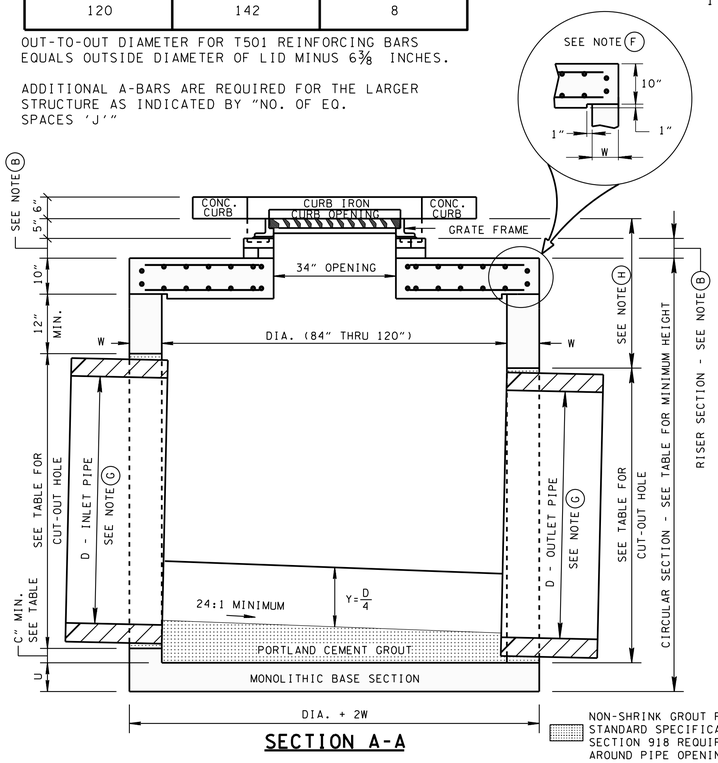
LID REINFORCING



SECTION C-C

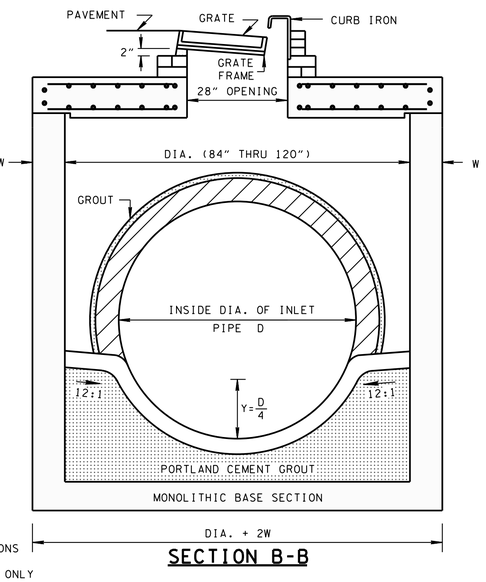


SECTION D-D



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS							FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)							
			84"	96"	108"	120"	84"	96"	108"	120"
18	2½	25	57½	59	63½	64	4.34	4.38	4.42	4.46
24	3	32	64½	66	70½	71	4.88	4.92	4.96	5.00
30	3½	39	71½	73	77½	78	5.42	5.46	5.50	5.54
36	4	46	78½	80	84½	85	5.97	6.00	6.04	6.08
42	4½	53	85½	87	91½	92	6.51	6.54	6.58	6.63
48	5	60	92½	94	98½	99	7.05	7.08	7.13	7.17
54	5½	67	99½	101	105½	106	7.59	7.63	7.67	7.71
60	6	74	106½	108	112½	113	8.13	8.17	8.21	8.25
66	6½	81	113½	115	119½	120	8.67	8.71	8.75	8.79
72	7	88	120½	122	126½	127	9.22	9.25	9.29	9.33
78	7½	95	127½	129	133½	134	9.76	9.79	9.83	9.88

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-12RA FOR DETAILS REGARDING 48" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(K) SEE STANDARD DRAWING D-CB-12RB FOR DETAILS REGARDING 60" AND 72" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.02 CATCH BASINS, TYPE 12, > 4'-8' DEPTH THROUGH 611-12.07, CATCH BASINS, TYPE 12, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-12.08, CATCH BASINS, TYPE 12, ____'- ____' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

CATCH BASIN DIMENSIONS							
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	BASE THICKNESS U (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION C (INCHES)
84	8	10	8	100	60	36	3.5
96	9	10	8	114	66	42	4.0
108	10	10	12	128	72	48	4.5
120	11	10	12	142	78	54	5.0

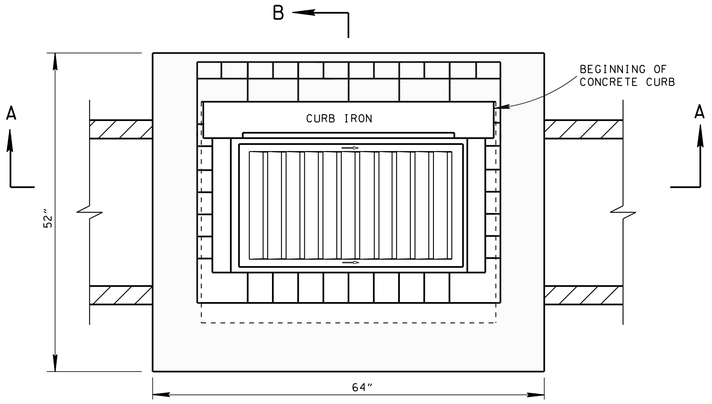
NOT TO SCALE

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

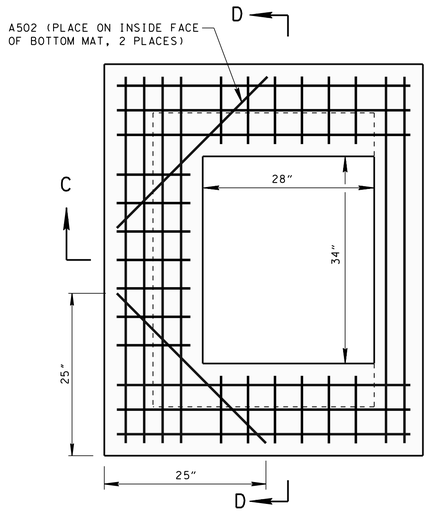
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST 84" THRU 120" CIRCULAR NO. 12 CATCH BASIN
(FOR USE WITH 6" NONMOUNTABLE CURB)

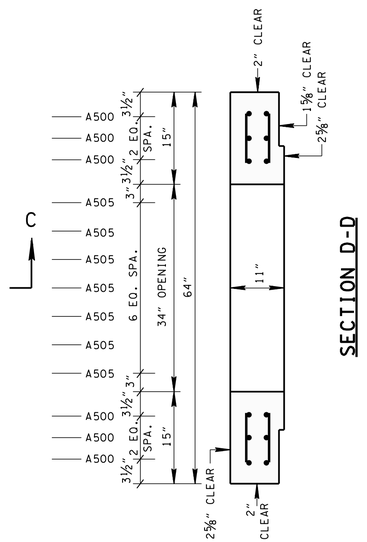
4-15-00 | D-CB-12RC



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(4) 30	3½	39	65	4.96
(4) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

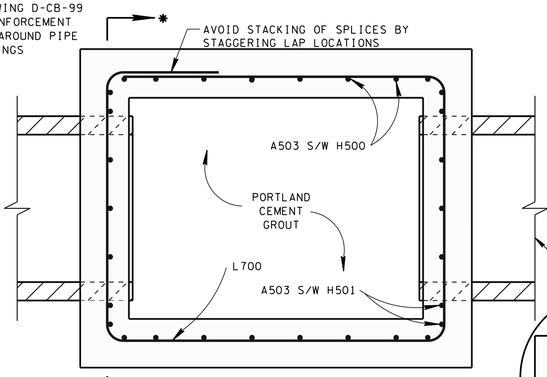
(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 12-18-95: CHANGED VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

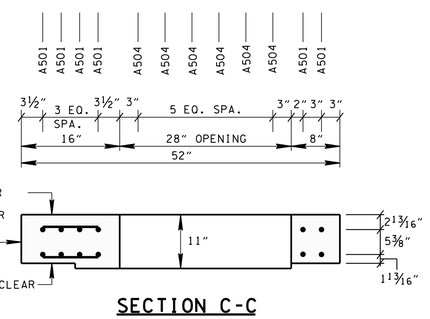
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

SECTION *-*

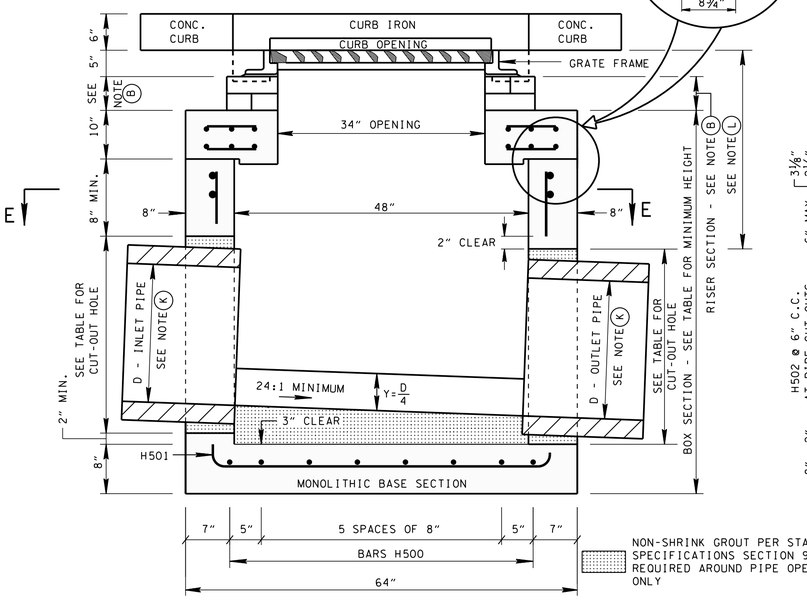
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



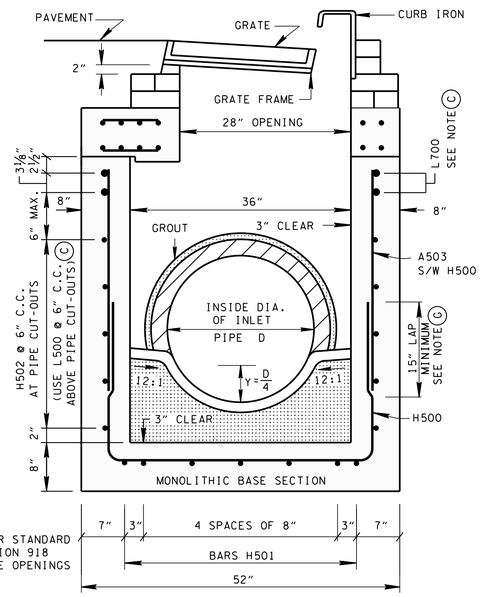
SECTION E-E



SECTION C-C



SECTION A-A



NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 12 CONCRETE CATCH BASINS AND ALL PRECAST NO. 12 CONCRETE CATCH BASINS THAT ARE GREATER THAN TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-12P FOR DETAILS OF PRECAST NO. 12 CONCRETE CATCH BASINS TWELVE FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

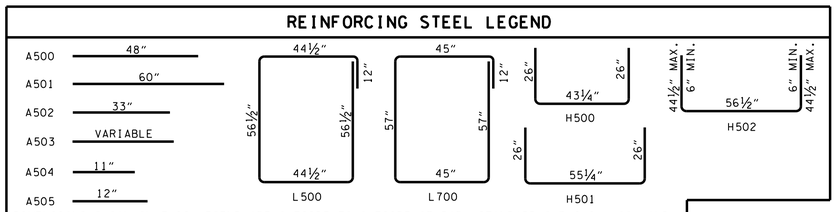
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.01 CATCH BASINS, TYPE 12, 0'-4' DEPTH THROUGH 611-12.05 CATCH BASINS, TYPE 12, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

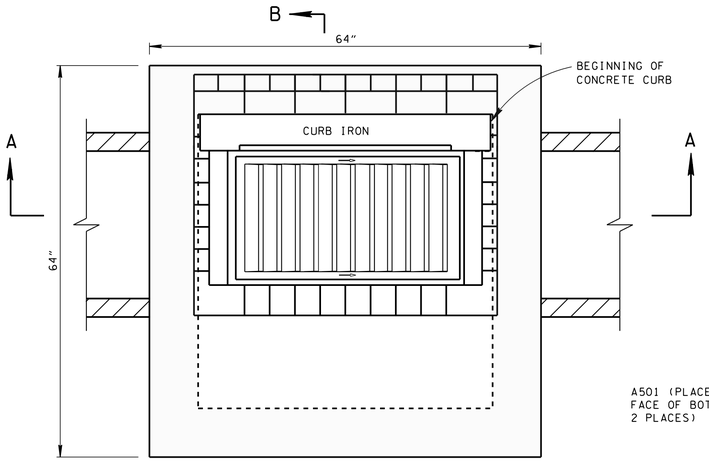
NOT TO SCALE

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

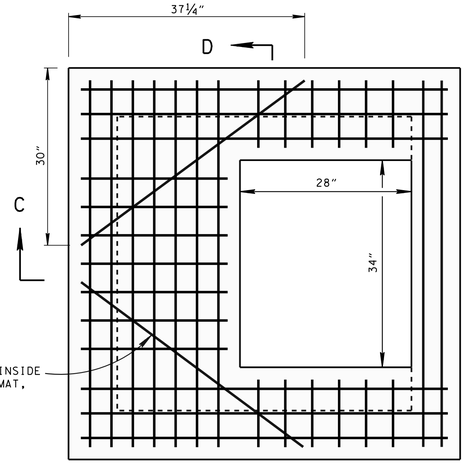
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO.12 CATCH BASIN

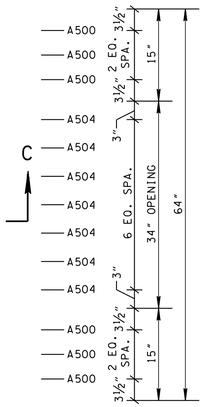
5-27-95 | D-CB-12S

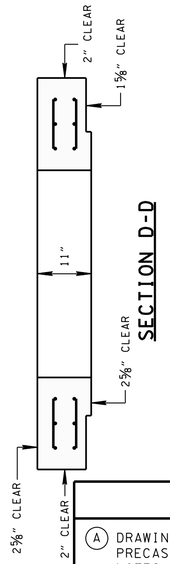


PLAN VIEW



PLAN VIEW





SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
30	3½	39	65	4.96
36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-98: CHANGED REINFORCING STEEL IN SECTION E-E VIEW.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 12SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 12SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

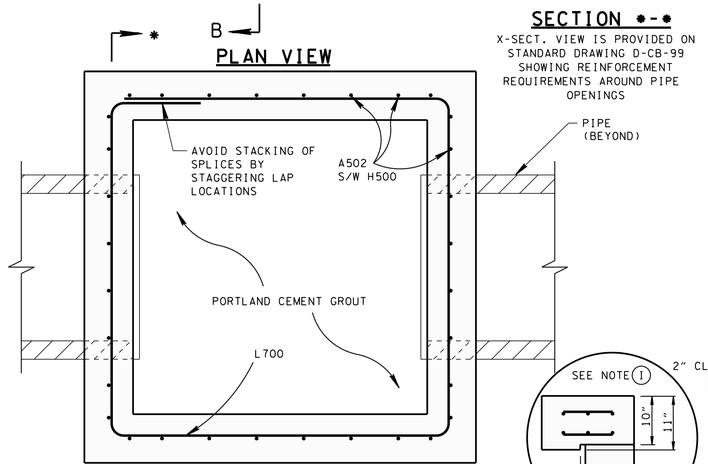
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.

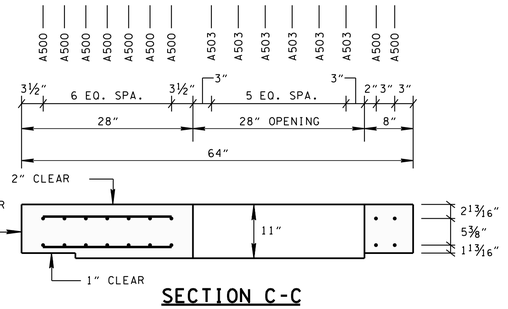
(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.01 CATCH BASINS, TYPE 12, 0'-4' DEPTH THROUGH 611-12.07 CATCH BASINS, TYPE 12, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

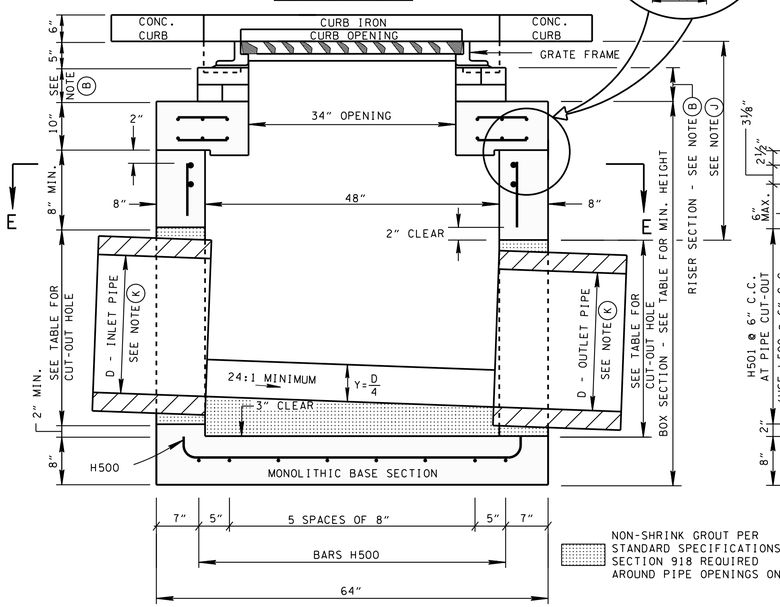


SECTION E-E

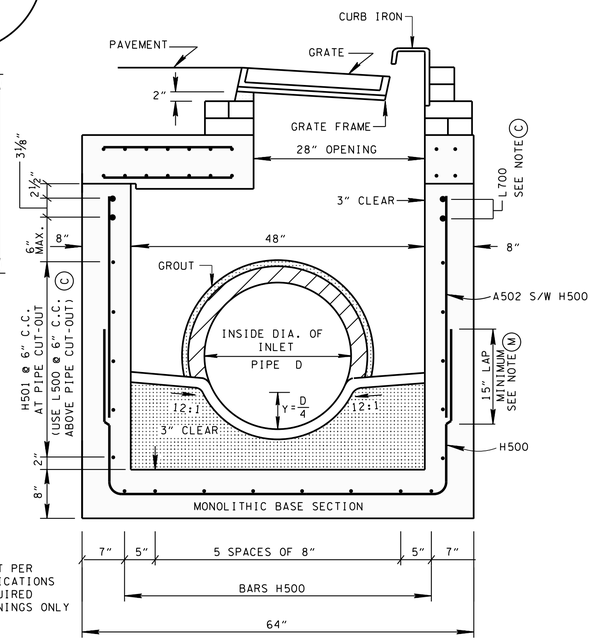
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



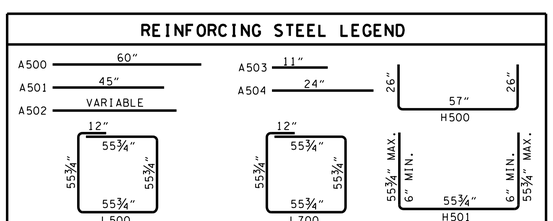
SECTION A-A



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

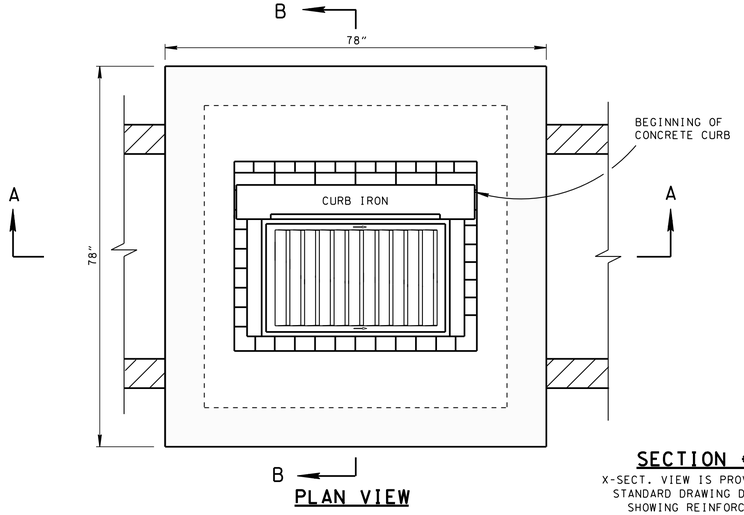
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

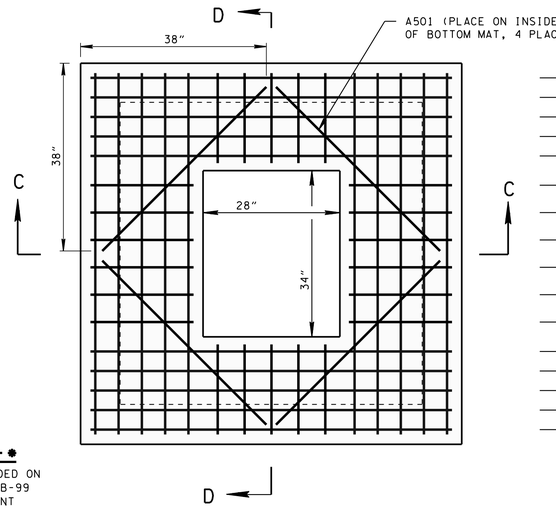
STANDARD 4' X 4' SQUARE CONCRETE NO.12 CATCH BASIN

NOT TO SCALE

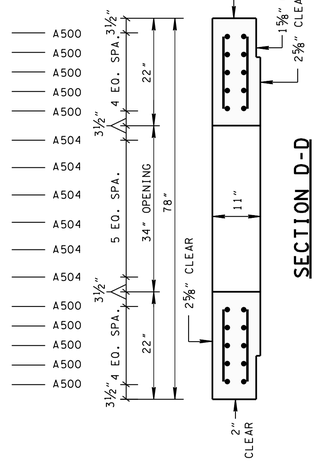
9-5-97 D-CB-12SB



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	55	4.13
24	3	32	62	4.67
30	3½	39	69	5.22
36	4	46	76	5.76
42	4½	53	83	6.30
48	5	60	90	6.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

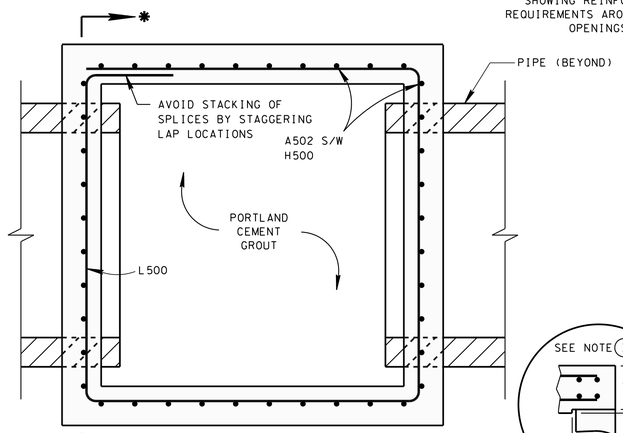
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

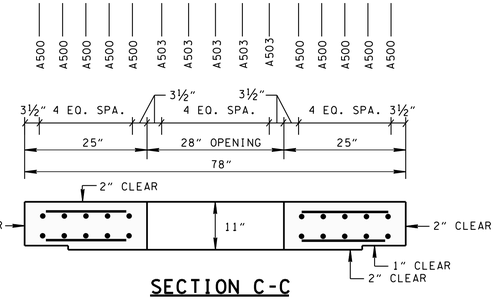
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.

SECTION *-*

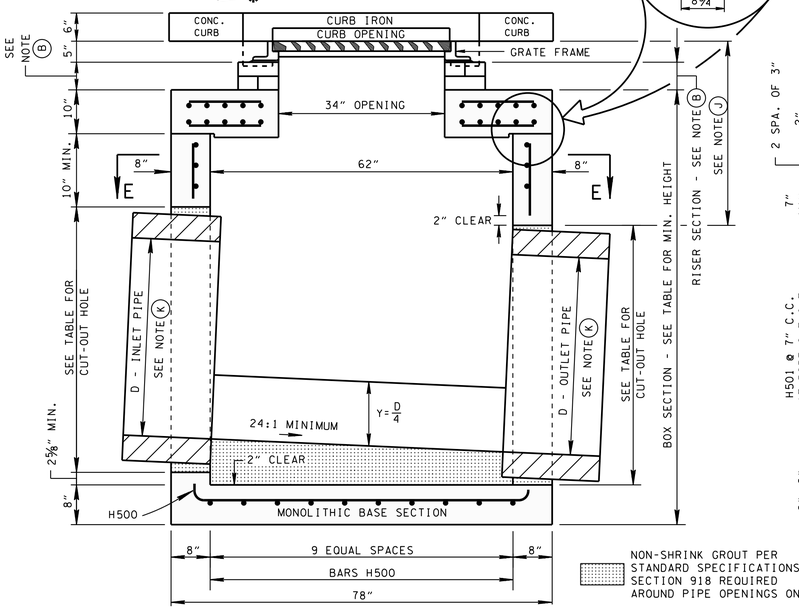
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION E-E

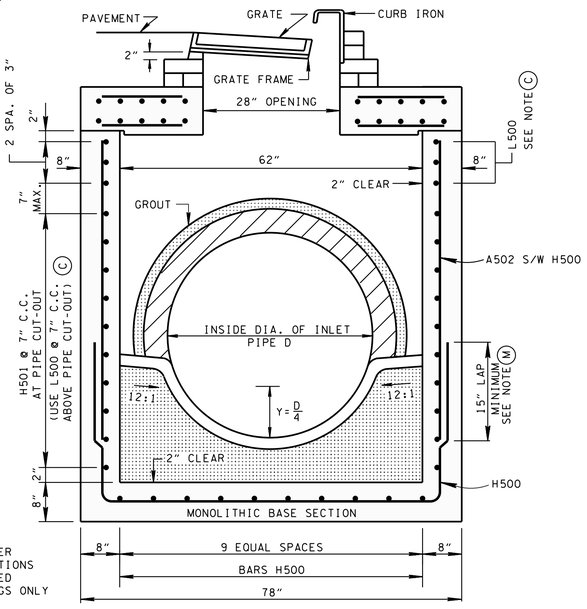


SECTION C-C



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 12SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 12SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

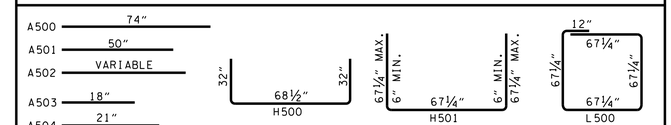
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.02 CATCH BASINS, TYPE 12, > 4'-8' DEPTH THROUGH 611-12.07 CATCH BASINS, TYPE 12, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

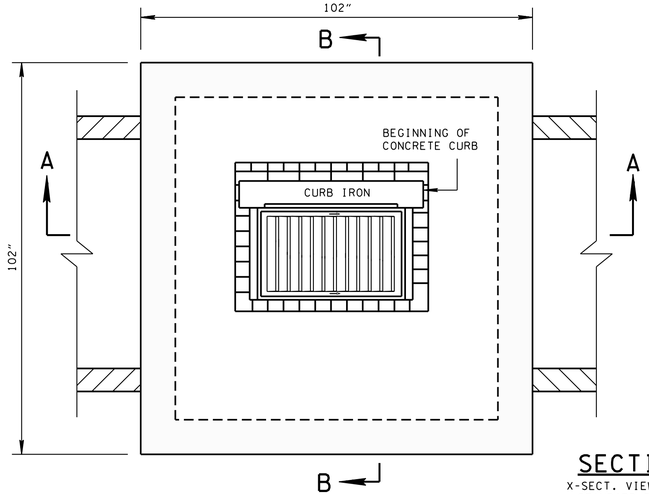
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 5'2" X 5'2" SQUARE CONCRETE NO.12 CATCH BASIN

NOT TO SCALE

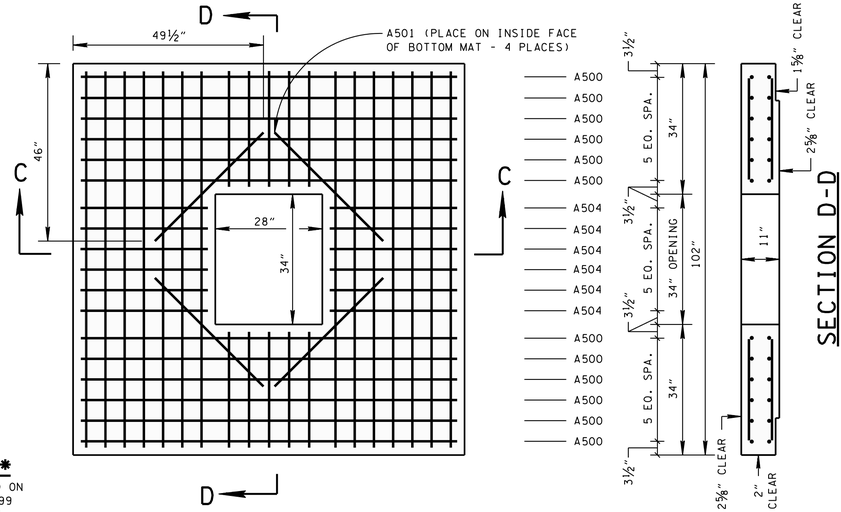
9-5-97

D-CB-12SC



SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION D-D

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	55½	4.17
24	3	32	62½	4.72
30	3½	39	69½	5.26
36	4	46	76½	5.80
42	4½	53	83½	6.34
48	5	60	90½	6.88
54	5½	67	97½	7.42
60	6	74	104½	7.97
66	6½	81	111½	8.51

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 5-30-02: MODIFIED REINFORCING STEEL.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 12SD CONCRETE CATCH BASINS AND ALL PRECAST NO. 12SD CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

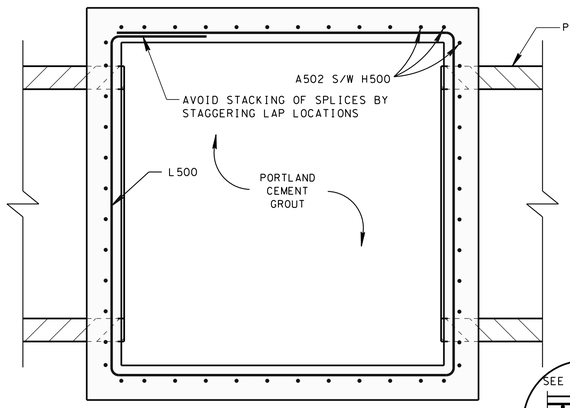
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

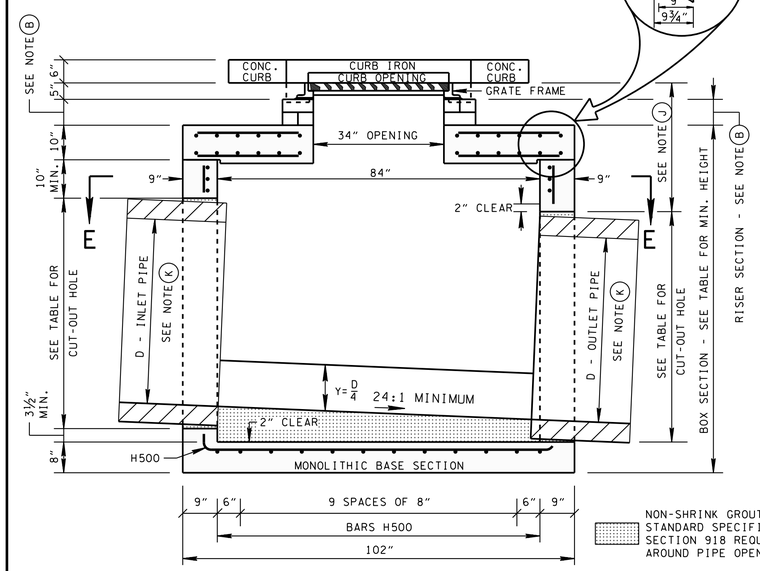
(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.02 CATCH BASINS, TYPE 12, > 4'-8' DEPTH THROUGH 611-12.07 CATCH BASINS, TYPE 12, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

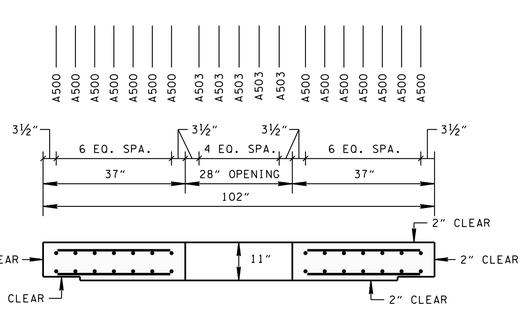
PLAN VIEW



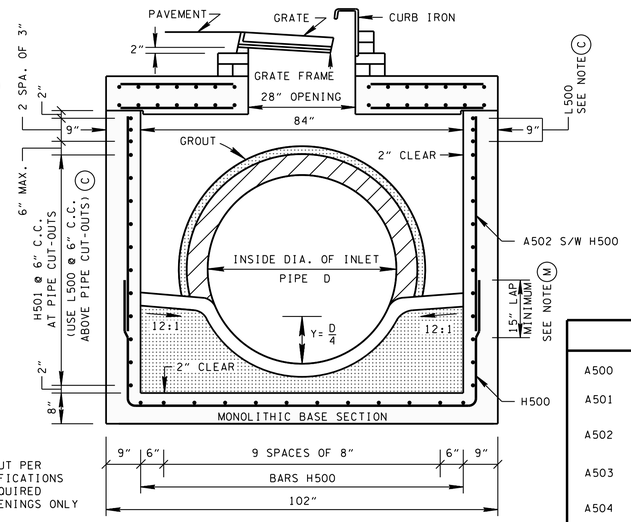
SECTION E-E



SECTION A-A



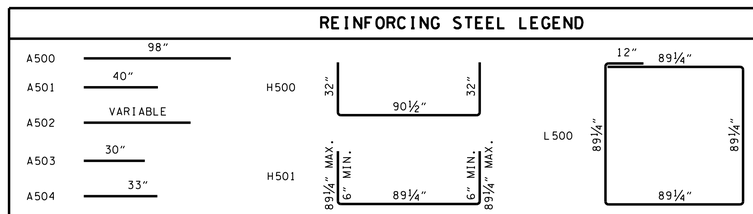
SECTION C-C



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 7' X 7' SQUARE CONCRETE NO. 12 CATCH BASIN

5-27-98 | D-CB-12SD

22-APR-2014 09:48
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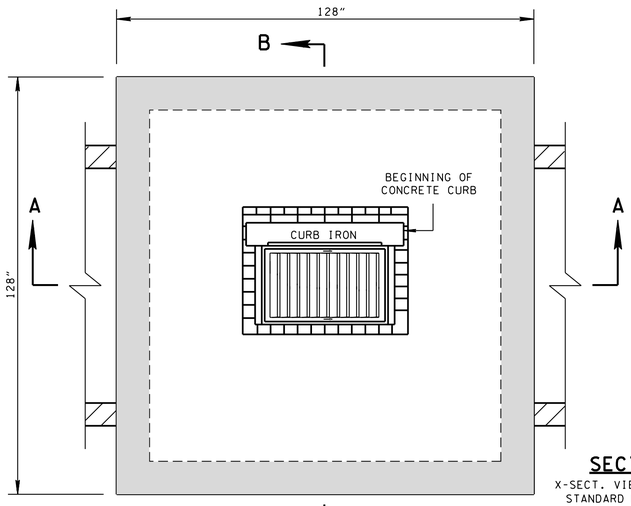
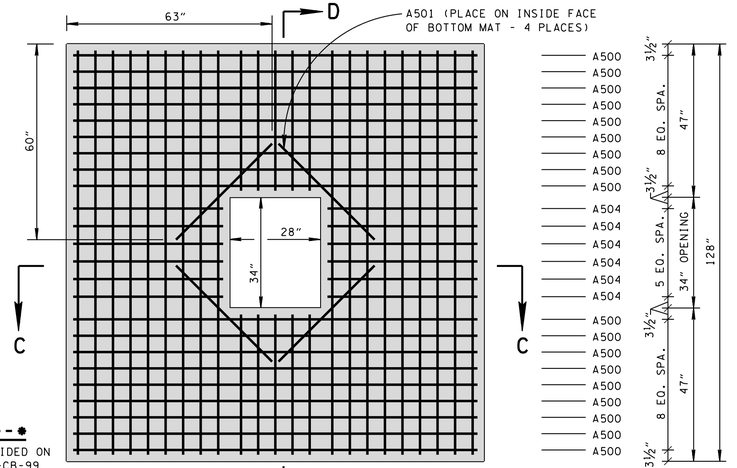
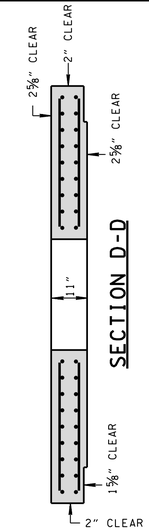






CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00′.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	59½	4.25
24	3	32	66½	4.79
30	3½	39	73½	5.33
36	4	46	80½	5.88
42	4½	53	87½	6.42
48	5	60	94½	6.96
54	5½	67	101½	7.50
60	6	74	108½	8.04
66	6½	81	115½	8.58
72	7	88	122½	9.13
78	7½	95	129½	9.67

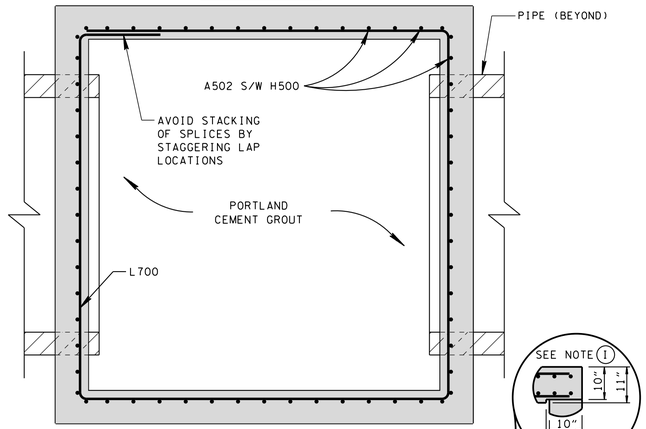
- (1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- (2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- (3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

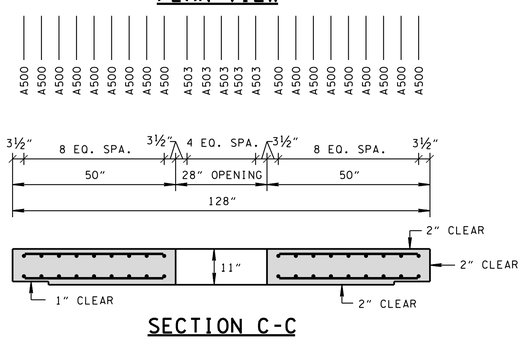
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- ☐ REV. 2-13-04: CHANGED REINFORCING STEEL IN BASE SECTION.
- ☐ REV. 5-5-05: ADDED EXTRA STEEL DIMENSION TO SECTION C-C.

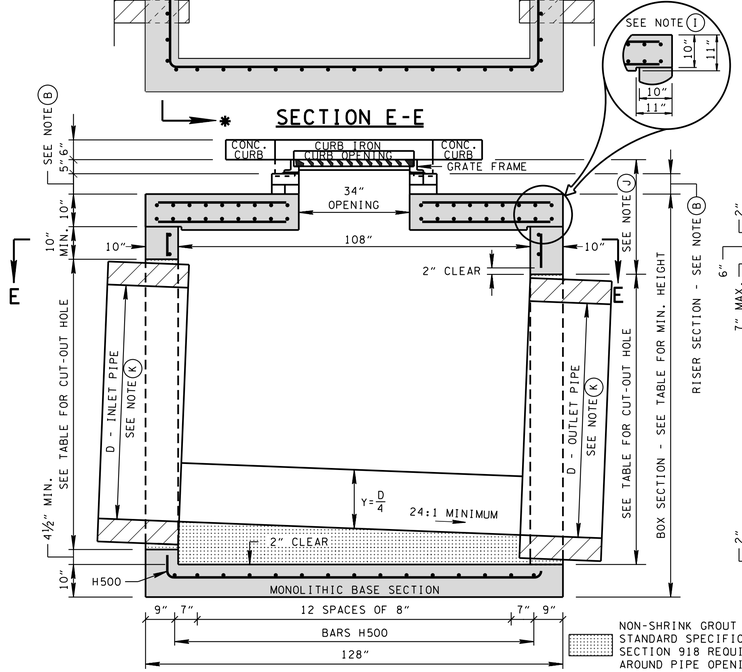
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

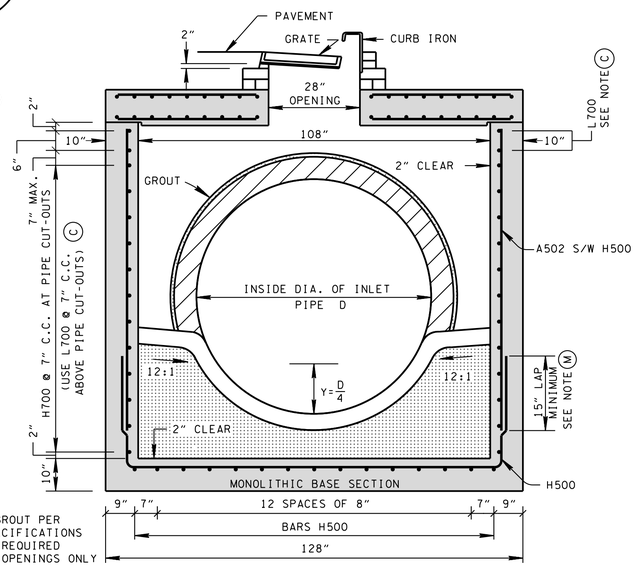
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS









GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 12SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 12SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

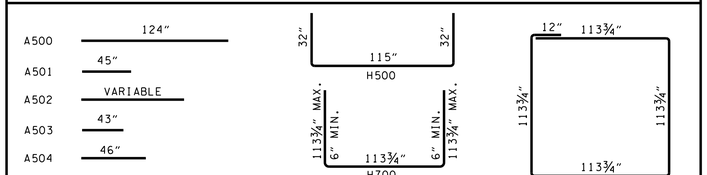
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-12.02 CATCH BASINS, TYPE 12, > 4′-8′ DEPTH THROUGH 611-12.07 CATCH BASINS, TYPE 12, > 24′-28′ DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

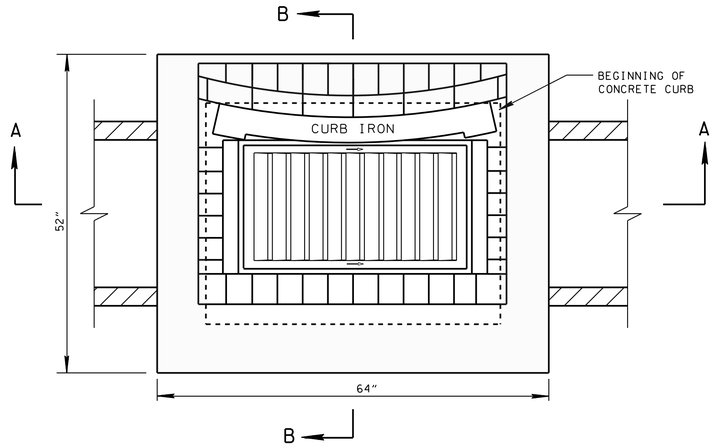
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

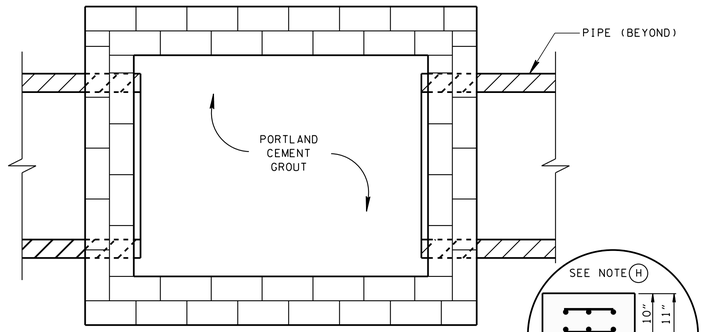
STANDARD 9′ X 9′ SQUARE CONCRETE NO. 12 CATCH BASIN

NOT TO SCALE

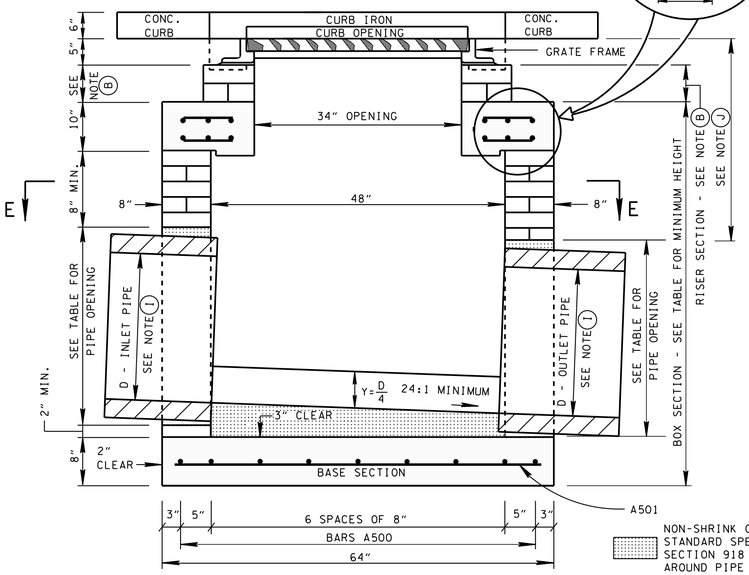
1-19-99 D-CB-12SE



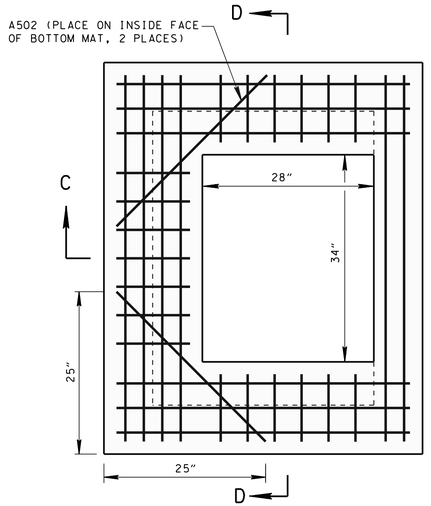
PLAN VIEW



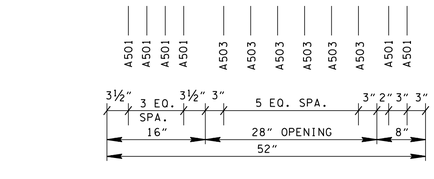
SECTION E-E

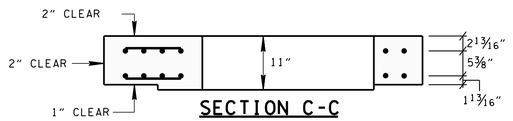


SECTION A-A

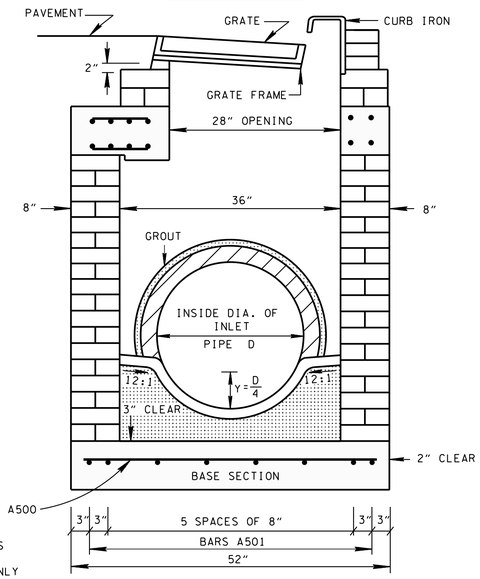


PLAN VIEW

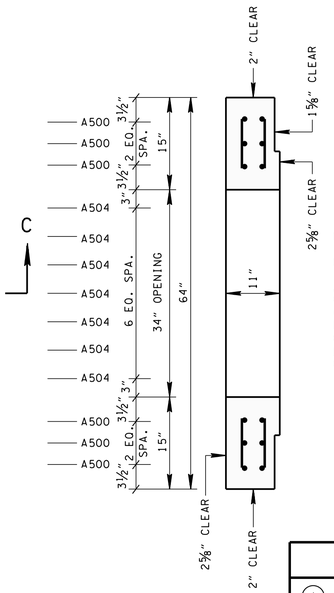




SECTION C-C



SECTION B-B



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 8.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF PIPE OPENING (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(3) 30	3½	39	65	4.96
(3) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 12-18-96: MODIFIED DRAWING NO. D-CB-12B BY CHANGING CURB IRON.
- ☐ REV. 12-31-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (C) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV.4-15-97: CHANGED LABEL OF BASE SECTION.
- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 3-20-00: ADDED SPECIAL NOTE RESTRICTING USE OF NO. 13 CATCH BASINS TO RADIUS LESS THAN 25 FEET.
- ☐ REV. 5-27-01: CHANGED PAY ITEM IN GENERAL NOTE (I)
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN TOP & BOTTOM SLABS FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR NO. 13 BRICK CATCH BASINS THAT ARE EIGHT FEET AND LESS IN DEPTH. SEE STANDARD DRAWINGS D-CB-13P AND D-CB-13S FOR DETAILS OF NO. 13 CONCRETE CATCH BASINS THAT ARE MORE THAN EIGHT FEET IN DEPTH.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) CAST-IN-PLACE CONCRETE USED IN BRICK CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS USED FOR LIDS AND FLOORS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-13 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-13.01 CATCH BASINS, TYPE 13, 0'-4' DEPTH AND 611-13.02 CATCH BASINS, TYPE 13, > 4'-8' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND

A500	48"	A503	11"
A501	60"	A504	12"
A502	33"		

DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

SPECIAL NOTE

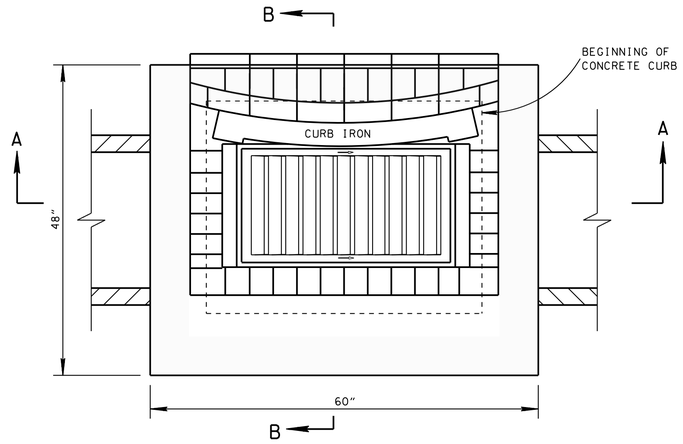
TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

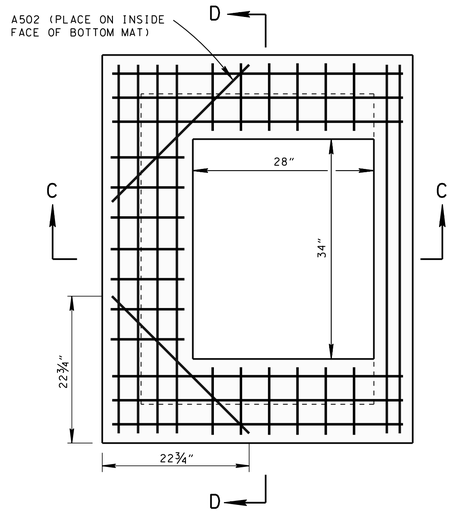
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR BRICK NO. 13 CATCH BASIN

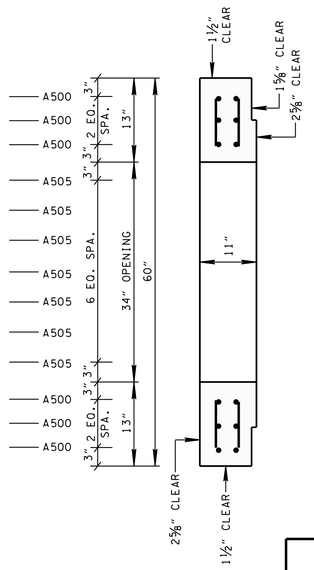
NOT TO SCALE | 12-18-96 | D-CB-13B



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	49	3.88
24	3	32	56	4.42
(4) 30	3½	39	63	4.96
(4) 36	4	46	70	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

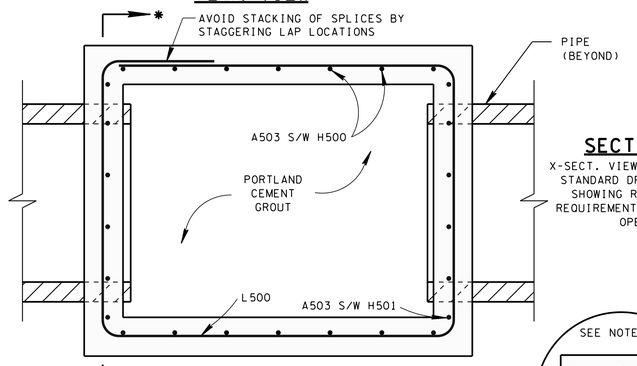
(2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- REV. 12-18-96: MODIFIED DRAWING NO. D-CB-12P BY CHANGING CURB IRON.
- REV. 12-31-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (C) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 3-20-00: ADDED SPECIAL NOTE RESTRICTING USE OF NO. 13 CATCH BASINS TO RADIUS LESS THAN 25 FEET.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I)
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)

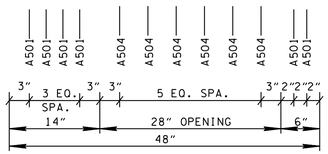
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION E-E

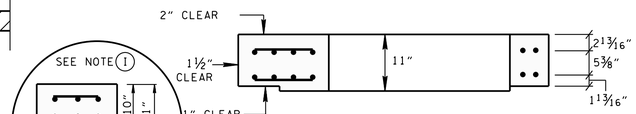
SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SPECIAL NOTE

TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.



SECTION C-C

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL PRECAST NO. 13 CONCRETE CATCH BASINS THAT ARE BETWEEN MINIMUM DEPTH AND TWELVE FEET. SEE STANDARD DRAWING D-CB-13S FOR DETAILS OF CAST-IN-PLACE NO. 13 CONCRETE CATCH BASINS AND PRECAST NO. 13 CONCRETE CATCH BASINS THAT ARE GREATER TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

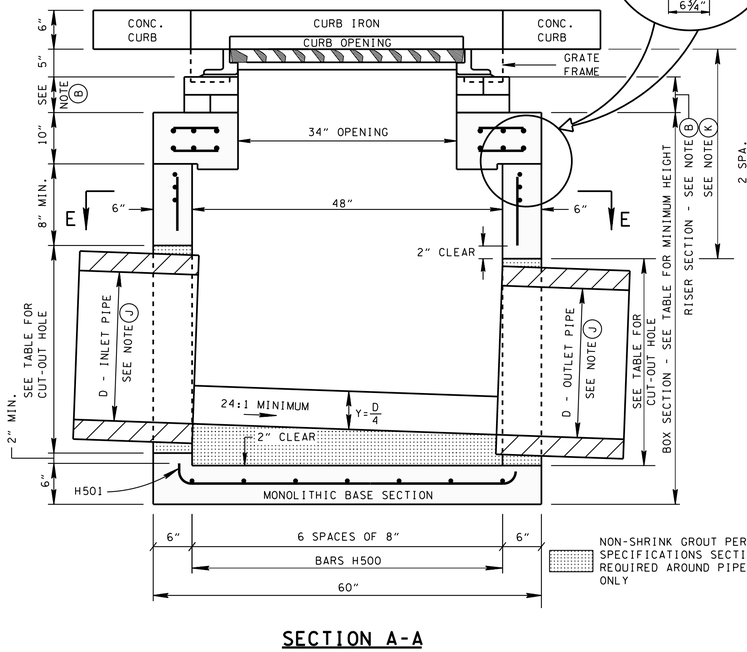
(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

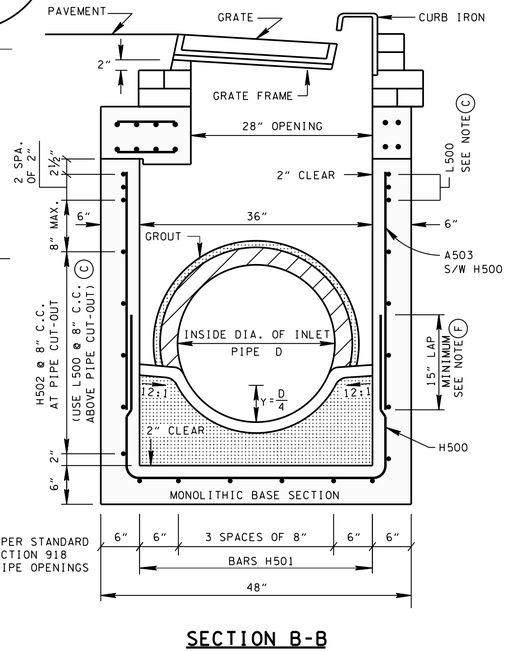
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-13 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-13.01 CATCH BASINS, TYPE 13, 0'-4' DEPTH THROUGH 611-13.03, CATCH BASINS, TYPE 13, > 8'-12' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.



SECTION A-A

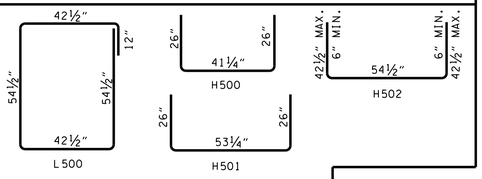


SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

REINFORCING STEEL LEGEND

A500	45"
A501	57"
A502	30"
A503	VARIABLE
A504	10"
A505	11"



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

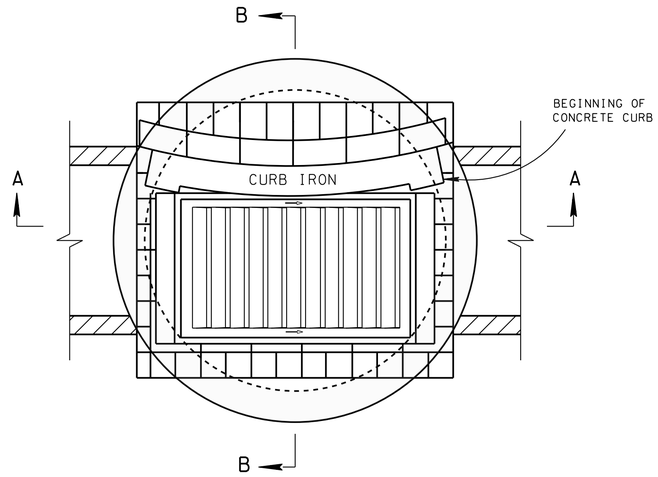
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

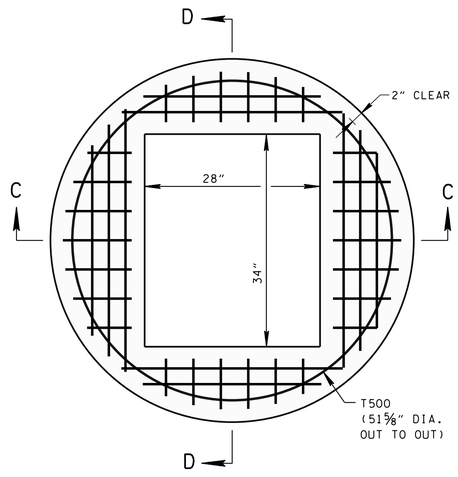
STANDARD PRECAST RECTANGULAR CONCRETE NO. 13 CATCH BASIN

NOT TO SCALE

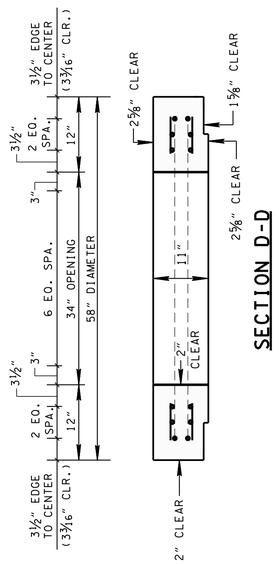
12-18-96 D-CB-13P



PLAN VIEW



LID REINFORCING



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	
18	2½	25	49	3.88
24	3	32	56	4.42

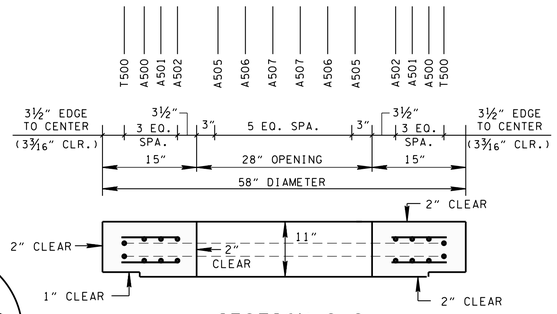
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

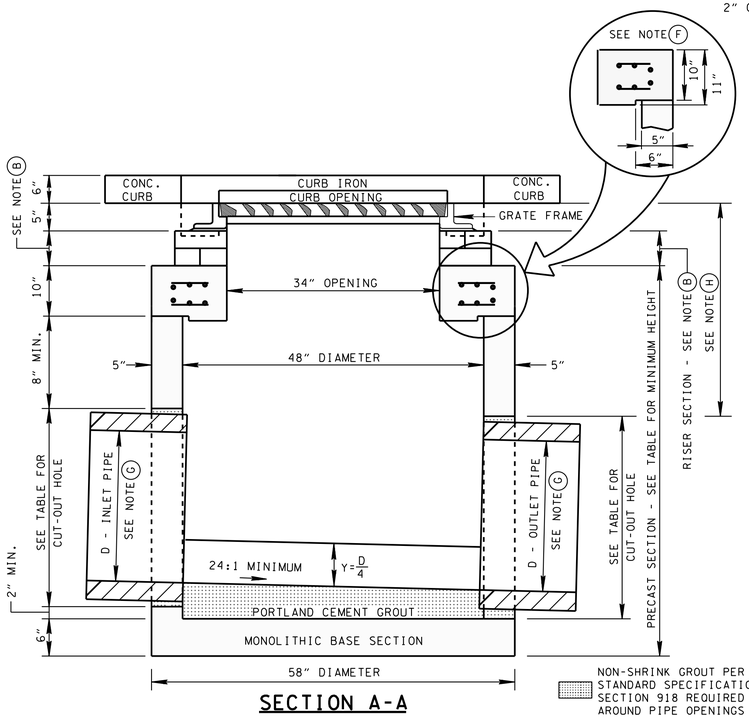
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 3-20-00: ADDED SPECIAL NOTE RESTRICTING USE OF NO. 13 CATCH BASINS TO RADIUS LESS THAN 25 FEET.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

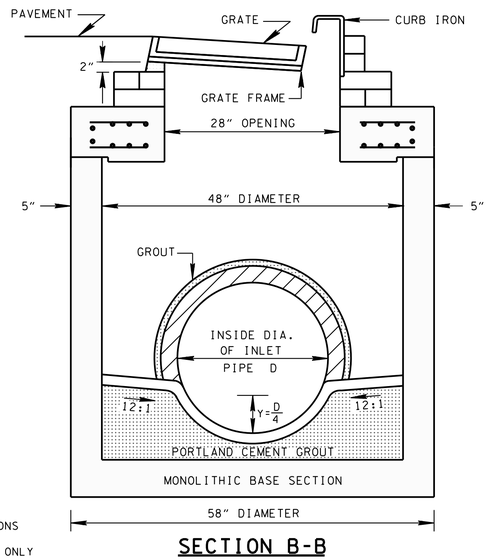
  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION C-C



SECTION A-A



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-13 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-13RB FOR DETAILS REGARDING 60" AND LARGER CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(K) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-13.01 CATCH BASINS, TYPE 13, 0'-4' DEPTH THROUGH 611-13.05 CATCH BASINS, TYPE 13, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

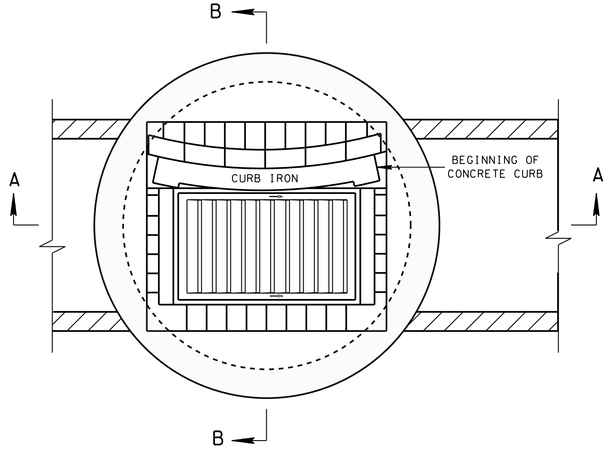
SPECIAL NOTE
TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

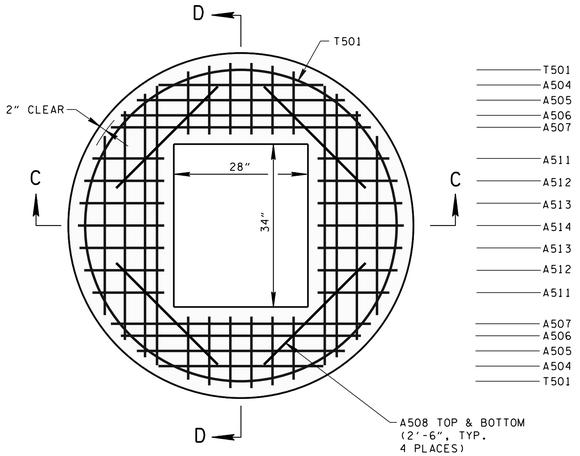
STANDARD PRECAST 48" CIRCULAR NO. 13 CATCH BASIN

(FOR USE WITH 6" NONMOUNTABLE CURB)

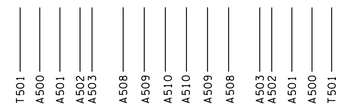
NOT TO SCALE | 1-19-00 | D-CB-13RA



PLAN VIEW



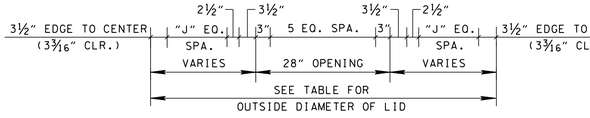
LID REINFORCING

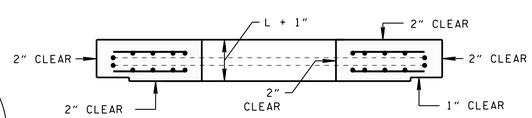


VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4

OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE AS INDICATED BY "NO. OF EQ. SPACES 'J'"





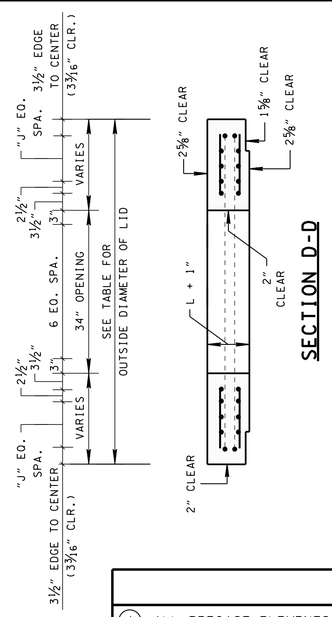
SECTION C-C

PLAN VIEW

SECTION A-A

SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS						
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)		FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)	
			60"	72"	60"	72"
18	2½	25	51½	53	3.92	3.97
24	3	32	58½	60	4.46	4.51
30	3½	39	65½	67	5.00	5.05
36	4	46	72½	74	5.55	5.59
42	4½	53	79½	81	6.09	6.13
48	5	60	86½	88	6.63	6.67

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 4-15-00: MOVED 84" AND 96" DIAMETER CATCH BASINS TO NEW STANDARD DRAWING D-CB-13RC. RENAMED SHEET.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-13 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-13RA FOR DETAILS REGARDING 48" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(K) SEE STANDARD DRAWING D-CB-13RC FOR DETAILS REGARDING 84" THRU 120" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-13.01 CATCH BASINS, TYPE 13, 0'-4' DEPTH THROUGH 611-13.07, CATCH BASINS, TYPE 13, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-13.08, CATCH BASINS, TYPE 13, ____'- ____' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

SPECIAL NOTE
TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.

CATCH BASIN DIMENSIONS						
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION C (INCHES)
60	6	10	72	36	24	2.5
72	7	10	86	48	30	3.0

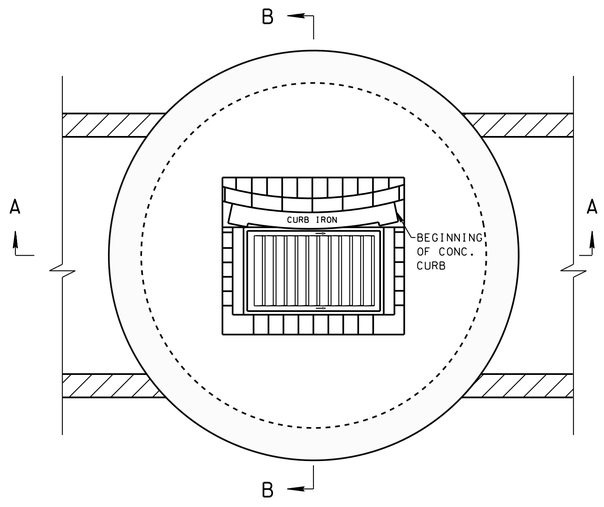
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST 60" AND 72" CIRCULAR NO. 13 CATCH BASIN
(FOR USE WITH 6" NONMOUNTABLE CURB)

NOT TO SCALE

4-15-00 D-CB-13RB

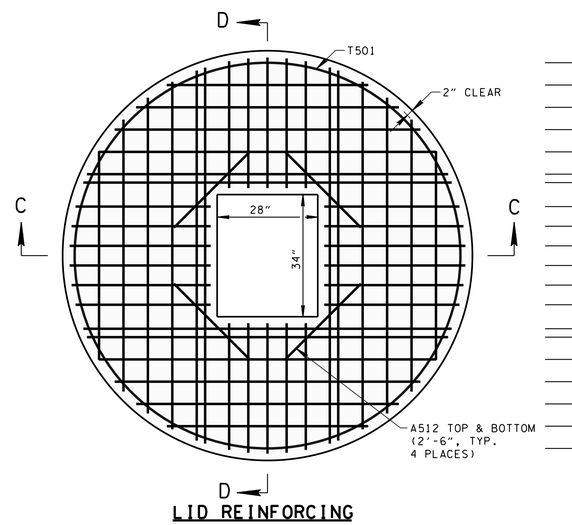


PLAN VIEW

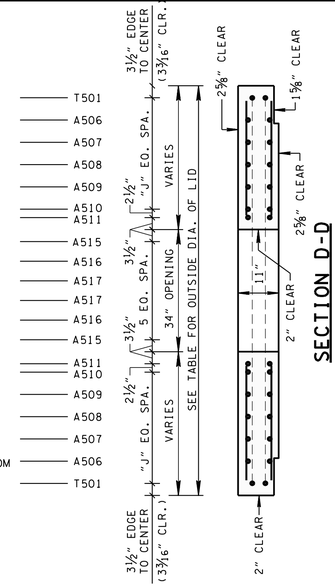
VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
84	100	5
96	114	6
108	128	7
120	142	8

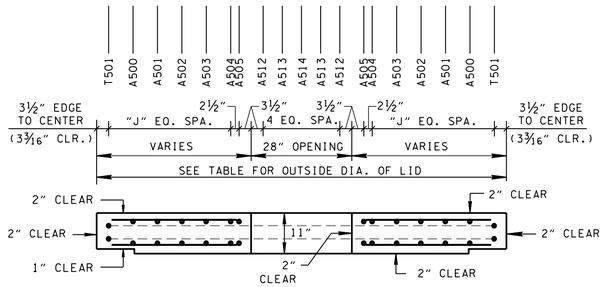
OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURES AS INDICATED BY "NO. OF EQ. SPACES 'J'"

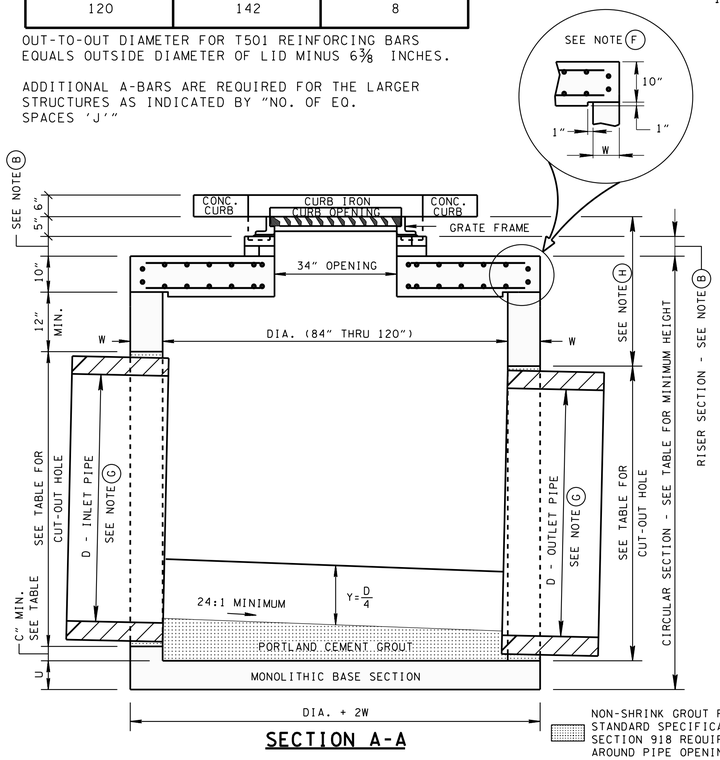


LID REINFORCING

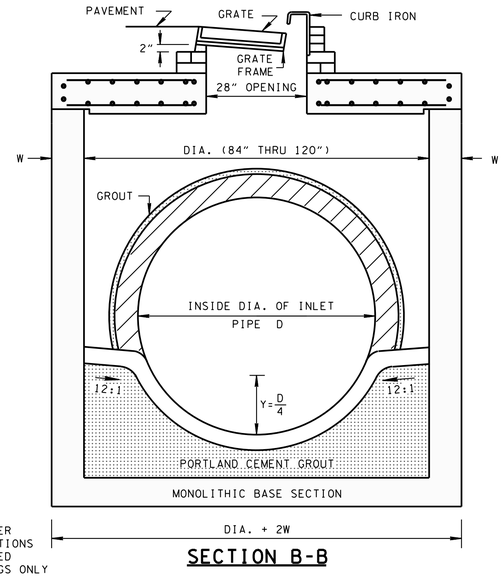




SECTION C-C



SECTION A-A



SECTION B-B

SPECIAL NOTE

TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.

CATCH BASIN DIMENSIONS										
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
			84"	96"	108"	120"	84"	96"	108"	120"
18	2½	25	57½	59	63½	64	4.34	4.38	4.42	4.46
24	3	32	64½	66	70½	71	4.88	4.92	4.96	5.00
30	3½	39	71½	73	77½	78	5.42	5.46	5.50	5.54
36	4	46	78½	80	84½	85	5.97	6.00	6.04	6.08
42	4½	53	85½	87	91½	92	6.51	6.54	6.58	6.63
48	5	60	92½	94	98½	99	7.05	7.08	7.13	7.17
54	5½	67	99½	101	105½	106	7.59	7.63	7.67	7.71
60	6	74	106½	108	112½	113	8.13	8.17	8.21	8.25
66	6½	81	113½	115	119½	120	8.67	8.71	8.75	8.79
72	7	88	120½	122	126½	127	9.22	9.25	9.29	9.33
78	7½	95	127½	129	133½	134	9.76	9.79	9.83	9.88

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. INVERT ELEVATIONS ARE TO BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-13 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-13RA FOR DETAILS REGARDING 48" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(K) SEE STANDARD DRAWING D-CB-13RB FOR DETAILS REGARDING 60" AND 72" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-13.02 CATCH BASINS, TYPE 13, > 4'-8' DEPTH THROUGH 611-13.07, CATCH BASINS, TYPE 13, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-13.08, CATCH BASINS, TYPE 13, ____'- ____' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

CATCH BASIN DIMENSIONS							
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	BASE THICKNESS U (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION C (INCHES)
84	8	10	8	100	60	36	3.5
96	9	10	8	114	66	42	4.0
108	10	10	12	128	72	48	4.5
120	11	10	12	142	78	54	5.0

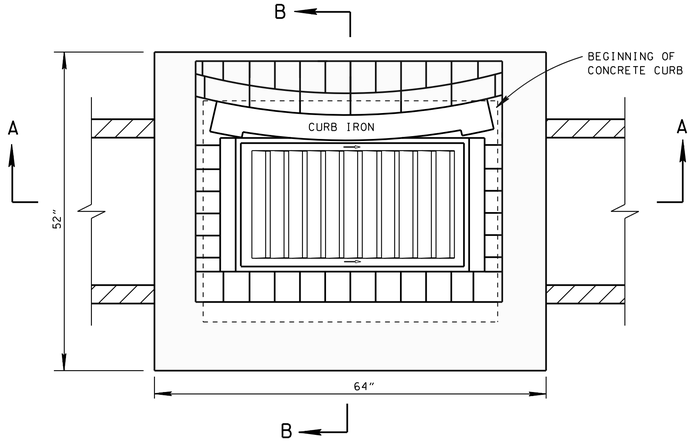
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

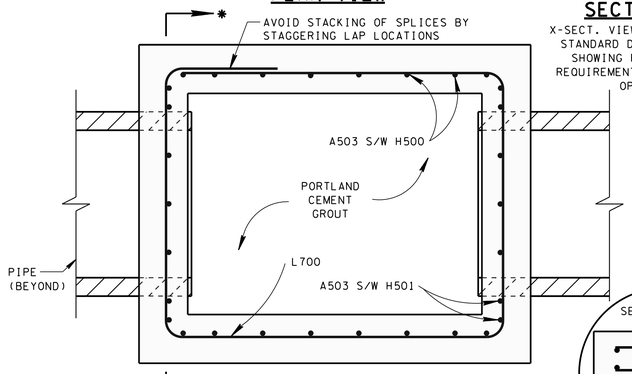
STANDARD PRECAST 84" THRU 120" CIRCULAR NO.13 CATCH BASIN
(FOR USE WITH 6" NONMOUNTABLE CURB)

NOT TO SCALE

4-15-00 D-CB-13RC



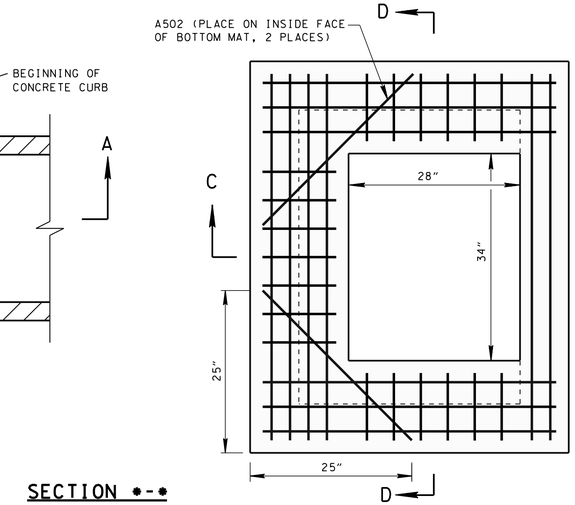
PLAN VIEW



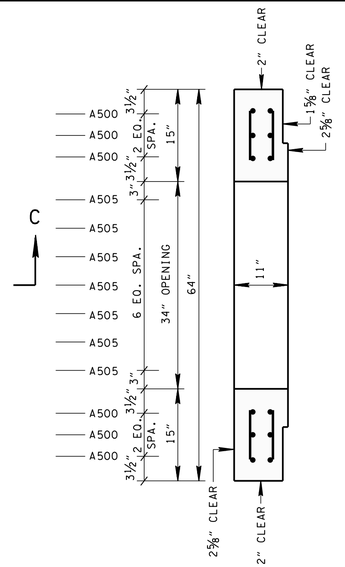
SECTION E-E

SECTION *-*

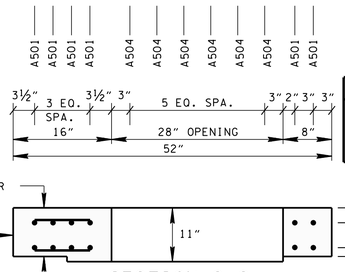
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



PLAN VIEW



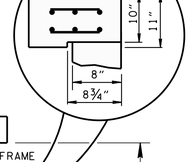
SECTION D-D

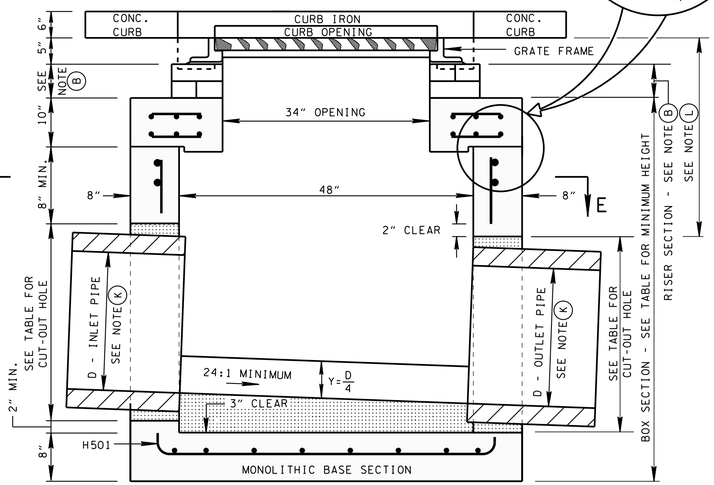


SPECIAL NOTE

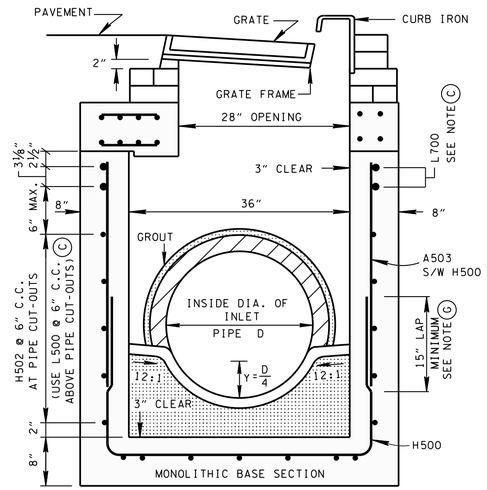
TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.

SECTION C-C

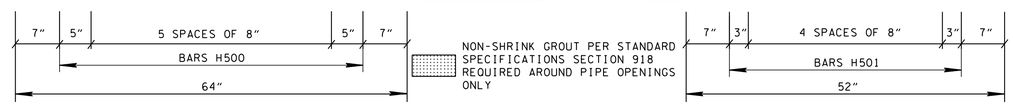




SECTION A-A



SECTION B-B



CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(4) 30	3½	39	65	4.96
(4) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 12-18-96: MODIFIED DRAWING NO. D-CB-12S BY CHANGING CURB IRON.
- ☐ REV. 12-31-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 3-20-00: ADDED SPECIAL NOTE RESTRICTING USE OF NO. 13 CATCH BASINS TO RADIUS LESS THAN 25 FEET.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 13 CONCRETE CATCH BASINS AND ALL PRECAST NO. 13 CONCRETE CATCH BASINS THAT ARE GREATER THAN TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-13P FOR DETAILS OF PRECAST NO. 13 CONCRETE CATCH BASINS TWELVE FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. ALL PRECAST ELEMENTS SHALL MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES.

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

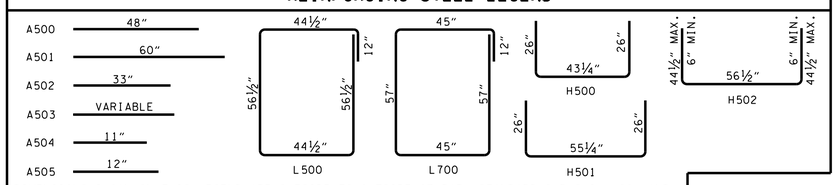
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-13 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-13.01 CATCH BASINS, TYPE 13, 0'-4' DEPTH THROUGH 611-13.05 CATCH BASINS, TYPE 13, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

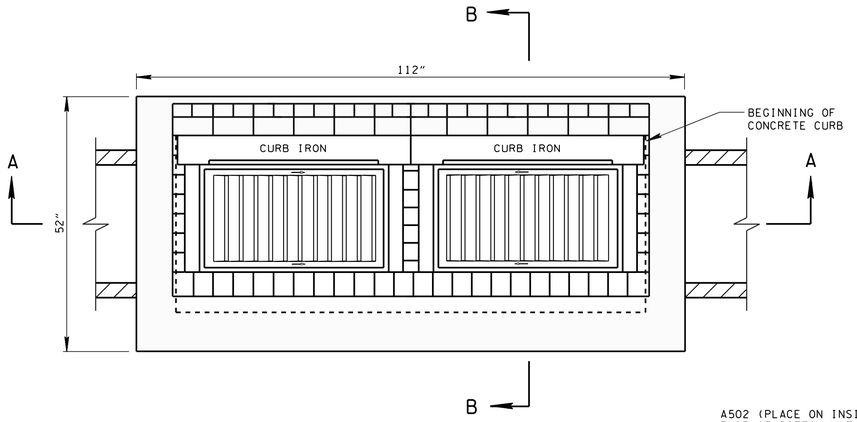
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

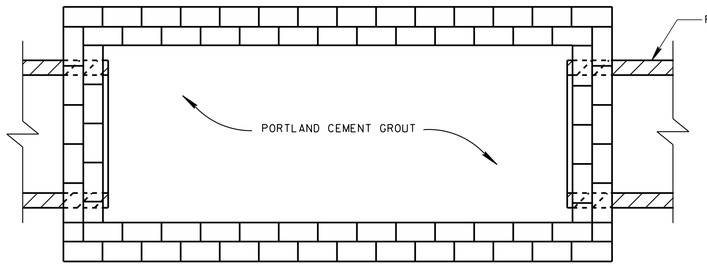
STANDARD RECTANGULAR CONCRETE NO.13 CATCH BASIN

NOT TO SCALE

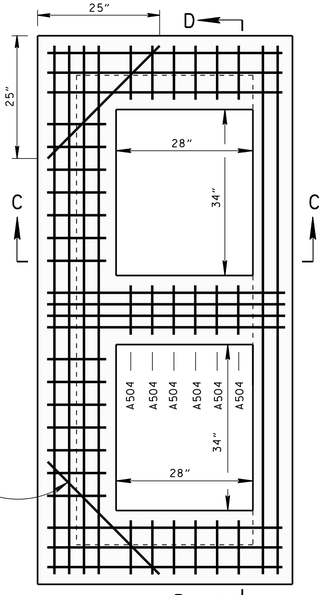
12-18-96 D-CB-13S



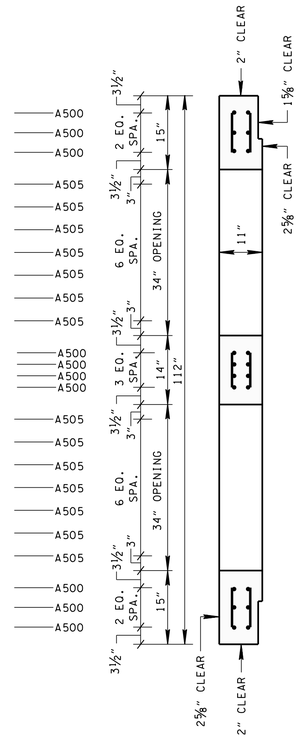
PLAN VIEW



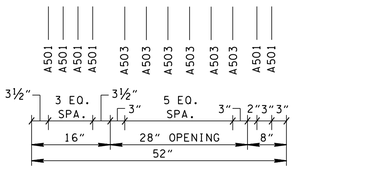
SECTION E-E

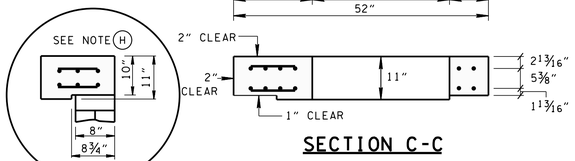


PLAN VIEW

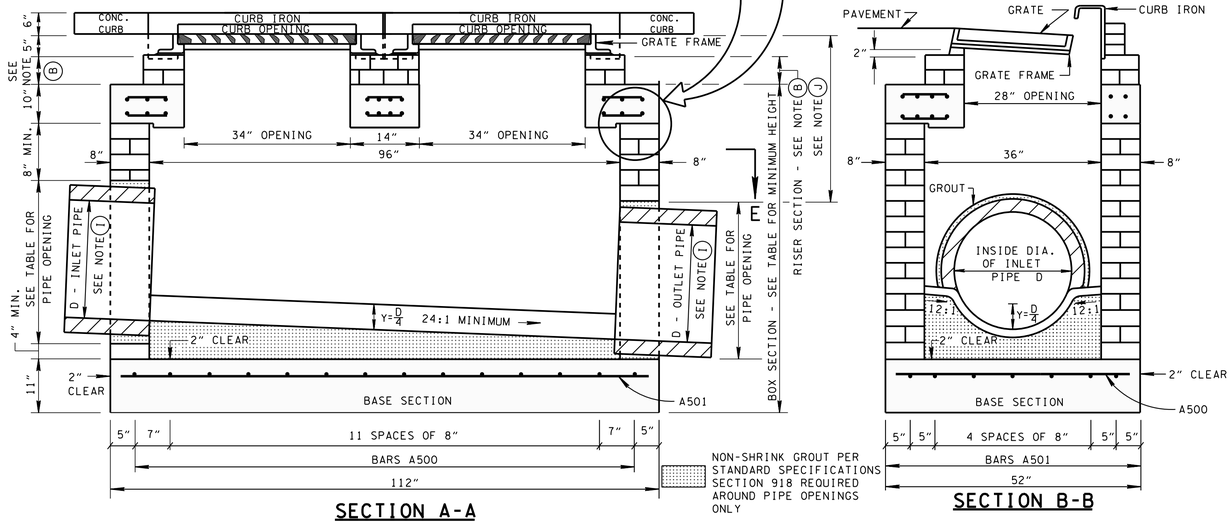


SECTION D-D





SECTION C-C



SECTION A-A

SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 6.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF PIPE OPENING (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	56	4.05
24	3	32	63	4.59
(3) 30	3½	39	70	5.13

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

REINFORCING STEEL LEGEND

A500	48"	A503	11"
A501	108"	A504	10"
A502	33"	A505	12"

DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

GENERAL NOTES

(A) DRAWING TO BE USED FOR NO. 14 BRICK CATCH BASINS THAT ARE SIX FEET AND LESS IN DEPTH. SEE STANDARD DRAWINGS D-CB-14P AND D-CB-14S FOR DETAILS OF NO. 14 CONCRETE CATCH BASINS THAT ARE MORE THAN SIX FEET IN DEPTH.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) CAST-IN-PLACE CONCRETE USED IN BRICK CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS USED FOR LIDS AND FLOORS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-14.01 CATCH BASINS, TYPE 14, 0'-4' DEPTH AND 611-14.02 CATCH BASINS, TYPE 14, > 4'-8' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

- REV. 1-19-96: MODIFIED DRAWING NO. D-CB-14S BY CHANGING MATERIAL IN SIDE WALLS FROM CONCRETE TO BRICK.
- REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (G) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- REV. 4-15-97: CHANGED LABEL OF BASE SECTION.
- REV 10-26-97: CHANGED MINIMUM DEPTH TABLE.
- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 5-27-01: CHANGED PAY ITEM IN GENERAL NOTE (I)
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN TOP & BOTTOM SLABS FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

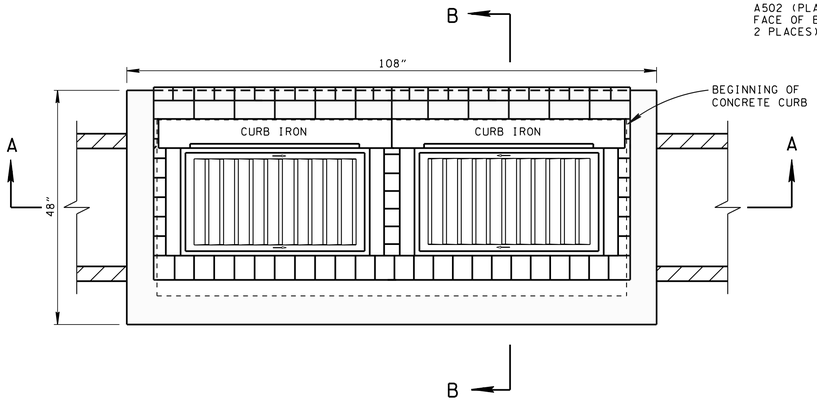
STANDARD RECTANGULAR BRICK NO. 14 CATCH BASIN

NOT TO SCALE

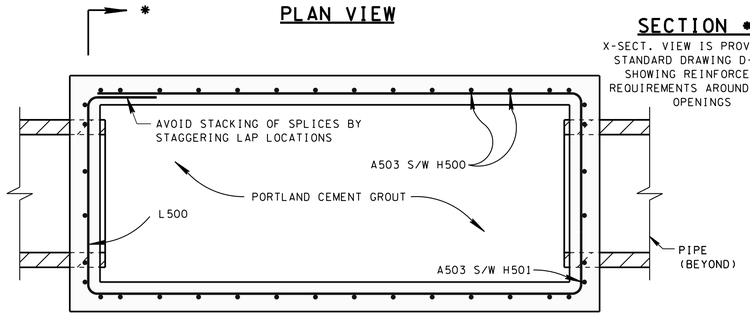
1-19-96 | D-CB-14B

CATCH BASIN MAXIMUM DEPTH NOTE

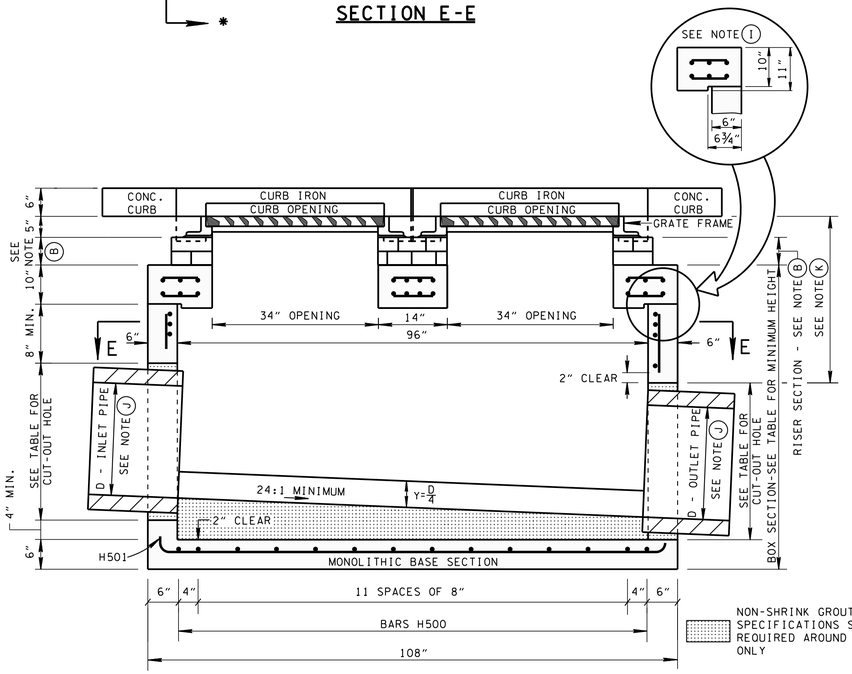
MAXIMUM DEPTH FOR THIS STRUCTURE IS 10.00'.



PLAN VIEW



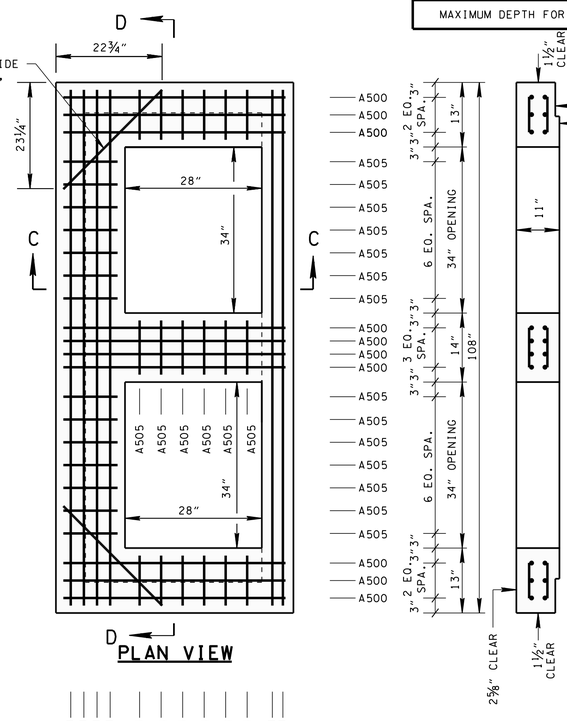
SECTION E-E



SECTION A-A

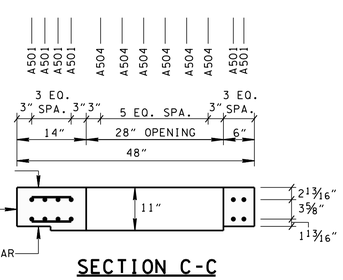
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

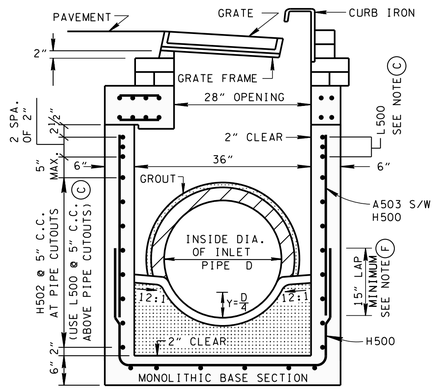


PLAN VIEW

SECTION D-D



SECTION C-C



SECTION B-B

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	4.05
24	3	32	58	4.59
(4) 30	3½	39	65	5.13
(4) 36	4	46	72	5.67
(4) 42	4½	53	79	6.21
(4) 48	5	60	86	6.75
(4) 54	5½	67	93	7.30
(4) 60	6	74	100	7.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

☐ REV. 3-11-14: ELIMINATED STIRRUPS.

☐ REV. 12-18-95: MODIFIED DRAWING NO. D-CB-14S BY CHANGING WALL AND FLOOR THICKNESSES FROM EIGHT TO SIX INCHES FOR PRECAST CATCH BASIN BETWEEN MINIMUM DEPTH AND TEN FEET.

☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (G) CHANGED LABEL OF LAST THREE GENERAL NOTES.

☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.

☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.

☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I)

☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)

REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL PRECAST NO. 14 CONCRETE CATCH BASINS THAT ARE BETWEEN MINIMUM DEPTH AND TEN FEET. SEE STANDARD DRAWING D-CB-14S FOR DETAILS OF CAST-IN-PLACE NO. 14 CONCRETE CATCH BASINS AND PRECAST NO. 14 CONCRETE CATCH BASINS THAT ARE GREATER TEN FEET IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) ALL PRECAST ELEMENTS SHALL MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

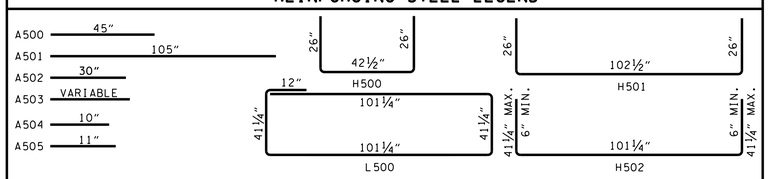
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-14.01 CATCH BASINS, TYPE 14, 0'-4' DEPTH THROUGH 611-14.03, CATCH BASINS, TYPE 14, > 8'-12' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

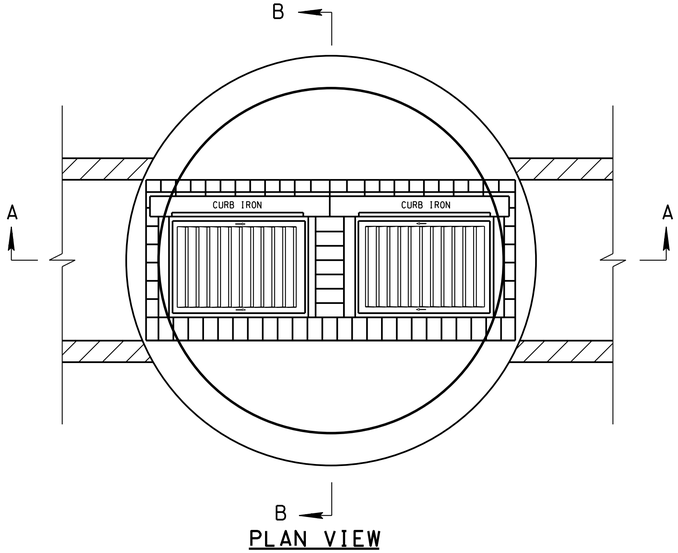
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

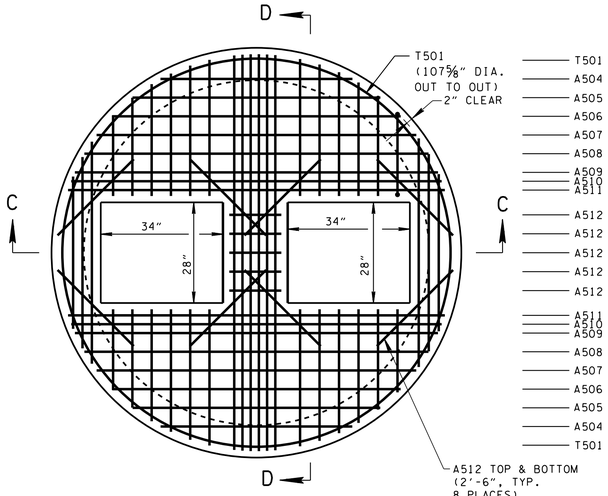
STANDARD PRECAST RECTANGULAR CONCRETE NO.14 CATCH BASIN

NOT TO SCALE

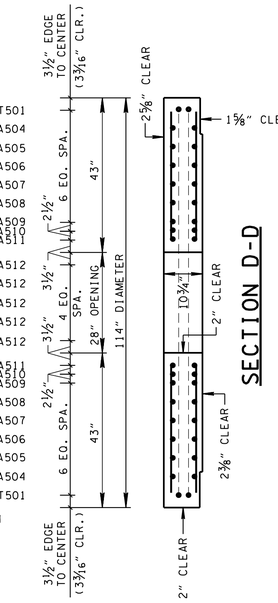
12-18-95 D-CB-14P



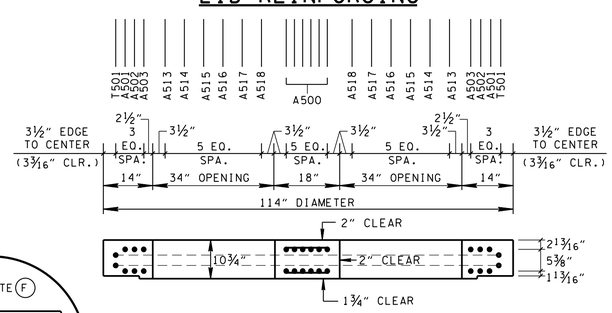
PLAN VIEW



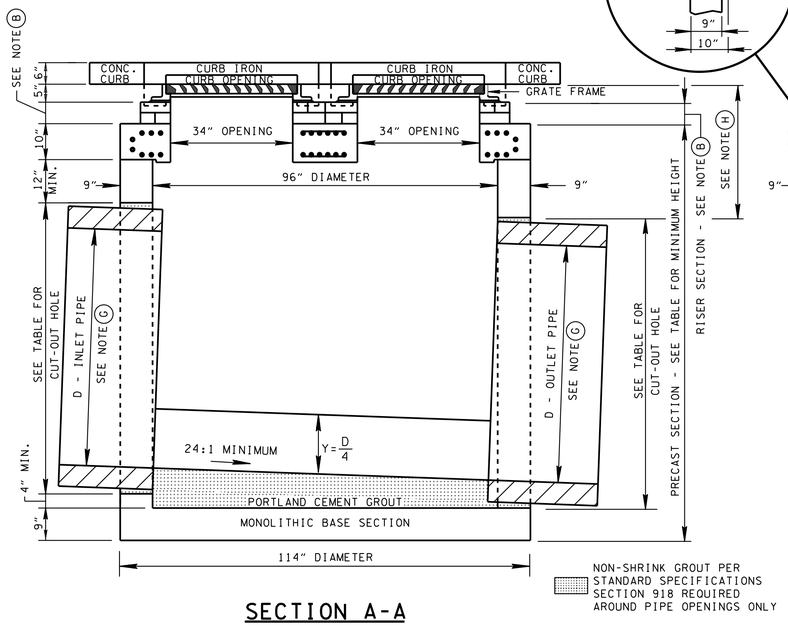
LID REINFORCING



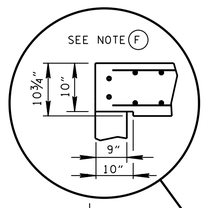
SECTION D-D

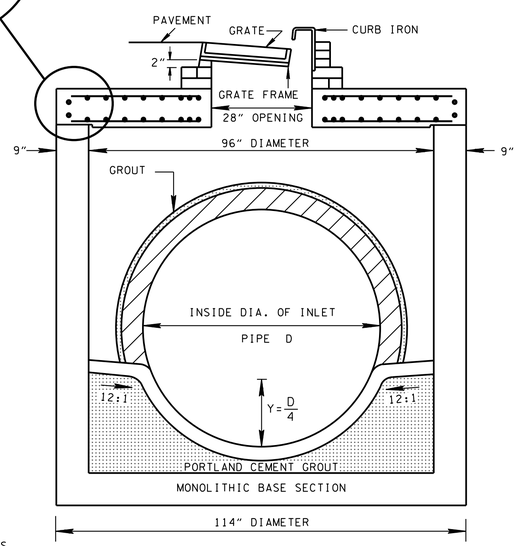


SECTION C-C



SECTION A-A





SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	60	4.38
24	3	32	67	4.92
30	3½	39	74	5.46
36	4	46	81	6.00
42	4½	53	88	6.54
48	5	60	95	7.08
54	5½	67	102	7.63
60	6	74	109	8.17
66	6½	81	116	8.71

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (H) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 8-15-12: REVISED CATCH BASIN DIMENSIONS TABLE
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-14.01 CATCH BASINS, TYPE 14, 0'-4' DEPTH THROUGH 611-14.07, CATCH BASINS, TYPE 14, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-14.08, CATCH BASINS, TYPE 14, _____'-_____' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

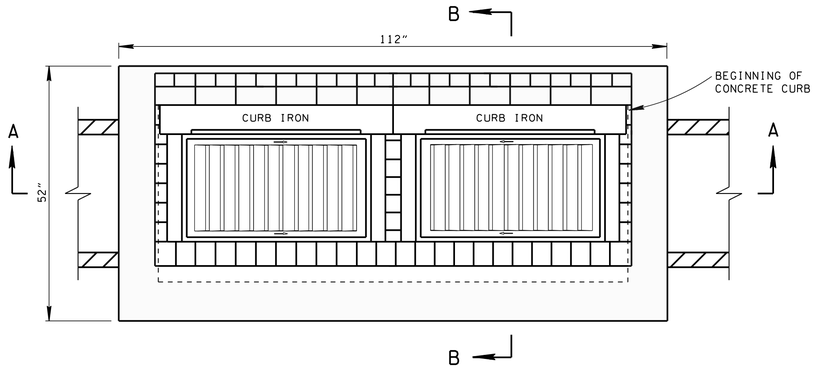
STANDARD PRECAST CIRCULAR NO. 14RB CATCH BASIN

NOT TO SCALE

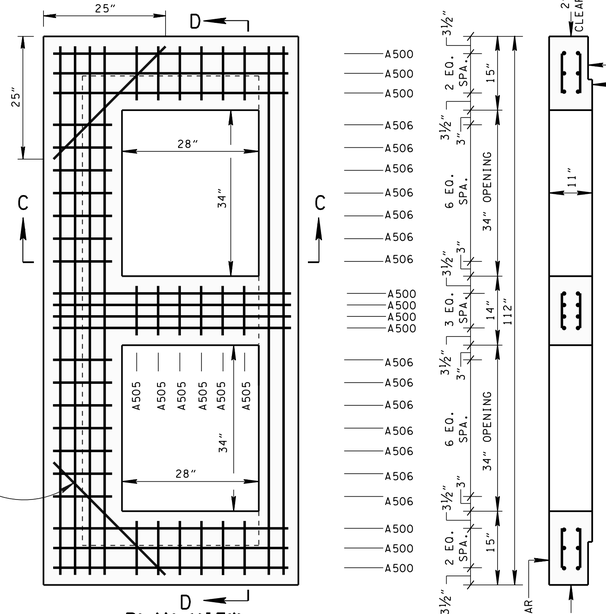
3-20-00 D-CB-14RB

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

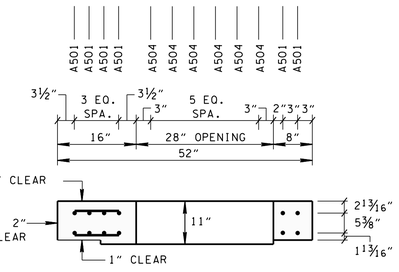


PLAN VIEW



PLAN VIEW

SECTION D-D



CATCH BASIN DIMENSIONS					FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)		
18	2½	25	53		4.05
24	3	32	60		4.59
(4) 30	3½	39	67		5.13
(4) 36	4	46	74		5.67
(4) 42	4½	53	81		6.21
(4) 48	5	60	88		6.75
(4) 54	5½	67	95		7.30
(4) 60	6	74	102		7.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

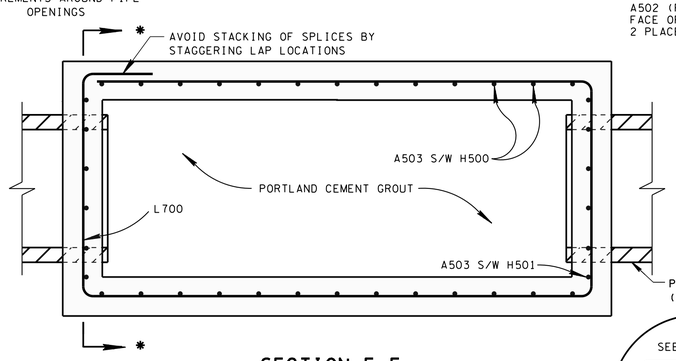
(4) TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.
- ☐ REV. 12-18-95: CHANGED VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

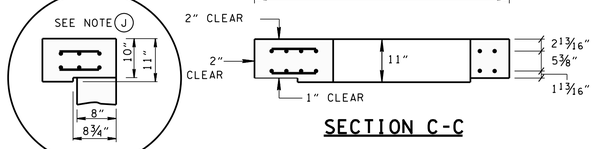
REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

SECTION ✱-✱

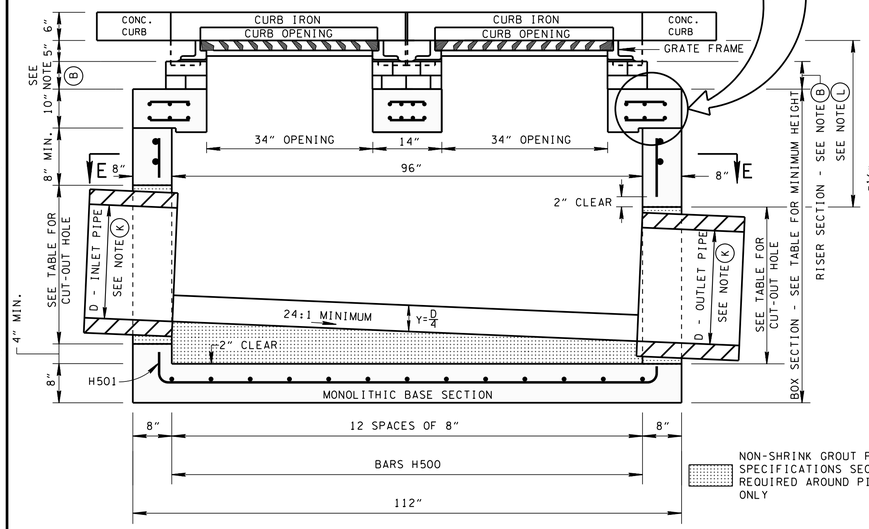
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



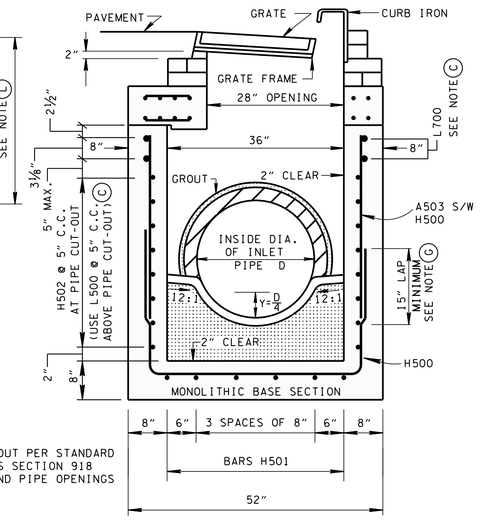
SECTION E-E



SECTION C-C



SECTION A-A



NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 14 CONCRETE CATCH BASINS AND ALL PRECAST NO. 14 CONCRETE CATCH BASINS THAT ARE GREATER THAN TEN FEET IN DEPTH. SEE STANDARD DRAWING D-CB-14P FOR DETAILS OF PRECAST NO. 14 CONCRETE CATCH BASINS TEN FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_Y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

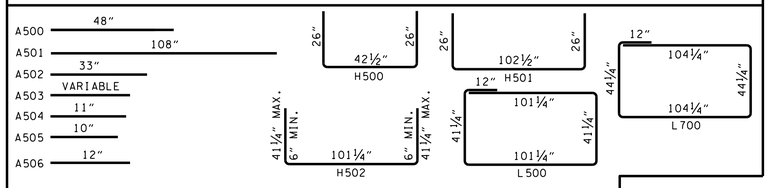
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-14.01 CATCH BASINS, TYPE 14, 0'-4' DEPTH THROUGH 611-14.05 CATCH BASINS, TYPE 14, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

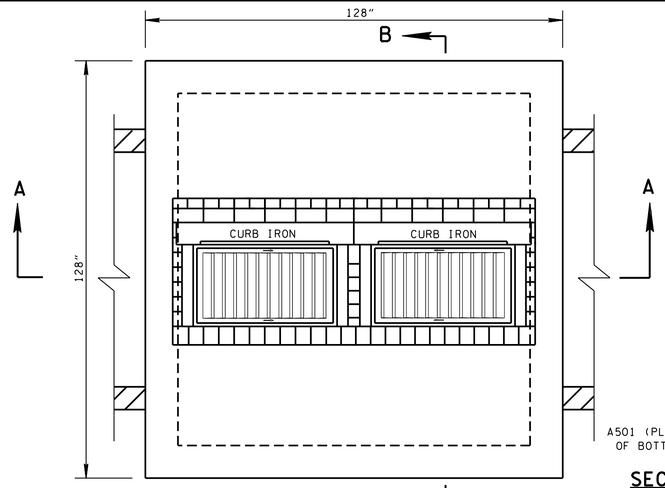
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

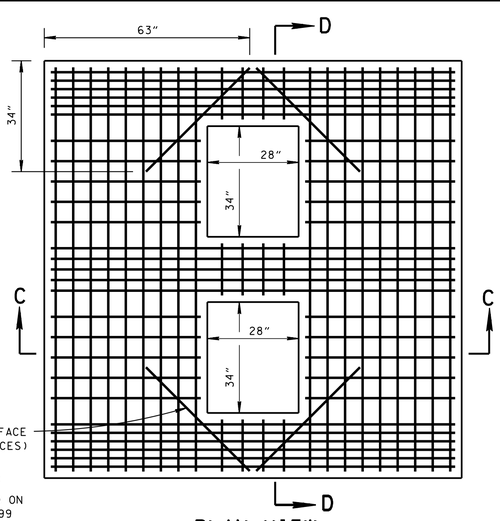
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

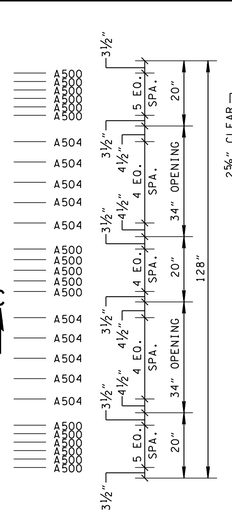
STANDARD RECTANGULAR CONCRETE NO.14 CATCH BASIN

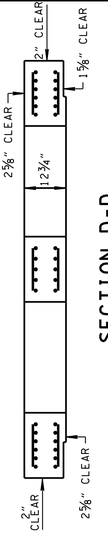
NOT TO SCALE

5-27-95 D-CB-14S









CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	61½	4.42
24	3	32	68½	4.96
30	3½	39	75½	5.50
36	4	46	82½	6.04
42	4½	53	89½	6.58
48	5	60	96½	7.13
54	5½	67	103½	7.67
60	6	74	110½	8.21
66	6½	81	117½	8.75
72	7	88	124½	9.29
78	7½	95	131½	9.83

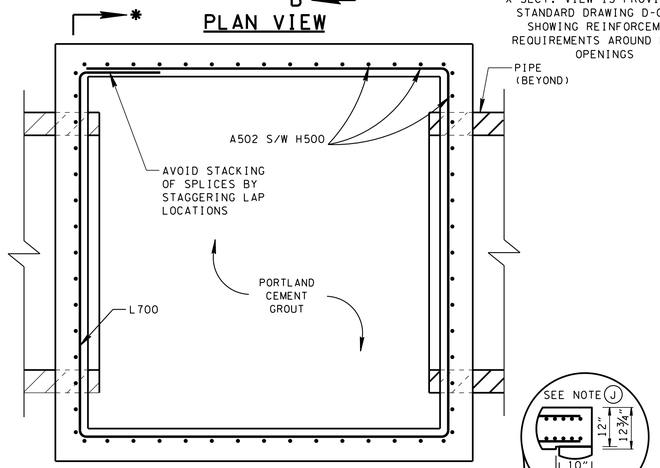
- REV. 5-30-02: MODIFIED REINFORCING STEEL.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE Ⓒ
- REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 2-13-04: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 5-5-05: CORRECTED STEEL SPACING IN SECTION C-C.

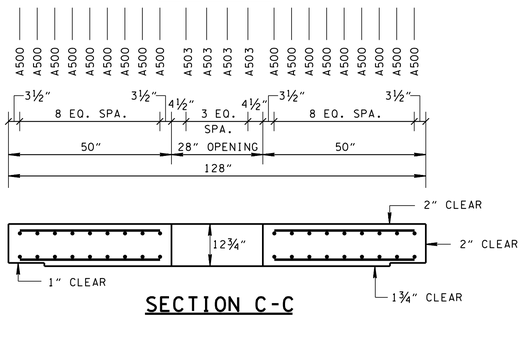
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 3-11-14: ELIMINATED STIRRUPS.

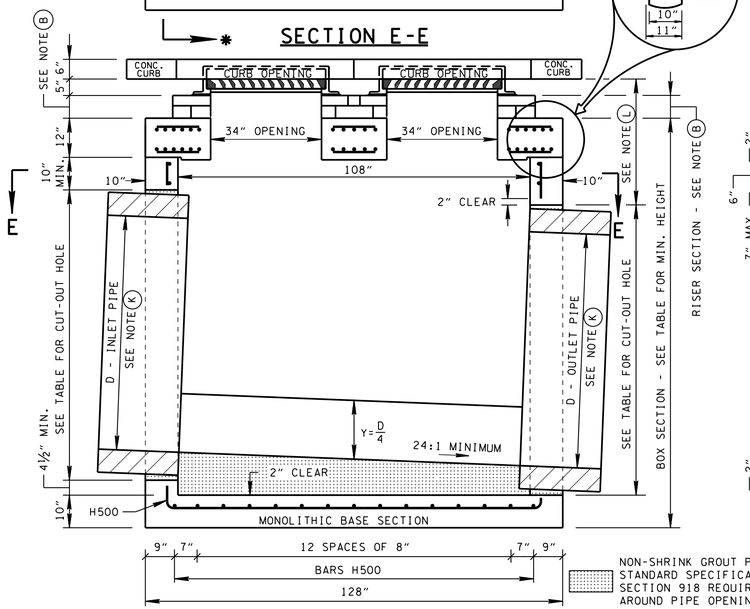
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

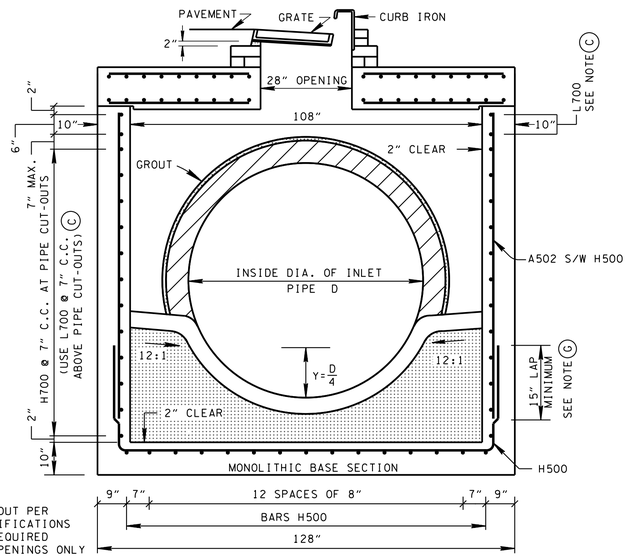
(2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.

(3) 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.









GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 14SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 14SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-14.02 CATCH BASINS, TYPE 14, > 4'-8' DEPTH THROUGH 611-14.07, CATCH BASINS, TYPE 14, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND

DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR.
STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

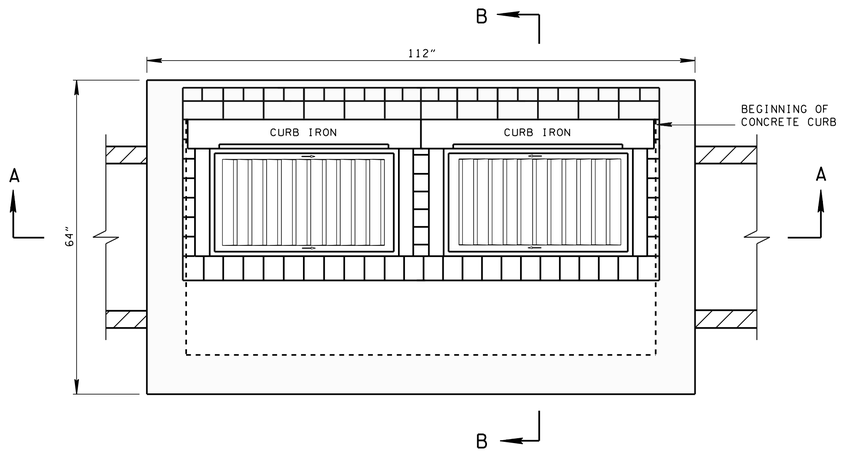
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

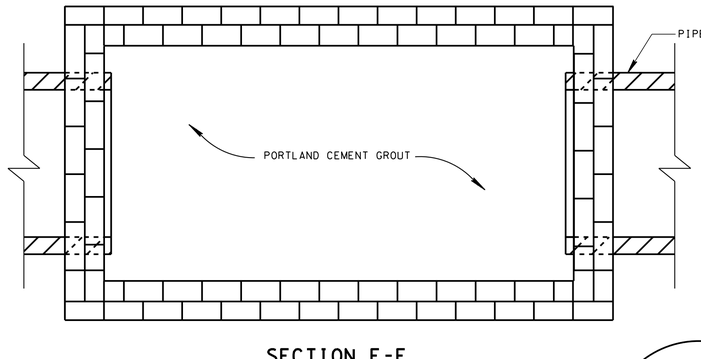
STANDARD 9' X 9' SQUARE CONCRETE NO. 14 CATCH BASIN

NOT TO SCALE

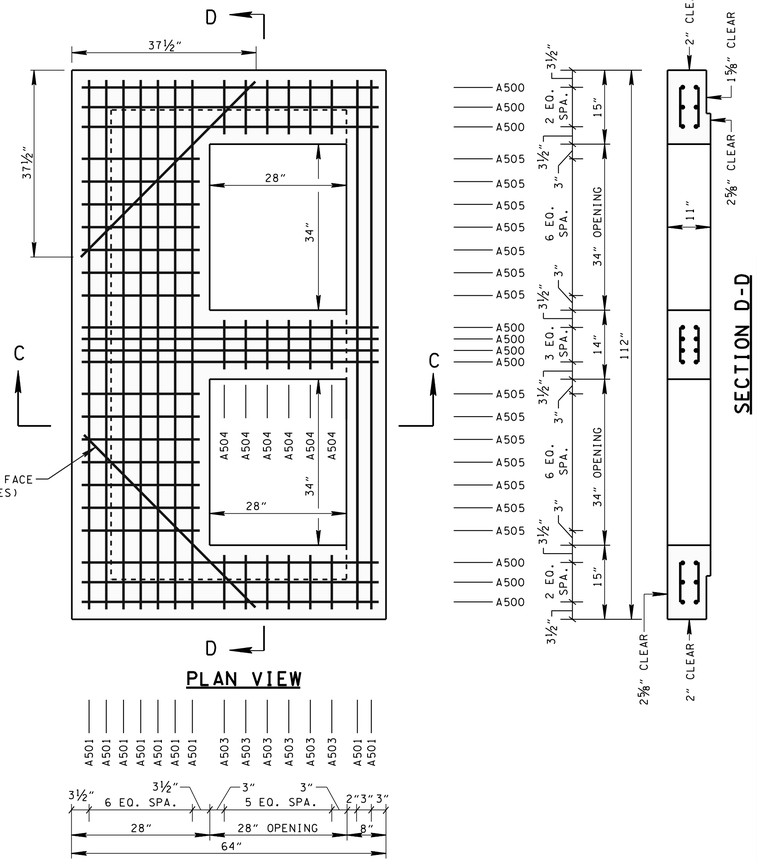
7-29-99

D-CB-14SE

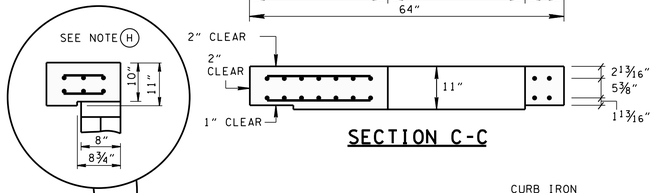




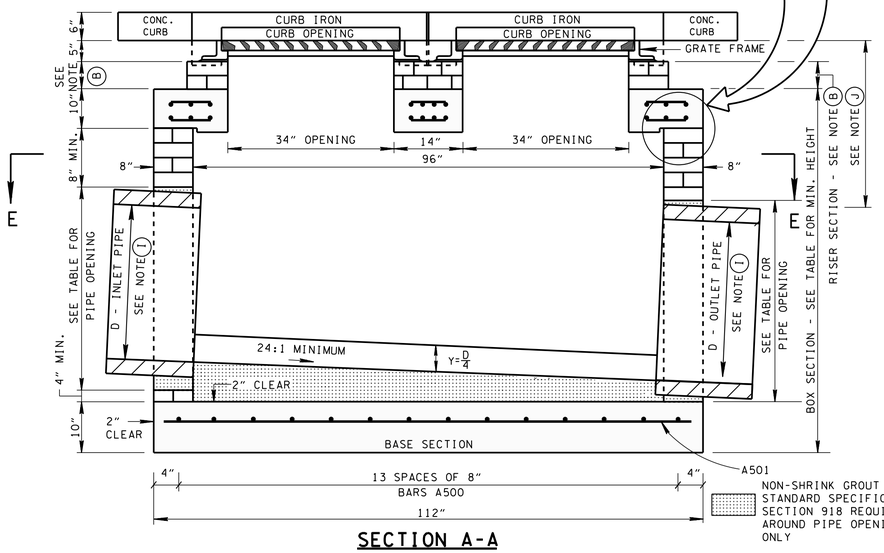
SECTION E-E



SECTION D-D

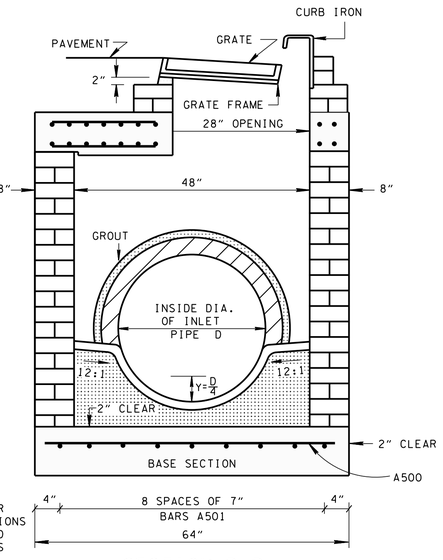


SECTION C-C



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.
- REV. 7-29-99: ELIMINATED 36" DIAMETER PIPE FROM MINIMUM DEPTH TABLE.
- REV. 10-26-00: MODIFIED GENERAL NOTE (A)
- REV. 5-27-01: CHANGED PAY ITEM IN GENERAL NOTE (I)
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

REV. 8-01-12: REVISED CATCH BASIN TOP & BOTTOM SLABS FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR NO. 16 BRICK CATCH BASINS THAT ARE SIX FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-16S FOR DETAILS OF NO. 16 CONCRETE CATCH BASINS THAT ARE MORE THAN SIX FEET IN DEPTH.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) CAST-IN-PLACE CONCRETE USED IN BRICK CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS USED FOR LIDS AND FLOORS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-16.01 CATCH BASINS, TYPE 16, 0'-4' DEPTH AND 611-16.02 CATCH BASINS, TYPE 16, > 4'-8' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 6.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF PIPE OPENING (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	55	4.05
24	3	32	62	4.58
30	3½	39	69	5.13

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

REINFORCING STEEL LEGEND

A500	60"	A503	11"
A501	108"	A504	10"
A502	50"	A505	24"

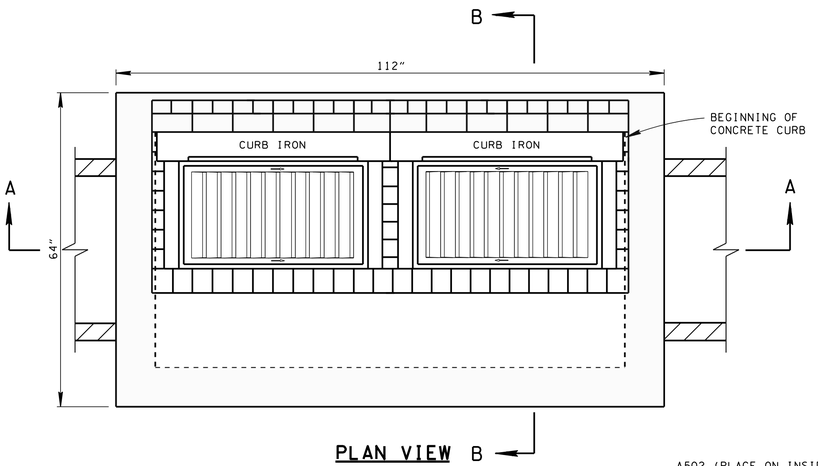
DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

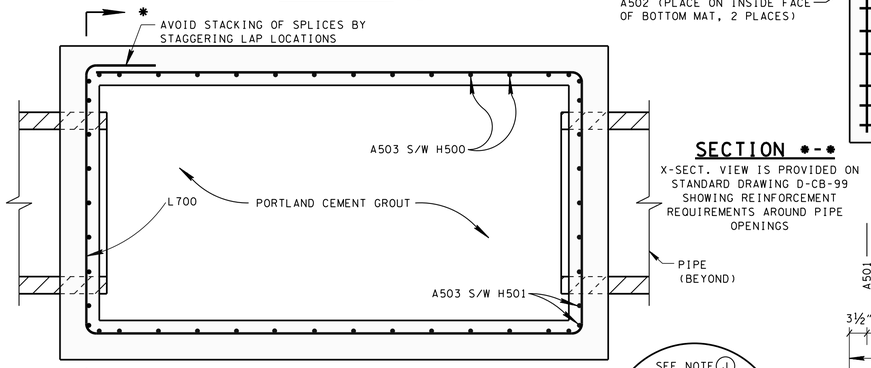
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR BRICK NO.16 CATCH BASIN

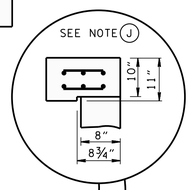
NOT TO SCALE | 4-15-97 | D-CB-16B



PLAN VIEW B



SECTION E-E

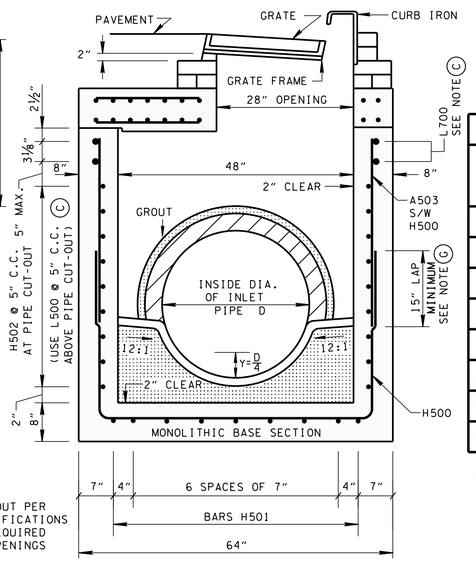


SECTION A-A

PLAN VIEW

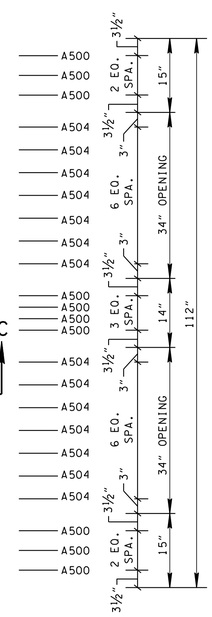
SECTION ✱-✱
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

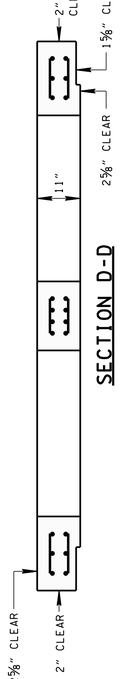
SECTION C-C



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY





SECTION D-D

REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C).
REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J). ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
REV. 3-11-14: ELIMINATED STIRRUPS.
REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 16 CONCRETE CATCH BASINS AND ALL PRECAST NO. 16 CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-16.01 CATCH BASINS, TYPE 16, 0'-4' DEPTH THROUGH 611-16.05, CATCH BASINS, TYPE 16, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	53	4.05
24	3	32	60	4.59
30	3½	39	67	5.13
36	4	46	74	5.67
(4) 42	4½	53	81	6.21
(4) 48	5	60	88	6.75
(4) 54	5½	67	95	7.30
(4) 60	6	74	102	7.84

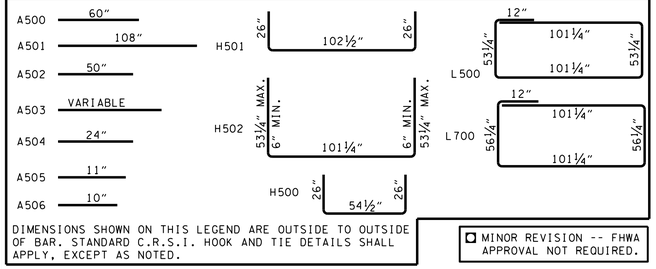
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALL ONLY.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

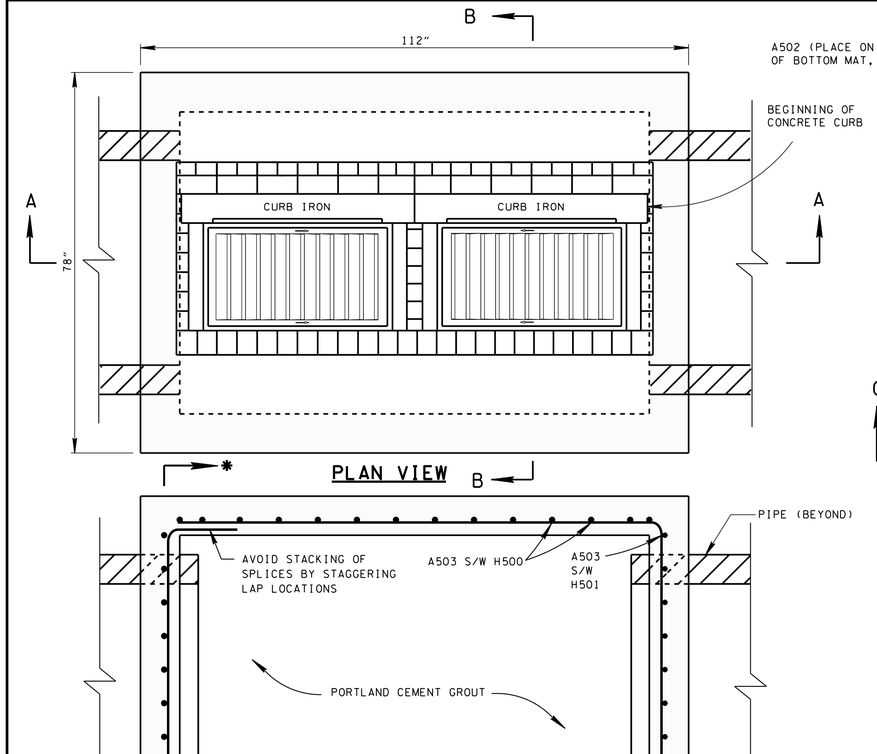
CATCH BASIN MAXIMUM DEPTH NOTE

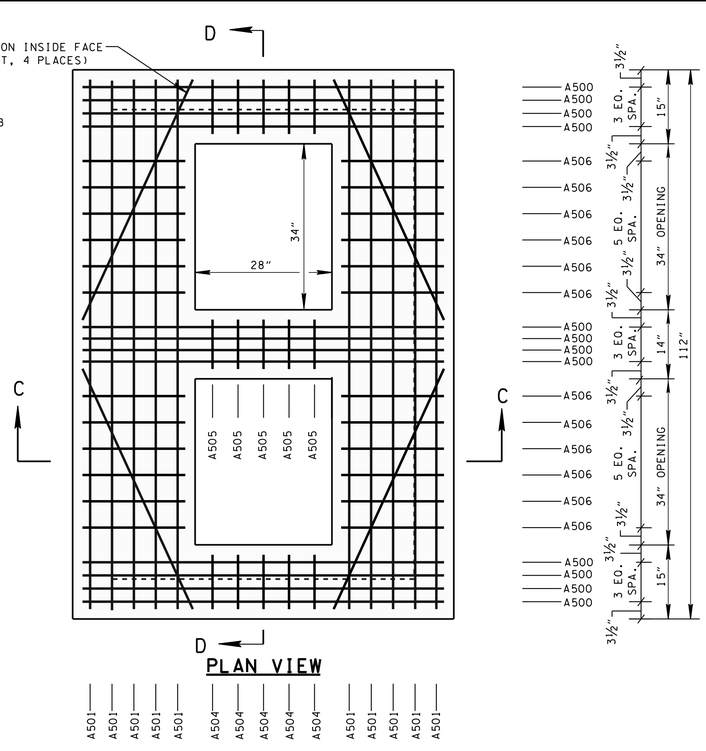
MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

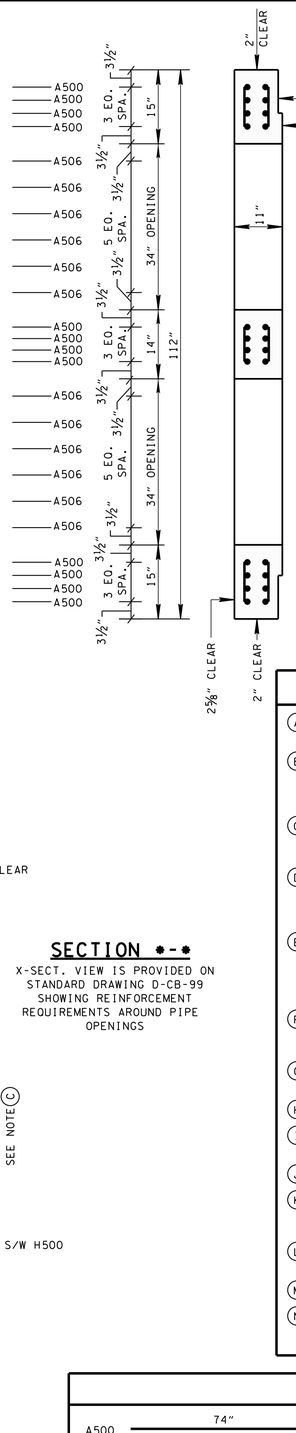
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO.16 CATCH BASIN

NOT TO SCALE | 4-15-97 | D-CB-16S







SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	56	4.22
24	3	32	63	4.76
30	3½	39	70	5.30
36	4	46	77	5.84
42	4½	53	84	6.38
48	5	60	91	6.92
(4) 54	5½	67	98	7.47
(4) 60	6	74	105	8.01

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALL ONLY.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 17 CONCRETE CATCH BASINS AND ALL PRECAST NO. 17 CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-17.02 CATCH BASINS, TYPE 17, > 4'-8' DEPTH THROUGH 611-17.05, CATCH BASINS, TYPE 17, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

SECTION A-A

SECTION B-B

SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

REINFORCING STEEL LEGEND

DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO.17 CATCH BASIN

NOT TO SCALE

7-29-97 D-CB-17S

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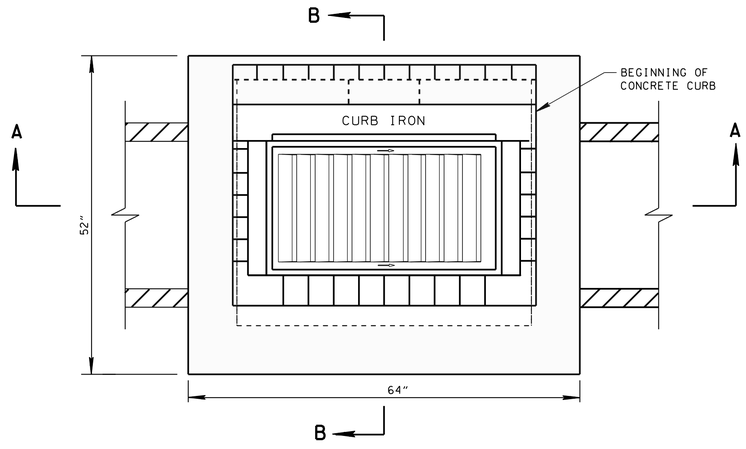
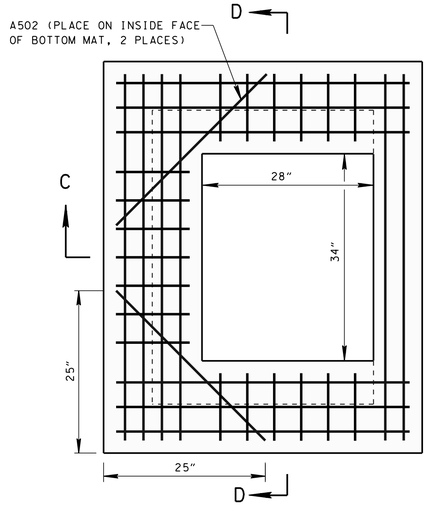


PLAN VIEW



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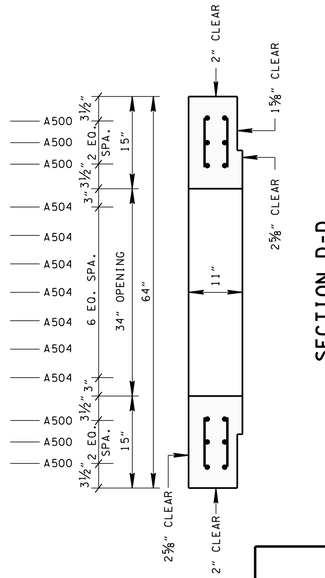
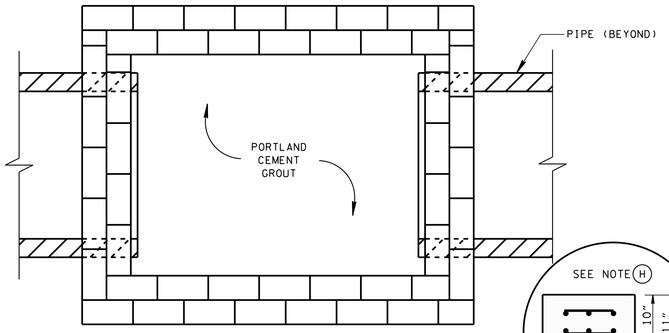
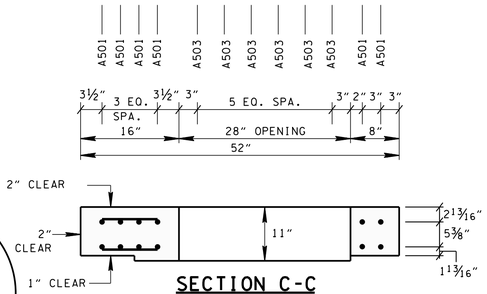


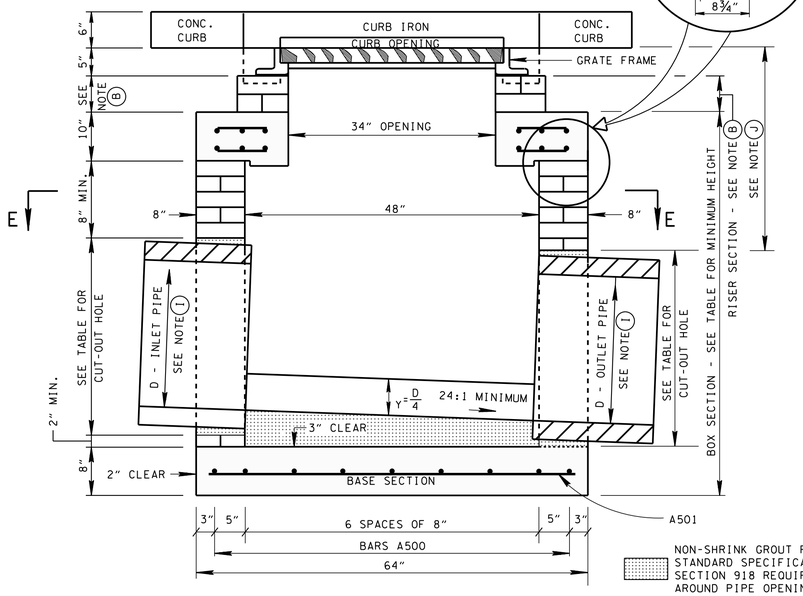
SECTION D-D



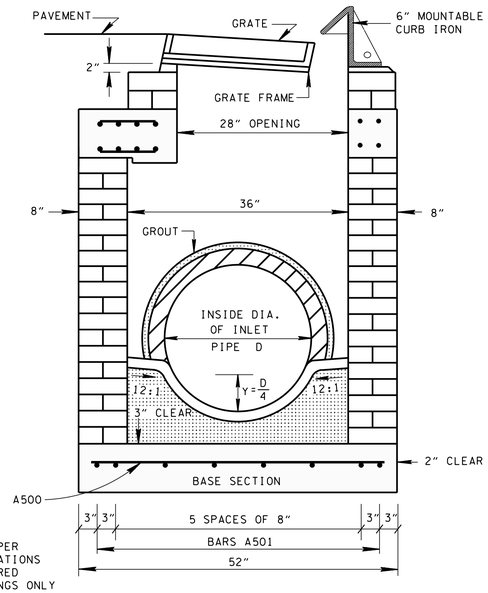
SECTION E-E



SECTION C-C



SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 8.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF PIPE OPENING (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(3) 30	3½	39	65	4.96
(3) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEM IN GENERAL NOTE (I)

  REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN TOP & BOTTOM SLABS FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR NO. 25 BRICK CATCH BASINS THAT ARE EIGHT FEET AND LESS IN DEPTH. SEE STANDARD DRAWINGS D-CB-25P AND D-CB-25S FOR DETAILS OF NO. 25 CONCRETE CATCH BASINS THAT ARE MORE THAN EIGHT FEET IN DEPTH.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) CAST-IN-PLACE CONCRETE USED IN BRICK CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS USED FOR LIDS AND FLOORS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.01 CATCH BASINS, TYPE 25, 0'-4' DEPTH AND 611-25.02 CATCH BASINS, TYPE 25, > 4'-8' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND

A500	48"	A503	11"
A501	60"		
A502	33"	A504	12"

DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

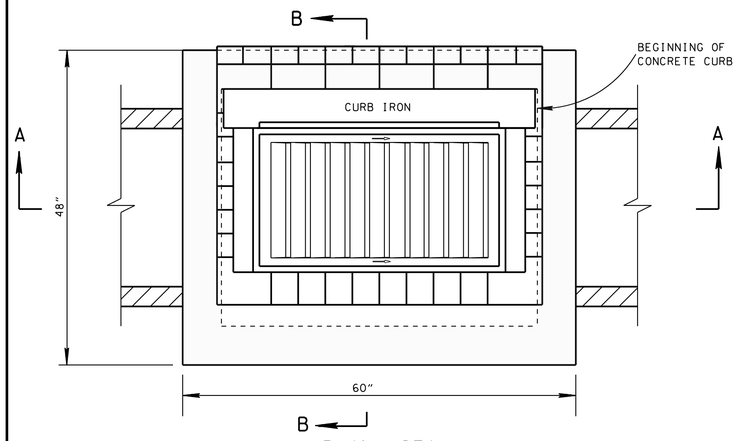
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

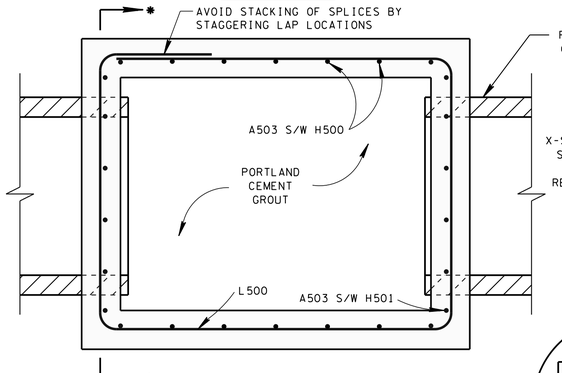
STANDARD RECTANGULAR BRICK NO. 25 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

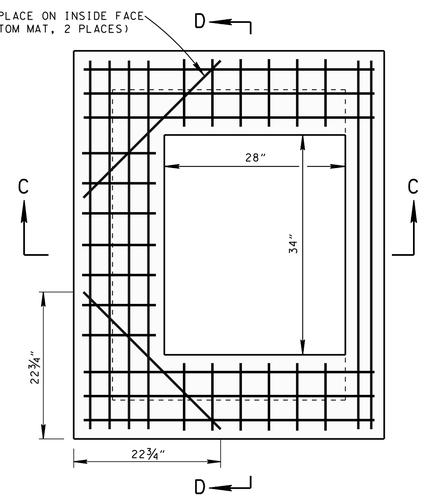
NOT TO SCALE | 7-29-96 | D-CB-25B



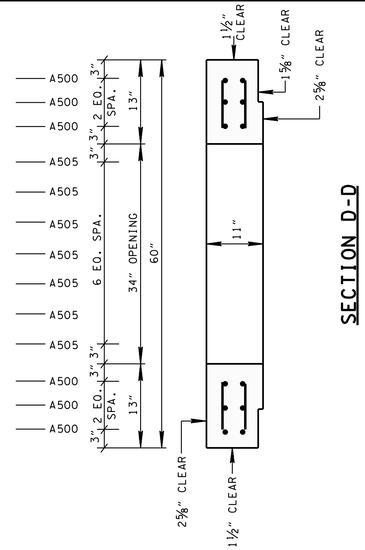
PLAN VIEW



SECTION E-E



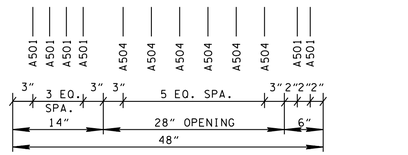
PLAN VIEW

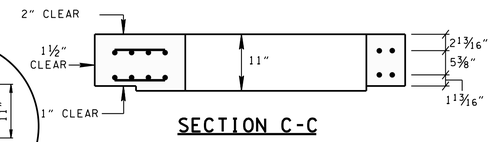


SECTION D-D

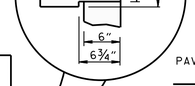
SECTION *-*

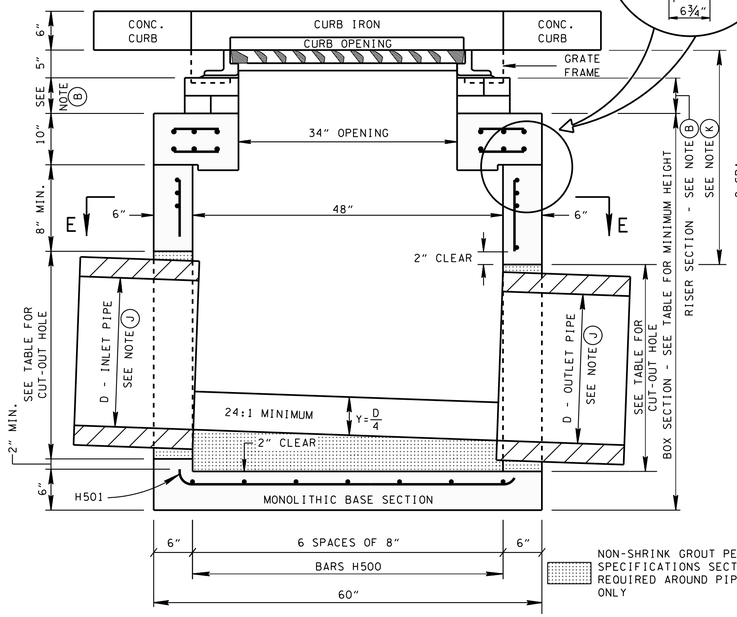
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



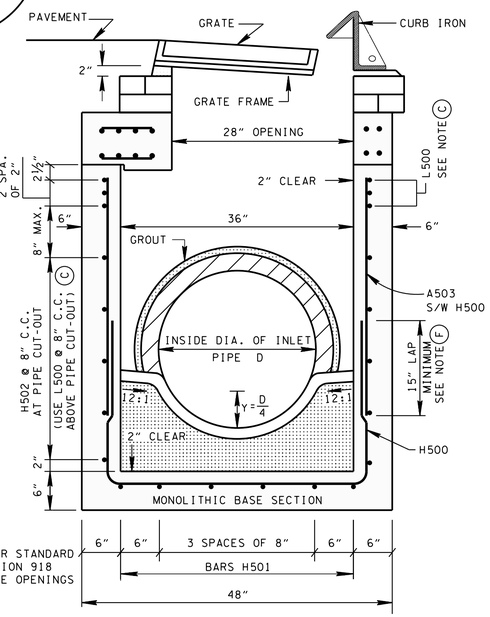


SECTION C-C





SECTION A-A



NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	49	3.88
24	3	32	56	4.42
(4) 30	3½	39	63	4.96
(4) 36	4	46	70	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I)
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL PRECAST NO. 25 CONCRETE CATCH BASINS THAT ARE BETWEEN MINIMUM DEPTH AND TWELVE FEET. SEE STANDARD DRAWING D-CB-25S FOR DETAILS OF CAST-IN-PLACE NO. 25 CONCRETE CATCH BASINS AND PRECAST NO. 25 CONCRETE CATCH BASINS THAT ARE GREATER TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

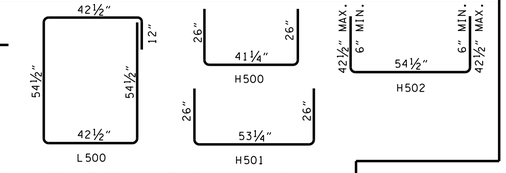
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.01 CATCH BASINS, TYPE 25, 0'-4' DEPTH THROUGH 611-25.03, CATCH BASINS, TYPE 25, > 8'-12' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND

A500	45"
A501	57"
A502	30"
A503	VARIABLE
A504	10"
A505	11"



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

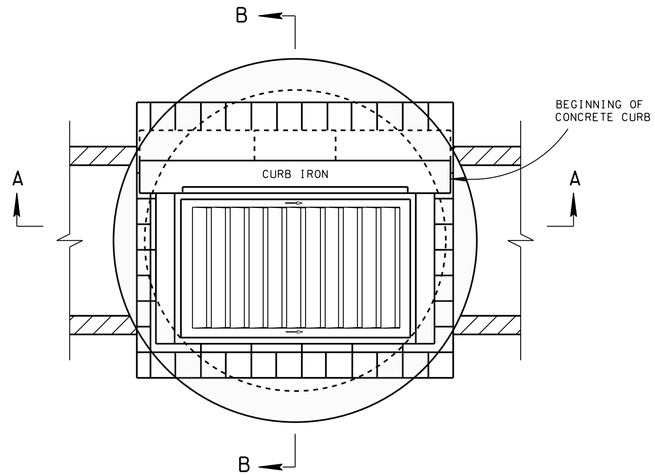
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST RECTANGULAR CONCRETE NO. 25 CATCH BASIN

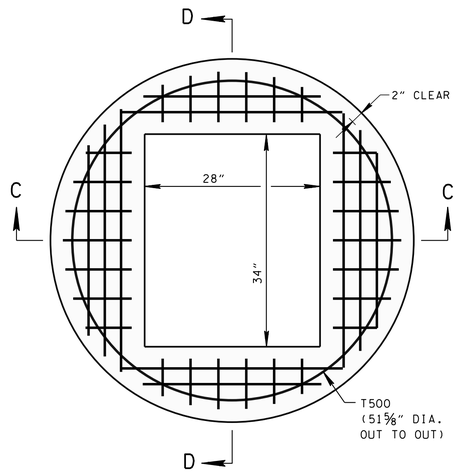
(FOR USE WITH 6" MOUNTABLE CURB)

NOT TO SCALE

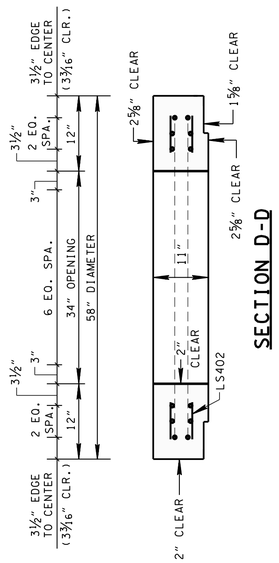
12-18-95 D-CB-25P



PLAN VIEW



LID REINFORCING



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	49	3.88
24	3	32	56	4.42

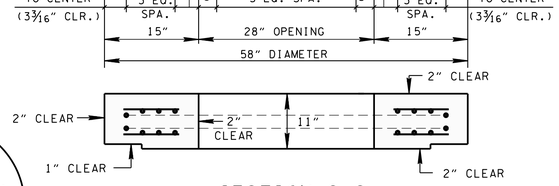
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

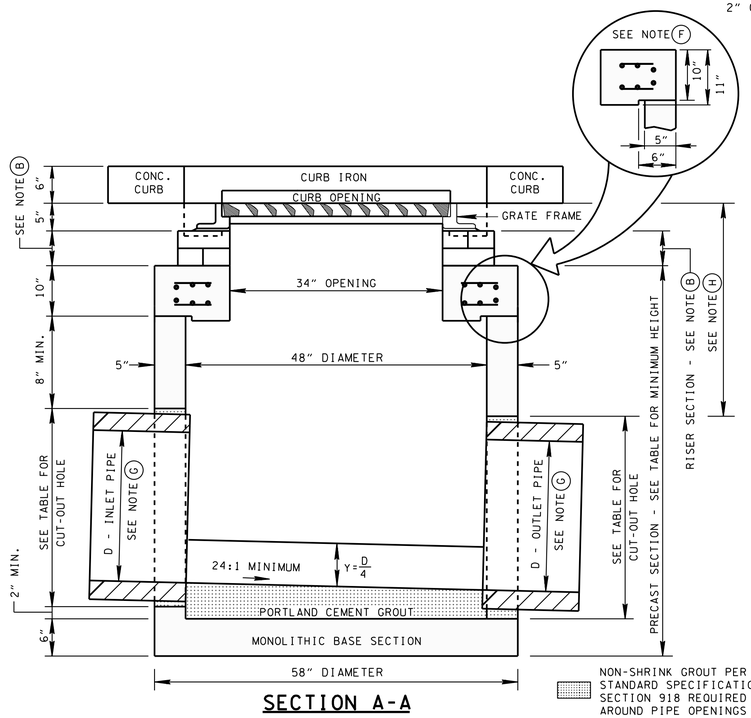
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 12-18-95: CHANGED DRAWING NO. FROM D-CB-12RC TO D-CB-25RA. CHANGED BASE THICKNESS AND VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.
- ☐ REV. 2-14-96: CHANGED SHEET NAME.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (F) CHANGED LABEL OF LAST FOUR GENERAL NOTES.
- ☐ REV. 4-15-97: CHANGED CATCH BASIN DIMENSION TABLE.
- ☐ REV. 1-19-99: CHANGED MINMUM DEPTH TABLE AND DRAWING IN GENERAL TO REFLECT REDUCTION IN INVERT DROP ACROSS CATCH BASIN.
- ☐ REV. 12-18-99: MODIFIED CATCH BASIN DIMENSION TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

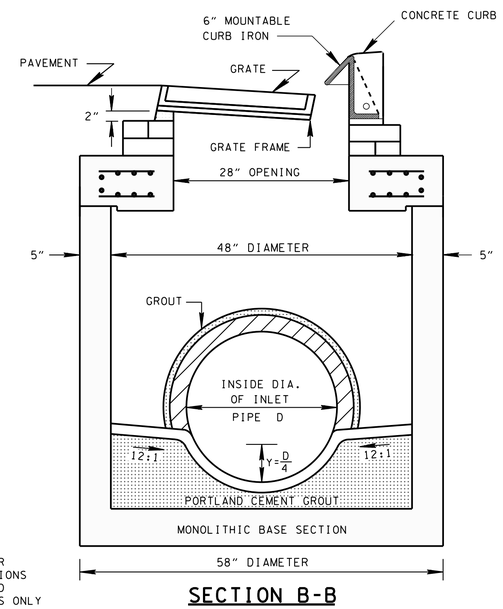
  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION C-C



SECTION A-A



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-25RB FOR DETAILS REGARDING 60" AND LARGER CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" MOUNTABLE CURB).

(K) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.01 CATCH BASINS, TYPE 25, 0'-4' DEPTH THROUGH 611-25.05 CATCH BASINS, TYPE 25, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

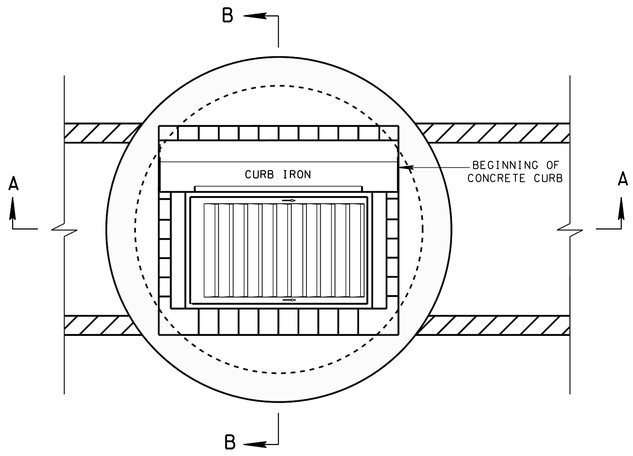
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

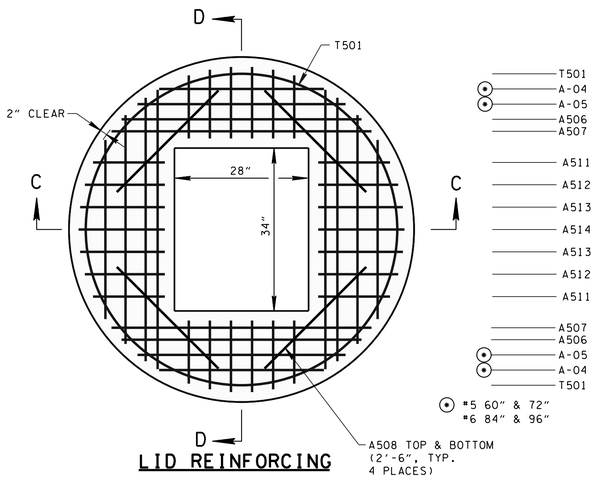
STANDARD PRECAST 48" CIRCULAR NO. 25 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

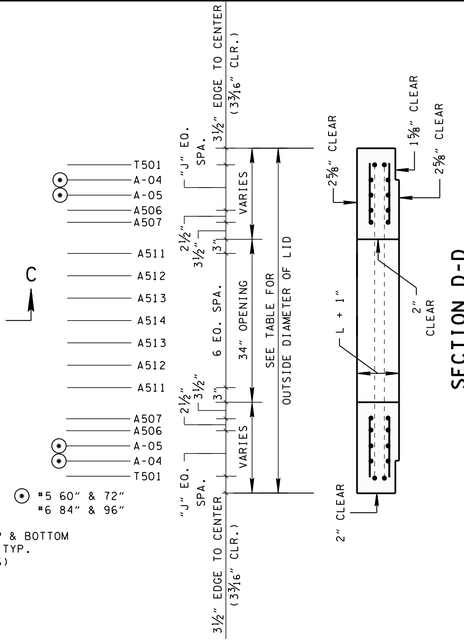
NOT TO SCALE | 5-27-95 | D-CB-25RA



PLAN VIEW



LID REINFORCING



SECTION D-D

- REV. 3-11-14: ELIMINATED STIRRUPS.
- REV. 1-19-99: CHANGED MINIMUM DEPTH TABLE AND DRAWING IN GENERAL TO REFLECT REDUCTION IN INVERT DROP ACROSS CATCH BASIN.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I) ADDED CATCH BASIN MAXIMUM DEPTH NOTE. CHANGED REINFORCING STEEL IN LID.
- REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
			60"	72"	84"	96"	60"	72"	84"	96"
18	2½	25	51½	53	57½	59	3.92	3.97	4.34	4.38
24	3	32	58½	60	64½	66	4.46	4.51	4.88	4.92
30	3½	39	65½	67	71½	73	5.00	5.05	5.42	5.46
36	4	46	72½	74	78½	80	5.55	5.59	5.97	6.00
42	4½	53	79½	81	85½	87	6.09	6.13	6.51	6.54
48	5	60	86½	88	92½	94	6.63	6.67	7.05	7.08
54	5½	67	93½	95	99½	101	7.17	7.22	7.59	7.63
60	6	74	100½	102	106½	108	7.71	7.76	8.13	8.17
66	6½	81	107½	109	113½	115	8.25	8.30	8.67	8.71

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

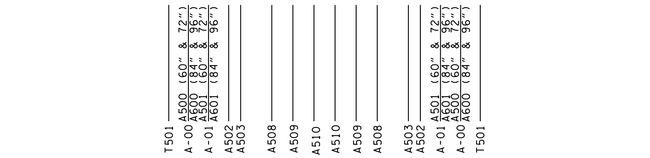
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

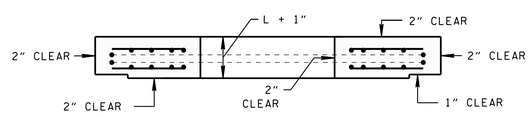
VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID

INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4
84	100	5
96	114	6

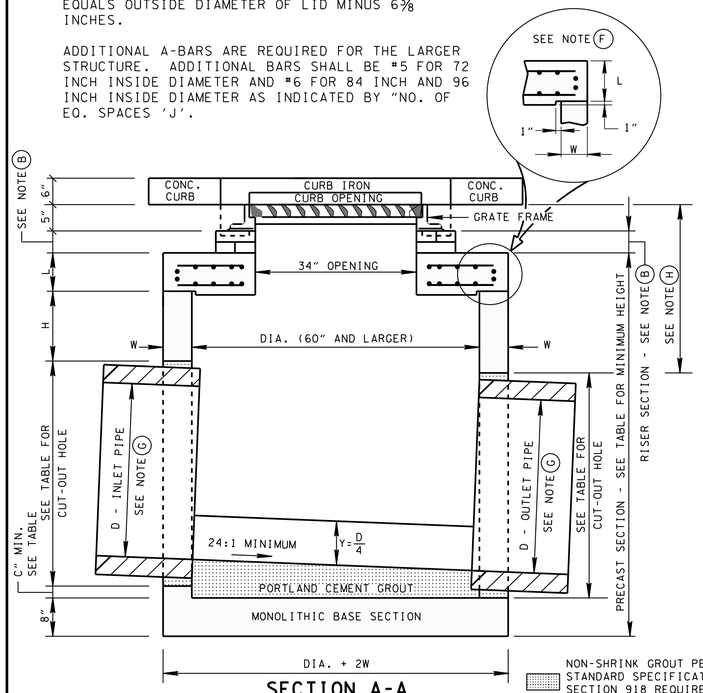
OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6 3/8 INCHES.

ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE. ADDITIONAL BARS SHALL BE #5 FOR 72 INCH INSIDE DIAMETER AND #6 FOR 84 INCH AND 96 INCH INSIDE DIAMETER AS INDICATED BY "NO. OF EQ. SPACES 'J'.



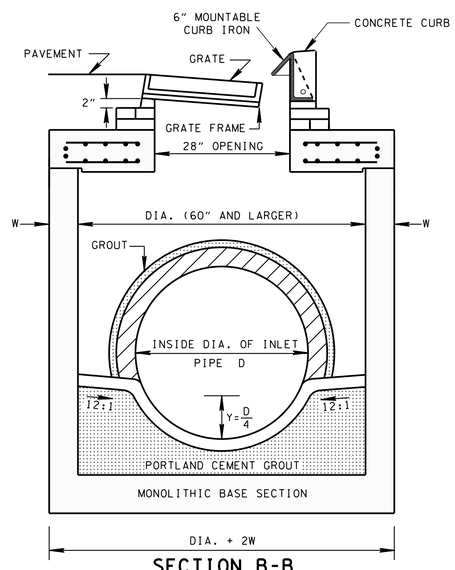


SECTION C-C



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES (FOR 60 OR 72 INCH INSIDE DIAMETER CATCH BASIN) OR 27 INCHES (FOR 84 OR 96 INCH INSIDE DIAMETER CATCH BASIN) IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH (FOR 60 OR 72 INCH INSIDE DIAMETER CATCH BASIN) OR 27 INCH DEPTH (FOR 84 OR 96 INCH INSIDE DIAMETER CATCH BASIN) SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-12RA FOR DETAILS REGARDING 48" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(K) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.01 CATCH BASINS, TYPE 25, 0'-4' DEPTH THROUGH 611-25.07, CATCH BASINS, TYPE 25, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-25.08, CATCH BASINS, TYPE 25, ____'- ____' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

CATCH BASIN DIMENSIONS

INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION	
						C (INCHES)	H (INCHES)
60	6	10	72	36	24	2.5	8
72	7	10	86	48	30	3.0	8
84	8	10	100	60	36	3.5	12
96	9	10	114	66	42	4.0	12

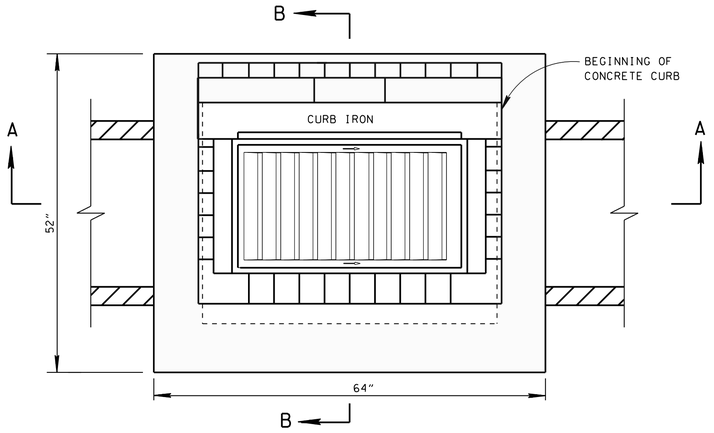
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

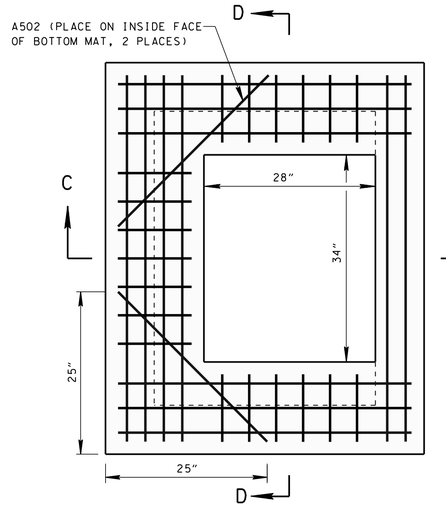
STANDARD PRECAST CIRCULAR NO. 25 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

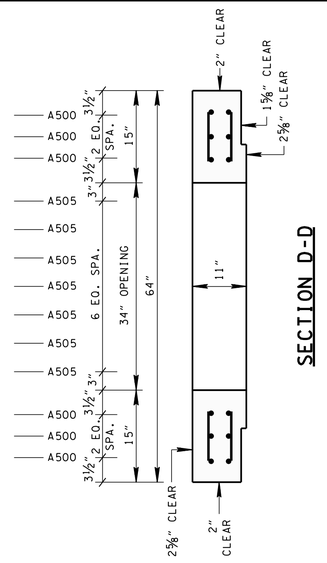
NOT TO SCALE | 12-18-93 | D-CB-25RB



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(4) 30	3½	39	65	4.96
(4) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

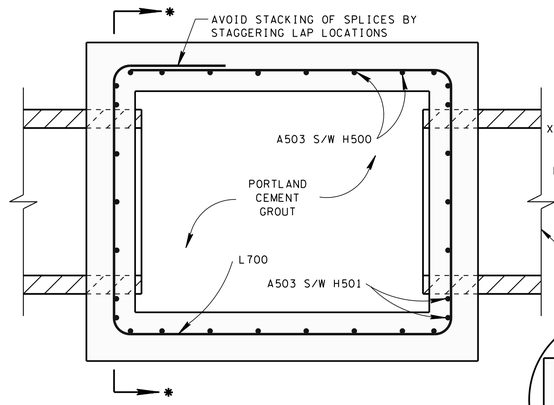
(2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 12-18-95: CHANGED VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

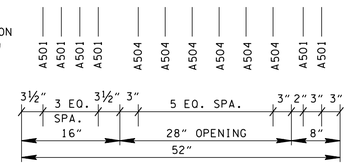
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



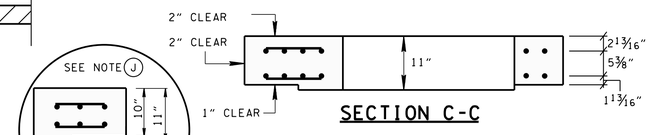
SECTION E-E

SECTION *-*

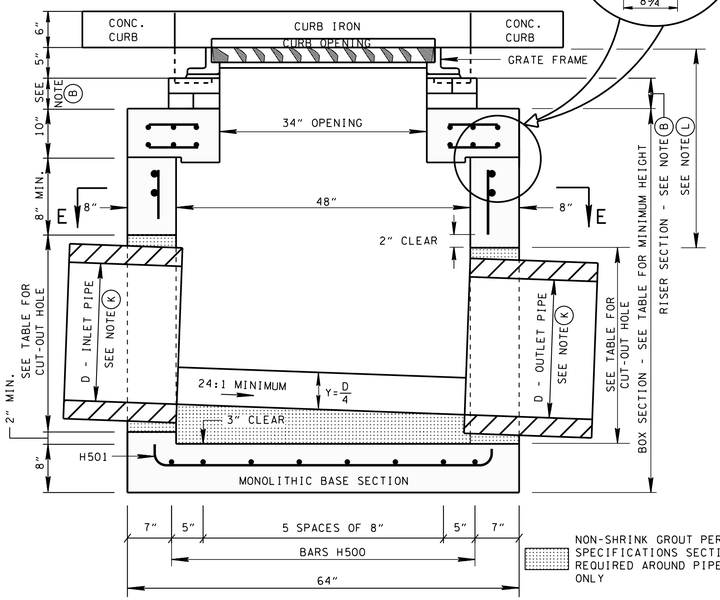
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



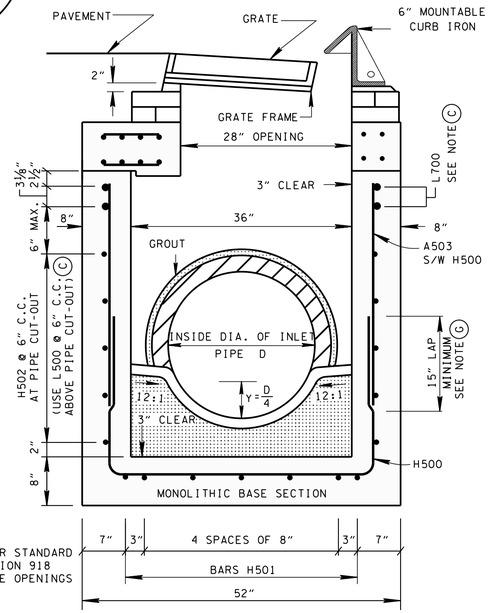
PIPE (BEYOND)



SECTION C-C



SECTION A-A



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 25 CONCRETE CATCH BASINS AND ALL PRECAST NO. 25 CONCRETE CATCH BASINS THAT ARE GREATER THAN TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-25P FOR DETAILS OF PRECAST NO. 25 CONCRETE CATCH BASINS TWELVE FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

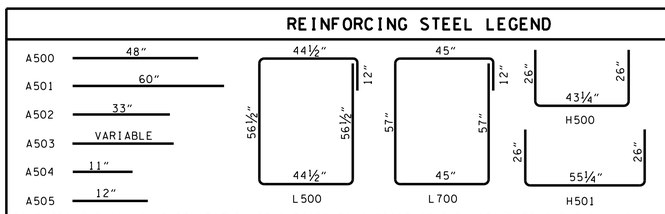
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.01 CATCH BASINS, TYPE 25, 0'-4' DEPTH THROUGH 611-25.05 CATCH BASINS, TYPE 25, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO. 25 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

5-27-95 | D-CB-25S

22-APR-2014 09:49
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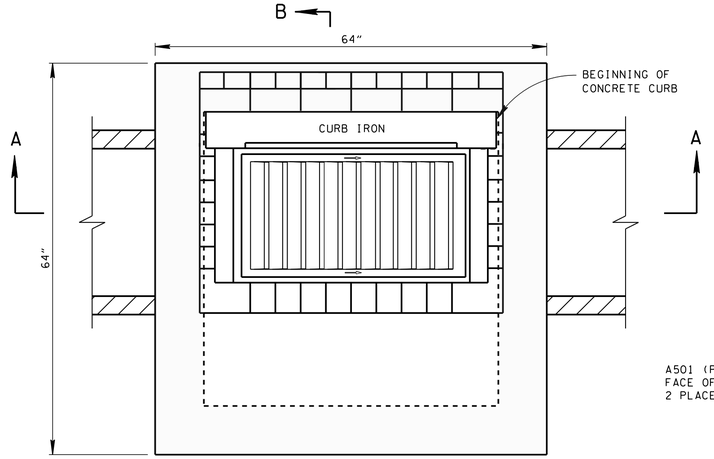
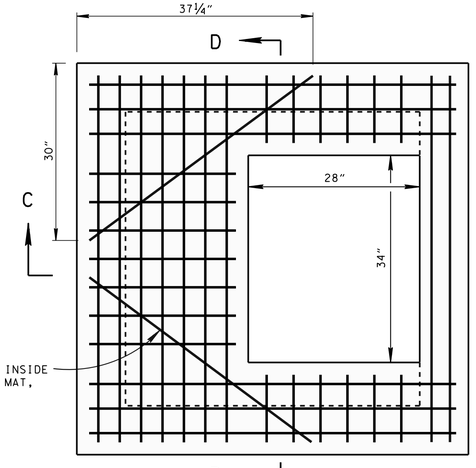
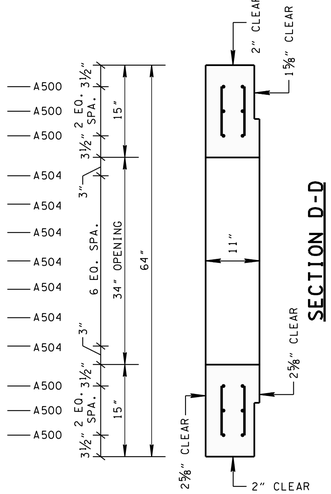


PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
30	3½	39	65	4.96
36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 25SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 25SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

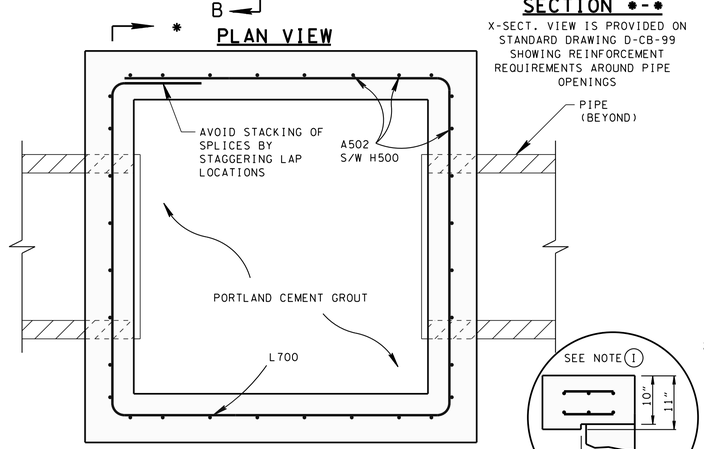
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.

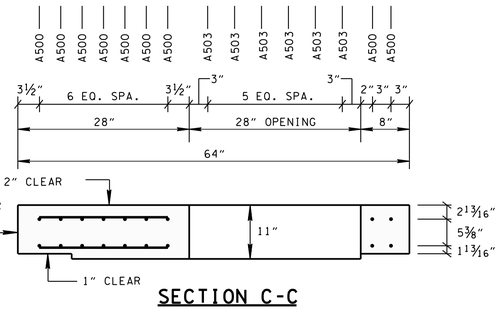
(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.01 CATCH BASINS, TYPE 25, 0'-4' DEPTH THROUGH 611-25.07 CATCH BASINS, TYPE 25, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

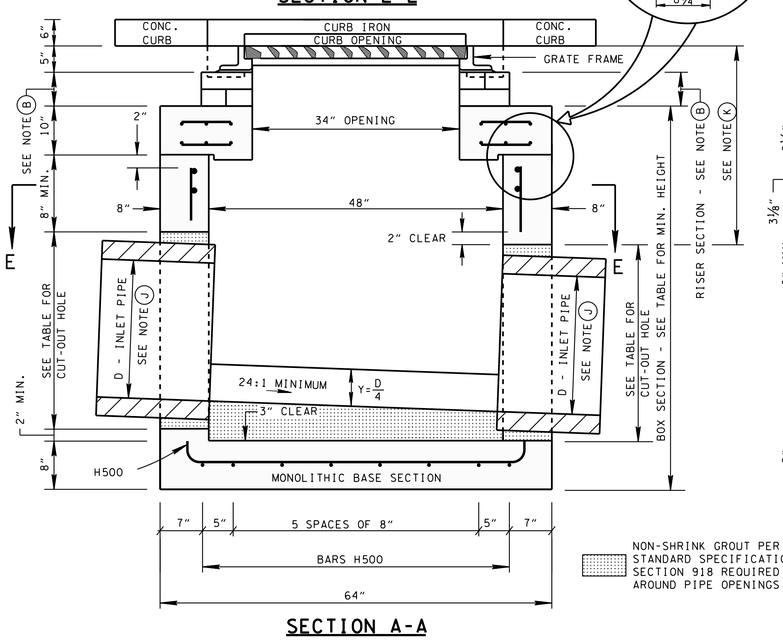


SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

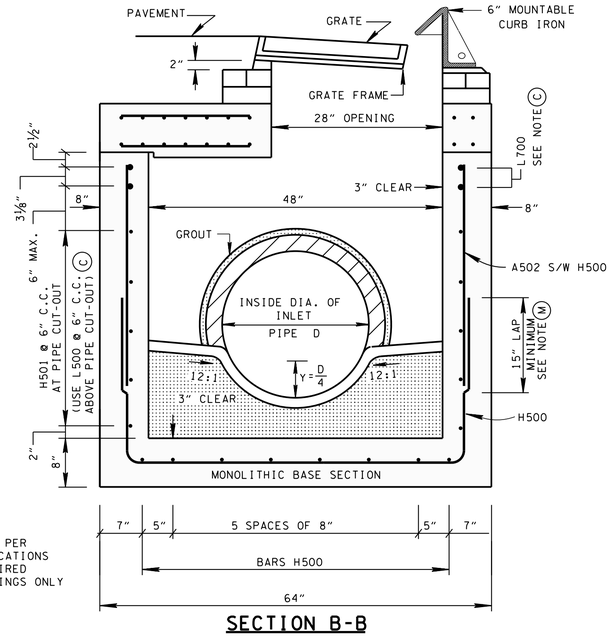


SECTION C-C



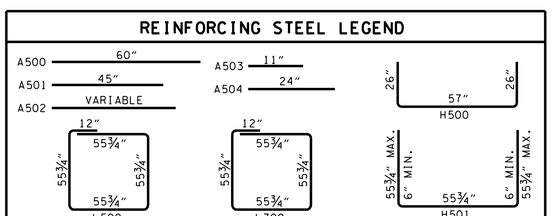
SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

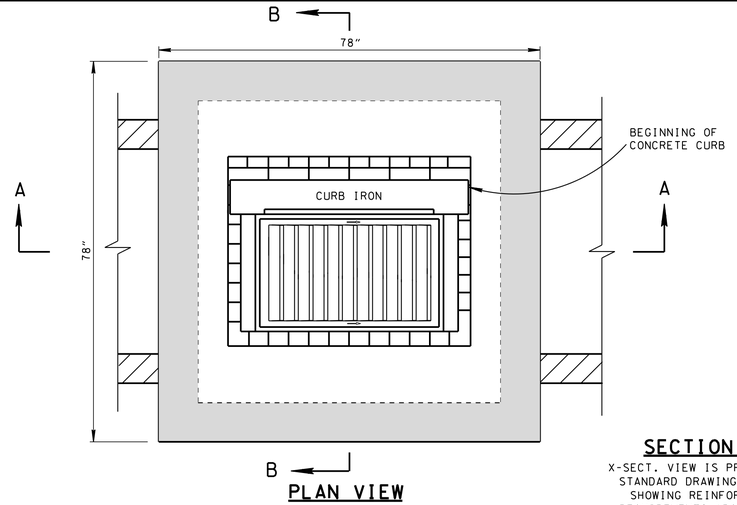
STANDARD 4' X 4' SQUARE CONCRETE NO.25 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

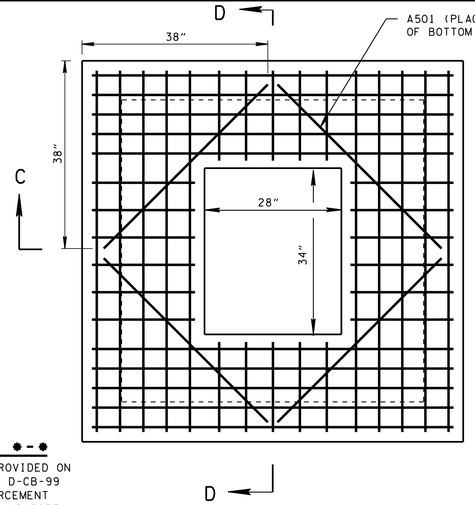
NOT TO SCALE

6-30-00

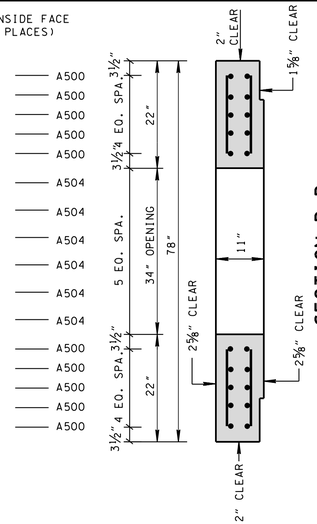
D-CB-25SB



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	55	4.13
24	3	32	62	4.67
30	3½	39	69	5.22
36	4	46	76	7.76
42	4½	53	83	6.30
48	5	60	90	6.84

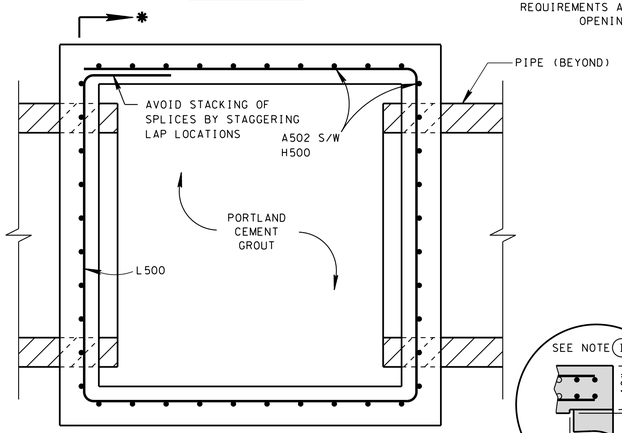
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

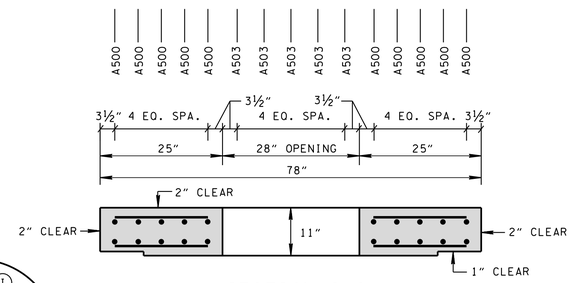
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

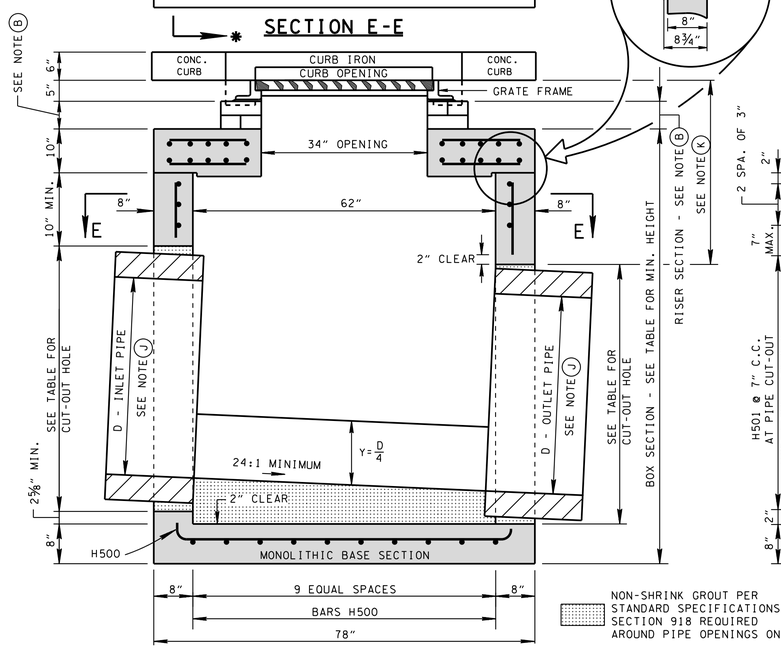
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



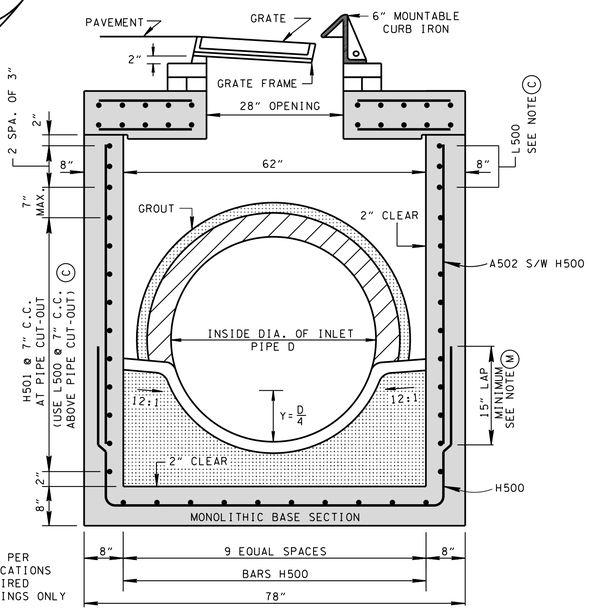
SECTION E-E



SECTION C-C



SECTION A-A



SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 25SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 25SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

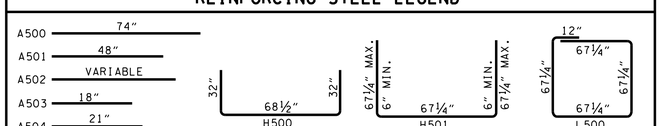
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.02 CATCH BASINS, TYPE 25, > 4'-8' DEPTH THROUGH 611-25.07 CATCH BASINS, TYPE 25, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

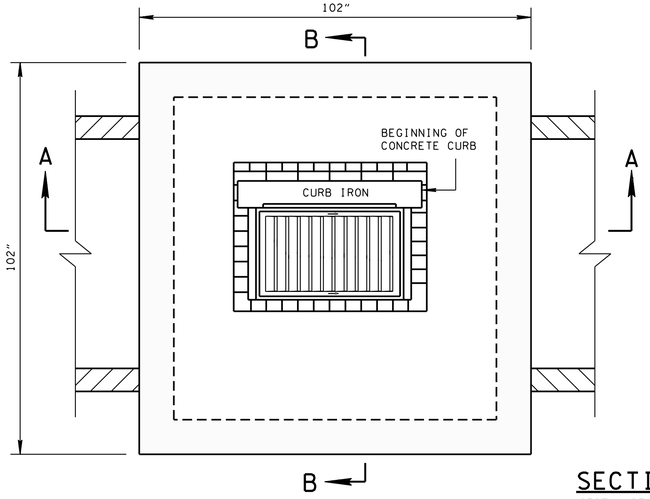
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

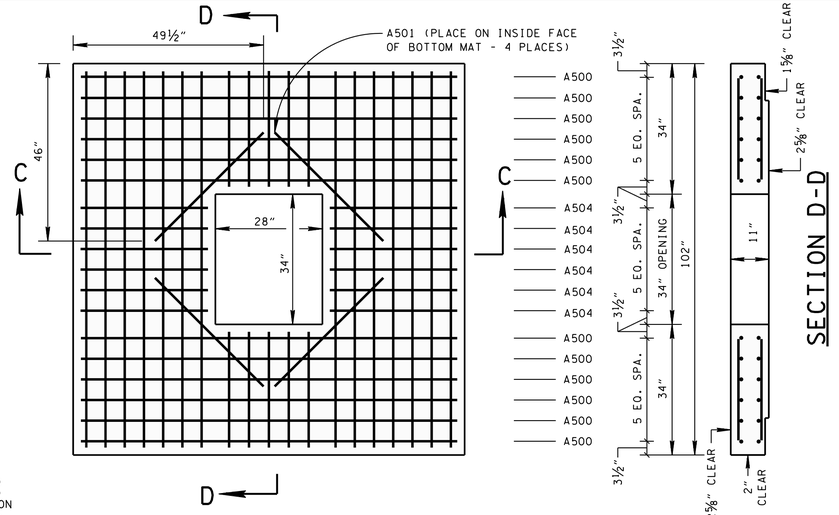
STANDARD 5'2" X 5'2" SQUARE CONCRETE NO.25 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

NOT TO SCALE

6-30-00 | D-CB-25SC





SECTION D-D

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	55½	4.17
24	3	32	62½	4.72
30	3½	39	69½	5.26
36	4	46	76½	5.80
42	4½	53	83½	6.34
48	5	60	90½	6.88
54	5½	67	97½	7.42
60	6	74	104½	7.97
66	6½	81	111½	8.51

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 5-30-02: MODIFIED REINFORCING STEEL.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

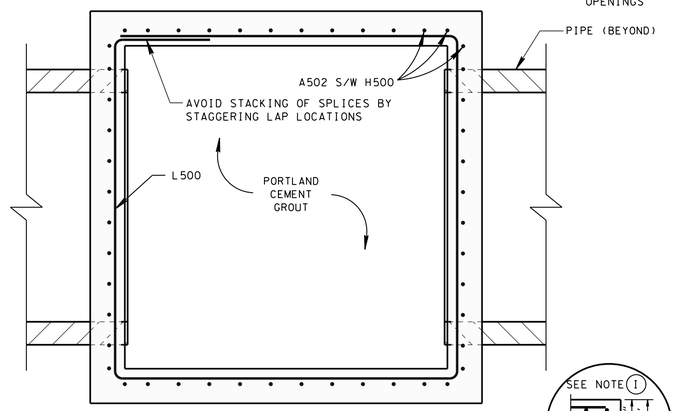
CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

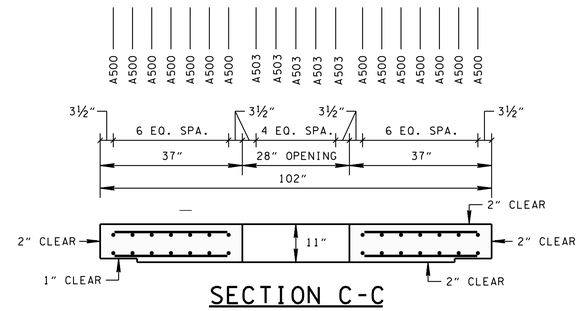
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

PLAN VIEW

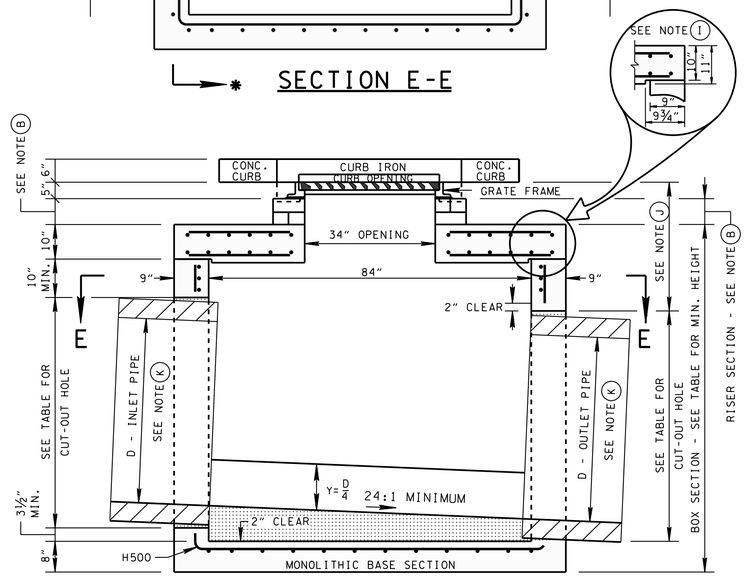


PLAN VIEW

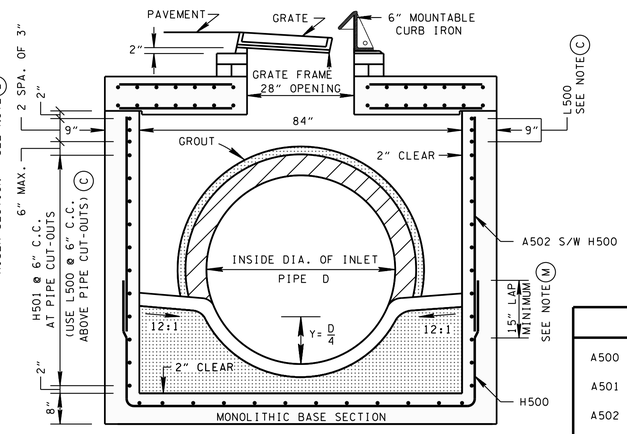


SECTION C-C

SECTION E-E



SECTION A-A



SECTION B-B

9 SPACES OF 8" = 72"; 9" + 6" + 72" + 6" + 9" = 102"

BARS H500

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 25SD CONCRETE CATCH BASINS AND ALL PRECAST NO. 25SD CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

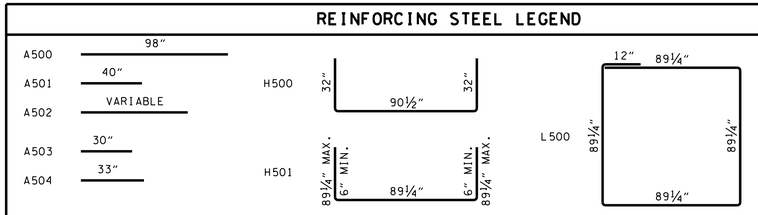
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.02 CATCH BASINS, TYPE 25, > 4'-8' DEPTH THROUGH 611-25.07 CATCH BASINS, TYPE 25, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

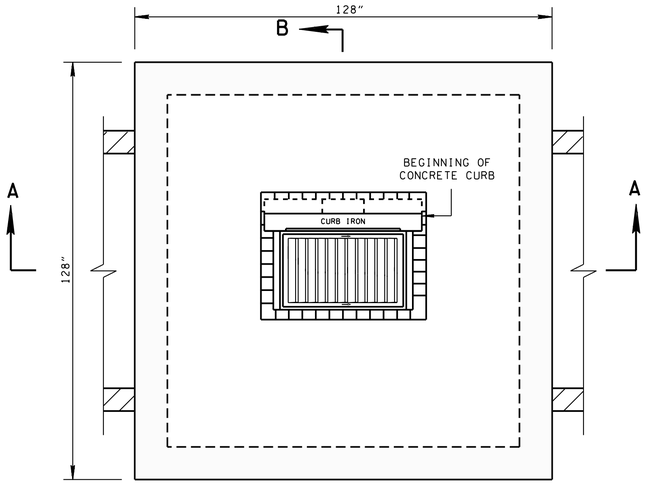
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

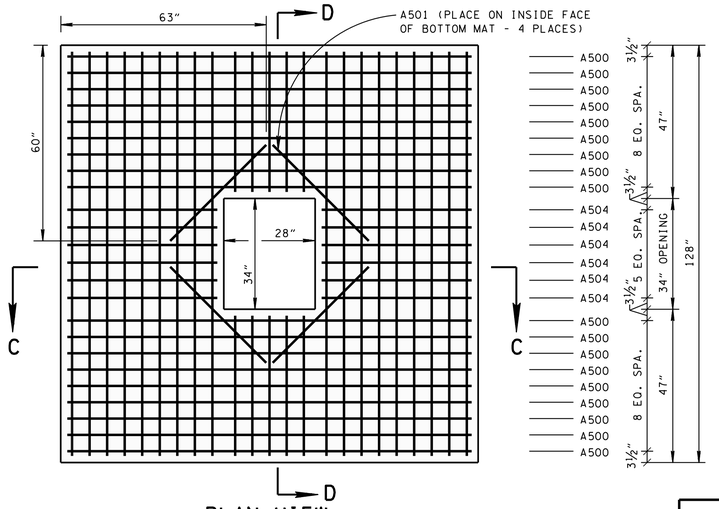
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 7' X 7' SQUARE CONCRETE NO. 25 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

NOT TO SCALE | 6-30-00 | D-CB-25SD





CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	59½	4.25
24	3	32	66½	4.79
30	3½	39	73½	5.33
36	4	46	80½	5.88
42	4½	53	87½	6.42
48	5	60	94½	6.96
54	5½	67	101½	7.50
60	6	74	108½	8.04
66	6½	81	115½	8.58
72	7	88	122½	9.13
78	7½	95	129½	9.67

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00′.

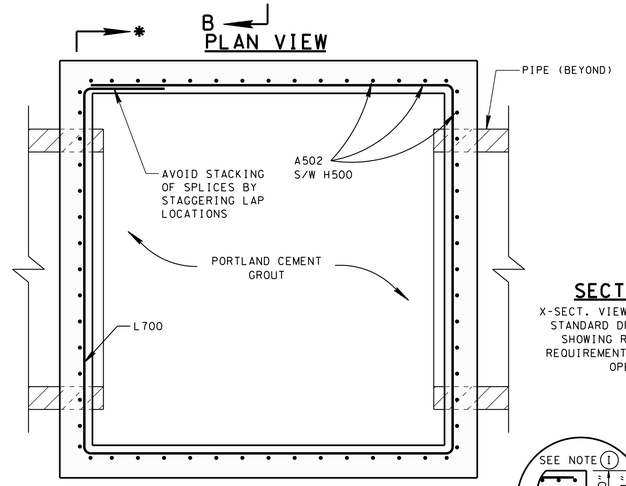
- REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 2-13-04: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 5-5-05: ADDED EXTRA STEEL DIMENSION TO SECTION C-C.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 3-11-14: ELIMINATED STIRRUPS.

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

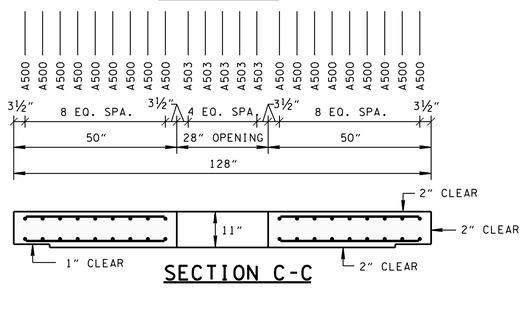
(2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.

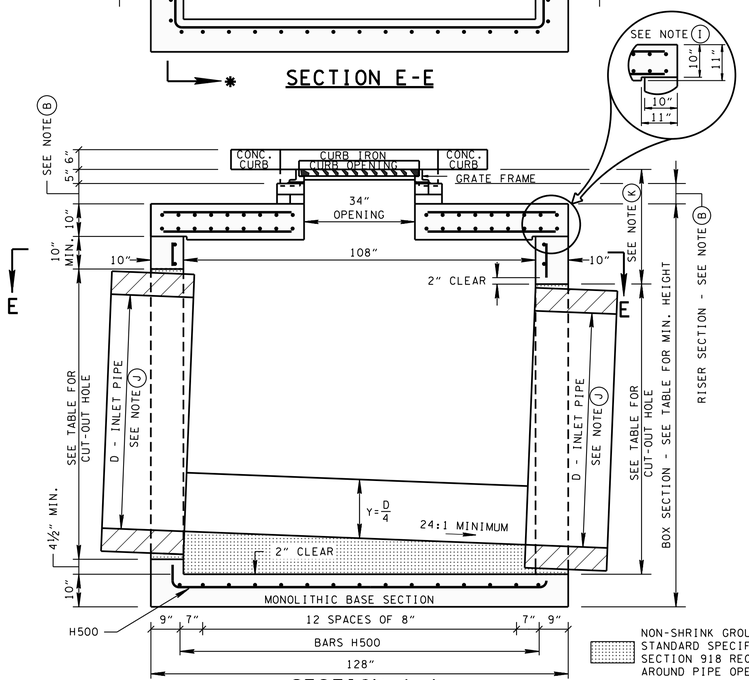
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.



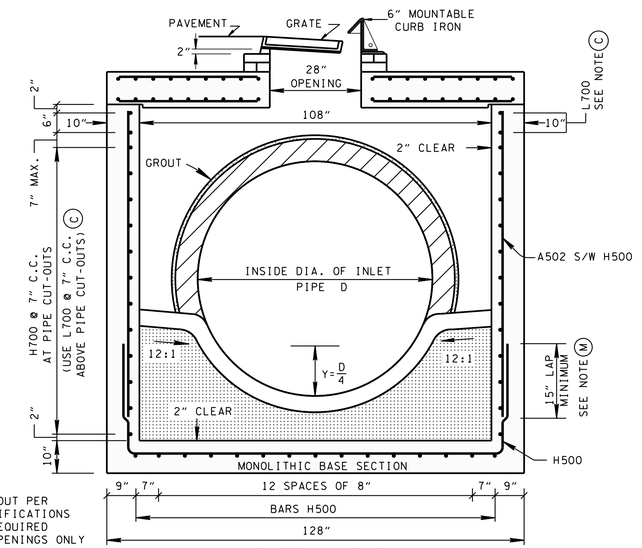
SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS





NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 25SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 25SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

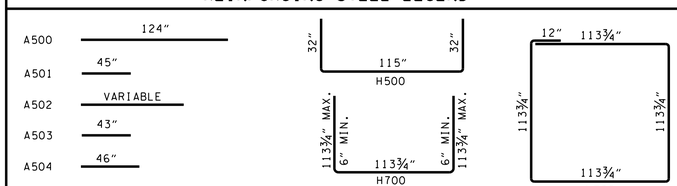
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.02 CATCH BASINS, TYPE 25, > 4′-8′ DEPTH THROUGH 611-25.07 CATCH BASINS, TYPE 25, > 24′-28′ DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



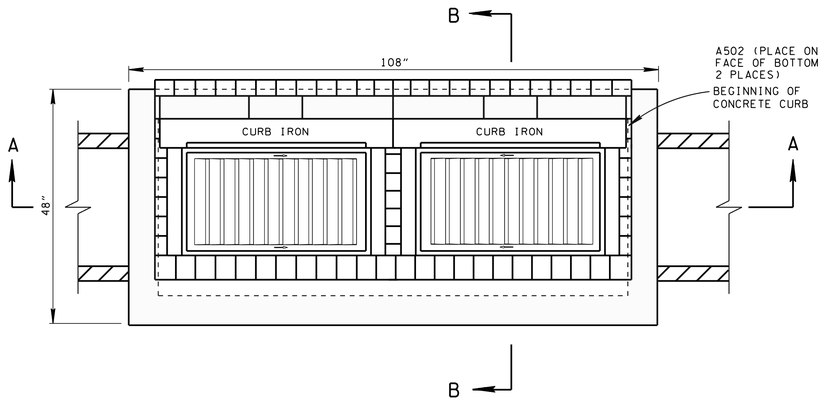
DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR.
STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

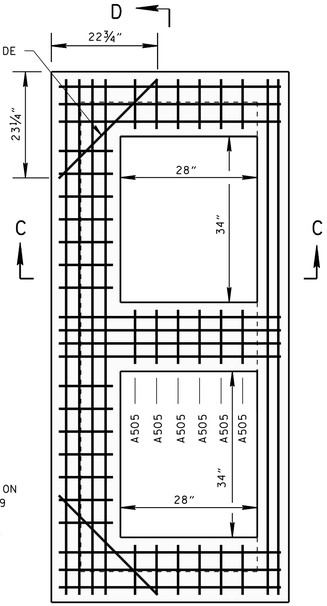
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD
9′ X 9′ SQUARE
CONCRETE NO. 25
CATCH BASIN
(FOR USE WITH 6″ MOUNTABLE CURB)

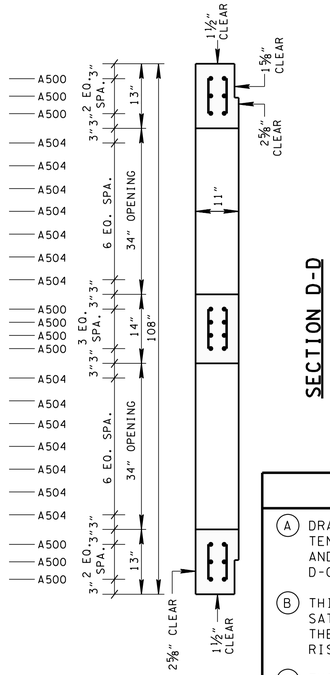
NOT TO SCALE | 6-30-00 | D-CB-25SE



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 10.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	4.05
24	3	32	58	4.59
(4) 30	3½	39	65	5.13
(4) 36	4	46	72	5.67
(4) 42	4½	53	79	6.21
(4) 48	5	60	86	6.75
(4) 54	5½	67	93	7.30
(4) 60	6	74	100	7.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

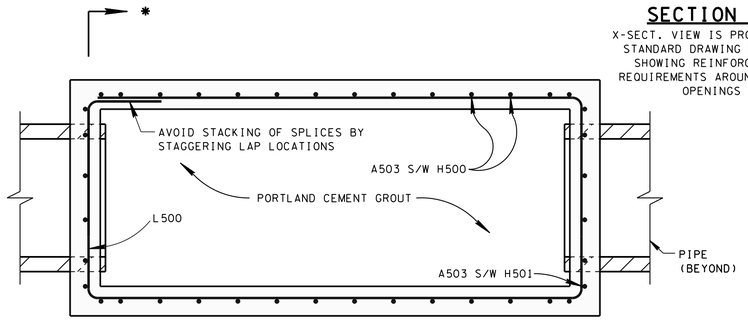
(2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

- ☐ REV 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I)
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)

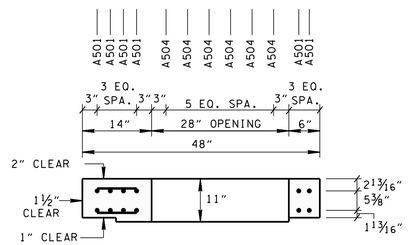
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



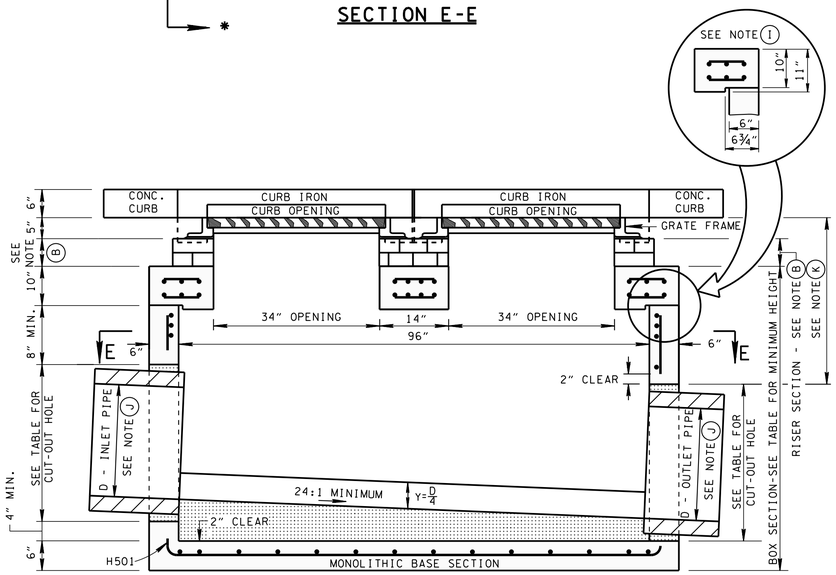
SECTION E-E

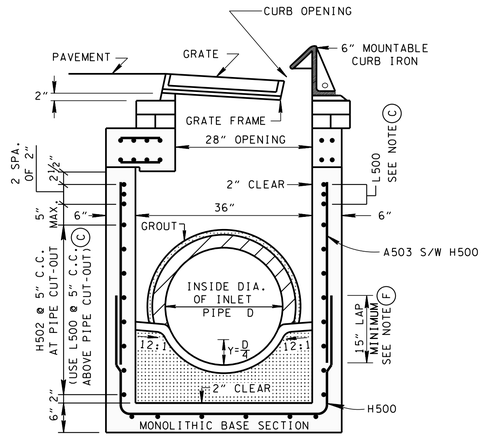
SECTION *-*

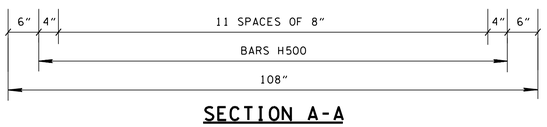
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C

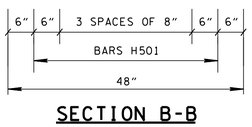






SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL PRECAST NO. 26 CONCRETE CATCH BASINS THAT ARE BETWEEN MINIMUM DEPTH AND TEN FEET. SEE STANDARD DRAWING D-CB-26S FOR DETAILS OF CAST-IN-PLACE NO. 26 CONCRETE CATCH BASINS AND PRECAST NO. 26 CONCRETE CATCH BASINS THAT ARE GREATER TEN FEET IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) ALL PRECAST ELEMENTS SHALL MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

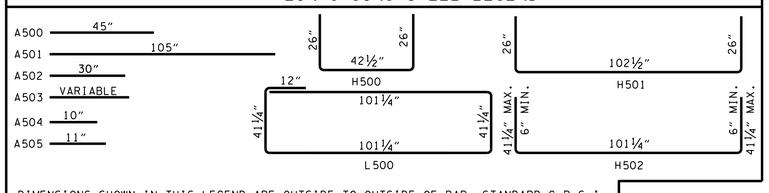
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-26.01 CATCH BASINS, TYPE 26, 0'-4' DEPTH THROUGH 611-26.03, CATCH BASINS, TYPE 26, > 8'-12' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

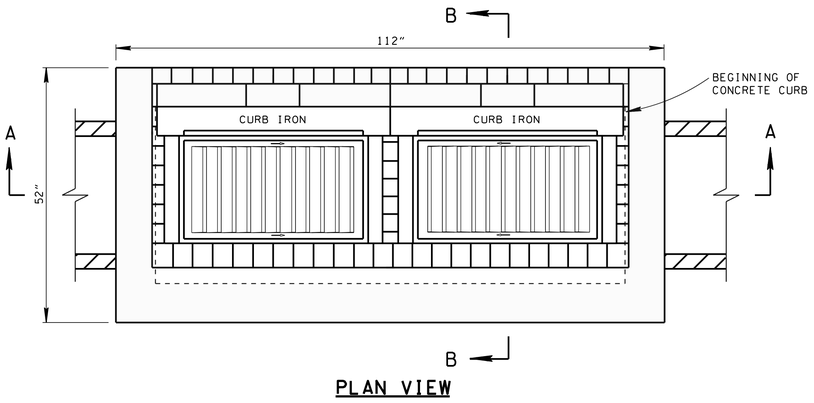
STANDARD PRECAST RECTANGULAR CONCRETE NO. 26 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

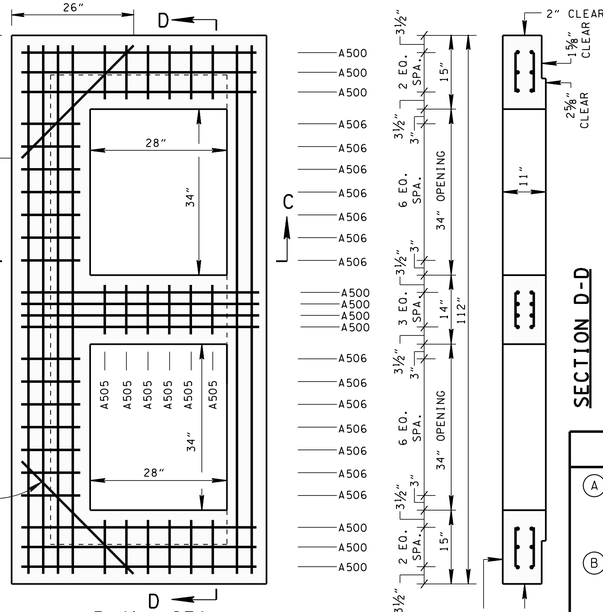
12-18-95 D-CB-26P

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.



PLAN VIEW



PLAN VIEW

SECTION D-D

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	53	4.05
24	3	32	60	4.59
(4) 30	3½	39	67	5.13
(4) 36	4	46	74	5.67
(4) 42	4½	53	81	6.21
(4) 48	5	60	88	6.75
(4) 54	5½	67	95	7.30
(4) 60	6	74	102	7.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

☐ REV. 3-11-14: ELIMINATED STIRRUPS.

☐ REV. 12-18-95: CHANGED VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.

☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE GENERAL NOTES.

☐ REV 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.

☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.

☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

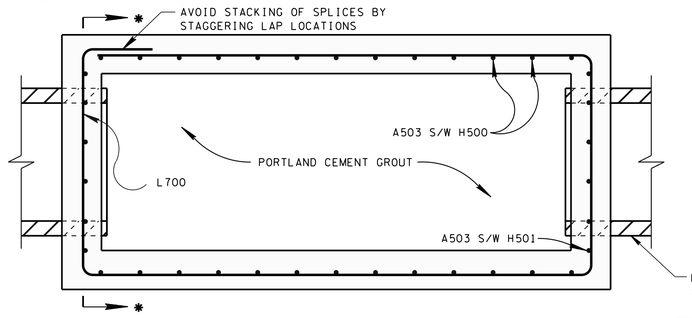
☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

☐ REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

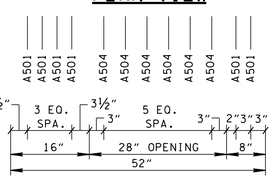
SECTION *-*

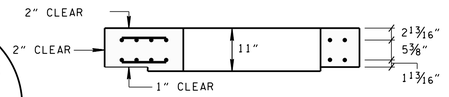
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



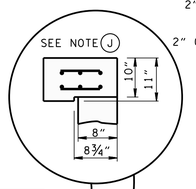
SECTION E-E

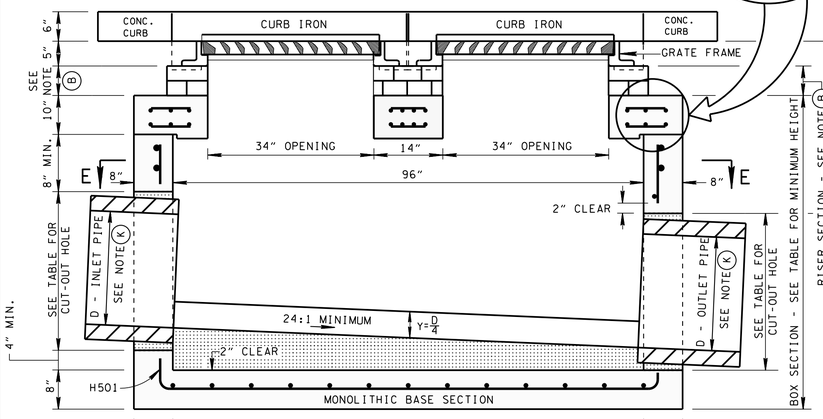
A502 (PLACE ON INSIDE FACE OF BOTTOM MAT, 2 PLACES)



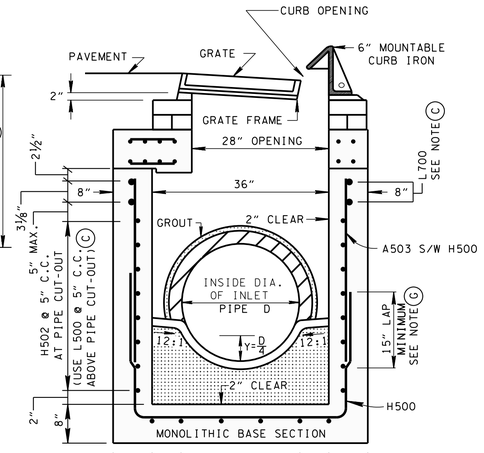


SECTION C-C





SECTION A-A



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 26 CONCRETE CATCH BASINS AND ALL PRECAST NO. 26 CONCRETE CATCH BASINS THAT ARE GREATER THAN TEN FEET IN DEPTH. SEE STANDARD DRAWING D-CB-26P FOR DETAILS OF PRECAST NO. 26 CONCRETE CATCH BASINS TEN FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

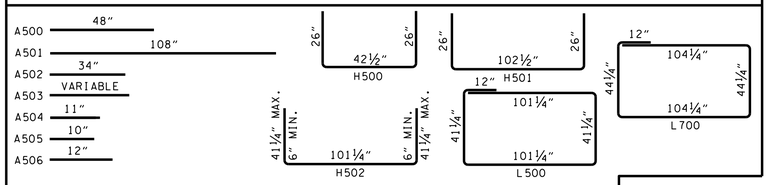
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-26.01 CATCH BASINS, TYPE 26, 0'-4' DEPTH THROUGH 611-26.05 CATCH BASINS, TYPE 26, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

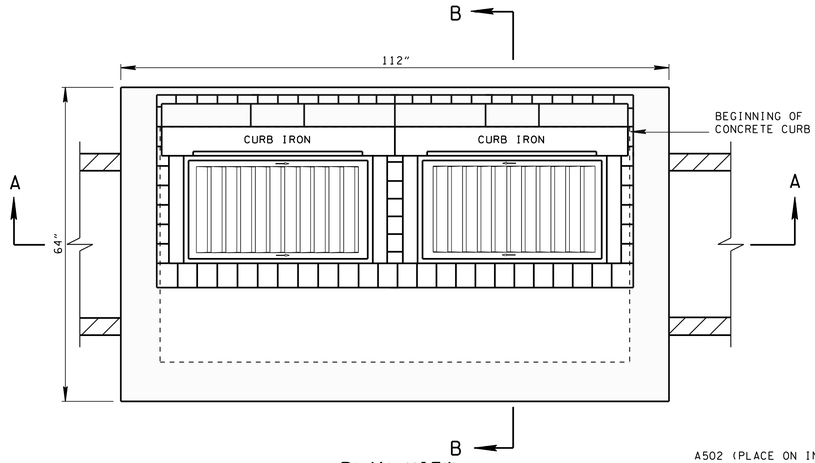
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

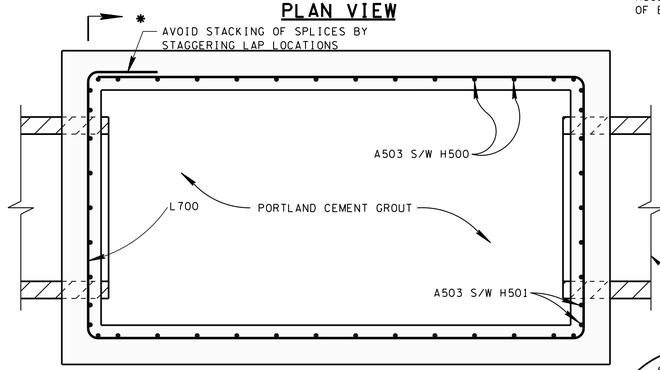
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO. 26 CATCH BASIN

(FOR USE WITH 6" MOUNTABLE CURB)

7-29-95 | D-CB-26S

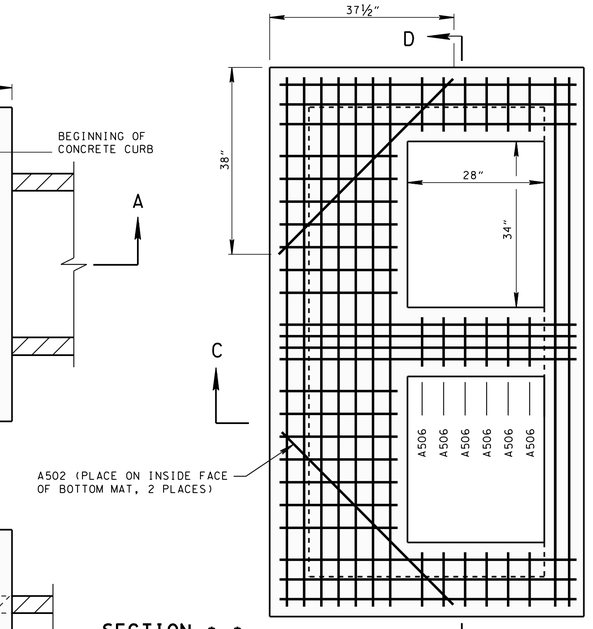


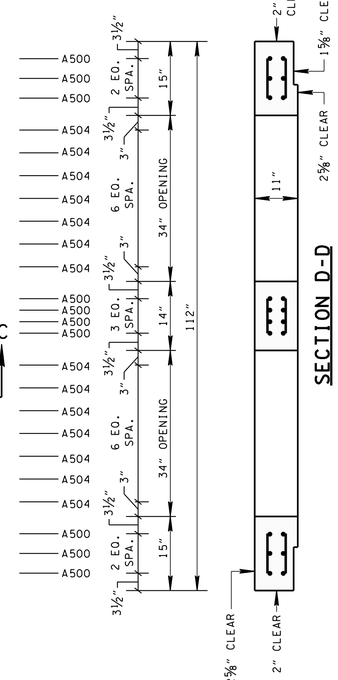


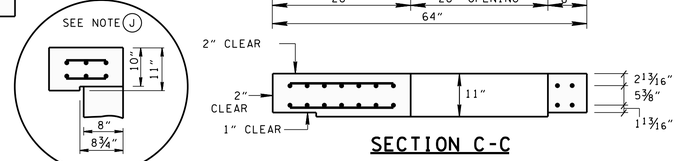
SECTION ✱-✱

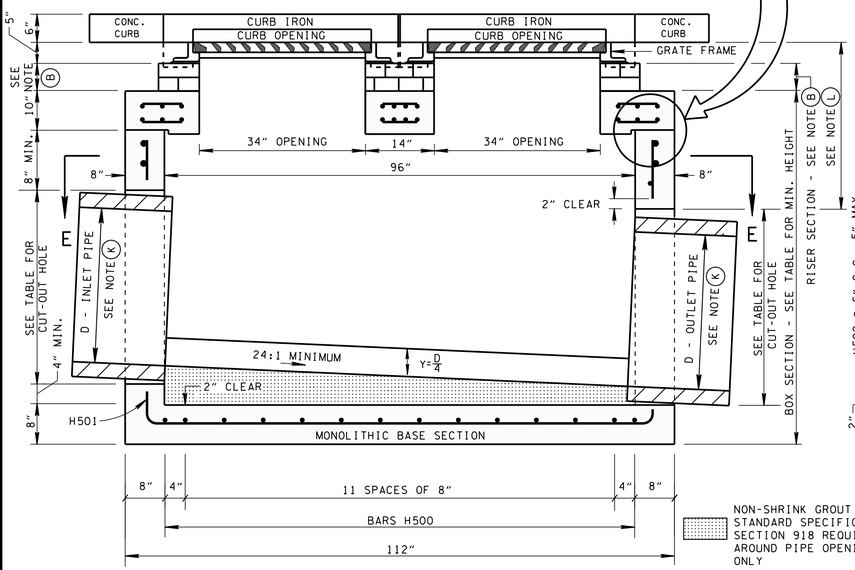
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

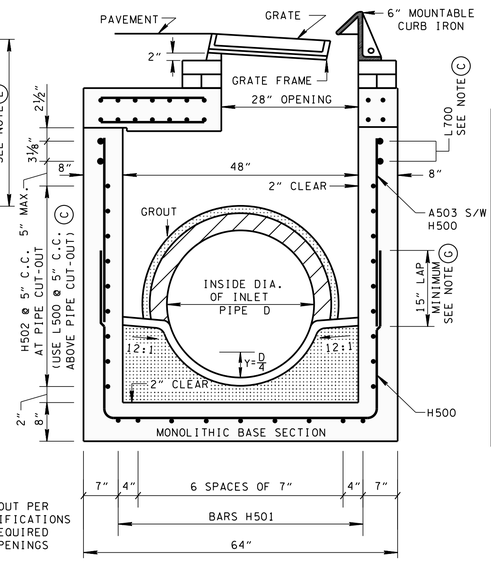
SECTION E-E











NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

SECTION A-A

SECTION B-B

- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J). ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C).
- REV. 3-11-14: ELIMINATED STIRRUPS.
- REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 27 CONCRETE CATCH BASINS AND ALL PRECAST NO. 27 CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-27.01 CATCH BASINS, TYPE 27, 0'-4' DEPTH THROUGH 611-27.05, CATCH BASINS, TYPE 27, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	53	4.05
24	3	32	60	4.59
30	3½	39	67	5.13
36	4	46	74	5.67
(4) 42	4½	53	81	6.21
(4) 48	5	60	88	6.75
(4) 54	5½	67	95	7.30
(4) 60	6	74	102	7.84

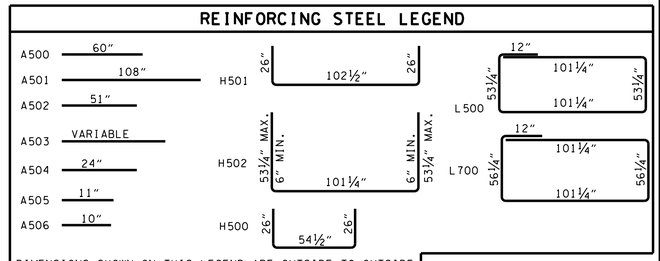
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALL ONLY.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO. 27 CATCH BASIN
(FOR USE WITH 6" MOUNTABLE CURB)

NOT TO SCALE | 10-26-00 | D-CB-27S

22-APR-2014 09:50
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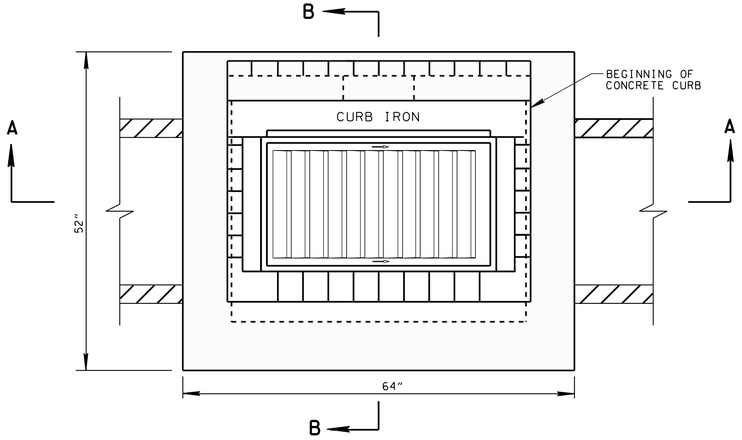
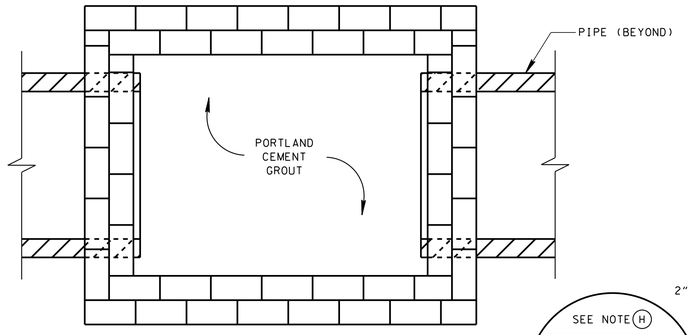
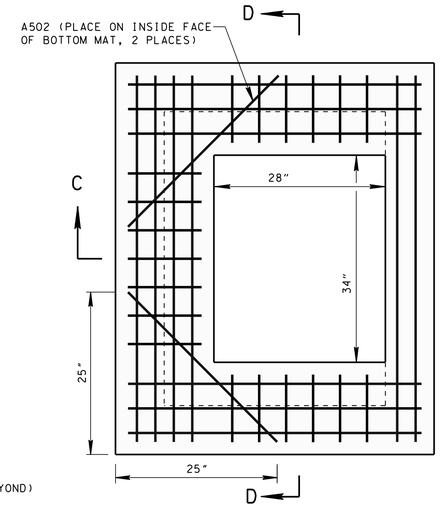


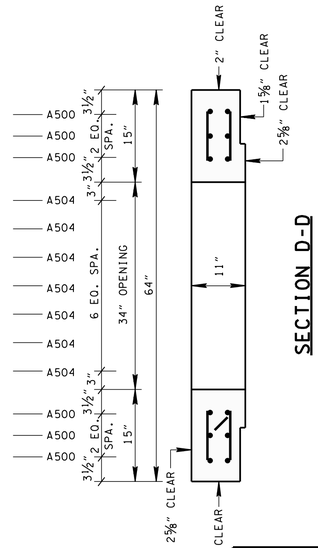
PLAN VIEW



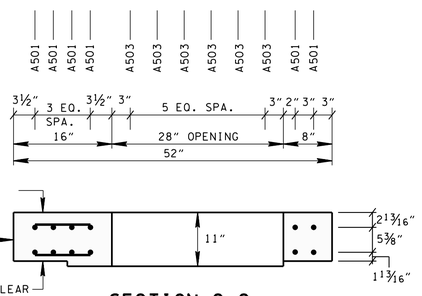
SECTION E-E



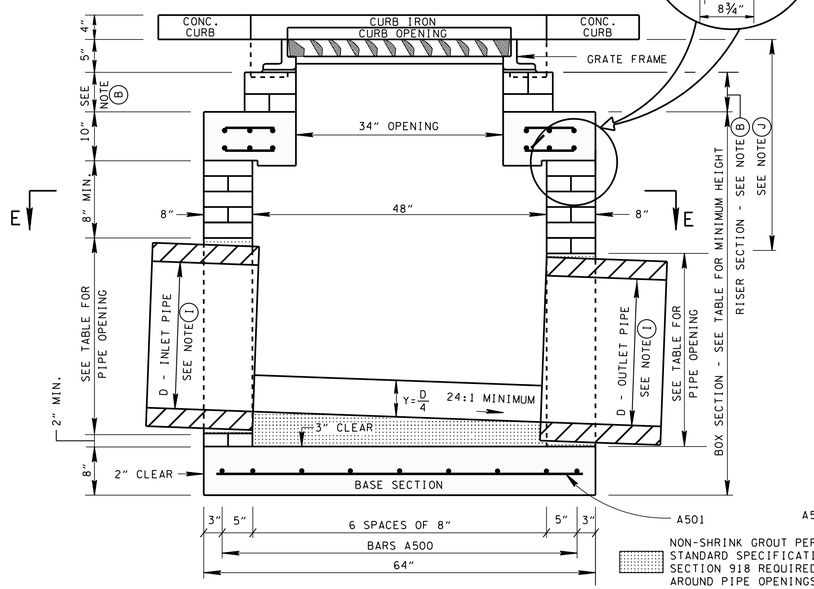
PLAN VIEW



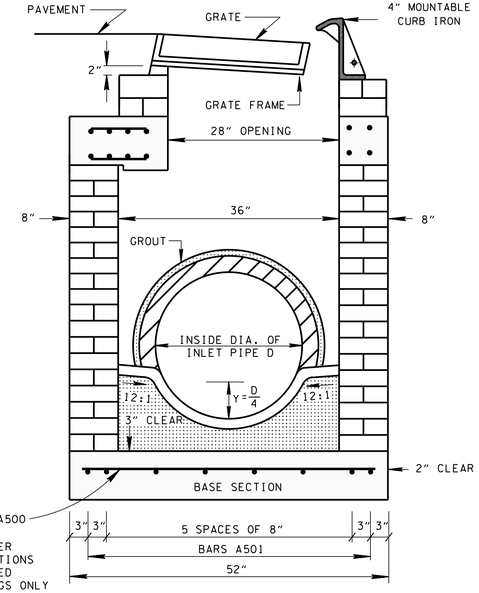
SECTION D-D



SECTION C-C



SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 8.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF PIPE OPENING (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(3) 30	3½	39	65	4.96
(3) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEM IN GENERAL NOTE (I)
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN TOP & BOTTOM SLABS FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR NO. 28 BRICK CATCH BASINS THAT ARE EIGHT FEET AND LESS IN DEPTH. SEE STANDARD DRAWINGS D-CB-28P AND D-CB-28S FOR DETAILS OF NO. 28 CONCRETE CATCH BASINS THAT ARE MORE THAN EIGHT FEET IN DEPTH.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) CAST-IN-PLACE CONCRETE USED IN BRICK CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS USED FOR LIDS AND FLOORS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-12C FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(L) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-28.01 CATCH BASINS, TYPE 28, 0'-4' DEPTH AND 611-28.02 CATCH BASINS, TYPE 28, > 4'-8' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

REINFORCING STEEL LEGEND

A500	48"	A503	11"
A501	60"	A504	12"
A502	33"		

DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

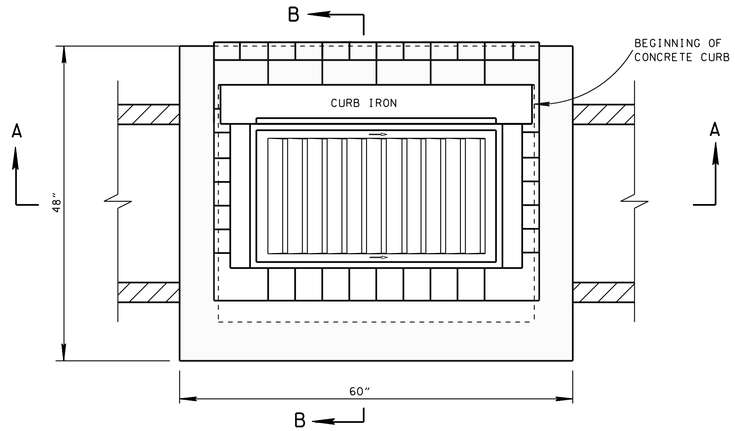
STANDARD RECTANGULAR BRICK NO. 28 CATCH BASIN

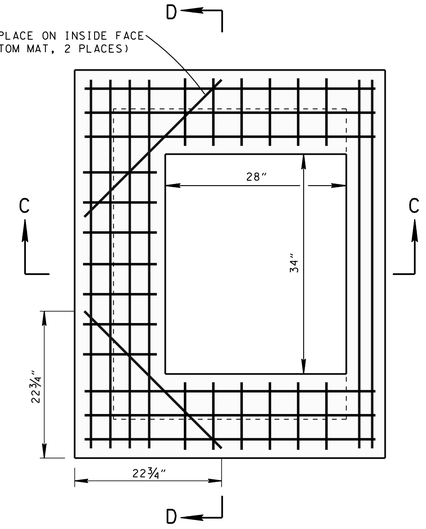
(FOR USE WITH 4" MOUNTABLE CURB)

NOT TO SCALE

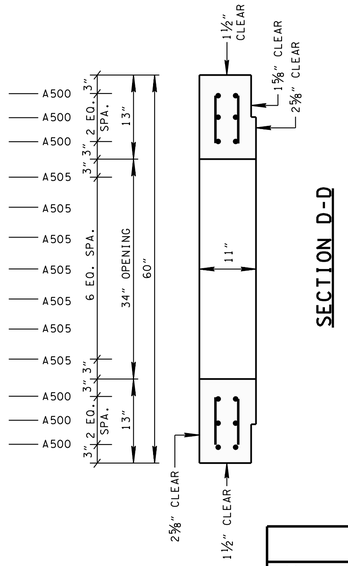
7-29-96

D-CB-28B





PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	49	3.88
24	3	32	56	4.42
(4) 30	3½	39	63	4.96
(4) 36	4	46	70	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

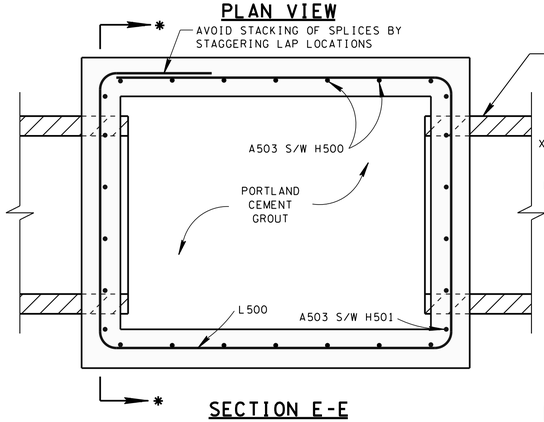
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- REV. 12-18-95: MODIFIED DRAWING NO. D-CB-28S BY CHANGING WALL AND FLOOR THICKNESSES FROM EIGHT TO SIX INCHES FOR PRECAST CATCH BASIN BETWEEN MINIMUM DEPTH AND TWELVE FEET.
- REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (G) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I)
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.

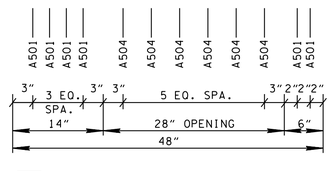
PLAN VIEW

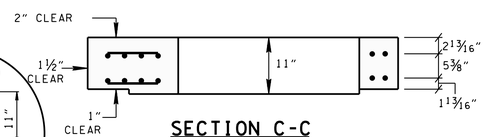


SECTION E-E

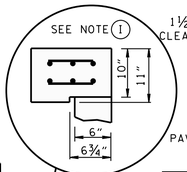
SECTION *-*

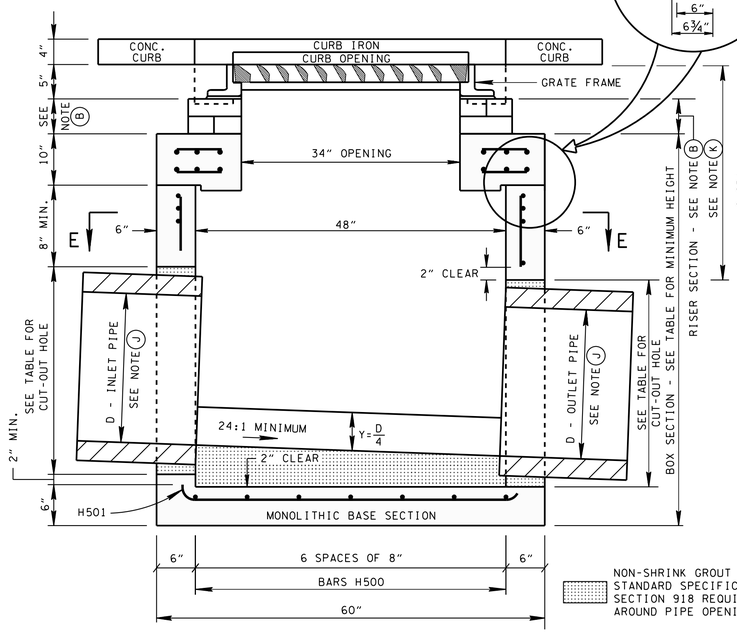
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



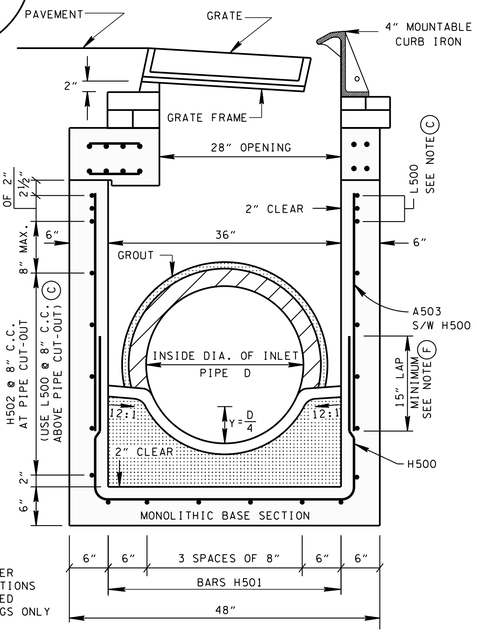


SECTION C-C





SECTION A-A



SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL PRECAST NO. 28 CONCRETE CATCH BASINS THAT ARE BETWEEN MINIMUM DEPTH AND TWELVE FEET. SEE STANDARD DRAWING D-CB-28S FOR DETAILS OF CAST-IN-PLACE NO. 28 CONCRETE CATCH BASINS AND PRECAST NO. 28 CONCRETE CATCH BASINS THAT ARE GREATER TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) ALL PRECAST ELEMENTS SHALL MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

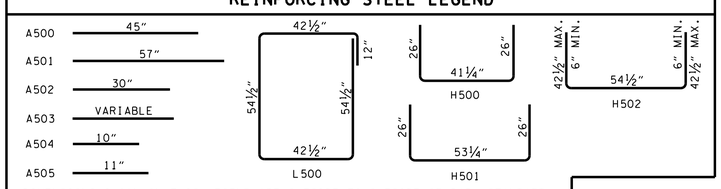
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12C FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-28.01 CATCH BASINS, TYPE 28, 0'-4' DEPTH THROUGH 611-28.03, CATCH BASINS, TYPE 28, > 8'-12' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

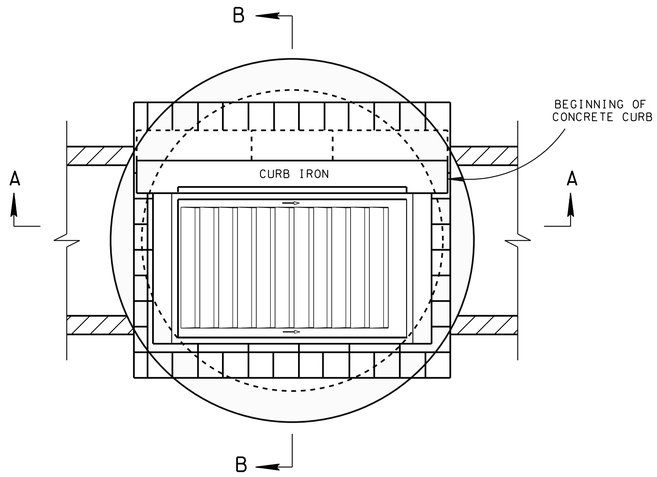
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST RECTANGULAR CONCRETE NO. 28 CATCH BASIN

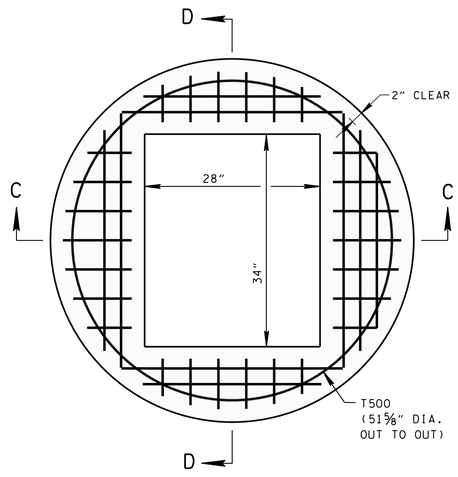
(FOR USE WITH 4" MOUNTABLE CURB)

NOT TO SCALE

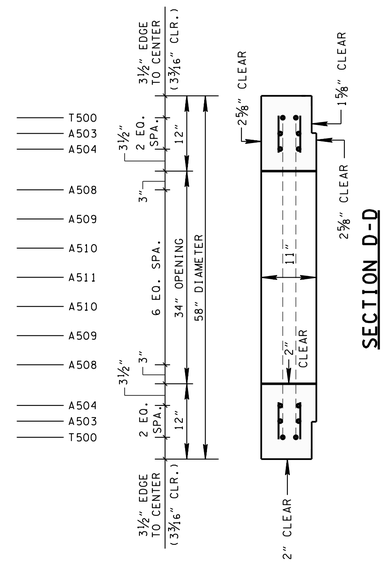
12-18-95 D-CB-28P



PLAN VIEW



LID REINFORCING



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	49	3.88
24	3	32	56	4.42

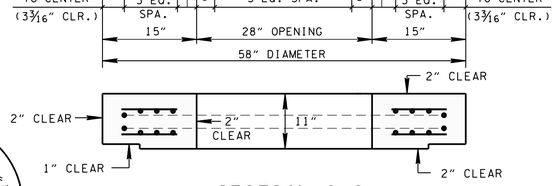
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

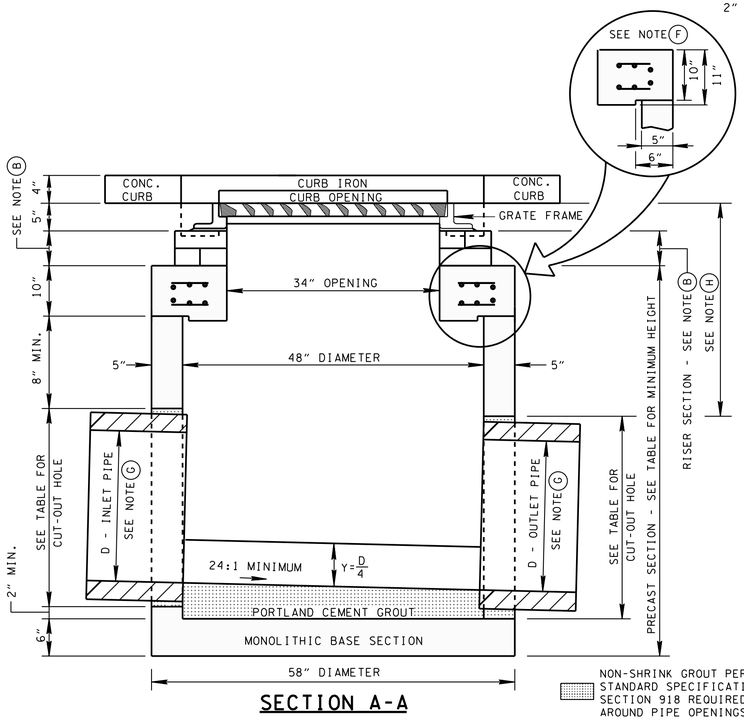
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 12-18-95: MODIFIED DRAWING NO. D-CB-25RA TO ACCEPT 4" MOUNTABLE CURB BACK.
- ☐ REV. 2-14-96: CHANGED SHEET NAME.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (F) CHANGED LABEL OF LAST FOUR GENERAL NOTES.
- ☐ REV. 4-15-97: CHANGED CATCH BASIN DIMENSION TABLE.
- ☐ REV. 1-19-99: CHANGED MINMUM DEPTH TABLE AND DRAWING IN GENERAL TO REFLECT REDUCTION IN INVERT DROP ACROSS CATCH BASIN.
- ☐ REV. 12-18-99: MODIFIED CATCH BASIN DIMENSION TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

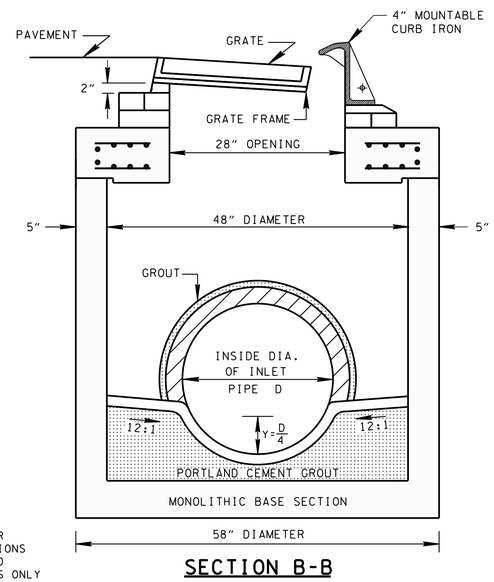
  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION C-C



SECTION A-A



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: $f_c' = 4{,}000$ POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, $F_y = 60{,}000$ POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12C FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-28RB FOR DETAILS REGARDING 60" AND LARGER CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 4" MOUNTABLE CURB).

(K) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-28.01 CATCH BASINS, TYPE 28, 0'-4' DEPTH THROUGH 611-28.05 CATCH BASINS, TYPE 28, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

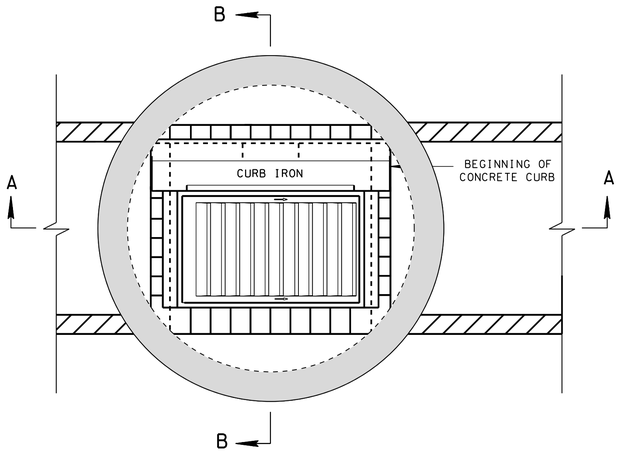
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

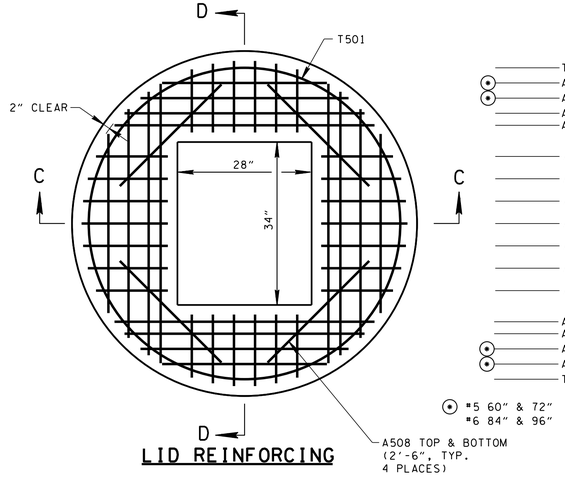
STANDARD PRECAST 48" CIRCULAR NO. 28 CATCH BASIN

(FOR USE WITH 4" MOUNTABLE CURB)

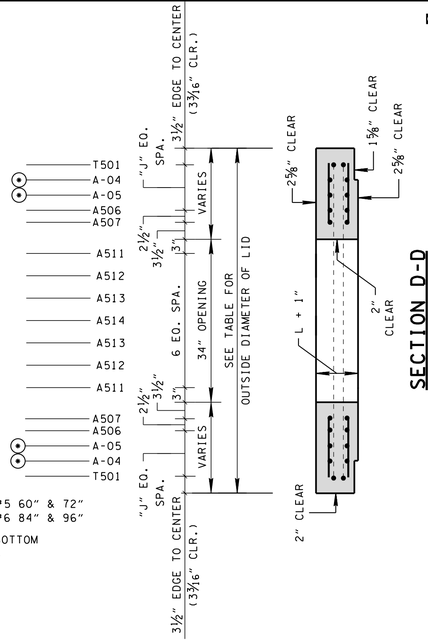
NOT TO SCALE | 12-18-95 | D-CB-28RA



PLAN VIEW



LID REINFORCING



SECTION D-D

- REV. 3-11-14: ELIMINATED STIRRUPS.
- REV. 1-19-99: CHANGED MINIMUM DEPTH TABLE AND DRAWING IN GENERAL TO REFLECT REDUCTION IN INVERT DROP ACROSS CATCH BASIN.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I) ADDED CATCH BASIN MAXIMUM DEPTH NOTE. CHANGED REINFORCING STEEL IN LID.
- REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
			60"	72"	84"	96"	60"	72"	84"	96"
18	2½	25	51½	53	57½	59	3.92	3.97	4.34	4.38
24	3	32	58½	60	64½	66	4.46	4.51	4.88	4.92
30	3½	39	65½	67	71½	73	5.00	5.05	5.42	5.46
36	4	46	72½	74	78½	80	5.55	5.59	5.97	6.00
42	4½	53	79½	81	85½	87	6.09	6.13	6.51	6.54
48	5	60	86½	88	92½	94	6.63	6.67	7.05	7.08
54	5½	67	93½	95	99½	101	7.17	7.22	7.59	7.63
60	6	74	100½	102	106½	108	7.71	7.76	8.13	8.17
66	6½	81	107½	109	113½	115	8.25	8.30	8.67	8.71

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

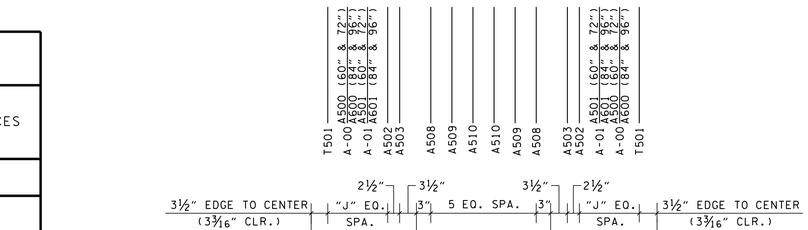
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID

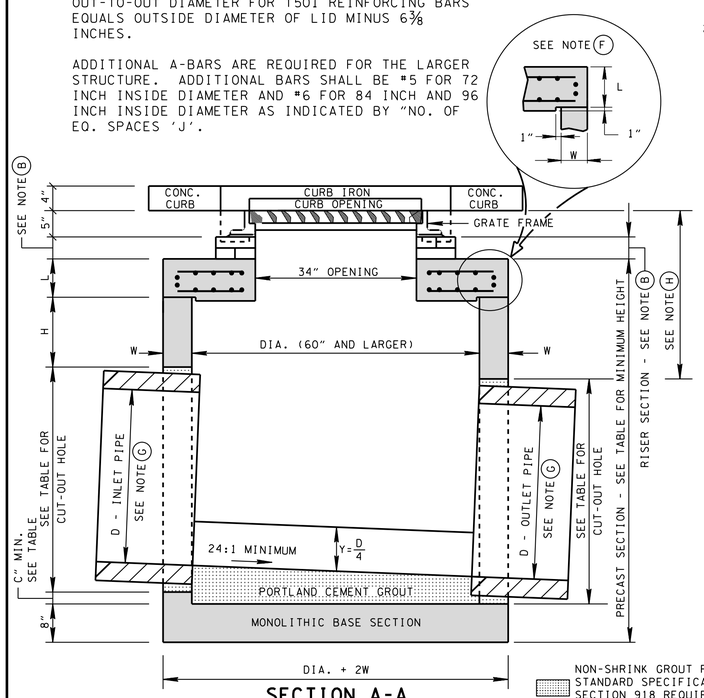
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4
84	100	5
96	114	6

OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE. ADDITIONAL BARS SHALL BE #5 FOR 72 INCH INSIDE DIAMETER AND #6 FOR 84 INCH AND 96 INCH INSIDE DIAMETER AS INDICATED BY "NO. OF EQ. SPACES 'J'.

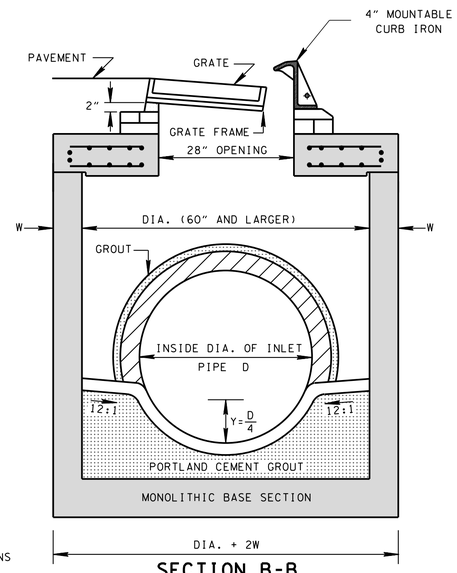


SECTION C-C



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES (FOR 60 OR 72 INCH INSIDE DIAMETER CATCH BASIN) OR 27 INCHES (FOR 84 OR 96 INCH INSIDE DIAMETER CATCH BASIN) IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH (FOR 60 OR 72 INCH INSIDE DIAMETER CATCH BASIN) OR 27 INCH DEPTH (FOR 84 OR 96 INCH INSIDE DIAMETER CATCH BASIN) SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) SEE STANDARD DRAWING D-CB-12RA FOR DETAILS REGARDING 48" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).

(K) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-25.01 CATCH BASINS, TYPE 25, 0'-4' DEPTH THROUGH 611-25.07, CATCH BASINS, TYPE 25, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-25.08, CATCH BASINS, TYPE 25, ____'- ____' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

CATCH BASIN DIMENSIONS

INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION	
						C (INCHES)	H (INCHES)
60	6	10	72	36	24	2.5	8
72	7	10	86	48	30	3.0	8
84	8	10	100	60	36	3.5	12
96	9	10	114	66	42	4.0	12

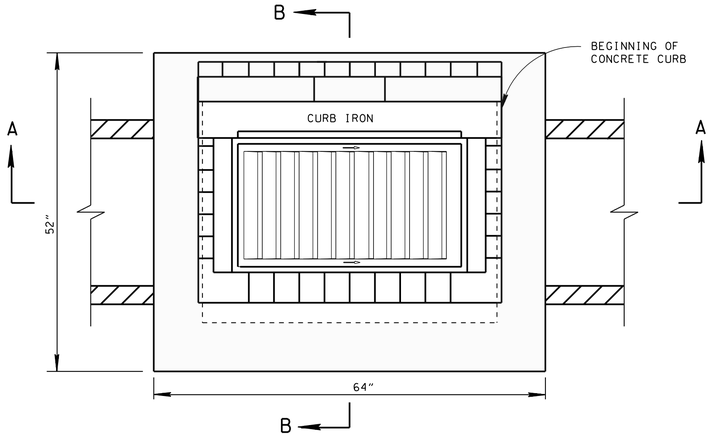
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

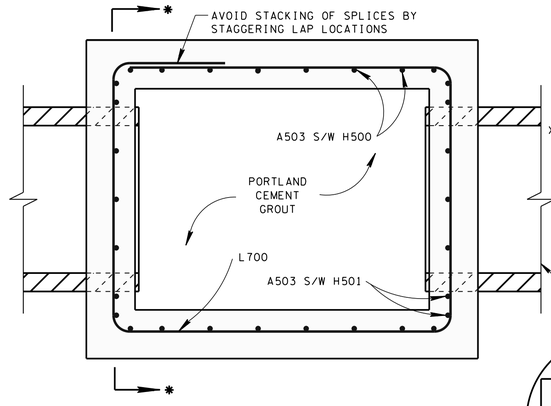
STANDARD PRECAST CIRCULAR NO. 28 CATCH BASIN
(FOR USE WITH 4" MOUNTABLE CURB)

NOT TO SCALE

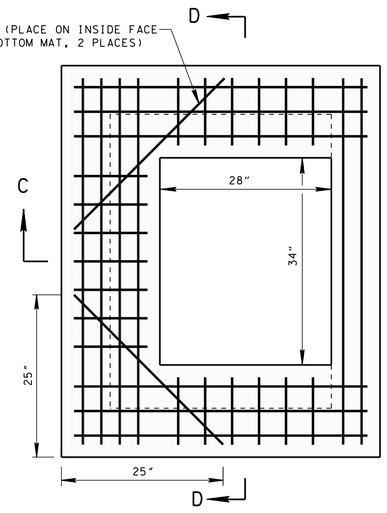
12-18-95 D-CB-28RB



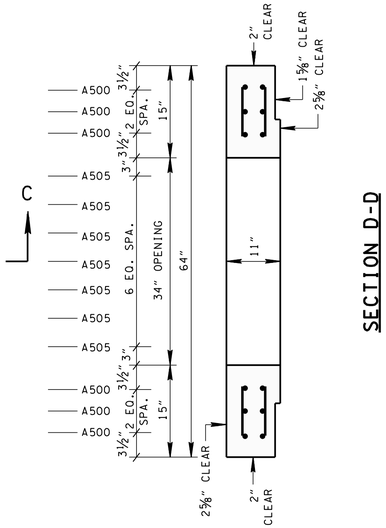
PLAN VIEW



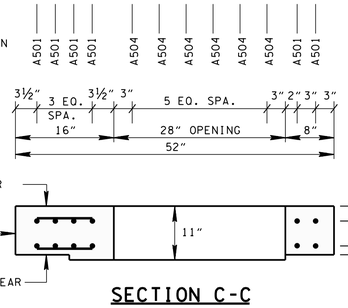
SECTION E-E



PLAN VIEW



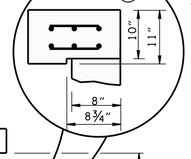
SECTION D-D

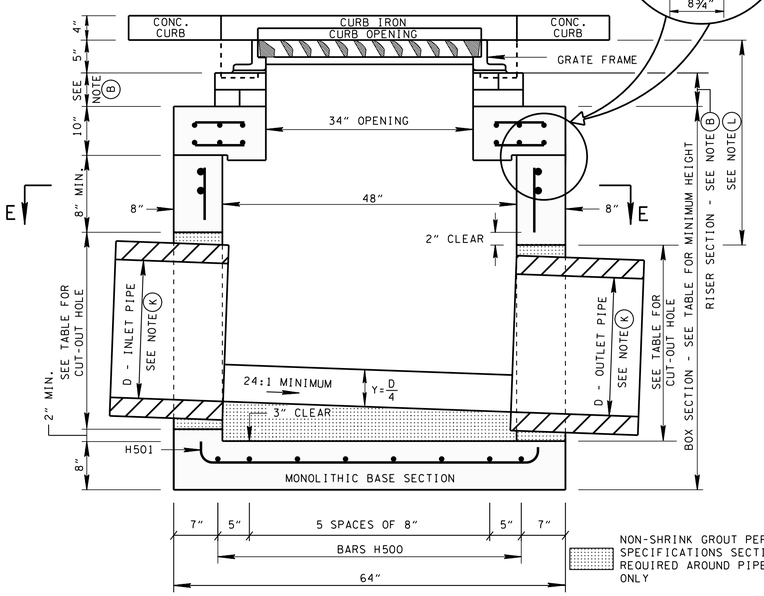


SECTION X-X

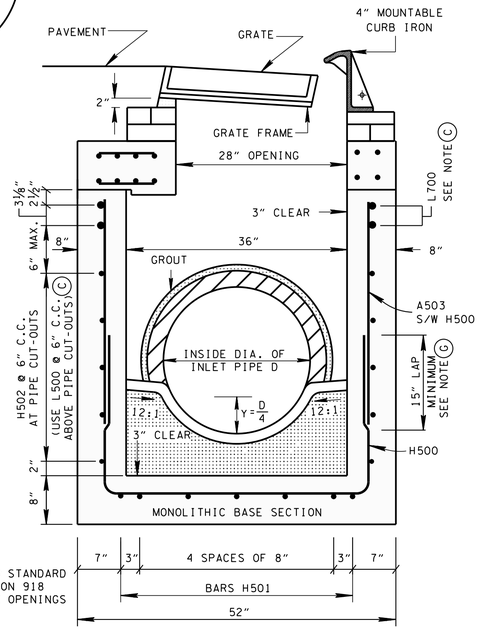
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

SECTION C-C





SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(4) 30	3½	39	65	4.96
(4) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 12-18-95: CHANGED VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B", REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 28 CONCRETE CATCH BASINS AND ALL PRECAST NO. 28 CONCRETE CATCH BASINS THAT ARE GREATER THAN TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-28P FOR DETAILS OF PRECAST NO. 28 CONCRETE CATCH BASINS TWELVE FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

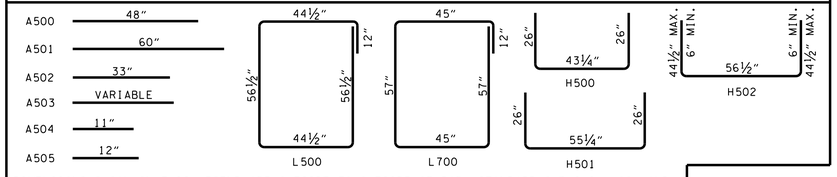
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12C FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-28.01 CATCH BASINS, TYPE 28, 0'-4' DEPTH THROUGH 611-28.05 CATCH BASINS, TYPE 28, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

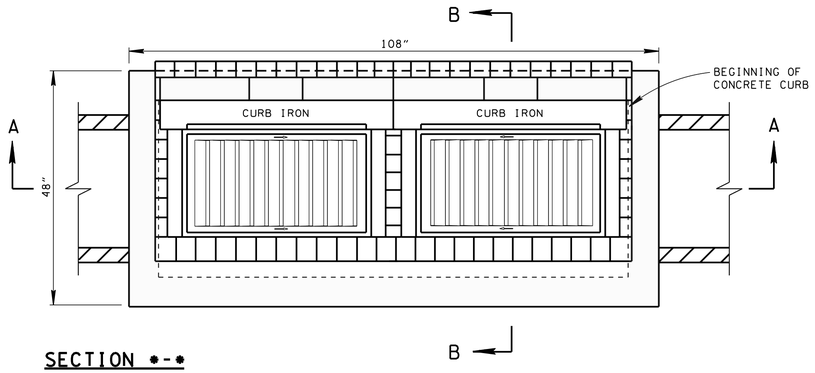
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO. 28 CATCH BASIN

(FOR USE WITH 4" MOUNTABLE CURB)

NOT TO SCALE

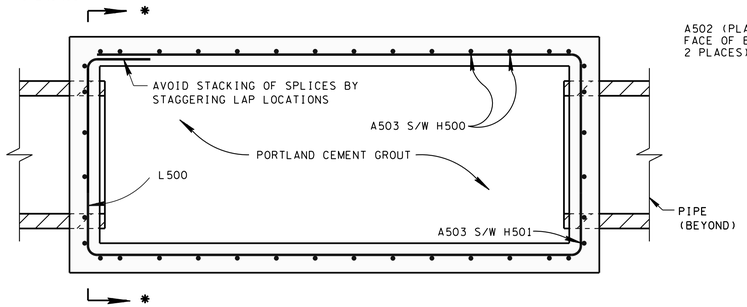
5-27-95 D-CB-28S



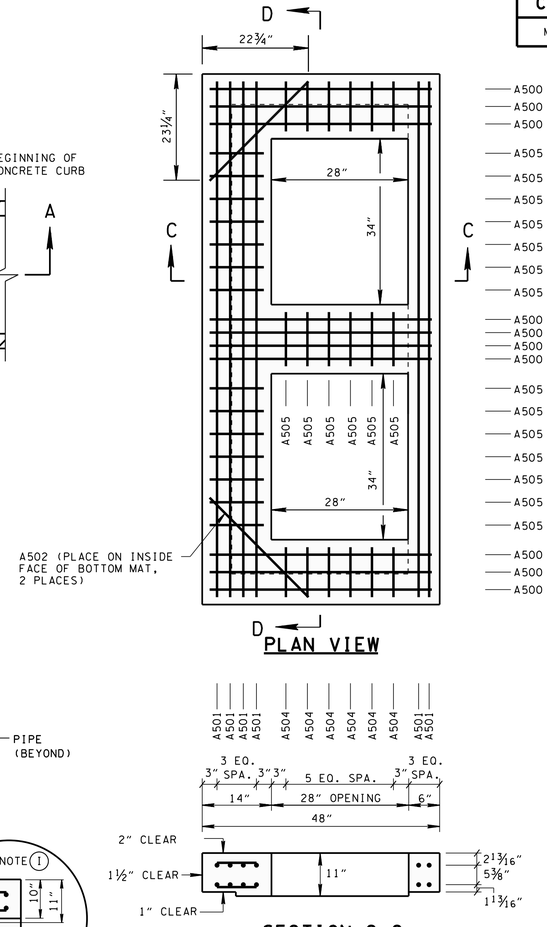
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

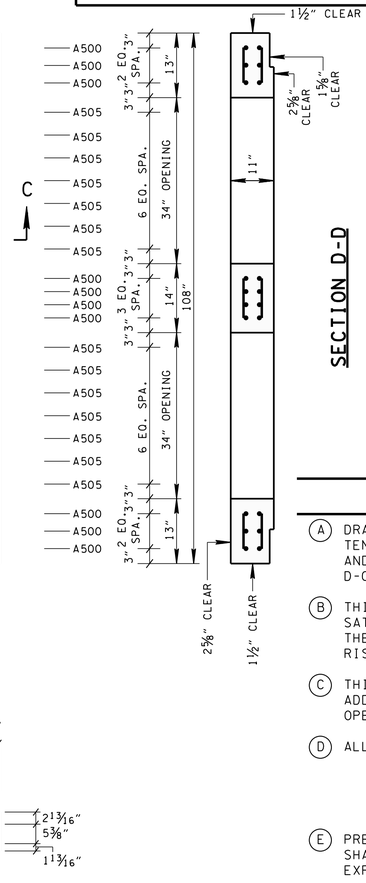
PLAN VIEW



SECTION E-E

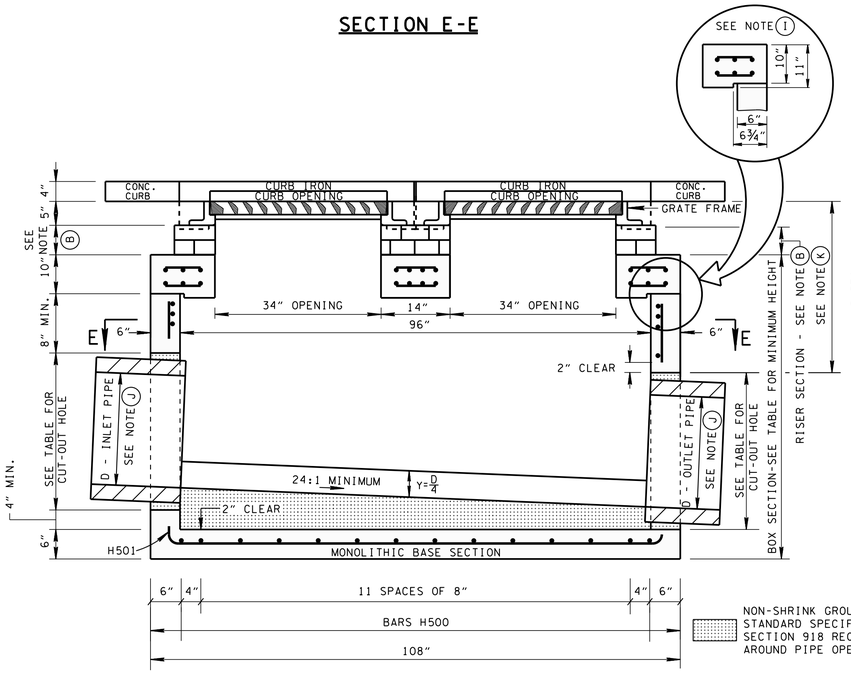


PLAN VIEW

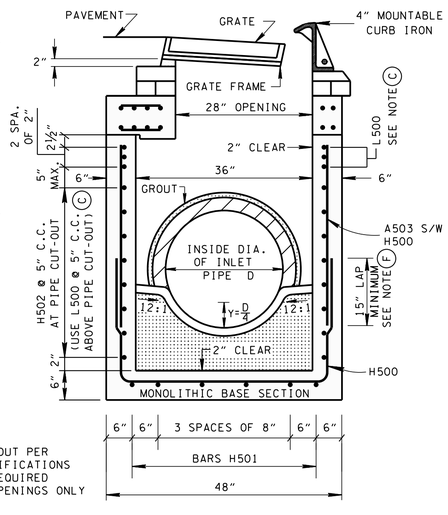


SECTION D-D

SECTION C-C



SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 10.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	4.05
24	3	32	58	4.59
(4) 30	3½	39	65	5.13
(4) 36	4	46	72	5.67
(4) 42	4½	53	79	6.21
(4) 48	5	60	86	6.75
(4) 54	5½	67	93	7.30
(4) 60	6	74	100	7.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

- ☐ REV. 12-18-95: MODIFIED DRAWING NO. D-CB-29S BY CHANGING WALL AND FLOOR THICKNESSES FROM EIGHT TO SIX INCHES FOR PRECAST CATCH BASIN BETWEEN MINIMUM DEPTH AND TEN FEET.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (G) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL PRECAST NO. 29 CONCRETE CATCH BASINS THAT ARE BETWEEN MINIMUM DEPTH AND TEN FEET. SEE STANDARD DRAWING D-CB-29S FOR DETAILS OF CAST-IN-PLACE NO. 29 CONCRETE CATCH BASINS AND PRECAST NO. 29 CONCRETE CATCH BASINS THAT ARE GREATER TEN FEET IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) ALL PRECAST ELEMENTS SHALL MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

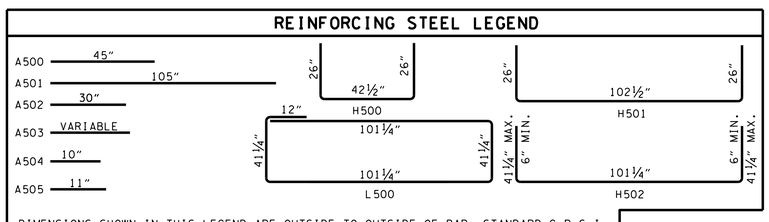
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-12C FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-29.01 CATCH BASINS, TYPE 29, 0'-4' DEPTH THROUGH 611-29.03, CATCH BASINS, TYPE 29, > 8'-12' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

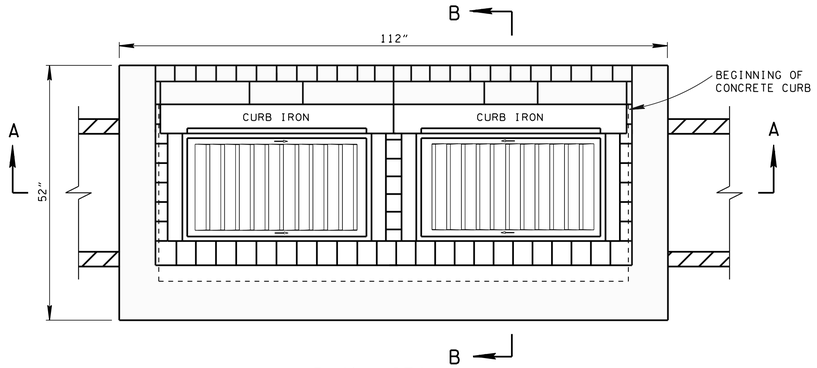
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

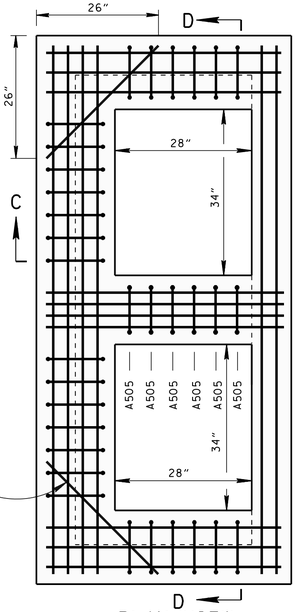
STANDARD PRECAST RECTANGULAR CONCRETE NO. 29 CATCH BASIN

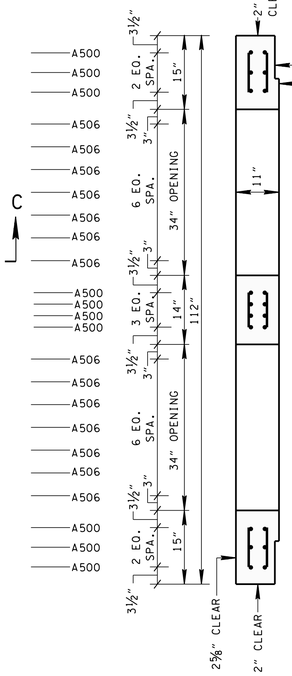
(FOR USE WITH 4" MOUNTABLE CURB)

NOT TO SCALE | 12-18-95 | D-CB-29P



PLAN VIEW





SECTION D-D

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	53	4.05
24	3	32	60	4.59
(4) 30	3½	39	67	5.13
(4) 36	4	46	74	5.67
(4) 42	4½	53	81	6.21
(4) 48	5	60	88	6.75
(4) 54	5½	67	95	7.30
(4) 60	6	74	102	7.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 29 CONCRETE CATCH BASINS AND ALL PRECAST NO. 29 CONCRETE CATCH BASINS THAT ARE GREATER THAN TEN FEET IN DEPTH. SEE STANDARD DRAWING D-CB-29P FOR DETAILS OF PRECAST NO. 29 CONCRETE CATCH BASINS TEN FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: $f_c' = 4{,}000$ POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, $F_y = 60{,}000$ POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-12C FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-29.01 CATCH BASINS, TYPE 29, 0'-4' DEPTH THROUGH 611-29.05 CATCH BASINS, TYPE 29, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

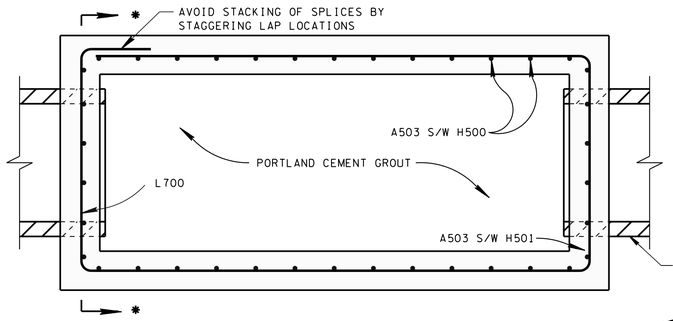
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

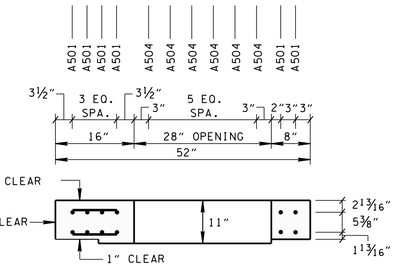
CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

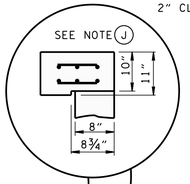
A502 (PLACE ON INSIDE FACE OF BOTTOM MAT, 2 PLACES)

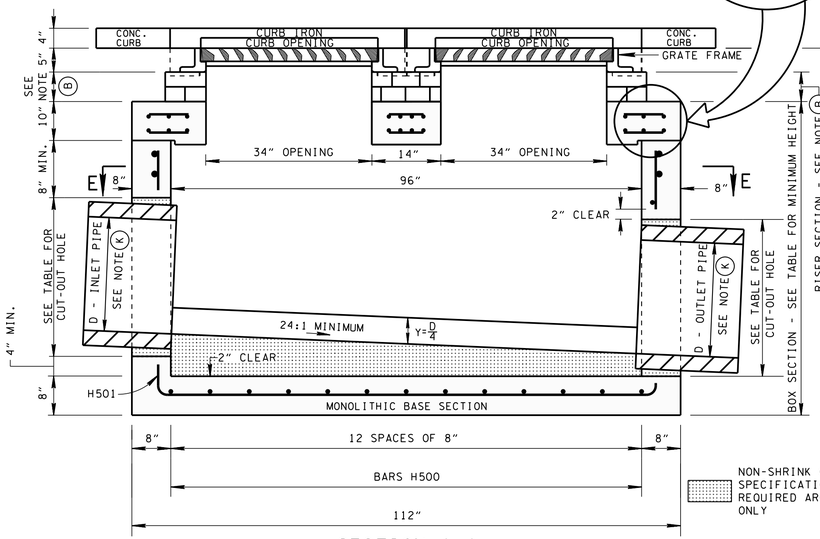


SECTION E-E

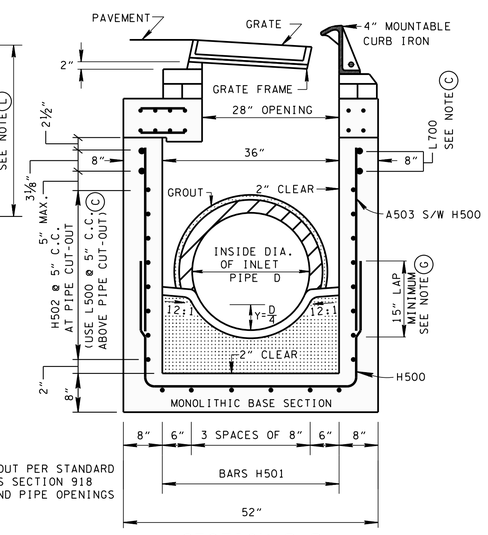


SECTION C-C





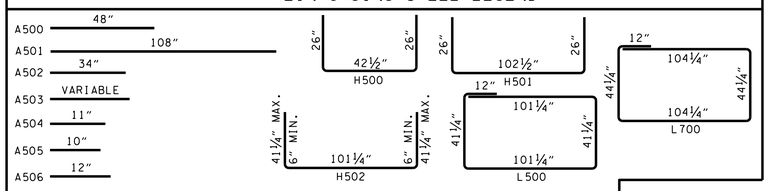
SECTION A-A



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

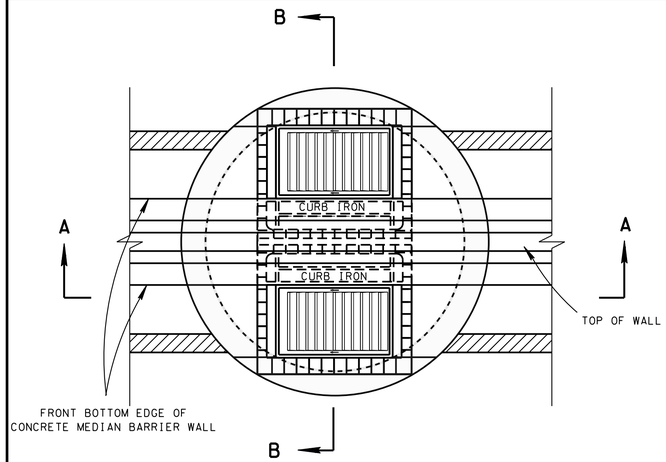
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO. 29 CATCH BASIN

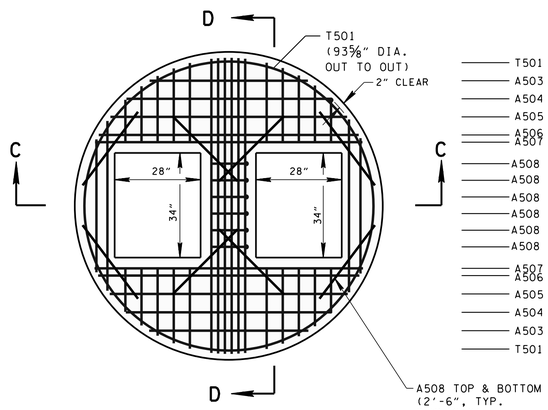
(FOR USE WITH 4" MOUNTABLE CURB)

12-18-95 | D-CB-29S

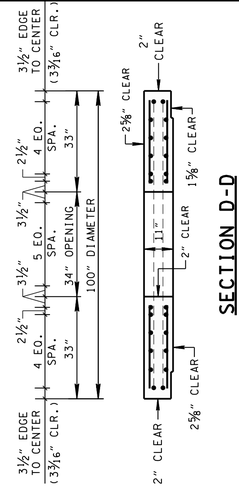
22-APR-2014 09:50
\\JJ0019083WF013.tdot.state.tn.us\JJ006if$\backup dvpak on JJ96208\WORKSTD\2014 std dwg\DCB29S_03lll4.dgn



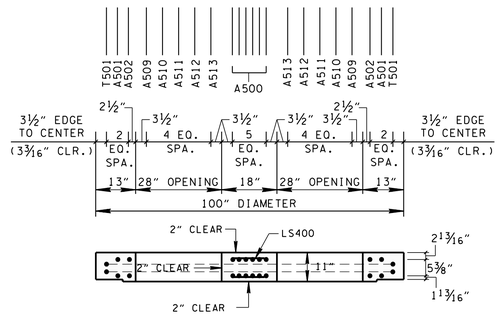
PLAN VIEW



LID REINFORCING



SECTION D-D



SECTION C-C

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMESIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	
18	2½	25	62½	4.34
24	3	32	69½	4.88
30	3½	39	76½	5.42
36	4	46	83½	5.97
42	4½	53	90½	6.51
48	5	60	97½	7.05
54	5½	67	104½	7.59
60	6	74	111½	8.13

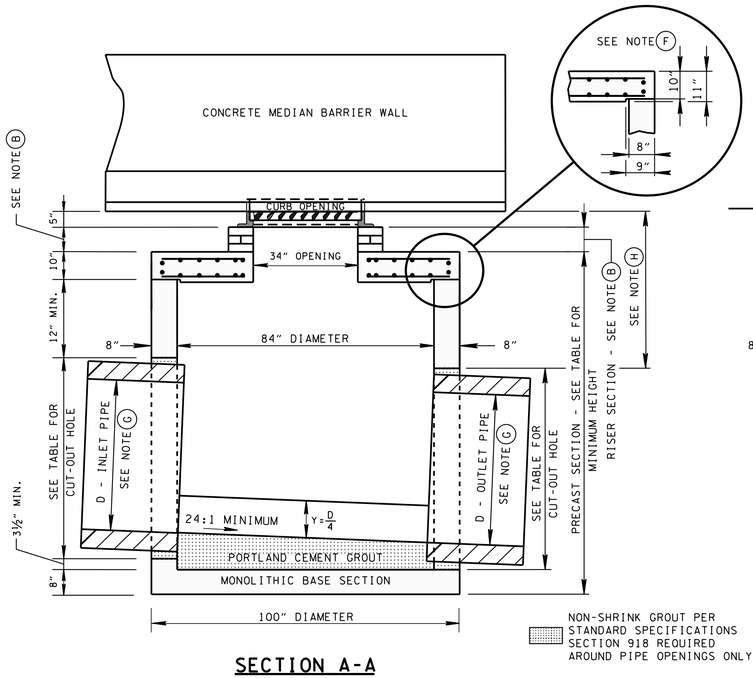
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

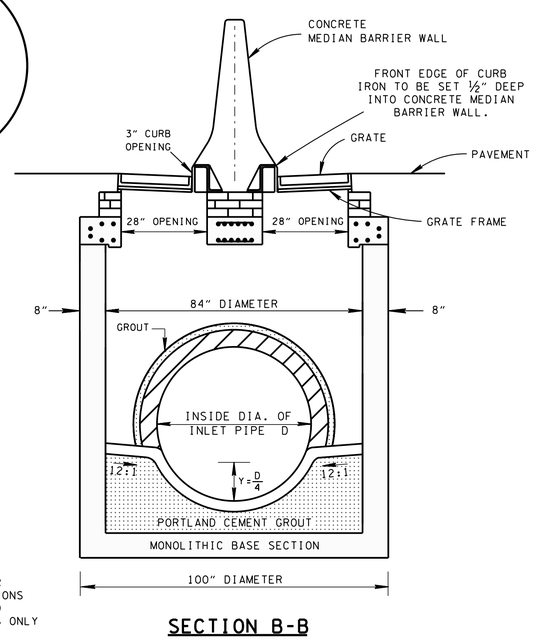
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (F) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV. 4-15-97: CHANGED CATCH BASIN DIMENSION TABLE.
- ☐ REV. 1-19-99: CHANGED MINIMUM DEPTH TABLE AND DRAWING IN GENERAL TO REFLECT REDUCTION IN INVERT DROP ACROSS CATCH BASIN.
- ☐ REV. 9-5-00: IN PLAN VIEW MOVED LOCATION OF A-A TO MATCH SECTIONAL VIEW.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (H) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 10-26-03: ADDED DIMENSION TO SECTION A-A.

  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION A-A



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-31.02 CATCH BASINS, TYPE 31, > 4'-8' DEPTH THROUGH 611-31.07, CATCH BASINS, TYPE 31, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-31.08, CATCH BASINS, TYPE 31, ___ '- ___' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

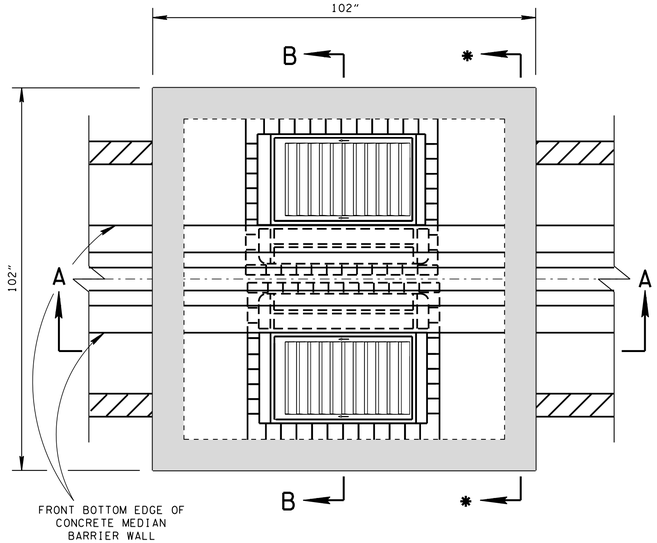
STANDARD PRECAST CIRCULAR NO. 31 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

NOT TO SCALE

7-31-86

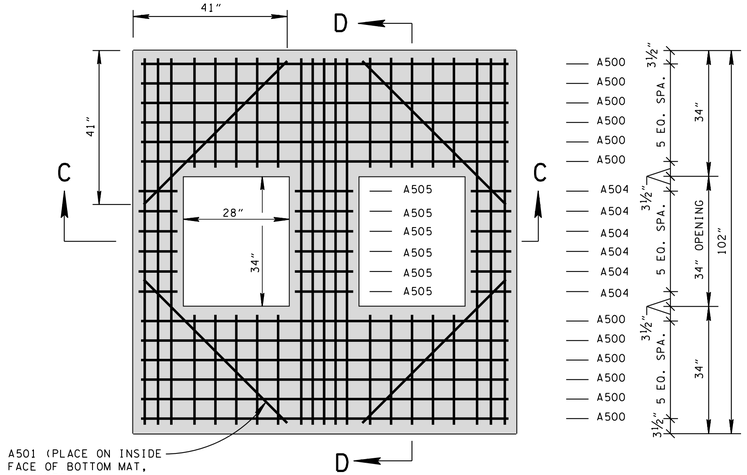
D-CB-31R



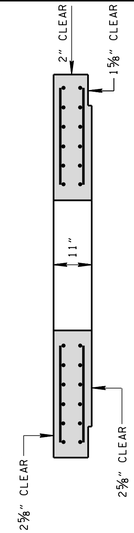
PLAN VIEW

SECTION *-*

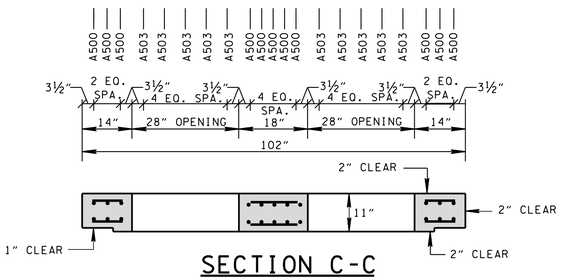
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



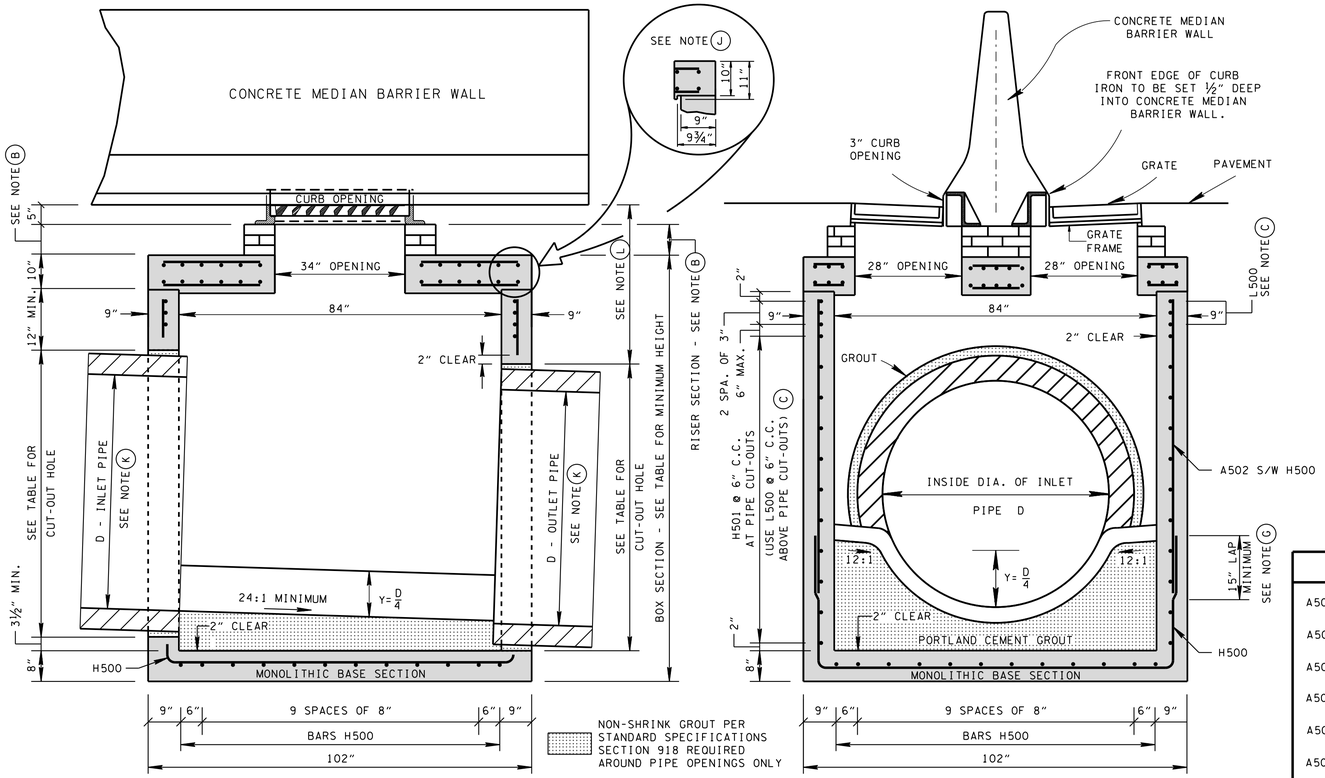
PLAN VIEW



SECTION D-D



SECTION C-C



SECTION A-A

SECTION B-B

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	57½	4.34
24	3	32	64½	4.88
30	3½	39	71½	5.42
36	4	46	78½	5.97
42	4½	53	85½	6.51
48	5	60	92½	7.05
54	5½	67	99½	7.59
60	6	74	106½	8.13
66	6½	81	113½	8.67

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 9-5-00: IN PLAN VIEW MOVED LOCATION OF A-A TO MATCH SECTIONAL VIEW.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I) ADDED CATCH BASIN MAXIMUM DEPTH NOTE. CHANGED DRAWING NO. FROM D-CB-31S TO D-CB-31SD.
- ☐ REV. 5-30-02: MODIFIED REINFORCING STEEL.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 31SD CONCRETE CATCH BASINS AND ALL PRECAST NO. 31SD CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

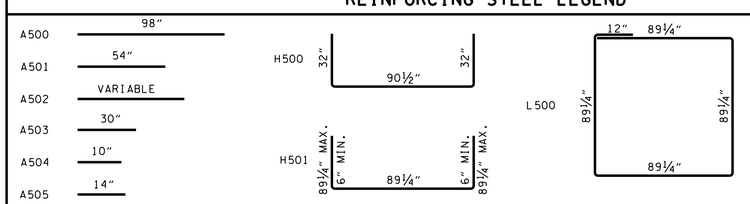
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-31.02 CATCH BASINS, TYPE 31, > 4'-8' DEPTH THROUGH 611-31.07, CATCH BASINS, TYPE 31, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

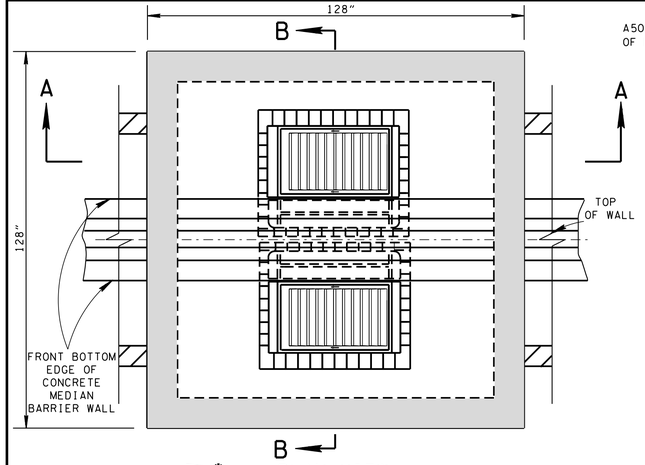
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

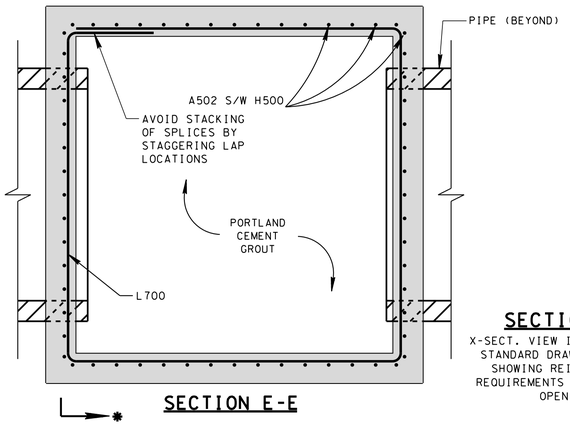
STANDARD 7' X 7' SQUARE CONCRETE NO. 31 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

5-27-95 D-CB-31SD



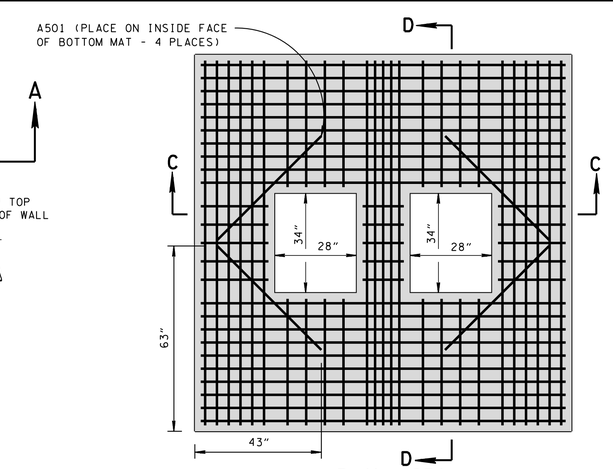
PLAN VIEW



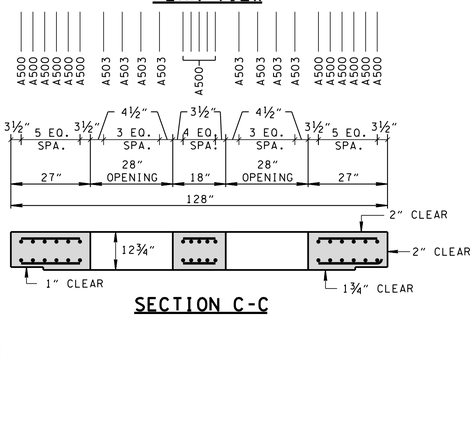
SECTION E-E

SECTION ●-●

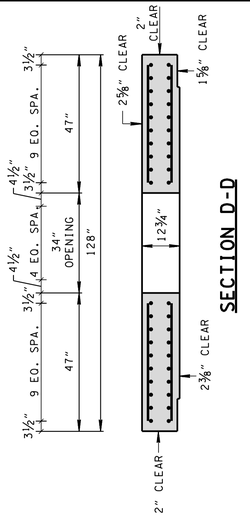
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



PLAN VIEW



SECTION C-C



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	61½	4.42
24	3	32	68½	4.96
30	3½	39	75½	5.50
36	4	46	82½	6.04
42	4½	53	89½	6.58
48	5	60	96½	7.13
54	5½	67	103½	7.67
60	6	74	110½	8.21
66	6½	81	117½	8.75
72	7	88	124½	9.29
78	7½	95	131½	9.83

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 5-30-02: MODIFIED REINFORCING STEEL.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- ☐ REV. 2-13-04: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 31SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 31SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

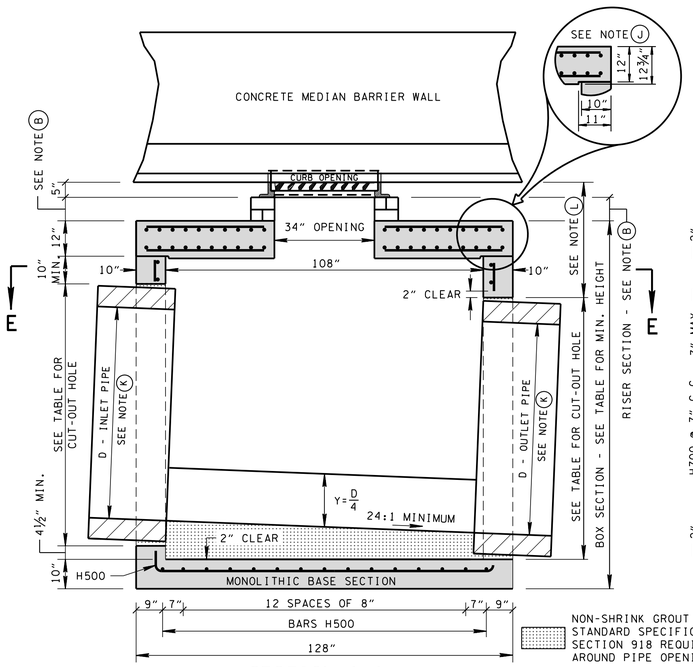
(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

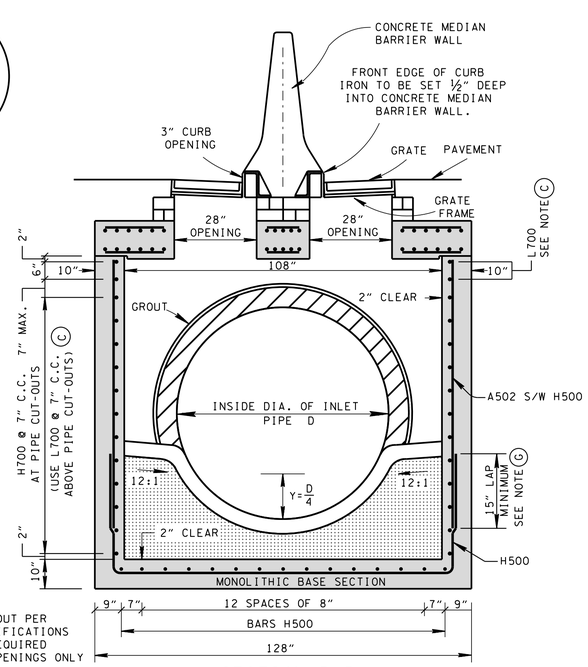
(M) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-31.02 CATCH BASINS, TYPE 31, > 4'-8' DEPTH THROUGH 611-31.07, CATCH BASINS, TYPE 31, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.



SECTION A-A

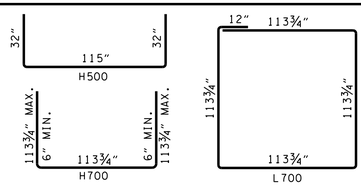
NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

REINFORCING STEEL LEGEND

A500	124"	A503	43"
A501	50"	A504	23"
A502	VARIABLE	A505	14"



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR.
STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

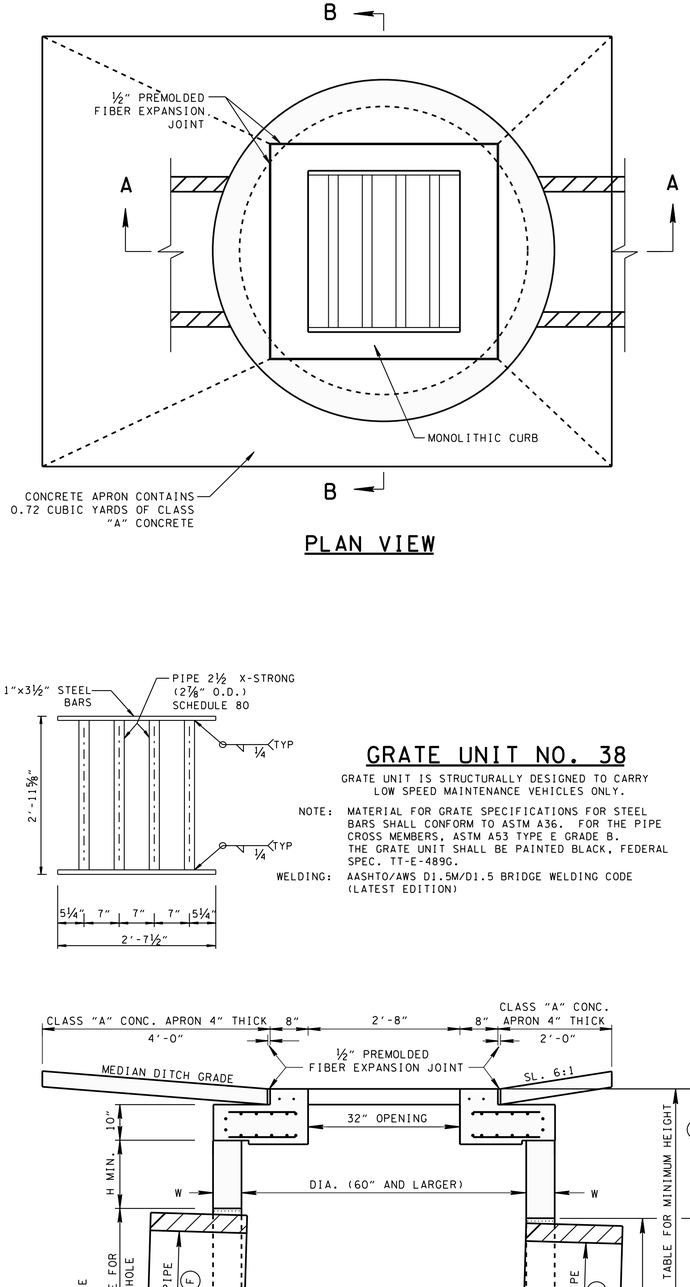
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 9' X 9' SQUARE CONCRETE NO. 31 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

NOT TO SCALE

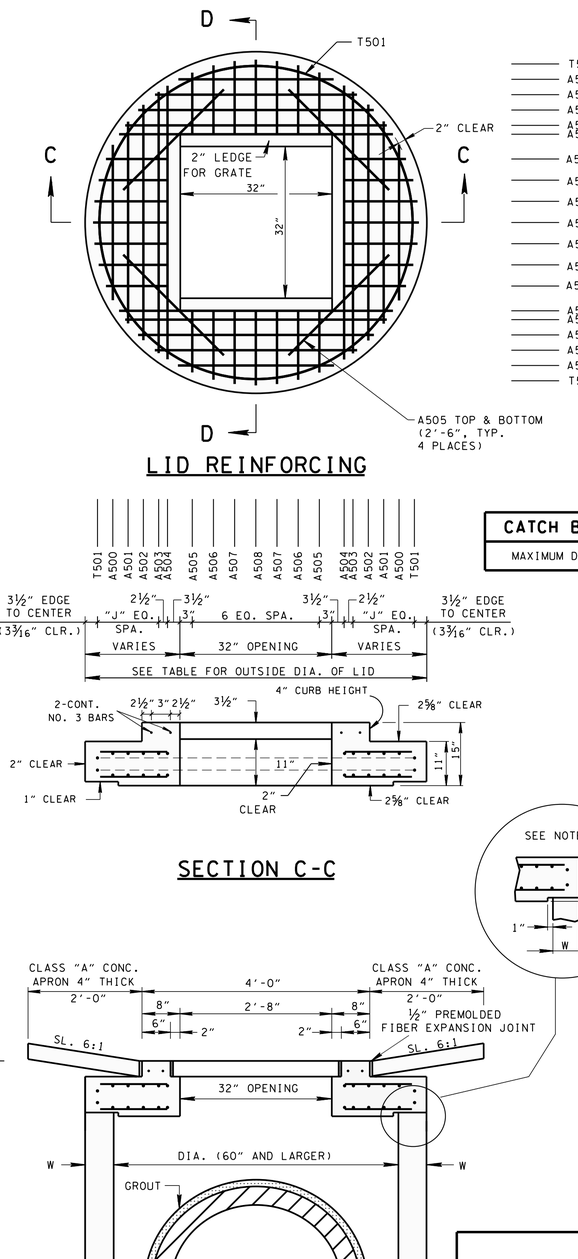
10-26-99 D-CB-31SE



PLAN VIEW

OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE AS INDICATED BY "NO. OF EQ. SPACES 'J'"



LID REINFORCING

SECTION D-D

VARIABLE REINFORCING AND SPACING DIMENSIONS IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4
84	100	5
96	114	6

CATCH BASIN DIMENSIONS							FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)							
			60"	72"	84"	96"	60"	72"	84"	96"
18	2½	25	55½	58	61½	63	3.88	4.26	4.27	4.29
24	3	32	62½	65	68½	70	4.42	4.80	4.83	4.83
30	3½	39	69½	72	75½	77	4.97	5.34	5.38	5.38
36	4	46	76½	79	82½	84	5.51	5.88	5.92	5.92
42	4½	53	83½	86	89½	91	6.05	6.42	6.46	4.46
48	5	60	90½	93	96½	98	6.59	6.97	7.00	7.00
54	5½	67	97½	100	103½	105	7.13	7.51	7.54	7.54
60	6	74	104½	107	110½	112	7.67	8.05	8.08	8.08
66	6½	81	111½	114	117½	119	8.22	8.59	8.63	8.63

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 9-5-04: CHANGED GROOVE DEPTH IN LID.
- ☐ REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

GRATE UNIT NO. 38

GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.

NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)

SECTION C-C

SECTION A-A

SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(C) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(D) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(E) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(F) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(G) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH (FOR 60 OR 72 INCH INSIDE DIAMETER CATCH BASIN) OR 27 INCH DEPTH (FOR 84 OR 96 INCH INSIDE DIAMETER CATCH BASIN) SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(H) CONCRETE JOINT MATERIAL TO BE ½" PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.

(I) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-38.01 CATCH BASINS, TYPE 38, 0'-4' DEPTH THROUGH 611-38.07, CATCH BASINS, TYPE 38, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-38.08, CATCH BASINS, TYPE 38, ____ '- ____ ' DEPTH PER EACH. PAYMENT INCLUDES GRATE. WHEN CLASS "A" CONCRETE APRON IS USED, IT IS TO BE INCLUDED IN THE PRICE BID PER CATCH BASIN.

CATCH BASIN DIMENSIONS							
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION	
						C (INCHES)	H (INCHES)
60	6	10	72	36	24	2.5	8
72	7	10	86	48	30	3.0	8
84	8	10	100	60	36	3.5	12
96	9	10	114	66	42	4.0	12

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

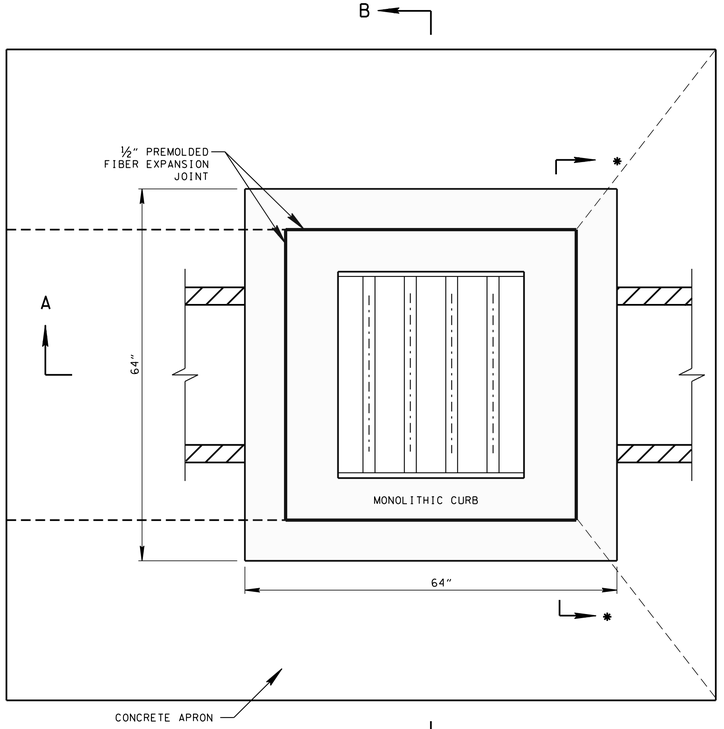
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST CIRCULAR NO. 38 CATCH BASIN

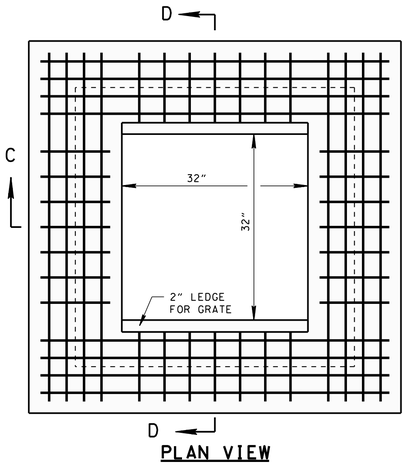
NOT TO SCALE

1-19-98

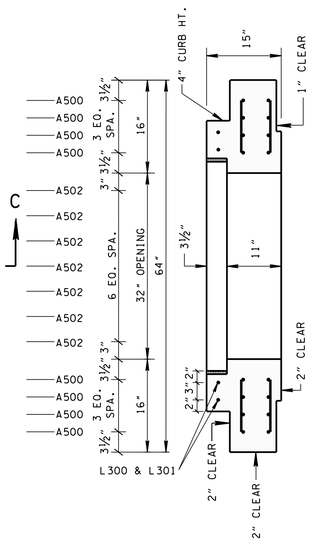
D-CB-38RB



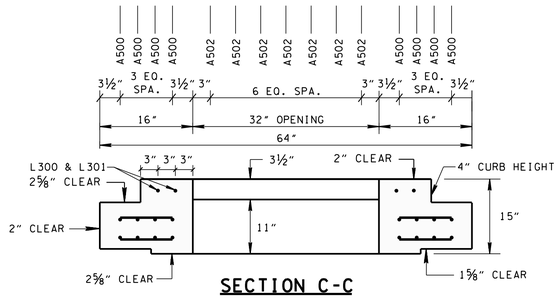
B
PLAN VIEW



PLAN VIEW



SECTION D-D



SECTION C-C

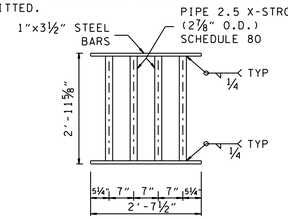
CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	55	3.88
24	3	32	62	4.42
30	3½	39	69	4.96
36	4	46	76	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.



GRATE UNIT NO. 38

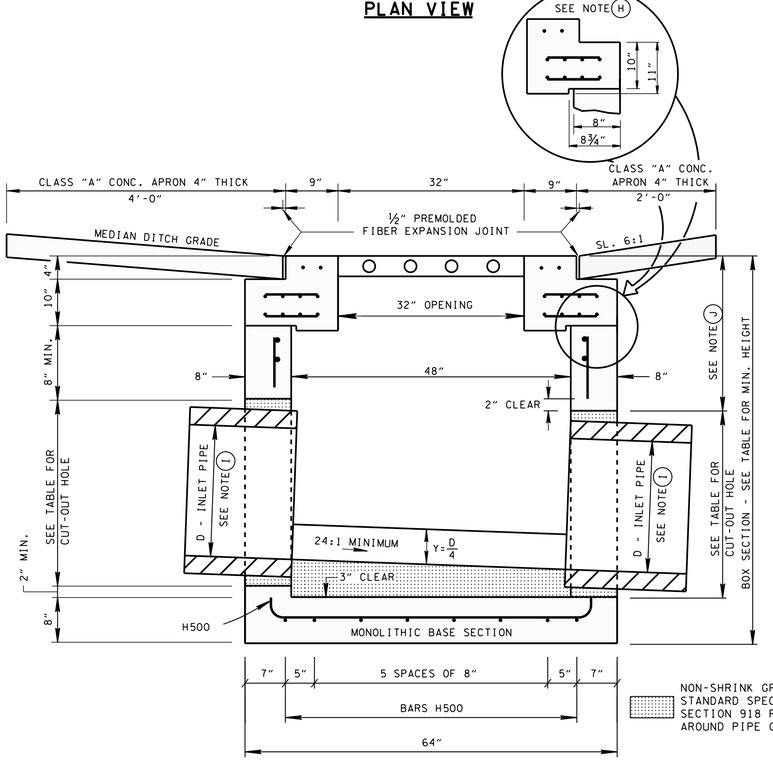
GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.

NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)

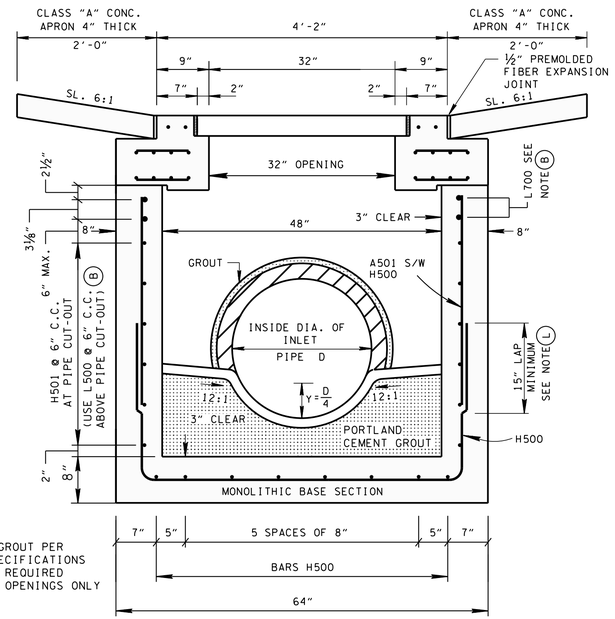
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 9-11-02: MODIFIED LID DETAIL.
- ☐ REV. 9-5-04: CHANGED GROOVE DEPTH IN LID.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 38SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 38SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

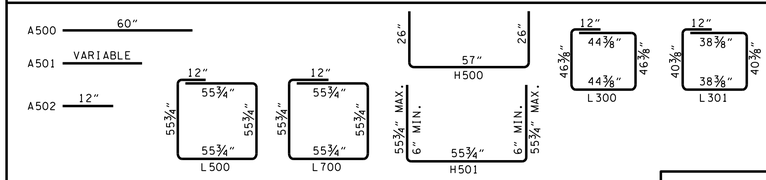
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 22 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) CONCRETE JOINT MATERIAL TO BE ½ INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.

(L) THE CONTRACTOR MAY ELIMINATE THE A501 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-38.01 CATCH BASINS, TYPE 38, 0'-4' DEPTH THROUGH 611-38.07 CATCH BASINS, TYPE 38, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES GRATE. WHEN CONCRETE APRON IS USED, IT IS TO BE INCLUDED IN THE PRICE BID PER CATCH BASIN.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

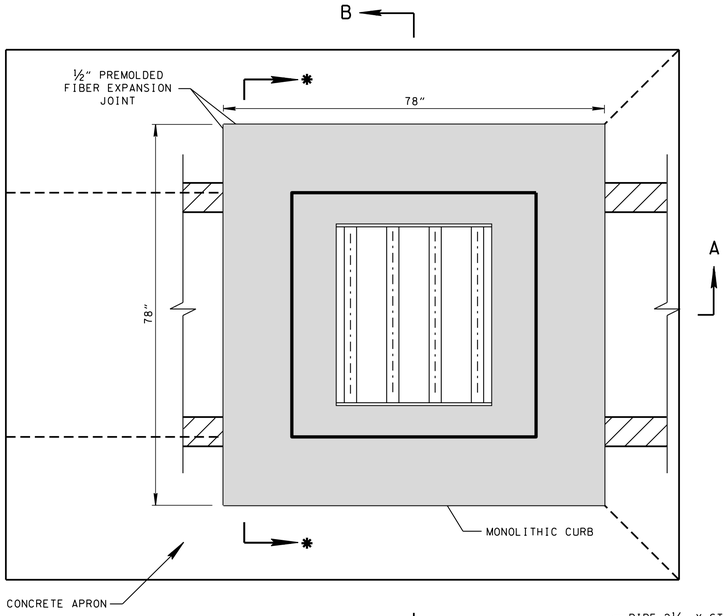
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

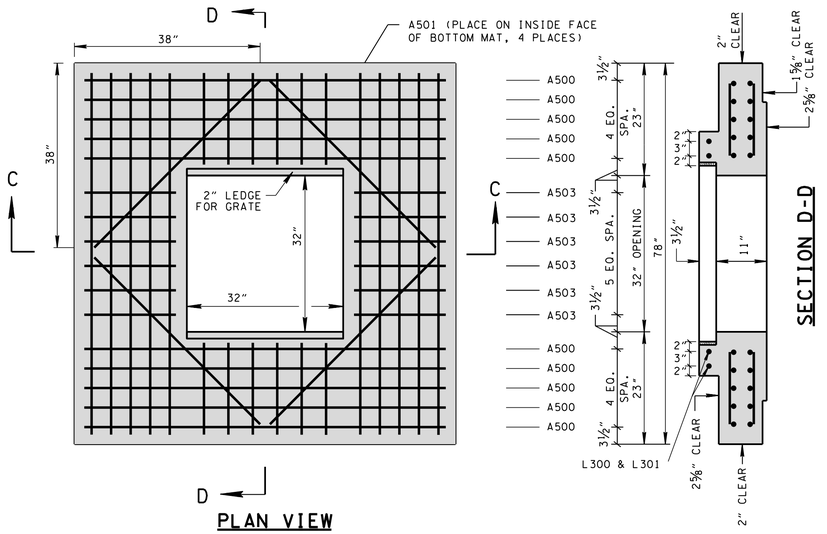
STANDARD 4' X 4' SQUARE CONCRETE NO.38 CATCH BASIN

NOT TO SCALE

5-27-99 D-CB-38SB



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	59	4.05
24	3	32	66	4.59
30	3½	39	73	5.13
36	4	46	80	5.67
42	4½	53	87	6.22
48	5	60	94	6.76

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- REV. 9-5-04: CHANGED GROOVE DEPTH IN LID.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.

SECTION ✱-✱

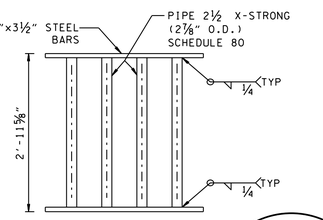
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

GRATE UNIT NO. 38

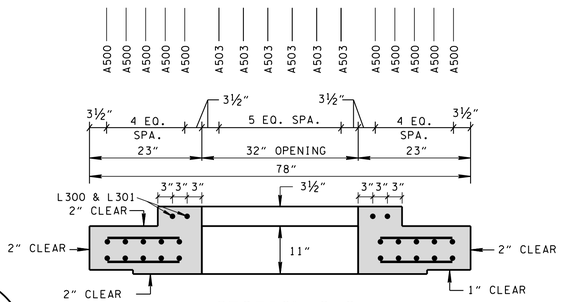
GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.

NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

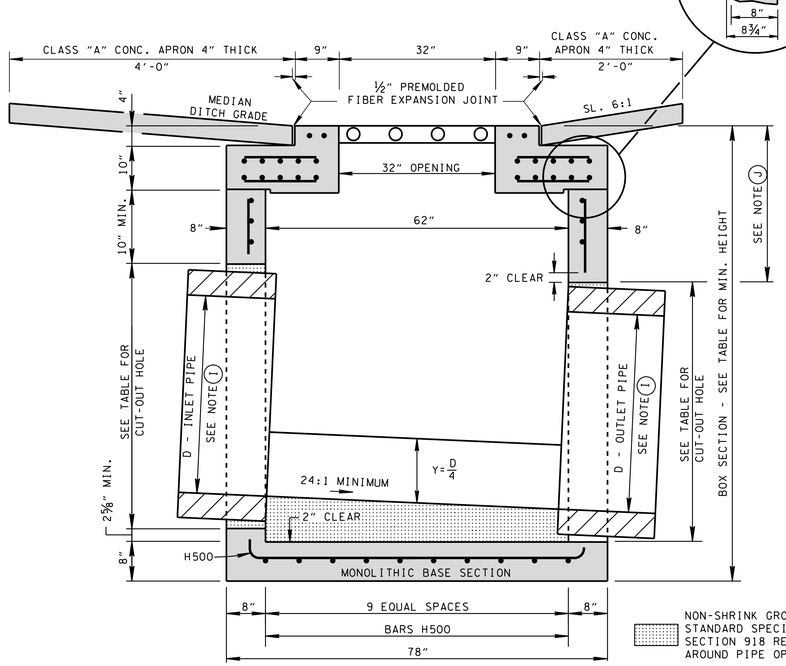
WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)



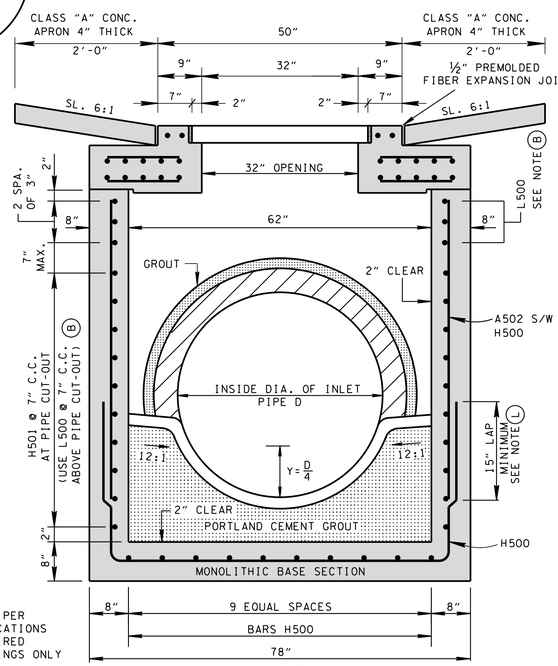
PLAN VIEW



SECTION C-C



SECTION A-A



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 38SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 38SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

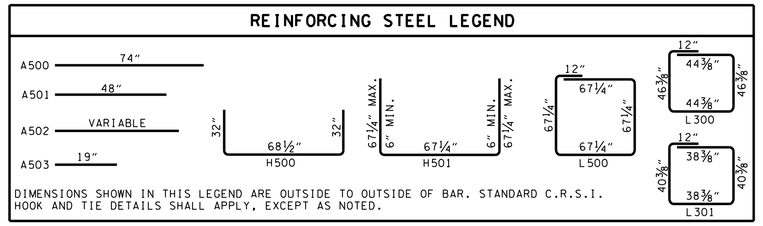
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 24 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) CONCRETE JOINT MATERIAL TO BE ½ INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.

(L) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-38.01 CATCH BASINS, TYPE 38, 0'-4' DEPTH THROUGH 611-38.07 CATCH BASINS, TYPE 38, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES GRATE. WHEN CONCRETE APRON IS USED, IT IS TO BE INCLUDED IN THE PRICE BID PER CATCH BASIN.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

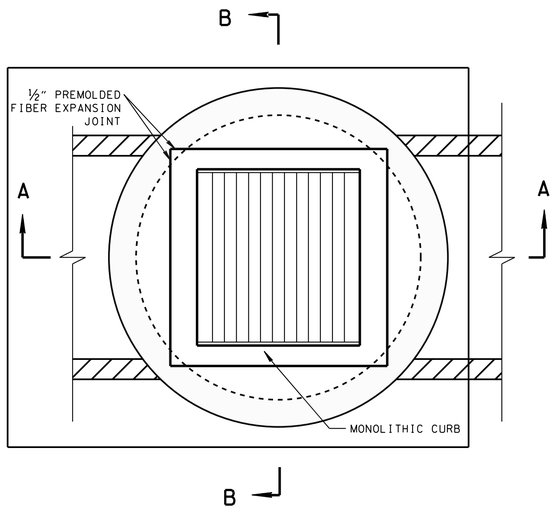
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

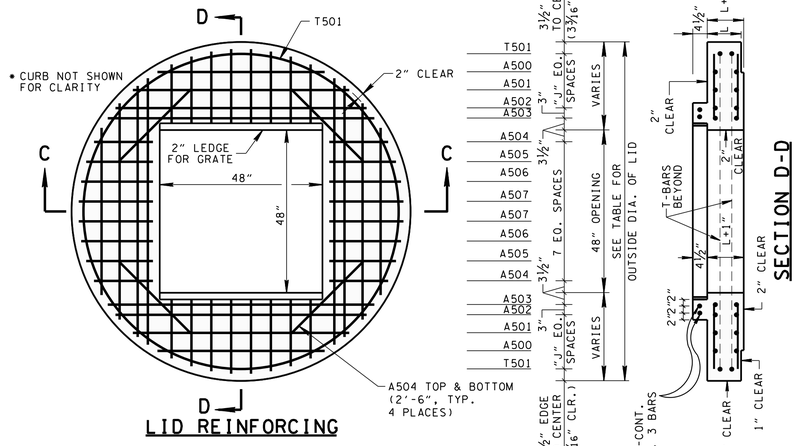
STANDARD 5'2" X 5'2" SQUARE CONCRETE NO.38 CATCH BASIN

NOT TO SCALE

9-11-02 D-CB-38SC

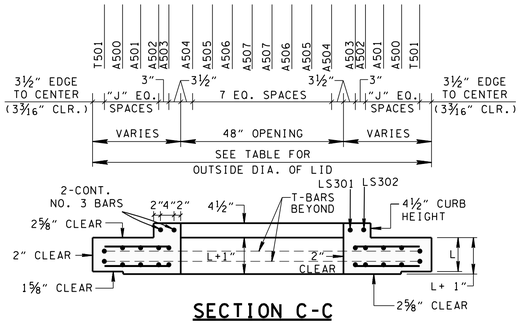


PLAN VIEW



LID REINFORCING

SECTION D-D



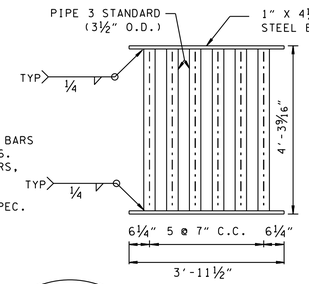
SECTION C-C

NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)

GRATE UNIT NO. 39

GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.



VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID

INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
84	100	3
96	114	4

OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUAL OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE AS INDICATED BY "NO. OF EQ. SPACES 'J'"

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)		FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)	
			84"	96"	84"	96"
18	2½	25	63	64½	4.29	4.42
24	3	32	70	71½	4.83	4.96
30	3½	39	77	78½	5.38	5.50
36	4	46	84	85½	5.92	6.04
42	4½	53	91	92½	6.46	6.58
48	5	60	98	99½	7.00	7.13
54	5½	67	105	106½	7.54	7.67
60	6	74	112	113½	8.08	8.21
66	6½	81	119	120½	8.63	8.75

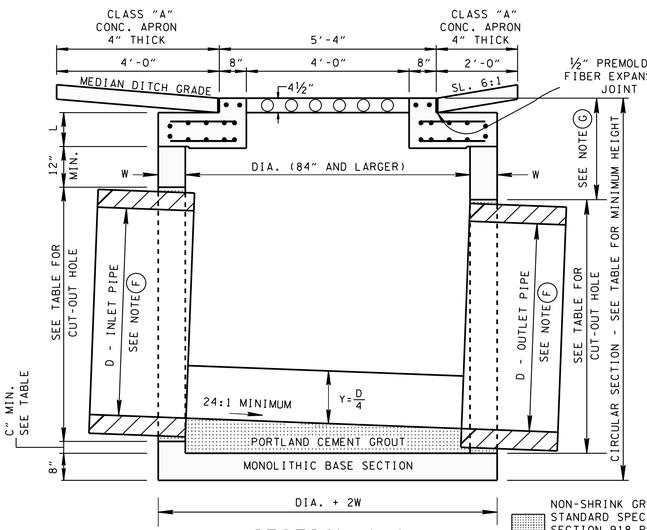
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

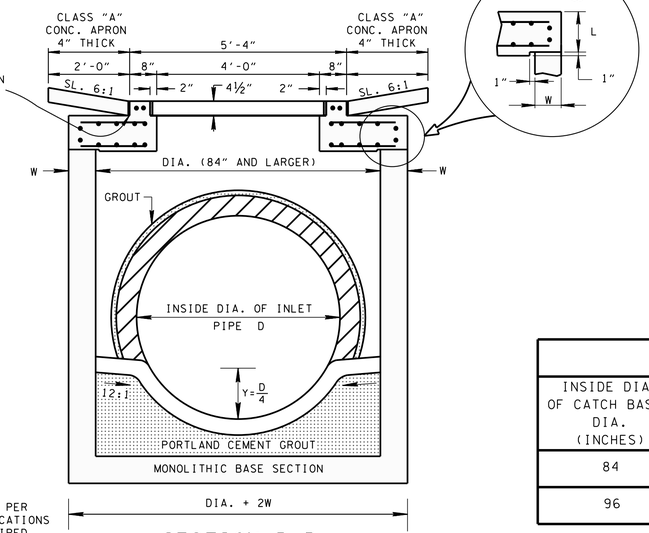
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- REV. 11-25-98: CHANGED LABELING ON PLAN VIEW OF GRATE UNIT AND SIZE OF STEEL BARS IN GRATE UNIT.
- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (H) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: ADDED BAR DESIGNATION FOR CONTINOUS #3 BARS AROUND GRATE AND MODIFIED TOP SLAB.
- REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION A-A



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(C) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(D) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(E) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(F) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(G) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 26½ INCH (FOR 84 INCH INSIDE DIAMETER CATCH BASIN) OR 27½ INCH (FOR 96 INCH INSIDE DIAMETER CATCH BASIN) DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(H) CONCRETE JOINT MATERIAL TO BE ½" PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.

(I) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-39.02 CATCH BASINS, TYPE 39, > 4'-8' DEPTH THROUGH 611-39.07, CATCH BASINS, TYPE 39, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-39.08, CATCH BASINS, TYPE 39, ___'- ___' DEPTH PER EACH. PAYMENT INCLUDES GRATE. WHEN CLASS "A" CONCRETE APRON IS USED, IT IS TO BE INCLUDED IN THE PRICE BID PER CATCH BASIN.

CATCH BASIN DIMENSIONS

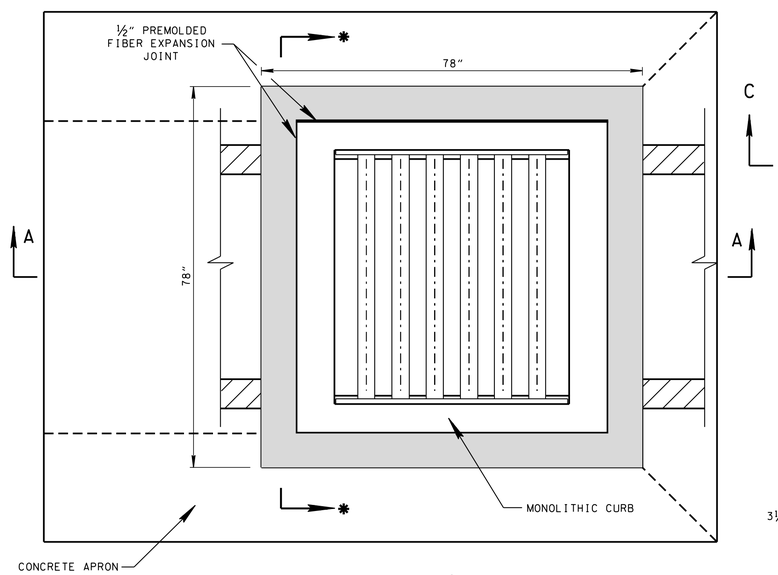
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN INSIDE DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION C (INCHES)
84	8	10	100	60	36	3.5
96	9	11	114	66	42	4.0

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST CIRCULAR NO. 39 CATCH BASIN

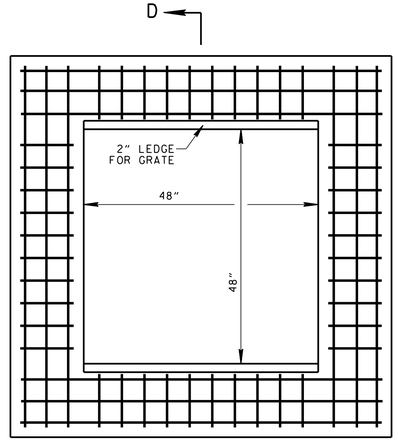
NOT TO SCALE | 10-26-98 | D-CB-39RB



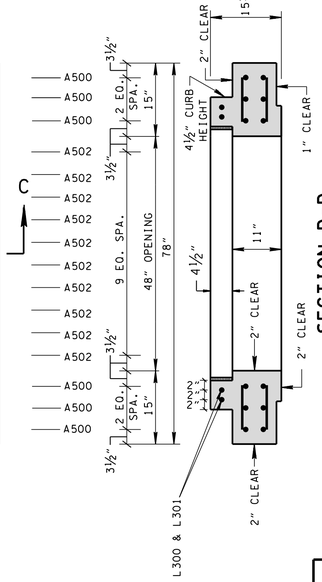
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

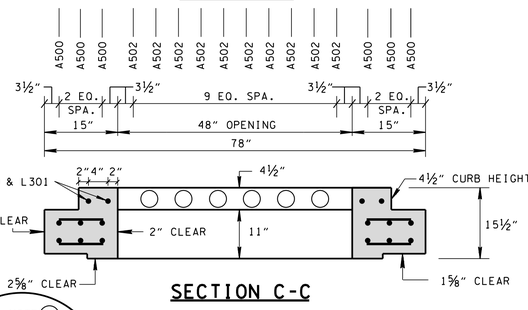
PLAN VIEW



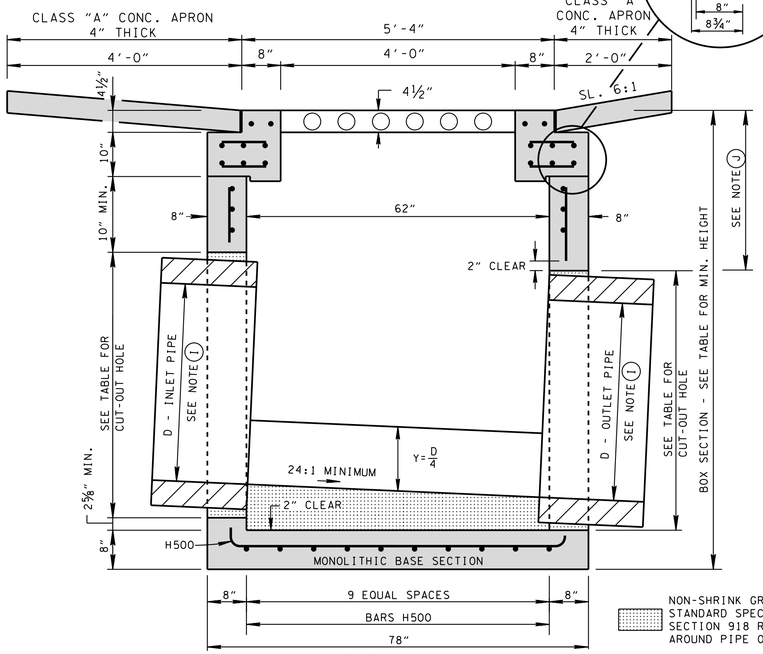
PLAN VIEW



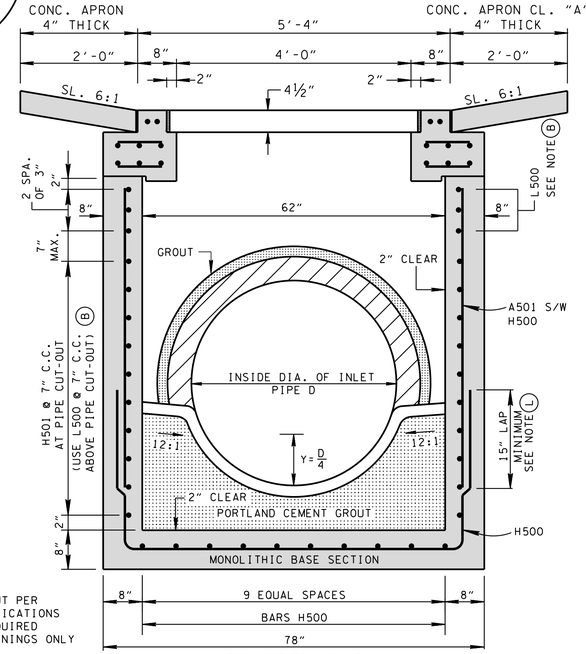
SECTION D-D



SECTION C-C



SECTION A-A



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

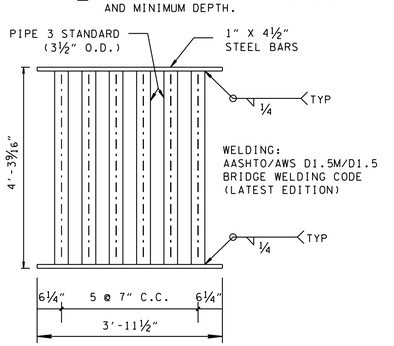
CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	60	4.13
24	3	32	67	4.67
30	3½	39	74	5.22
36	4	46	81	5.76
42	4½	53	88	6.30
48	5	60	95	6.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.



GRATE UNIT NO. 39

GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.

NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 39SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 39SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_Y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

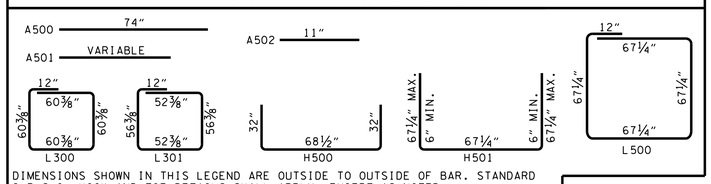
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 24½ INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) CONCRETE JOINT MATERIAL TO BE ½ INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.

(L) THE CONTRACTOR MAY ELIMINATE THE A501 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-39.02 CATCH BASINS, TYPE 39, > 4'-8' DEPTH THROUGH 611-39.07 CATCH BASINS, TYPE 39, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES GRATE. WHEN CONCRETE APRON IS USED, IT IS TO BE INCLUDED IN THE PRICE BID PER CATCH BASIN.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

REV. 3-11-14: ELIMINATED STIRRUPS.

REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 5'2" X 5'2" SQUARE CONCRETE NO.39 CATCH BASIN

2-14-03 | D-CB-39SC

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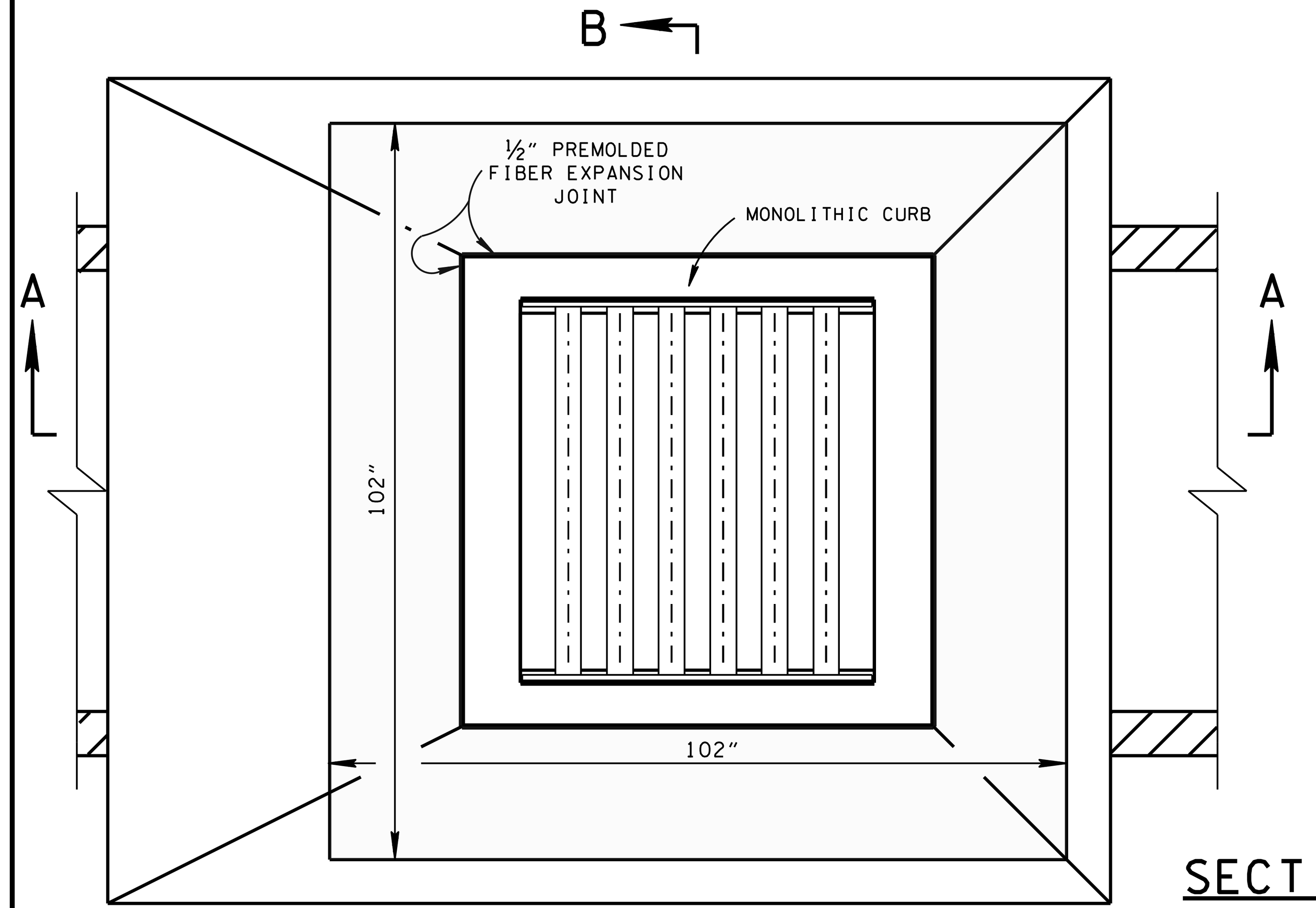
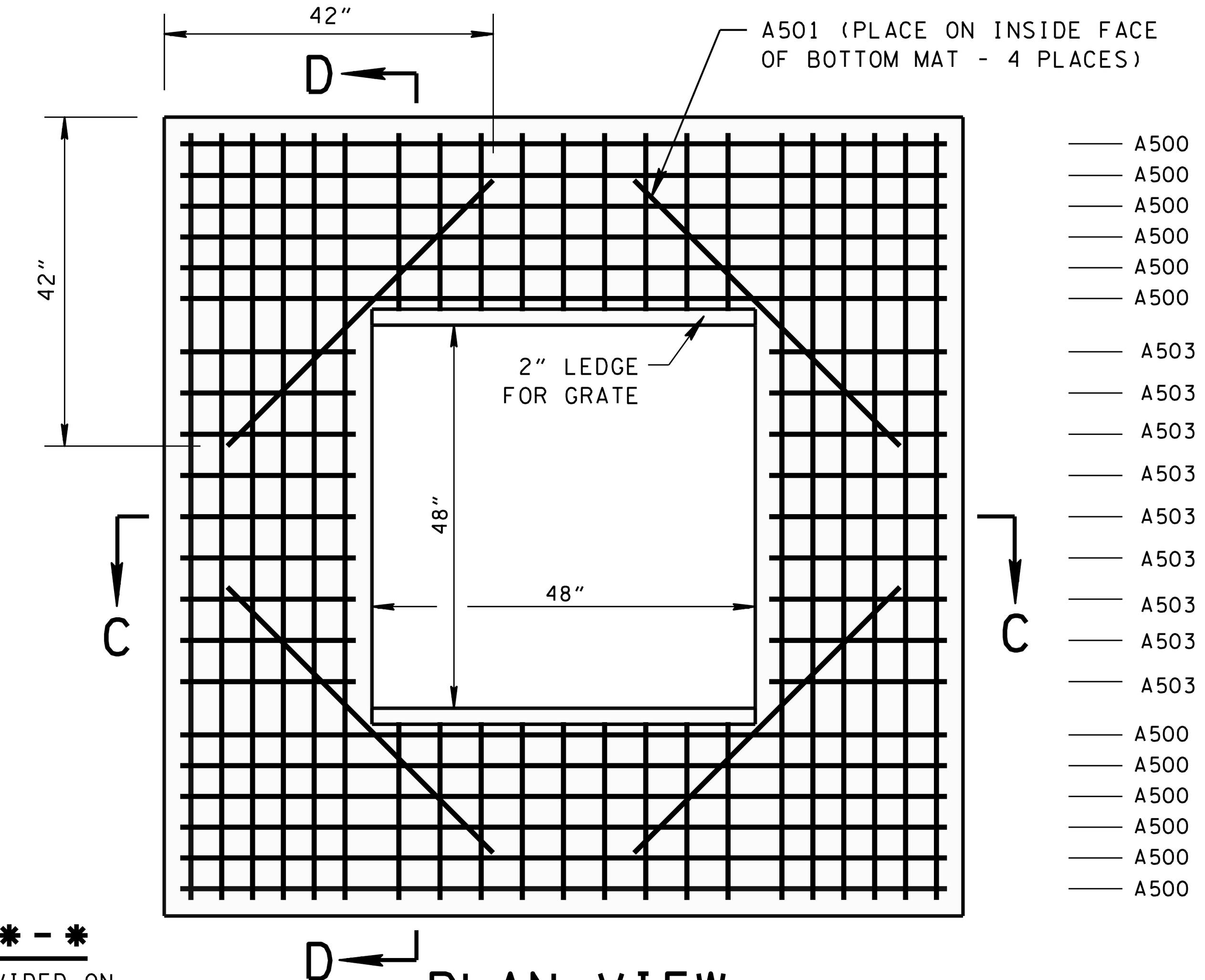
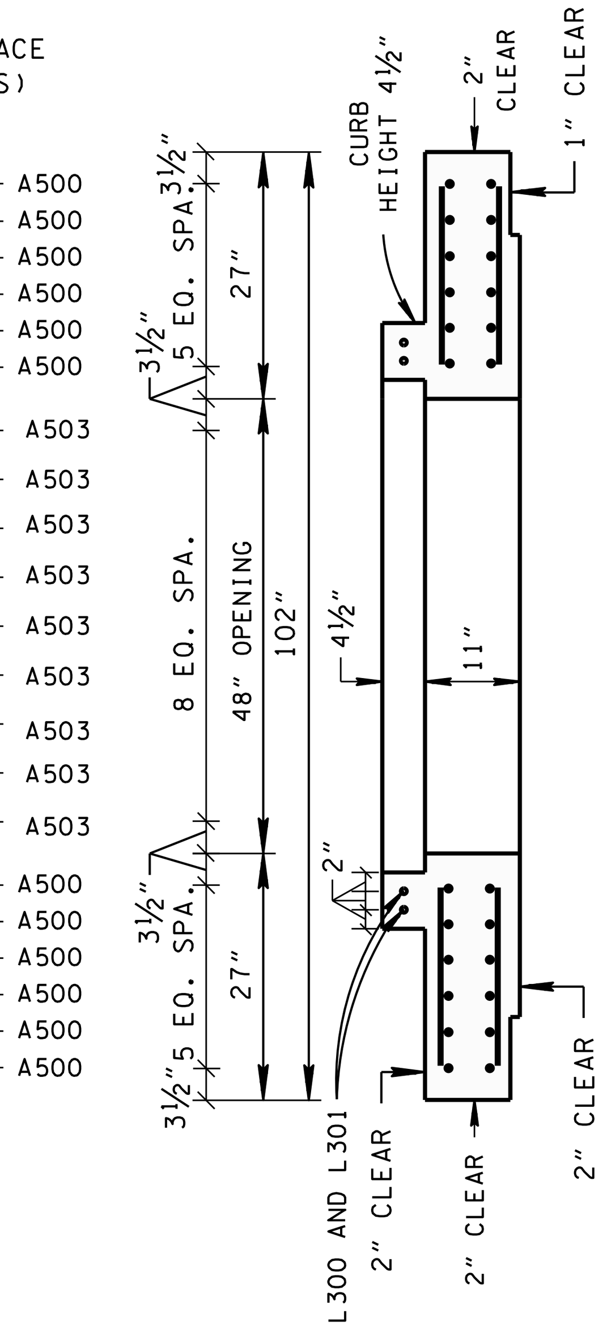


PLAN VIEW



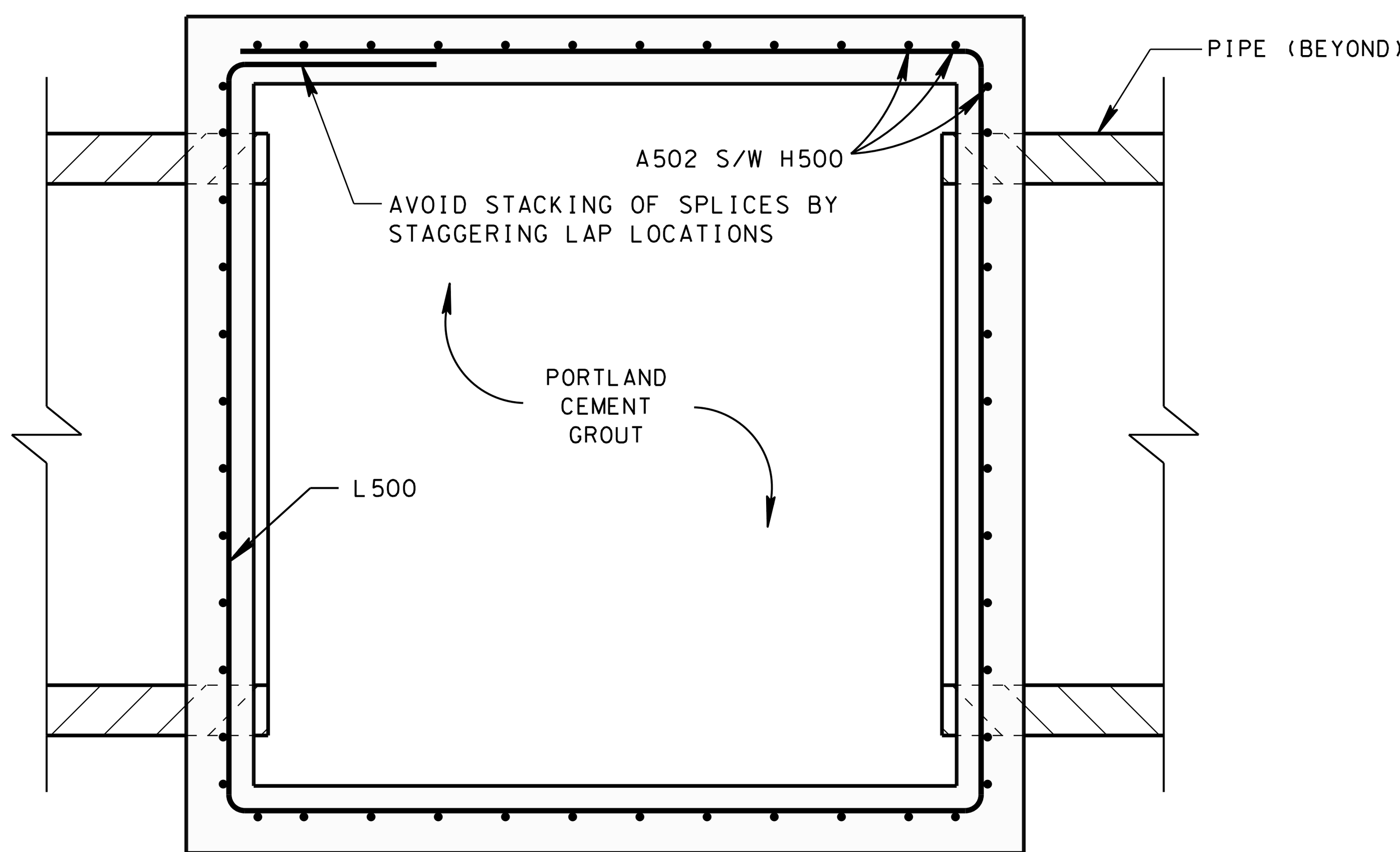
PLAN VIEW



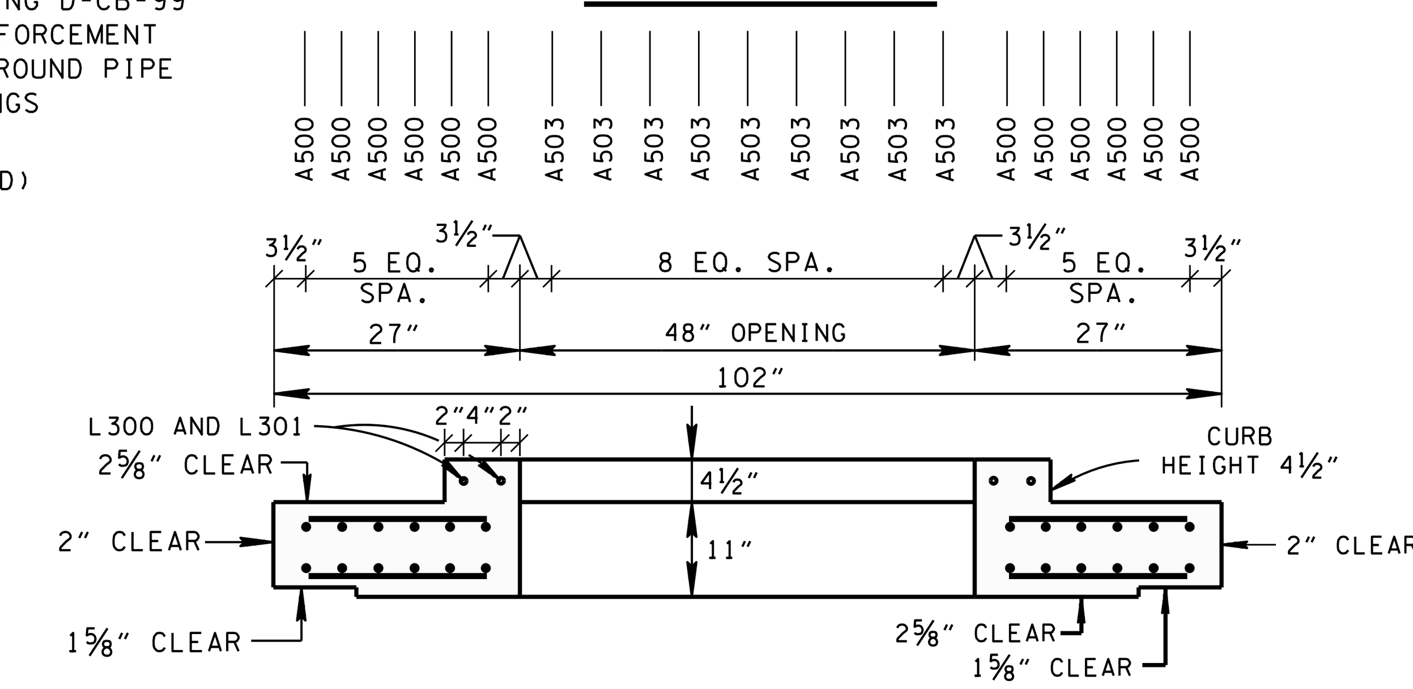
SECTION D-D

SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



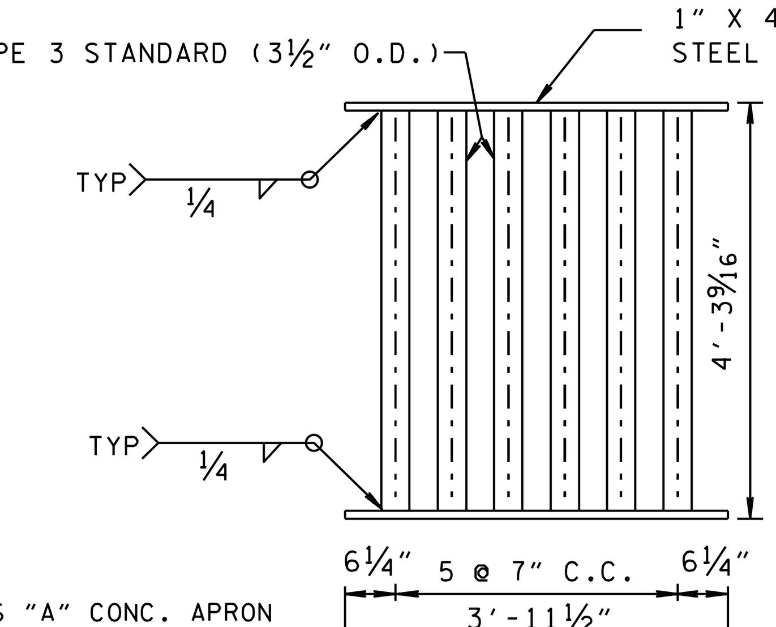
SECTION E-E



SECTION C-C

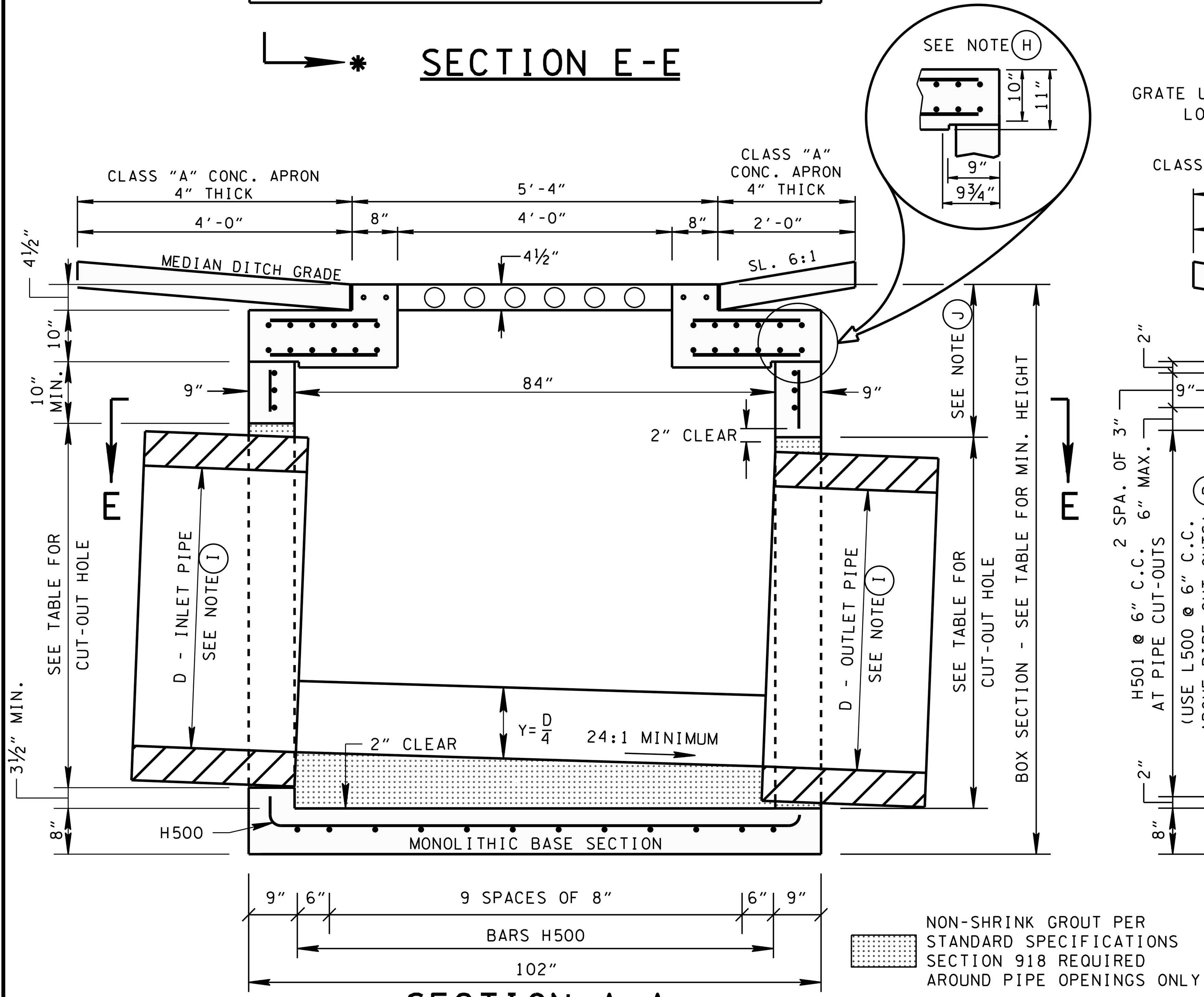
NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)



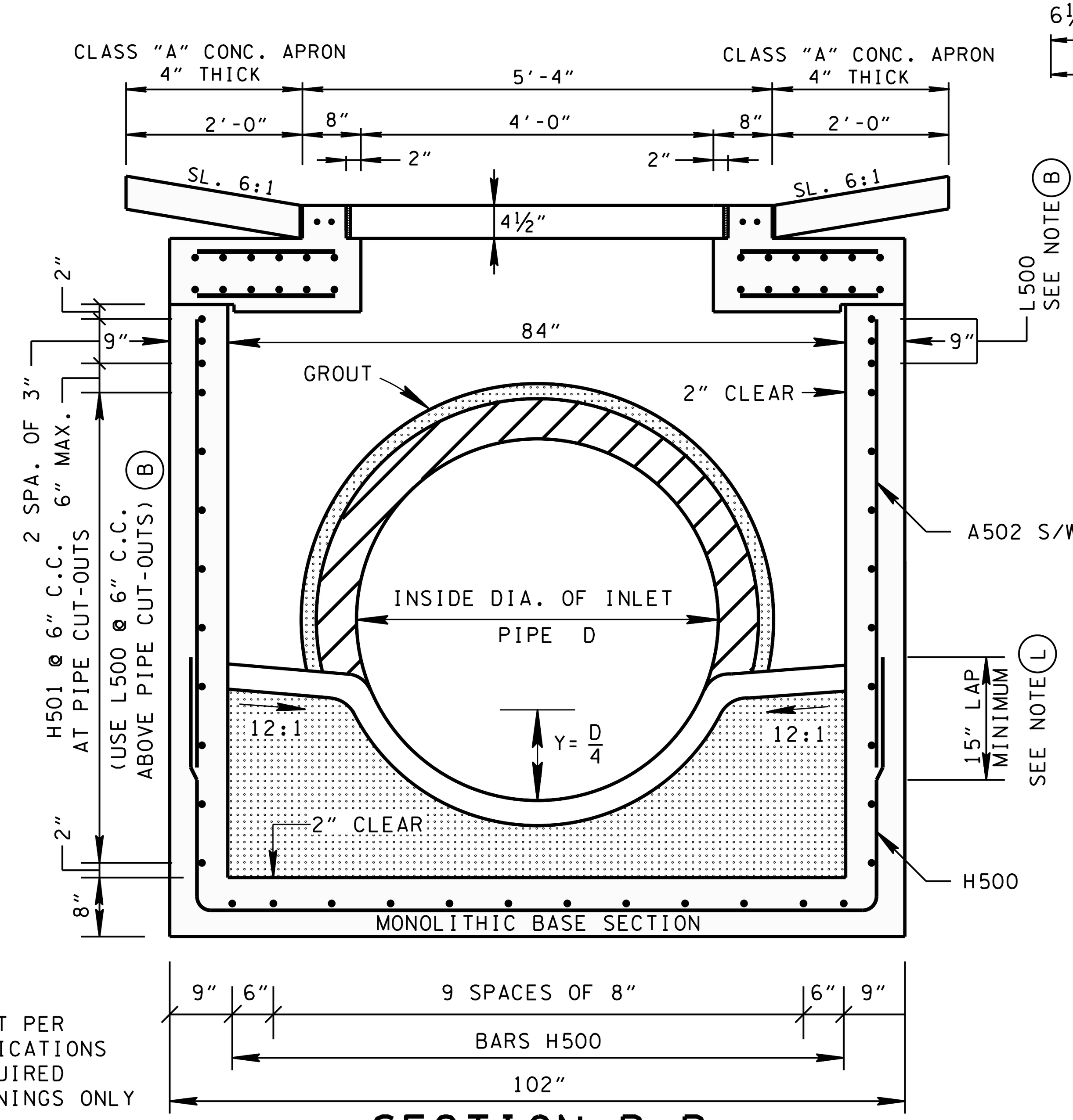
GRATE UNIT NO. 39

GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.



NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

SECTION A-A



SECTION B-B

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	60	4.13
24	3	32	67	4.67
30	3½	39	74	5.22
36	4	46	81	5.76
42	4½	53	88	6.30
48	5	60	95	6.84
54	5½	67	102	7.38
60	6	74	109	7.92
66	6½	81	116	8.47

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 5-30-02: MODIFIED REINFORCING STEEL.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C).
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00′.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 39SD CONCRETE CATCH BASINS AND ALL PRECAST NO. 39SD CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_Y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

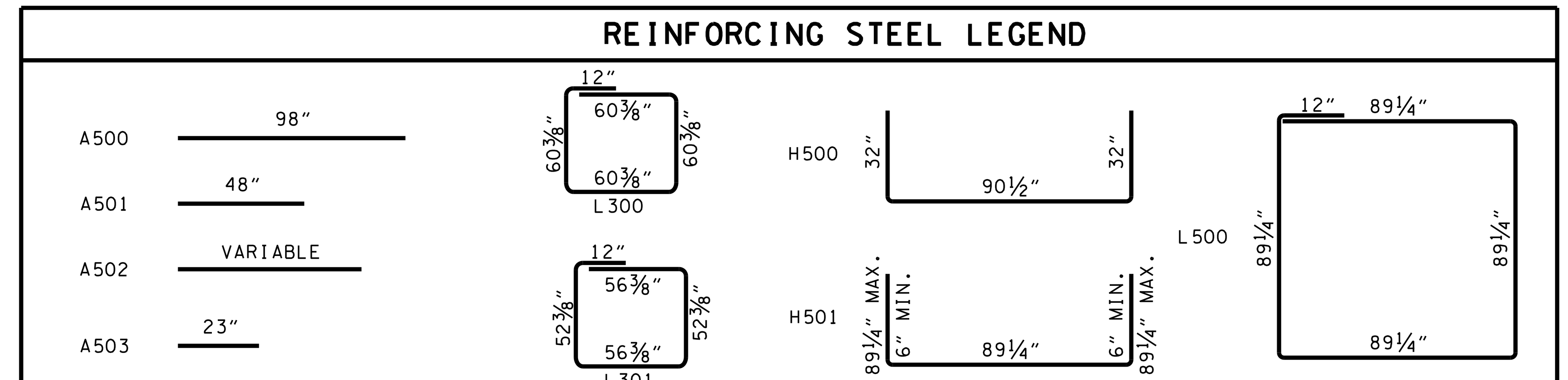
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 24½ INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) CONCRETE JOINT MATERIAL TO BE ½ INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.

(L) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-39.02 CATCH BASINS, TYPE 39, > 4′-8′ EPTH THROUGH 611-39.07, CATCH BASINS, TYPE 39, > 24′-28′ DEPTH PER EACH. PAYMENT INCLUDES GRATE. WHEN CONCRETE APRON IS USED, IT IS TO BE INCLUDED IN THE PRICE BID PER CATCH BASIN.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 7′ X 7′ SQUARE CONCRETE NO. 39 CATCH BASIN

NOT TO SCALE

10-26-99 | D-CB-39SD

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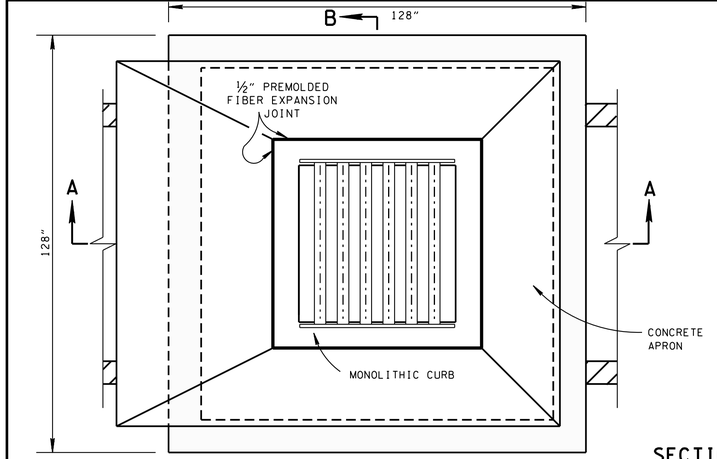
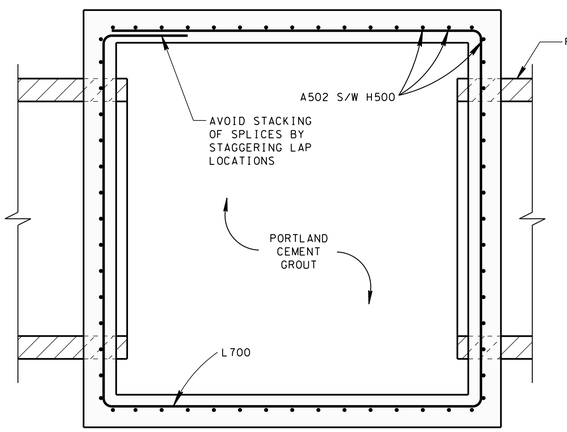
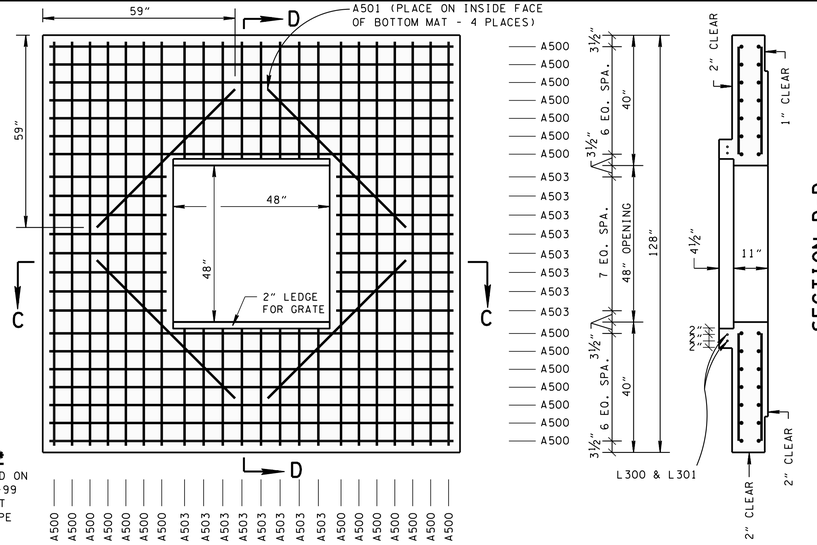


PLAN VIEW



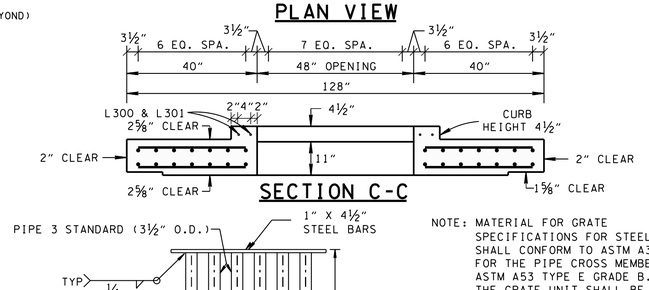
SECTION E-E



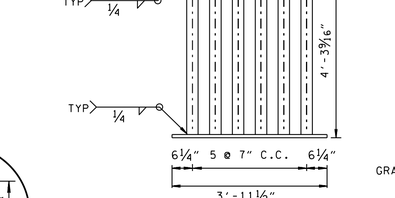
SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

PLAN VIEW



SECTION C-C

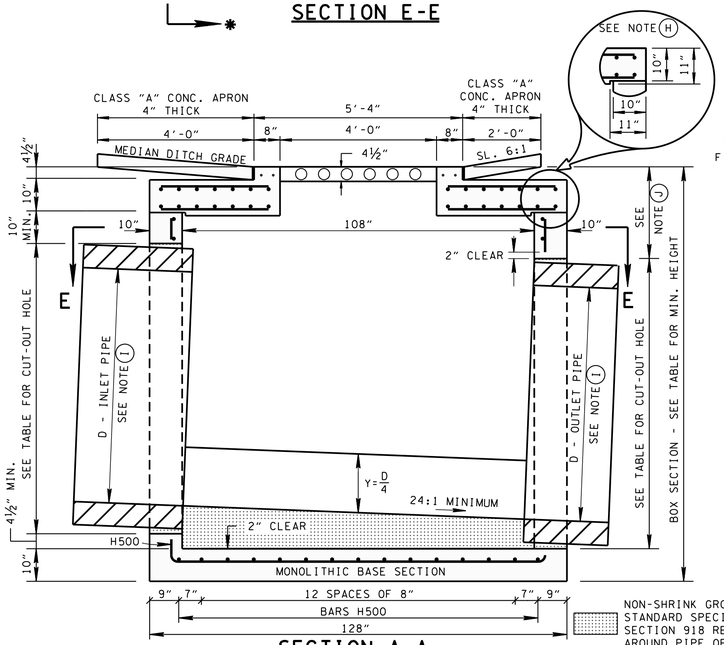


NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)

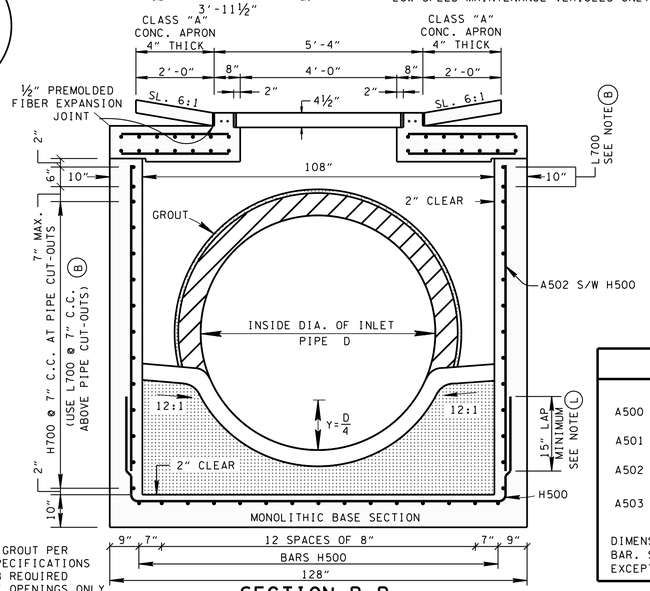
GRATE UNIT NO. 39

GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

SECTION D-D

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	64	4.21
24	3	32	71	4.75
30	3½	39	78	5.29
36	4	46	85	5.83
42	4½	53	92	6.38
48	5	60	99	6.92
54	5½	67	106	7.46
60	6	74	113	8.00
66	6½	81	120	8.54
72	7	88	127	9.08
78	7½	95	134	9.63

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

- (1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- (2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- (3) 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.

- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE Ⓒ
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- ☐ REV. 2-13-04: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 39SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 39SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

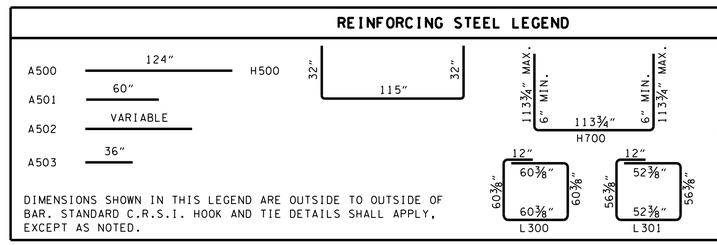
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 24½ INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) CONCRETE JOINT MATERIAL TO BE ½ INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS, 4TH EDITION WITH INTERIMS.

(L) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-39.02 CATCH BASINS, TYPE 39, > 4'-8' DEPTH THROUGH 611-39.07, CATCH BASINS, TYPE 39, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES GRATE. WHEN CONCRETE APRON IS USED, IT IS TO BE INCLUDED IN THE PRICE BID PER CATCH BASIN.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

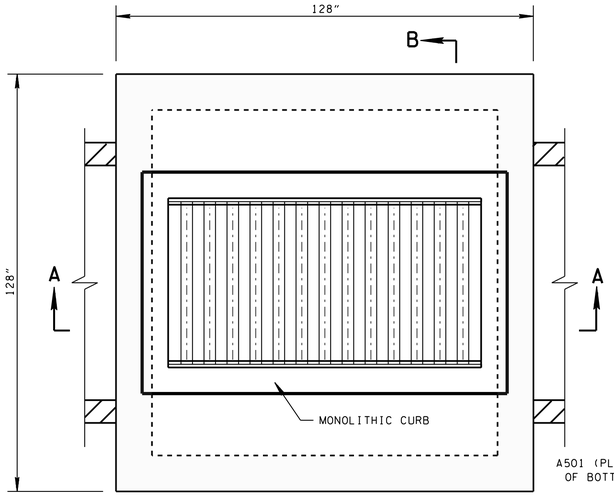
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 9' X 9' SQUARE CONCRETE NO. 39 CATCH BASIN

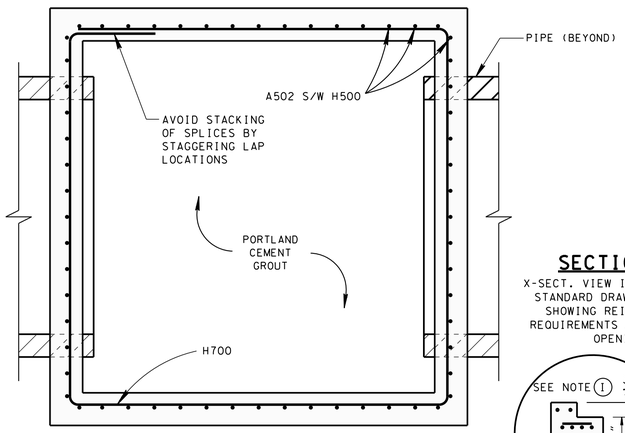
NOT TO SCALE

12-18-98

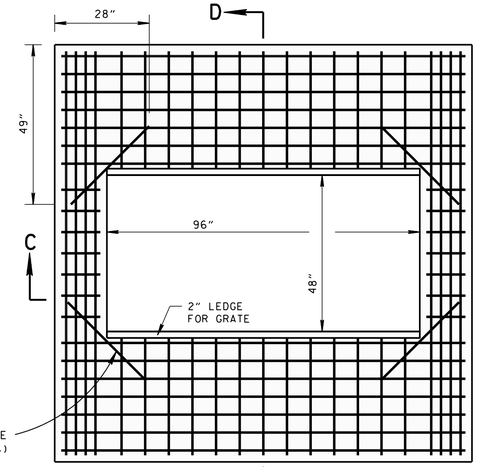
D-CB-39SE

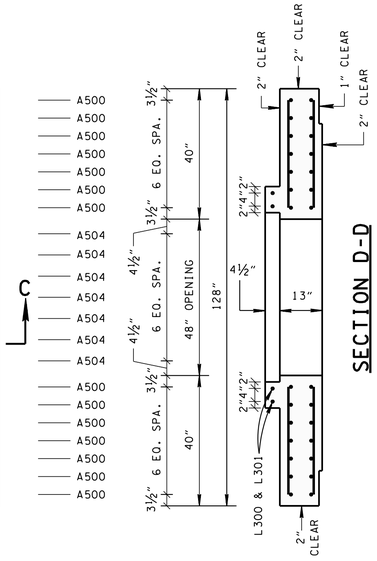


PLAN VIEW

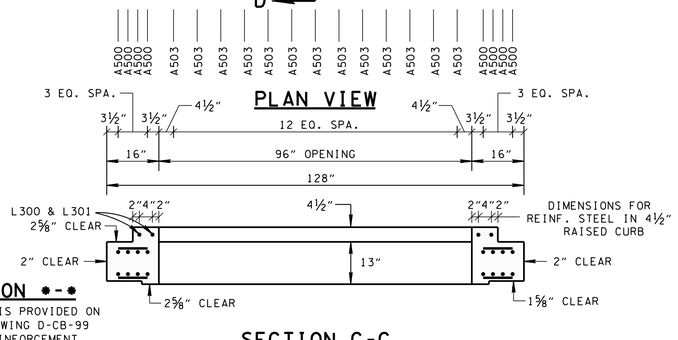


SECTION E-E





SECTION D-D



PLAN VIEW

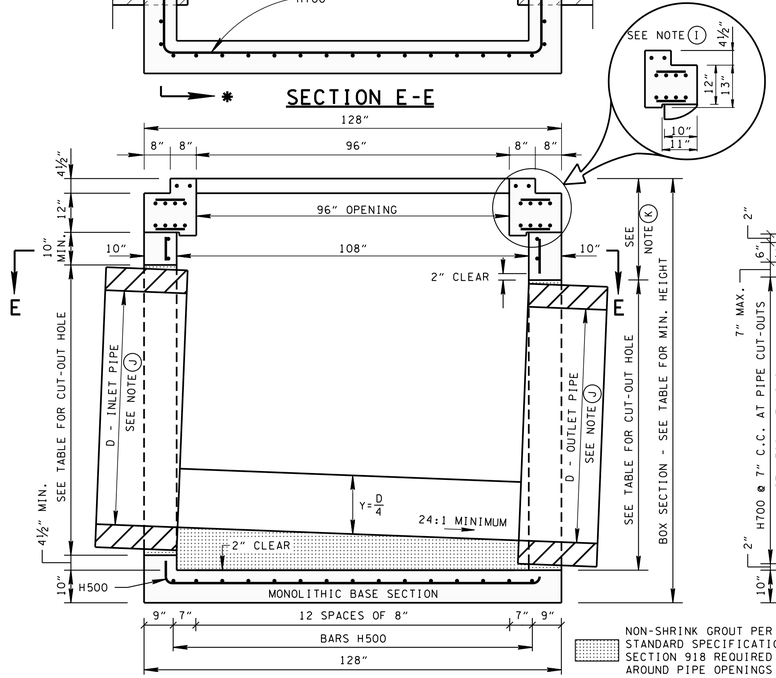
SECTION C-C

SECTION ✱-✱

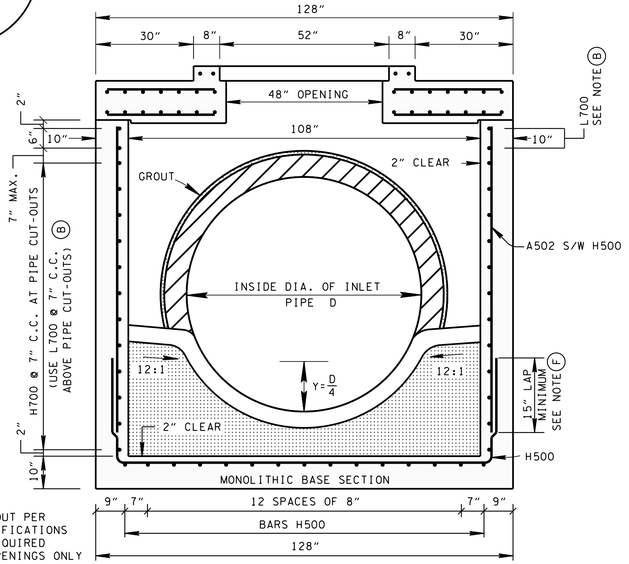
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.



SECTION A-A



SECTION B-B

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	66	4.38
24	3	32	73	4.92
30	3½	39	80	5.46
36	4	46	87	6.00
42	4½	53	94	6.54
48	5	60	101	7.08
54	5½	67	108	7.63
60	6	74	115	8.17
66	6½	81	122	8.71
72	7	88	129	9.25
78	7½	95	136	9.79

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

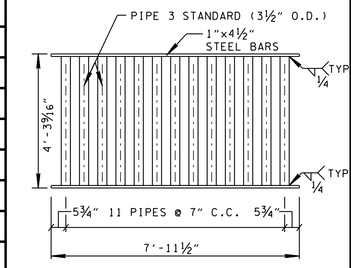
(2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.

(3) 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.

☐ REV. 5-5-05: ADDED EXTRA STEEL DIMENSION TO SECTION D-D.

REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

☐ REV. 3-11-14: ELIMINATED STIRRUPS.



GRATE UNIT NO. 40

GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.

NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 40SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 40SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

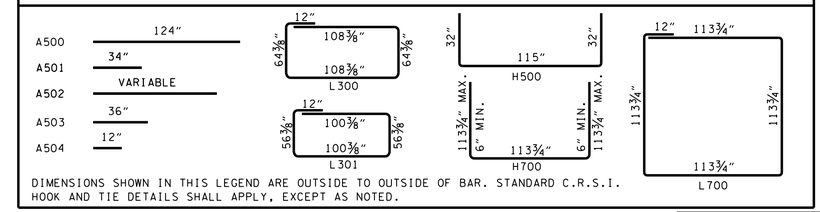
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 26½ INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) CONCRETE JOINT MATERIAL TO BE ½ INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-40.02 CATCH BASINS, TYPE 40, > 4'-8' DEPTH THROUGH 611-40.05, CATCH BASINS, TYPE 40, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

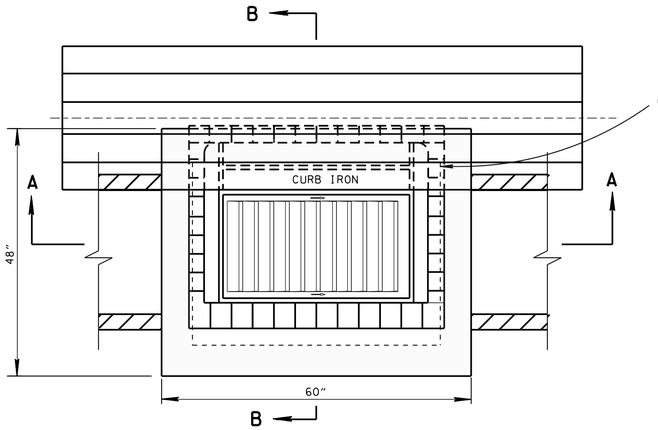
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

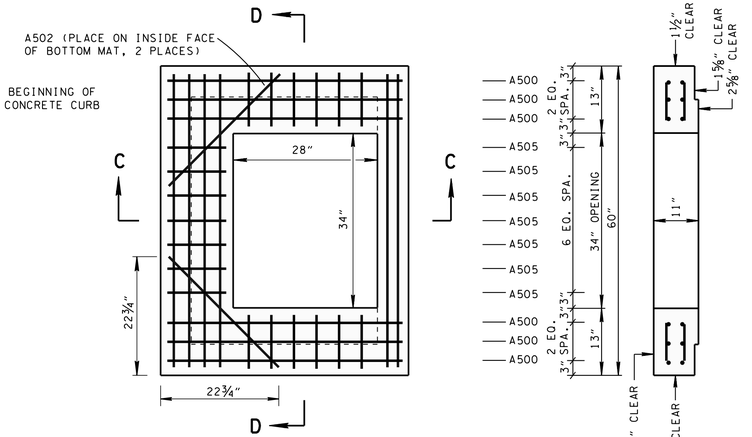
STANDARD 9' X 9' SQUARE CONCRETE NO. 40 CATCH BASIN

NOT TO SCALE

9-11-04 D-CB-40SE

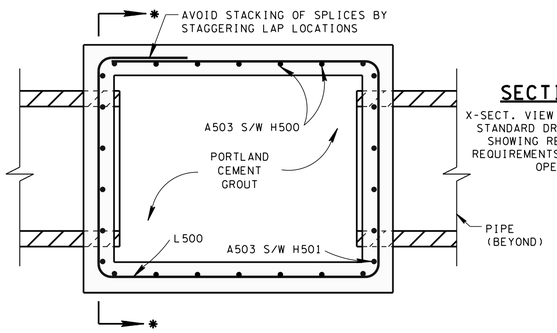


PLAN VIEW



PLAN VIEW

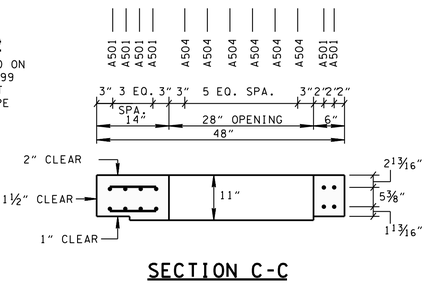
SECTION D-D



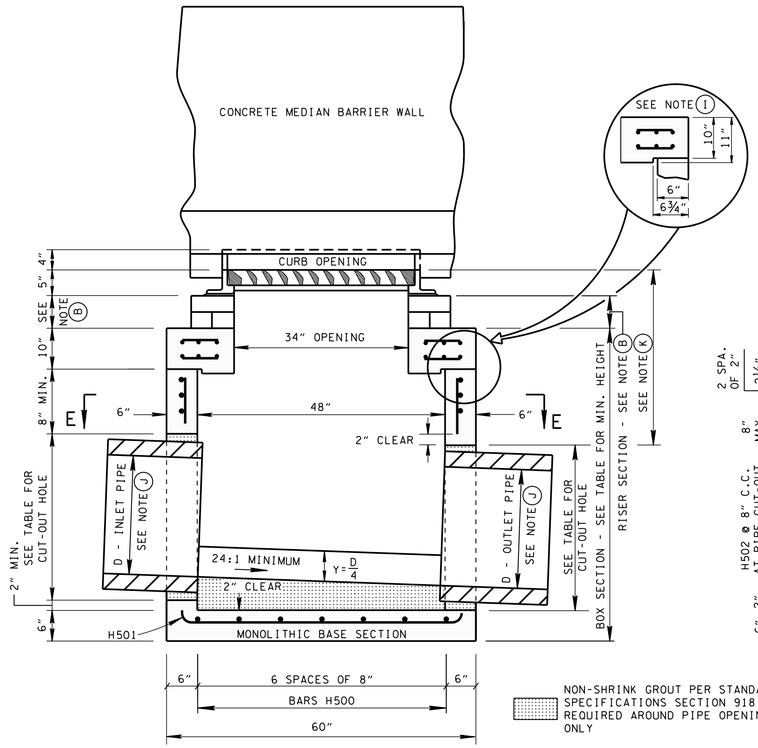
SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

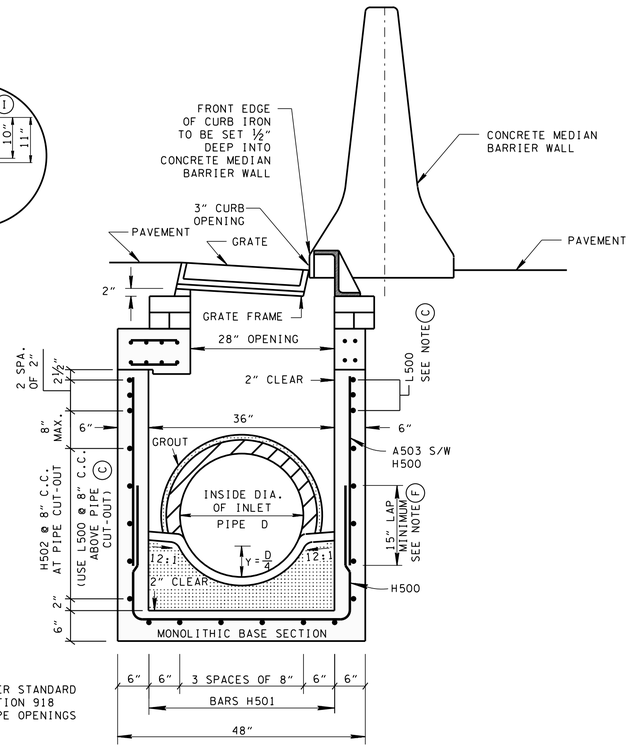
SECTION E-E



SECTION C-C



SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	49	3.88
24	3	32	56	4.42
(4) 30	3½	39	63	4.96
(4) 36	4	46	70	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 12-18-95: MODIFIED DRAWING NO. D-CB-41S BY CHANGING WALL AND FLOOR THICKNESSES FROM EIGHT TO SIX INCHES FOR PRECAST CATCH BASIN BETWEEN MINIMUM DEPTH AND TEN FEET.
- ☐ REV. 10-26-96: REMOVE 0.875" HOLE FROM BACK OF CURB IRON IN SECTION B-B.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (G) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (I)
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL PRECAST NO. 41 CONCRETE CATCH BASINS THAT ARE BETWEEN MINIMUM DEPTH AND TWELVE FEET. SEE STANDARD DRAWING D-CB-41S FOR DETAILS OF CAST-IN-PLACE NO. 41 CONCRETE CATCH BASINS AND PRECAST NO. 41 CONCRETE CATCH BASINS THAT ARE GREATER TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) ALL PRECAST ELEMENTS SHALL MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

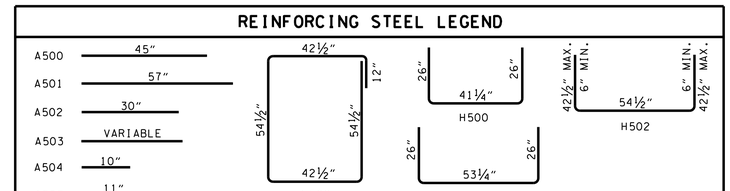
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-41.01 CATCH BASINS, TYPE 41, 0'-4' DEPTH THROUGH 611-41.03, CATCH BASINS, TYPE 41, > 8'-12' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND

A500	45"
A501	57"
A502	30"
A503	VARIABLE
A504	10"
A505	11"



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 4' X 3' PRECAST RECTANGULAR CONCRETE NO. 41 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

NOT TO SCALE

12-18-95 D-CB-41P

22-APR-2014 09:50
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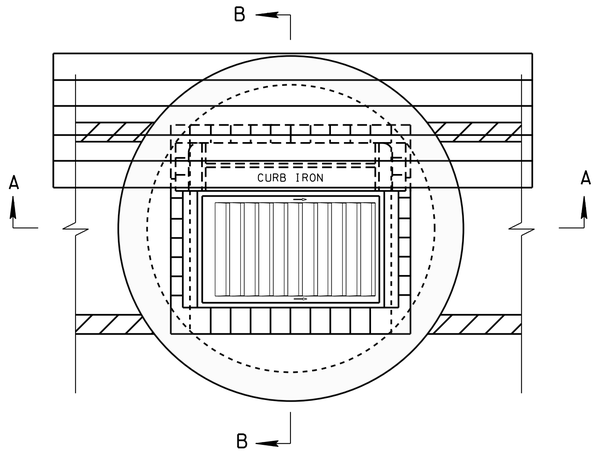
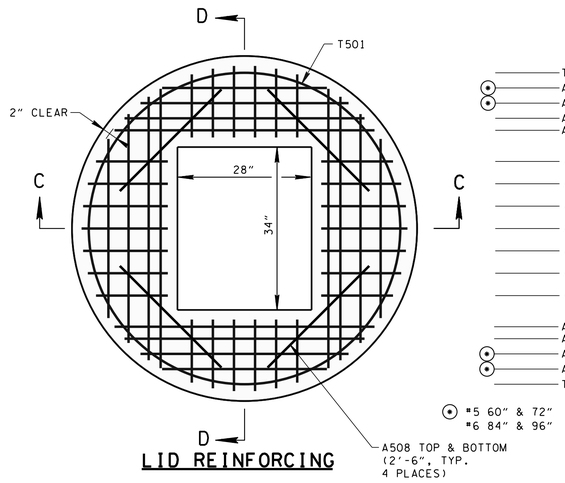
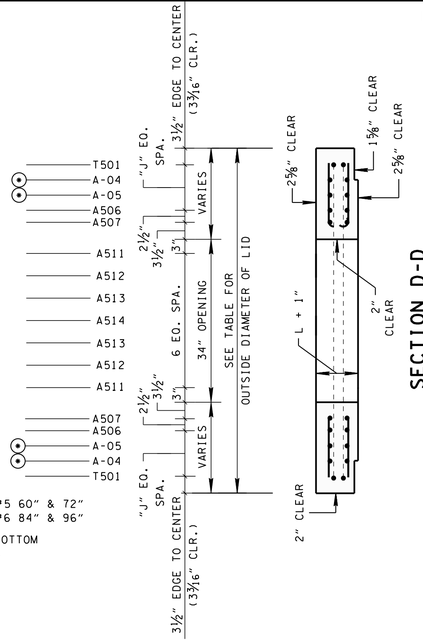


PLAN VIEW



LID REINFORCING

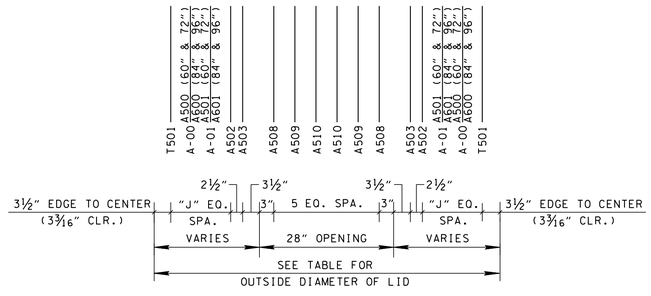


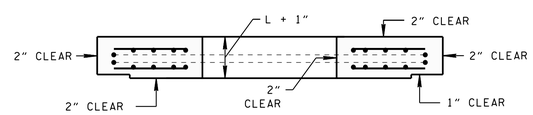
SECTION D-D

VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4
84	100	5
96	114	6

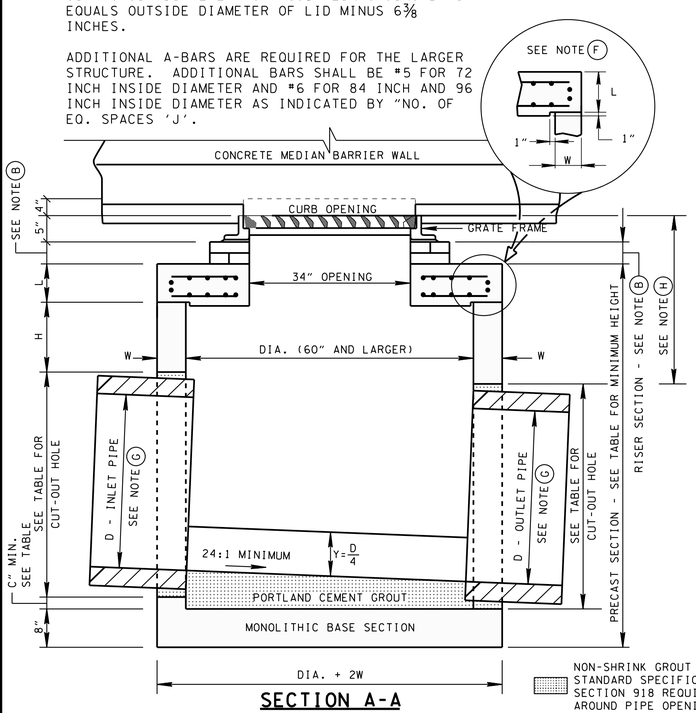
OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE. ADDITIONAL BARS SHALL BE #5 FOR 72 INCH INSIDE DIAMETER AND #6 FOR 84 INCH AND 96 INCH INSIDE DIAMETER AS INDICATED BY "NO. OF EQ. SPACES 'J'.



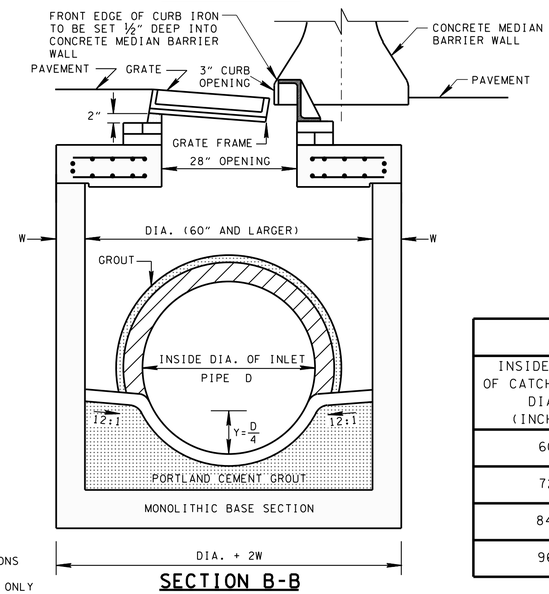


SECTION C-C



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

- REV. 3-11-14: ELIMINATED STIRRUPS.
- REV. 1-19-99: CHANGED MINIMUM DEPTH TABLE AND DRAWING IN GENERAL TO REFLECT REDUCTION IN INVERT DROP ACROSS CATCH BASIN.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (H) ADDED CATCH BASIN MAXIMUM DEPTH NOTE. CHANGED REINFORCING STEEL IN LID.
- REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS							FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)							
			60"	72"	84"	96"	60"	72"	84"	96"
18	2½	25	51½	53	57½	59	3.92	3.97	4.34	4.38
24	3	32	58½	60	64½	66	4.46	4.51	4.88	4.92
30	3½	39	65½	67	71½	73	5.00	5.05	5.42	5.46
36	4	46	72½	74	78½	80	5.55	5.59	5.97	6.00
42	4½	53	79½	81	85½	87	6.09	6.13	6.51	6.54
48	5	60	86½	88	92½	94	6.63	6.67	7.05	7.08
54	5½	67	93½	95	99½	101	7.17	7.22	7.59	7.63
60	6	74	100½	102	106½	108	7.71	7.76	8.13	8.17
66	6½	81	107½	109	113½	115	8.25	8.30	8.67	8.71

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES (FOR 60 OR 72 INCH INSIDE DIAMETER CATCH BASIN) OR 27 INCHES (FOR 84 OR 96 INCH INSIDE DIAMETER CATCH BASIN) IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(D) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(E) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(F) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(G) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(H) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH (FOR 60 OR 72 INCH INSIDE DIAMETER CATCH BASIN) OR 27 INCH DEPTH (FOR 84 OR 96 INCH INSIDE DIAMETER CATCH BASIN) SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(I) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(J) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-41.01 CATCH BASINS, TYPE 41, 0'-4' DEPTH THROUGH 611-41.07, CATCH BASINS, TYPE 41, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-41.08, CATCH BASINS, TYPE 41, ___'- ___' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

CATCH BASIN DIMENSIONS								
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION	
						C (INCHES)	H (INCHES)
60	6	10	72	36	24	2.5	8
72	7	10	86	48	30	3.0	8
84	8	10	100	60	36	3.5	12
96	9	10	114	66	42	4.0	12

NOT TO SCALE

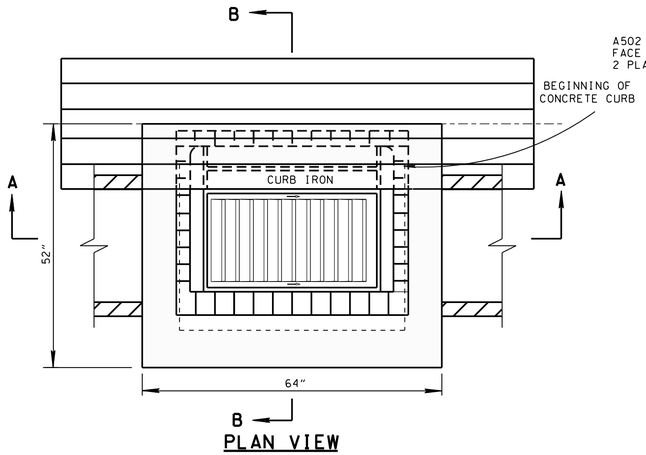
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

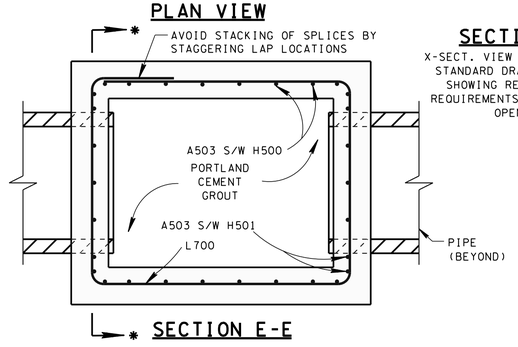
STANDARD PRECAST CIRCULAR NO. 41 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

7-29-97 | D-CB-41RB



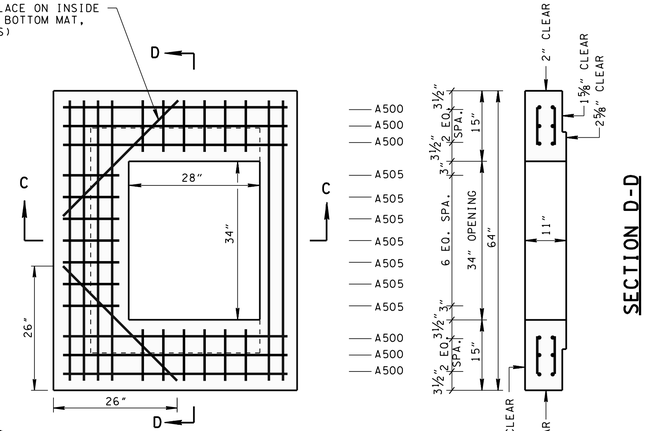
PLAN VIEW



SECTION E-E

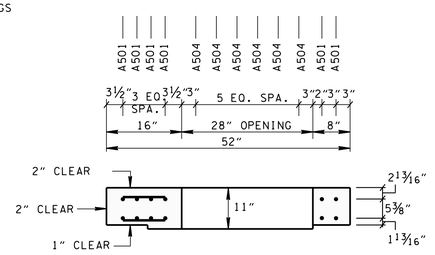
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

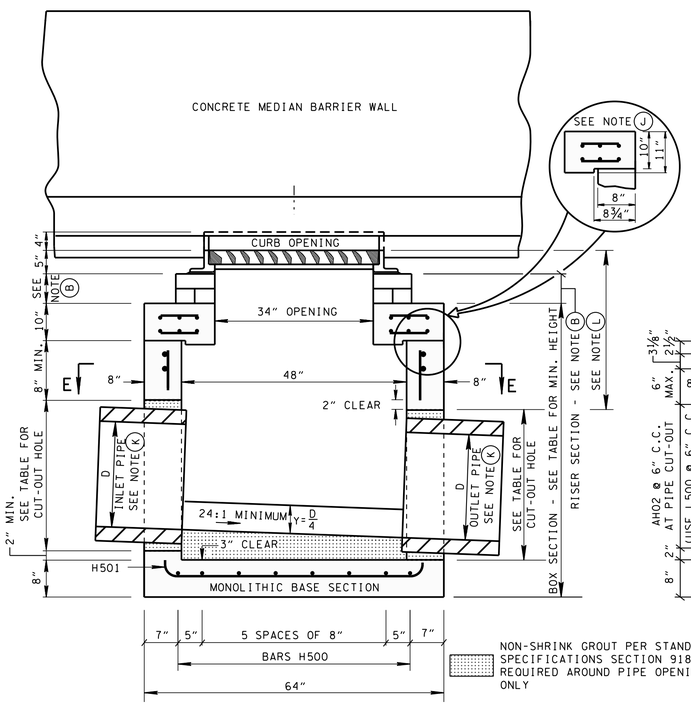


PLAN VIEW

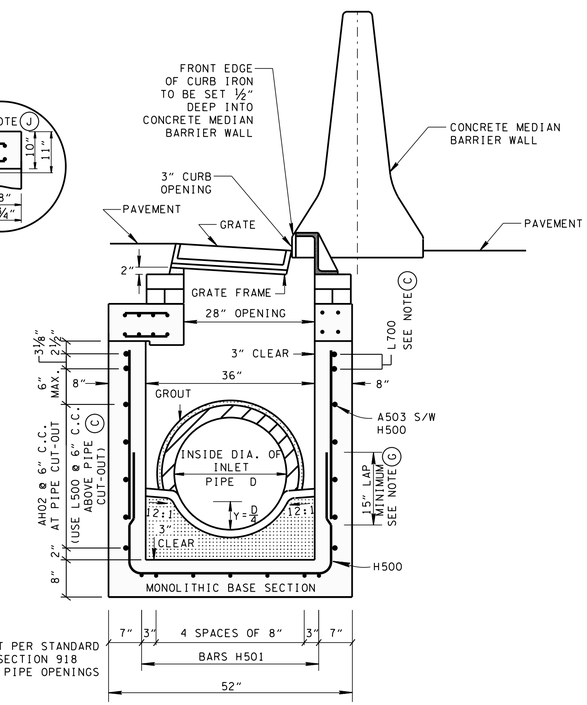
SECTION D-D



SECTION C-C



SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(4) 30	3½	39	65	4.96
(4) 36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- ☐ REV. 10-26-96: REMOVE 0.875" HOLE FROM BACK OF CURB IRON IN SECTION B-B.
- ☐ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE NOTES.
- ☐ REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 41 CONCRETE CATCH BASINS AND ALL PRECAST NO. 41 CONCRETE CATCH BASINS THAT ARE GREATER THAN TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-41P FOR DETAILS OF PRECAST NO. 41 CONCRETE CATCH BASINS TWELVE FEET AND LESS IN DEPTH.SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERITES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

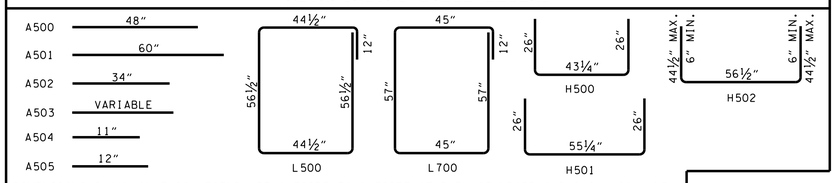
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-41.01 CATCH BASINS, TYPE 41, 0'-4' DEPTH THROUGH 611-41.05 CATCH BASINS, TYPE 41, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

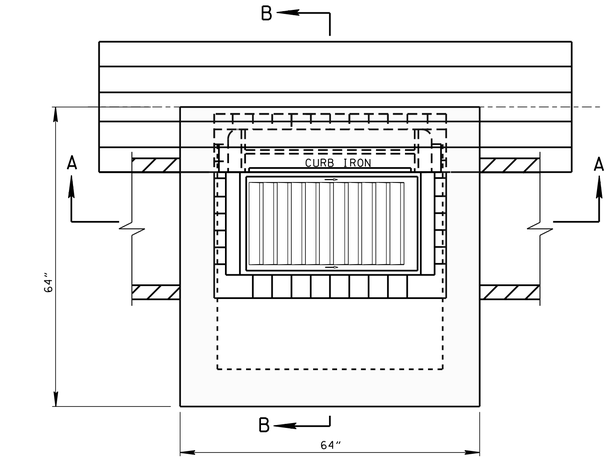
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

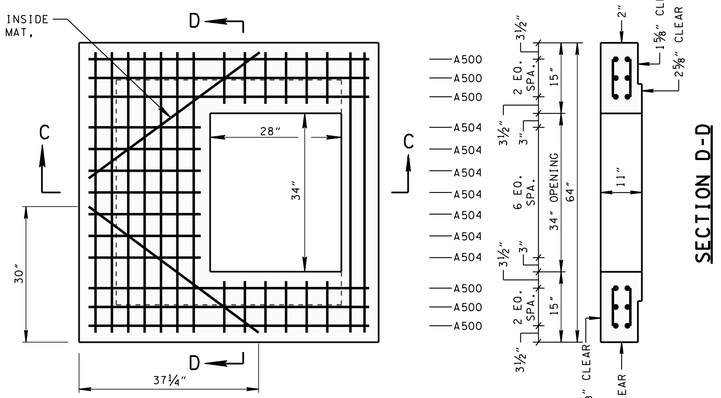
STANDARD 4' X 3' RECTANGULAR CONCRETE NO. 41 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

NOT TO SCALE | 10-26-95 | D-CB-41S

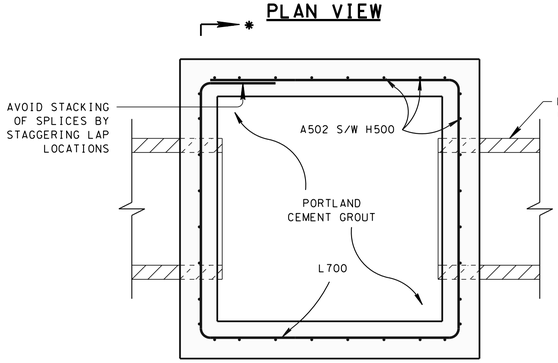


PLAN VIEW



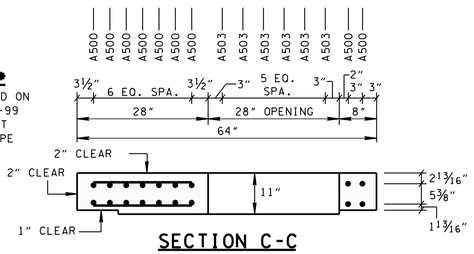
PLAN VIEW

SECTION D-D



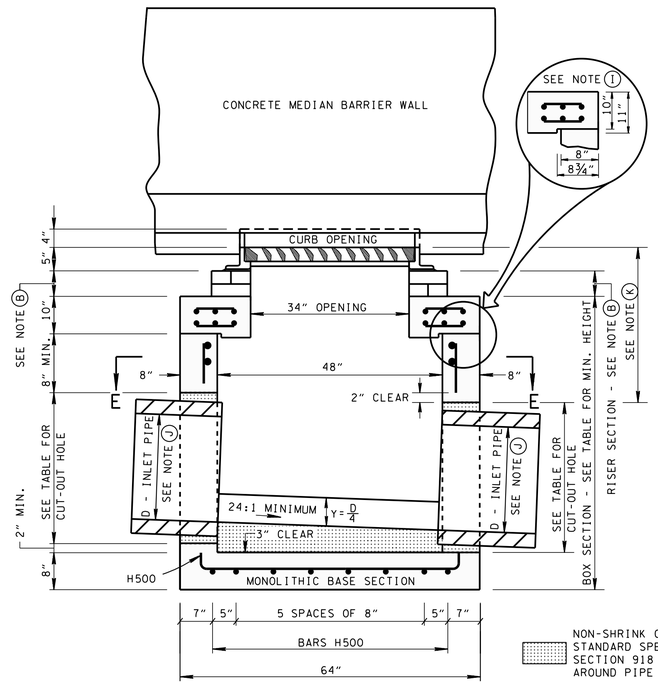
SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



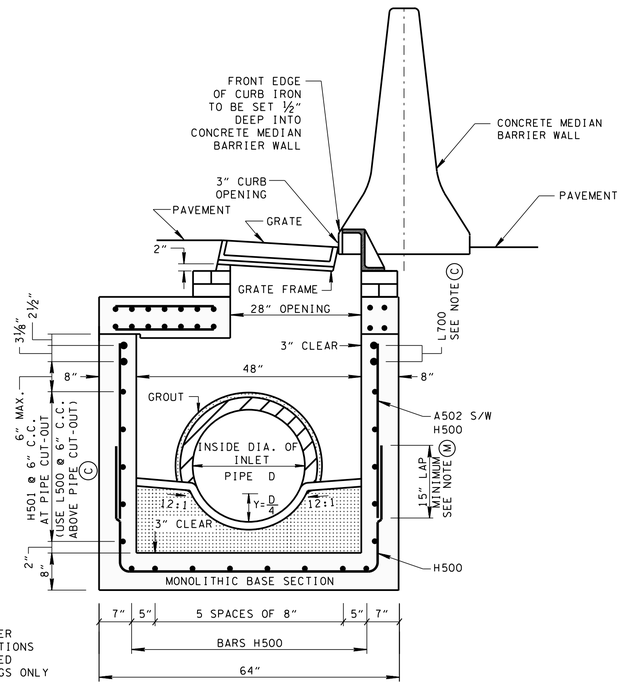
SECTION C-C

SECTION E-E



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
30	3½	39	65	4.96
36	4	46	72	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 41SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 41SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

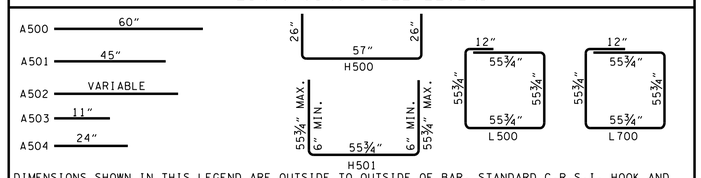
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-41.01 CATCH BASINS, TYPE 41, 0'-4' DEPTH THROUGH 611-41.07 CATCH BASINS, TYPE 41, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

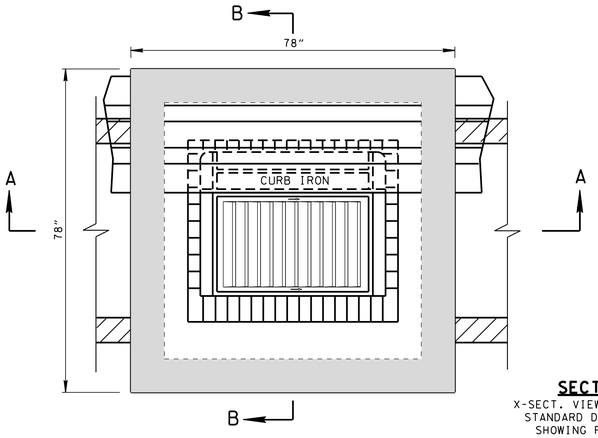
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 4' X 4' SQUARE CONCRETE NO. 41 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

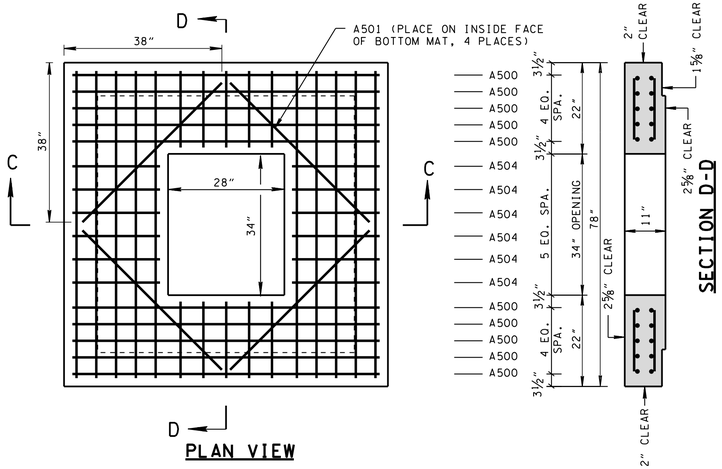
NOT TO SCALE

5-27-98 D-CB-41SB



PLAN VIEW

SECTION ●-●
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



PLAN VIEW

SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	55	4.13
24	3	32	62	4.67
30	3½	39	69	5.22
36	4	46	76	5.76
42	4½	53	83	6.30
48	5	60	90	6.84

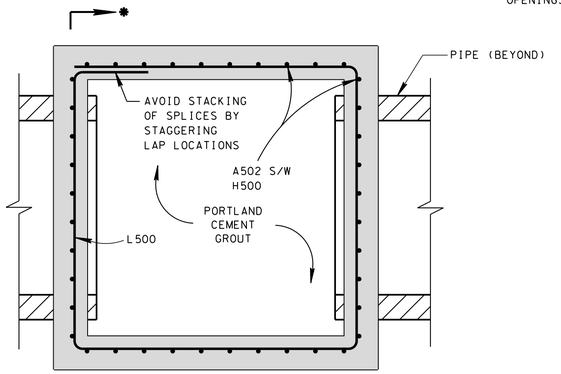
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

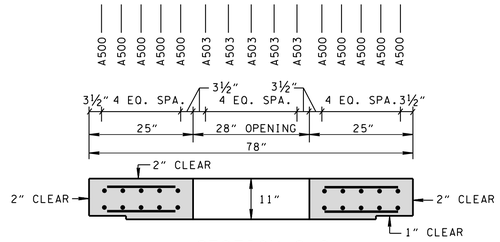
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION E-E



SECTION C-C

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 41SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 41SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

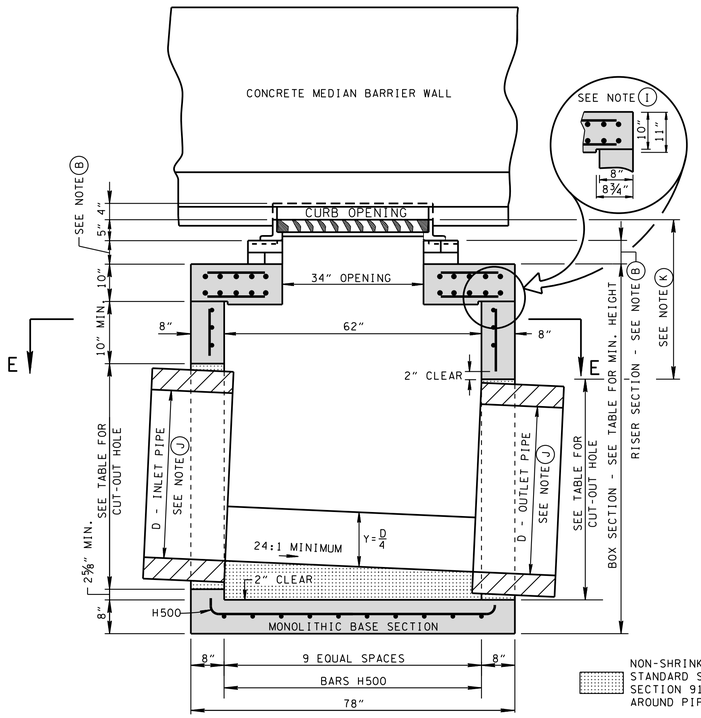
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

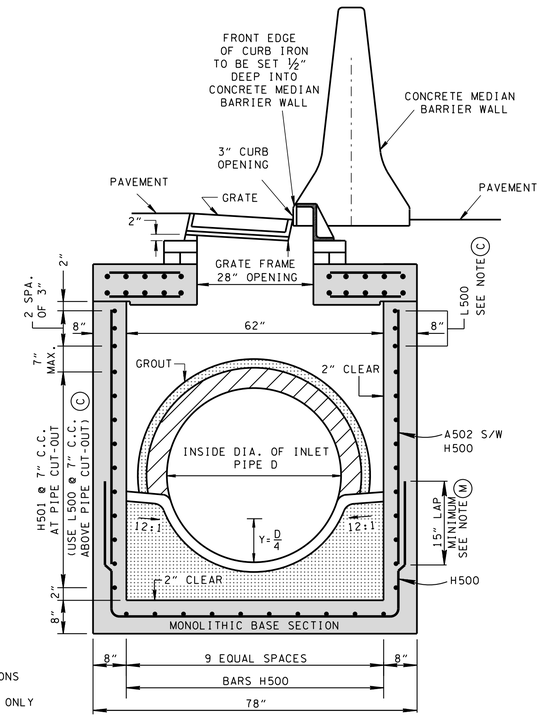
(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-41.02 CATCH BASINS, TYPE 41, > 4'-8' DEPTH THROUGH 611-41.07 CATCH BASINS, TYPE 41, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.



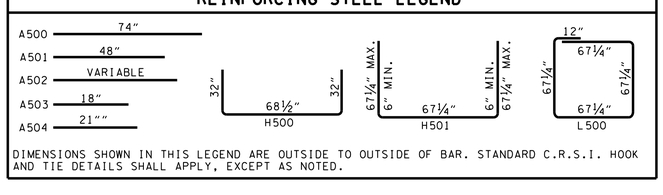
SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

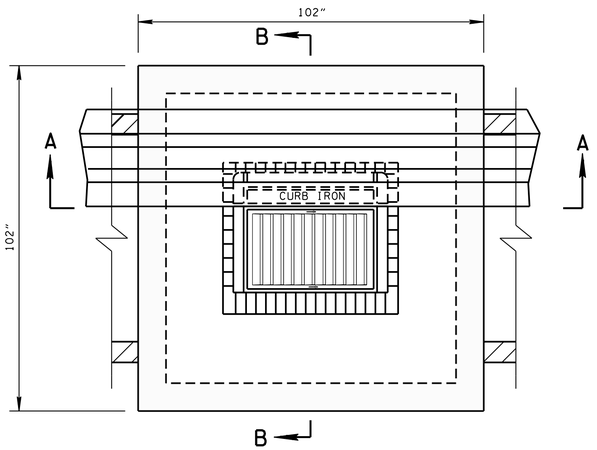
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 41 CATCH BASIN

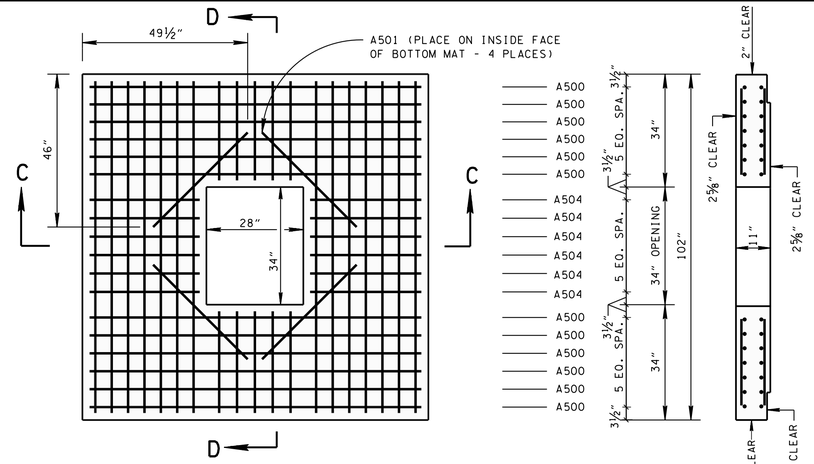
(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

NOT TO SCALE

9-5-00 | D-CB-41SC



PLAN VIEW



PLAN VIEW

SECTION D-D

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	55½	4.17
24	3	32	62½	4.72
30	3½	39	69½	5.26
36	4	46	76½	5.80
42	4½	53	83½	6.34
48	5	60	90½	6.88
54	5½	67	97½	7.42
60	6	74	104½	7.97
66	6½	81	111½	8.51

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

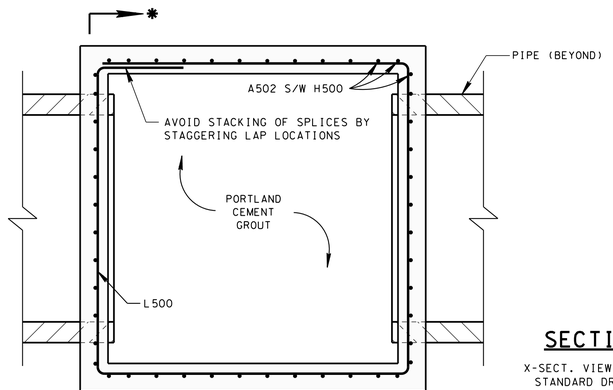
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN MAXIMUM DEPTH NOTE

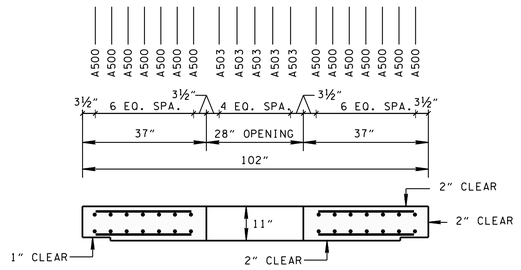
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.



SECTION E-E

SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 41SD CONCRETE CATCH BASINS AND ALL PRECAST NO. 41SD CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

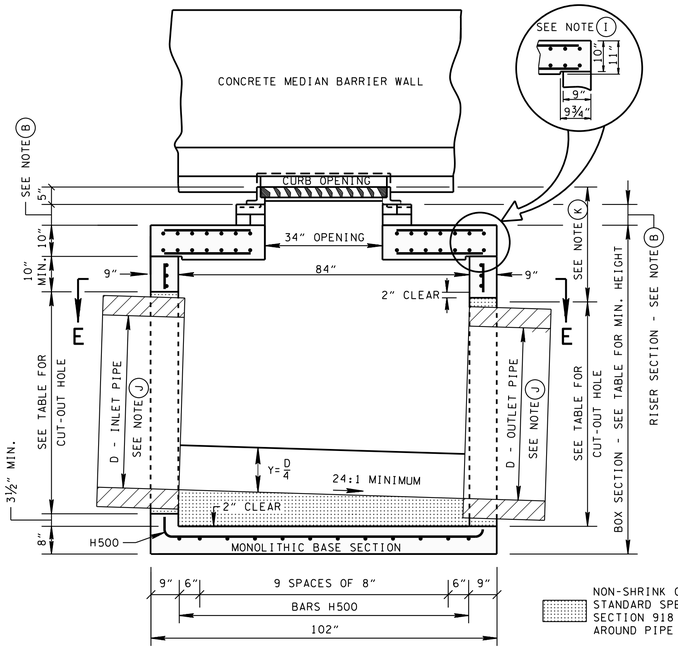
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

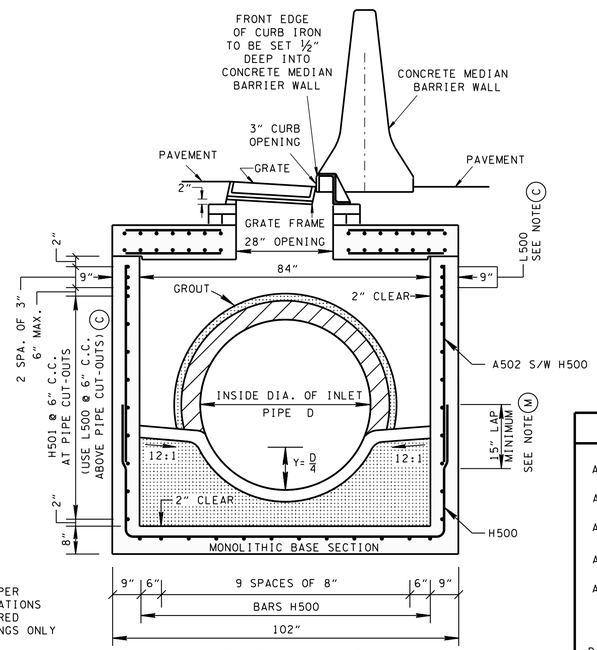
(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-41.02 CATCH BASINS, TYPE 41, > 4'-8' DEPTH THROUGH 611-41.07 CATCH BASINS, TYPE 41, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.



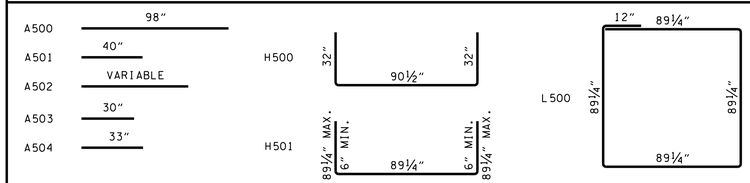
SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

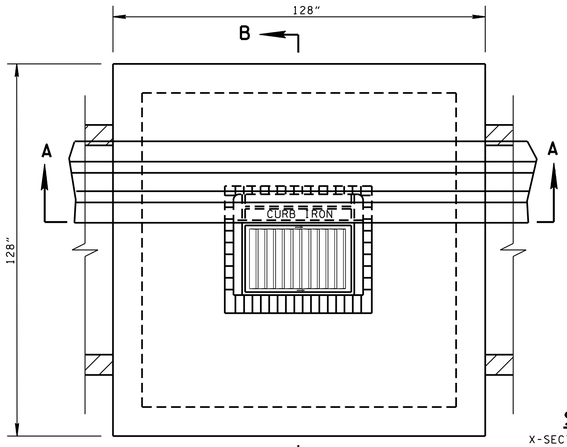
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 7' X 7' SQUARE CONCRETE NO. 41 CATCH BASIN

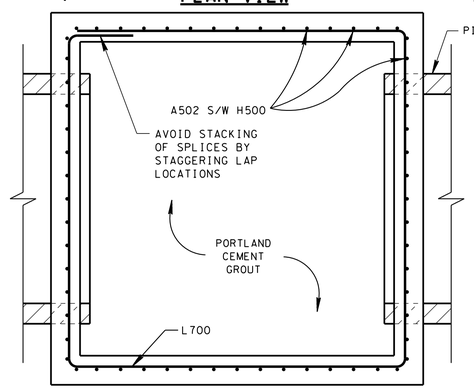
(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

7-10-02 | D-CB-41SD

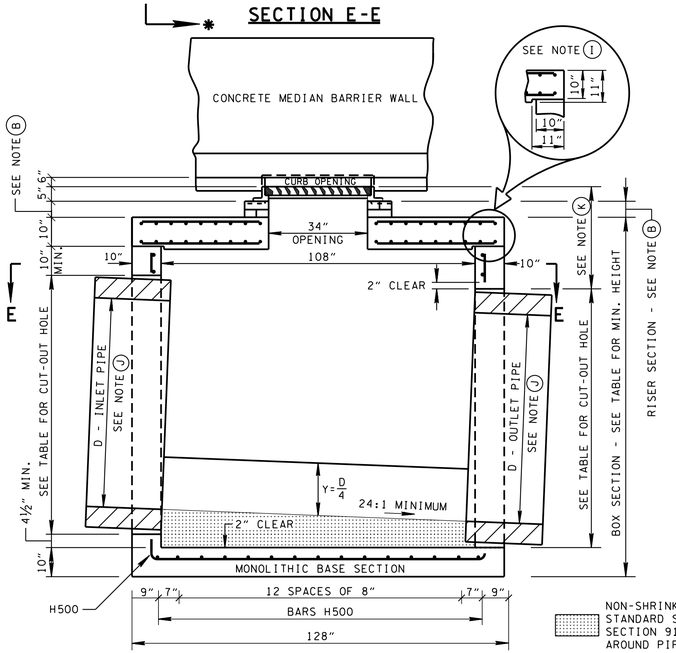


SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

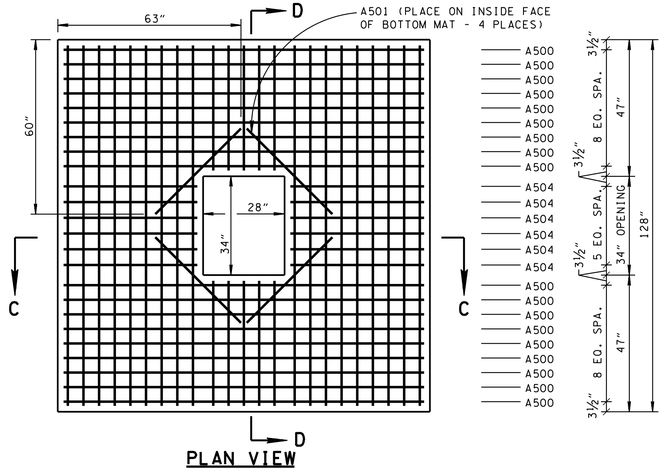


SECTION E-E

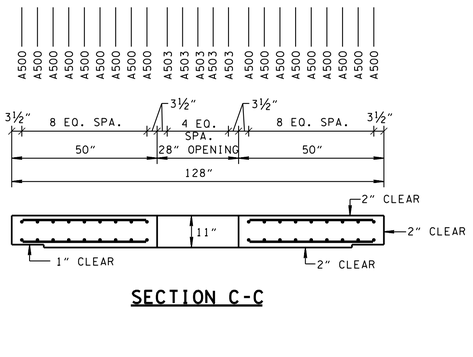


SECTION A-A

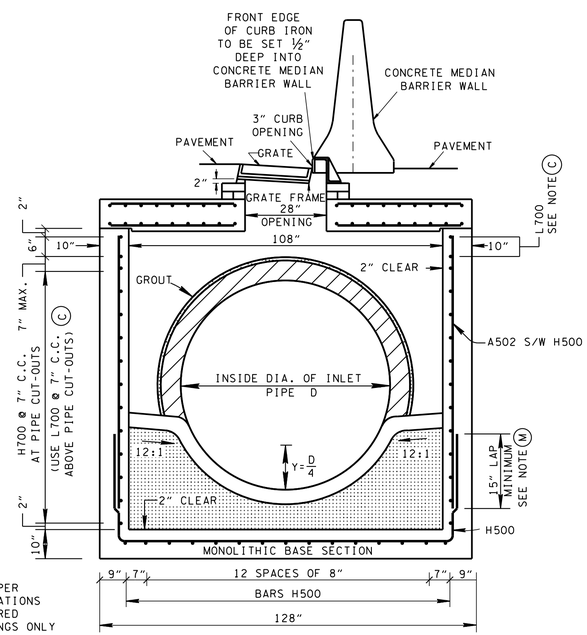
NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



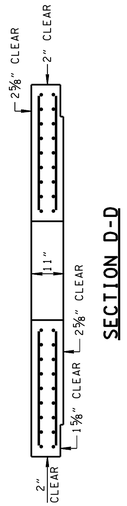
PLAN VIEW



SECTION C-C



SECTION B-B



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	59½	4.25
24	3	32	66½	4.79
30	3½	39	73½	5.33
36	4	46	80½	5.88
42	4½	53	87½	6.42
48	5	60	94½	6.96
54	5½	67	101½	7.50
60	6	74	108½	8.04
66	6½	81	115½	8.58
72	7	88	122½	9.13
78	7½	95	129½	9.67

- REV. 2-13-04: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 5-5-05: ADDED EXTRA STEEL DIMENSION TO SECTION C-C.
- REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 3-11-14: ELIMINATED STIRRUPS.

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 41SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 41SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_Y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

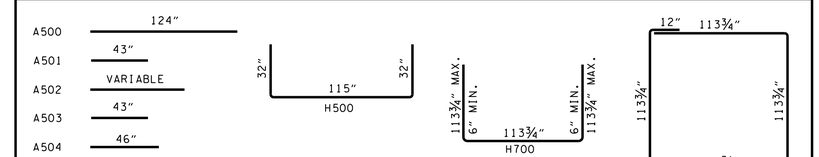
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-41.02 CATCH BASINS, TYPE 41, > 4'-8' DEPTH THROUGH 611-41.07 CATCH BASINS, TYPE 41, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

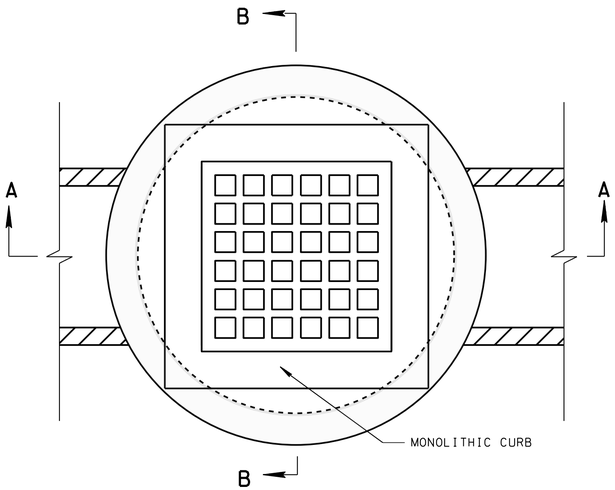
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

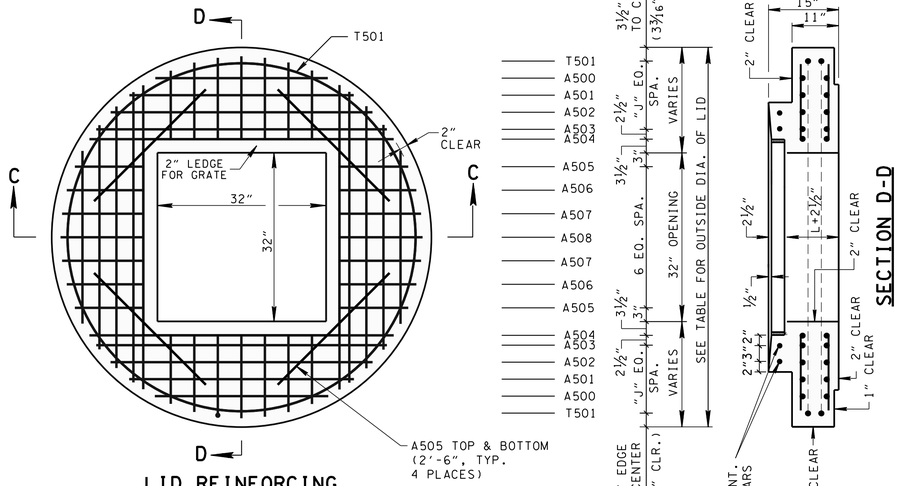
STANDARD 9' X 9' SQUARE CONCRETE NO. 41 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

NOT TO SCALE | 7-10-02 | D-CB-41SE

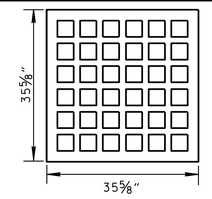


PLAN VIEW



LID REINFORCING

SECTION D-D



GRATE UNIT NO. 42

(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)

- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.
- ☐ REV. 1-19-99: ADDED CURB HEIGHT.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (H) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.

CATCH BASIN DIMENSIONS											FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)											
			60"	72"	84"	96"	60"	72"	84"	96"				
18	2½	25	55½	57	61½	63	3.88	4.26	4.27	4.29				
24	3	32	62½	64	68½	70	4.42	4.80	4.83	4.83				
30	3½	39	69½	71	75½	77	4.97	5.34	5.38	5.38				
36	4	46	76½	78	82½	84	5.51	5.88	5.92	5.92				
42	4½	53	83½	85	89½	91	6.05	6.42	6.46	6.46				
48	5	60	90½	92	96½	98	6.59	6.97	7.00	7.00				
54	5½	67	97½	99	103½	105	7.13	7.51	7.54	7.54				
60	6	74	104½	106	110½	112	7.67	8.05	8.08	8.08				
66	6½	81	111½	113	117½	119	8.22	8.59	8.63	8.63				

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

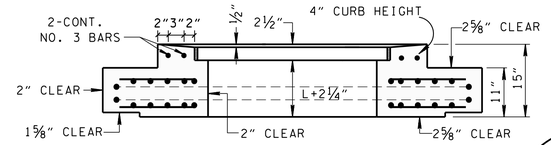
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

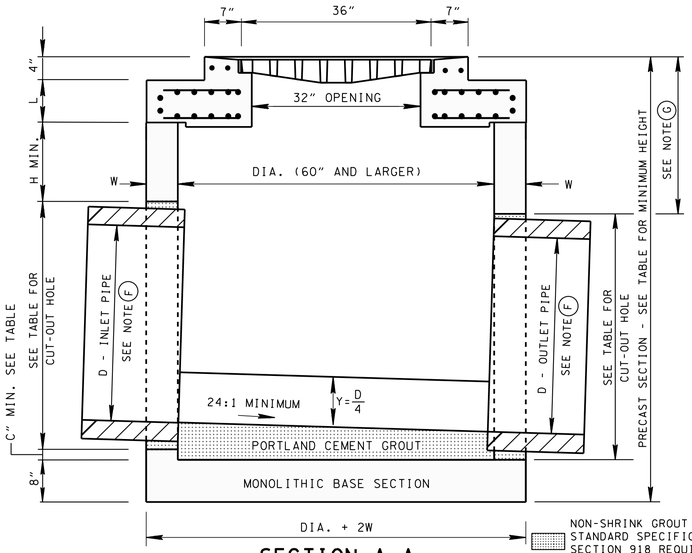
VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4
84	100	5
96	114	6

OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6⅜ INCHES.

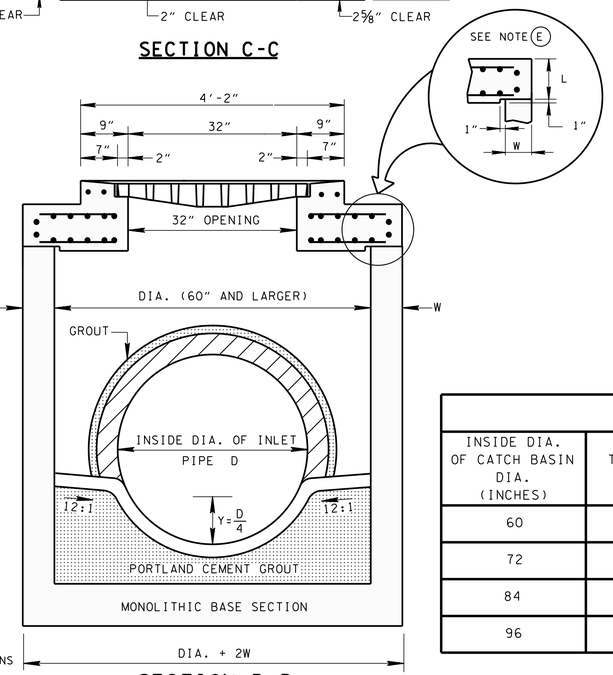
ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURES AS INDICATED BY "NO. OF EQ. SPACES 'J'."



SECTION C-C



SECTION A-A



SECTION B-B

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(C) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(D) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(E) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(F) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(G) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH (FOR 60 OR 72 INCH INSIDE DIAMETER CATCH BASIN) OR 27 INCH DEPTH (FOR 84 OR 96 INCH INSIDE DIAMETER CATCH BASIN) SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(H) SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATE.

(I) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-42.01 CATCH BASINS, TYPE 42, 0'-4' DEPTH THROUGH 611-42.07, CATCH BASINS, TYPE 42, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-42.08, CATCH BASINS, TYPE 42, ____ '- ____' DEPTH PER EACH. PAYMENT INCLUDES GRATE.

CATCH BASIN DIMENSIONS							
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION	
						C (INCHES)	H (INCHES)
60	6	10	72	36	24	2.5	8
72	7	10	86	48	30	3.0	8
84	8	10	100	60	36	3.5	12
96	9	10	114	66	42	4.0	12

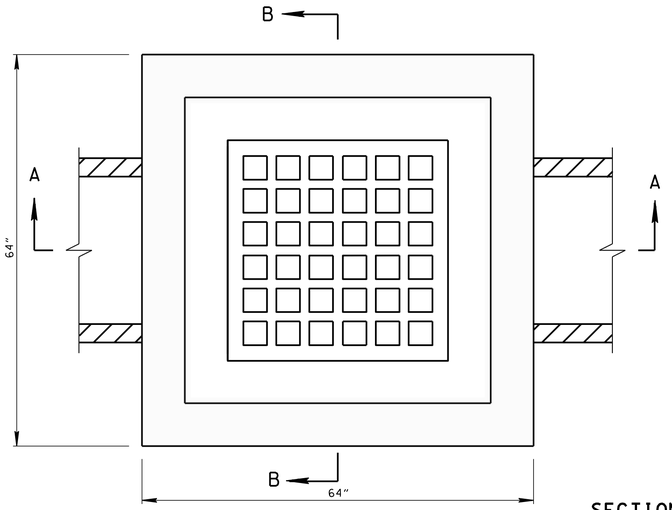
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

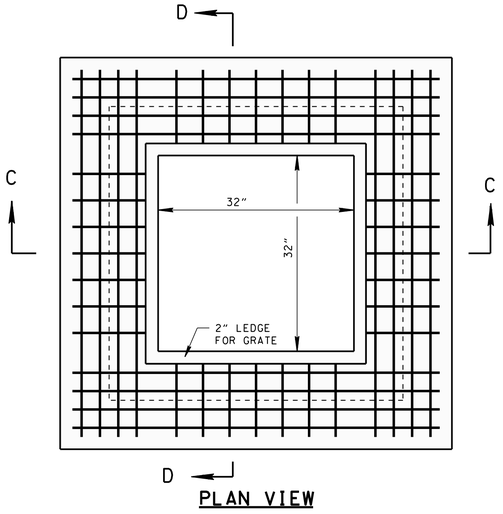
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST CIRCULAR NO. 42 CATCH BASIN

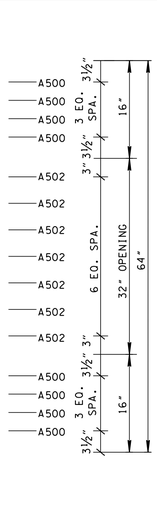
NOT TO SCALE

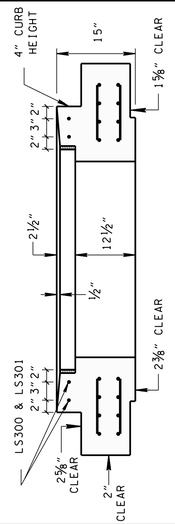
10-26-97 D-CB-42RB





PLAN VIEW





SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	55	3.88
24	3	32	62	4.42
30	3½	39	69	4.96
36	4	46	76	5.50

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

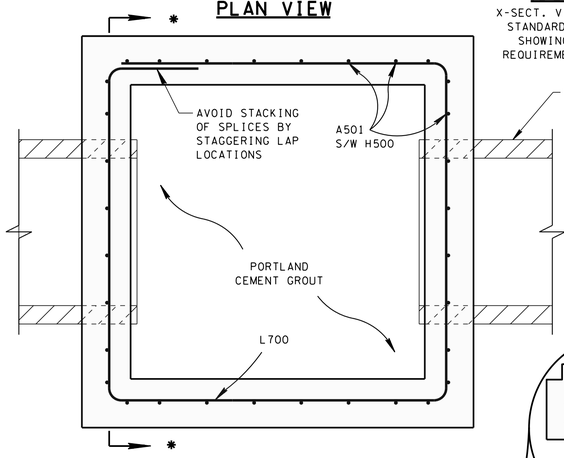
☐ REV. 7-29-04: CORRECTED GENERAL NOTE (I)

REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

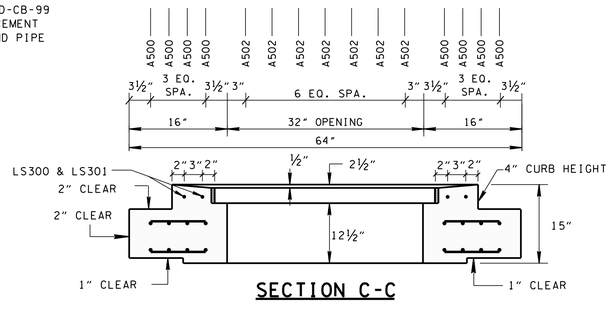
☐ REV. 3-11-14: ELIMINATED STIRRUPS.

PLAN VIEW



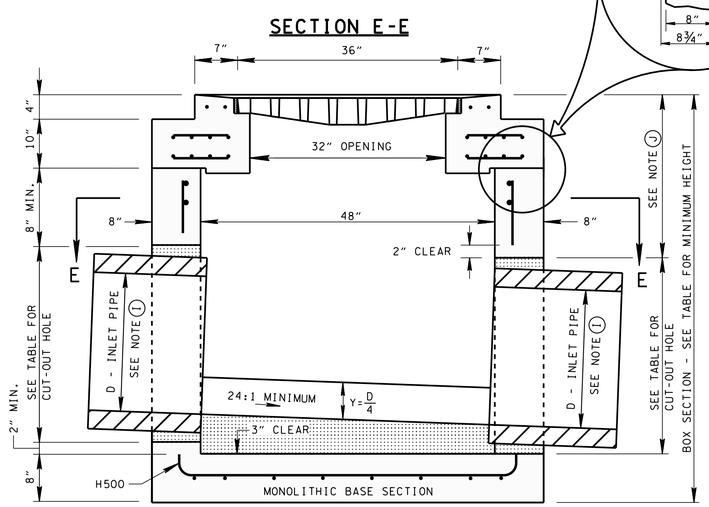
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



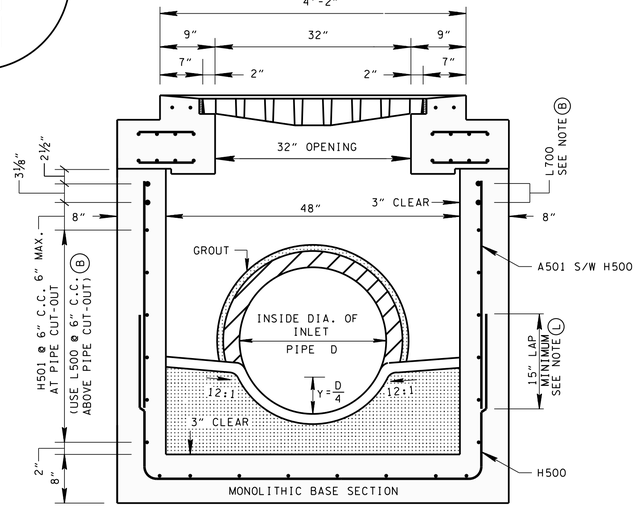
SECTION C-C

SECTION E-E



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 42SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 42SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: $f_c' = 4{,}000$ POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, $F_y = 60{,}000$ POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

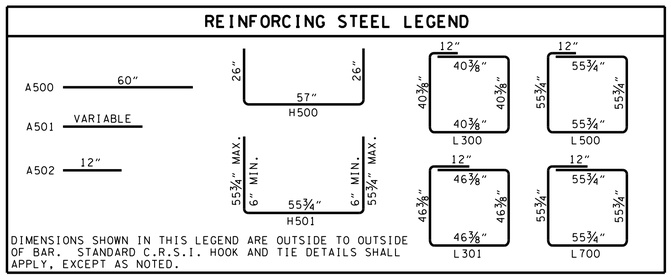
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 22 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.

(L) THE CONTRACTOR MAY ELIMINATE THE A501 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-42.01 CATCH BASINS, TYPE 42, 0'-4' DEPTH THROUGH 611-42.07 CATCH BASINS, TYPE 42, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 4' X 4' SQUARE CONCRETE NO.42 CATCH BASIN

NOT TO SCALE

5-27-99 D-CB-42SB

22-APR-2014 09:51
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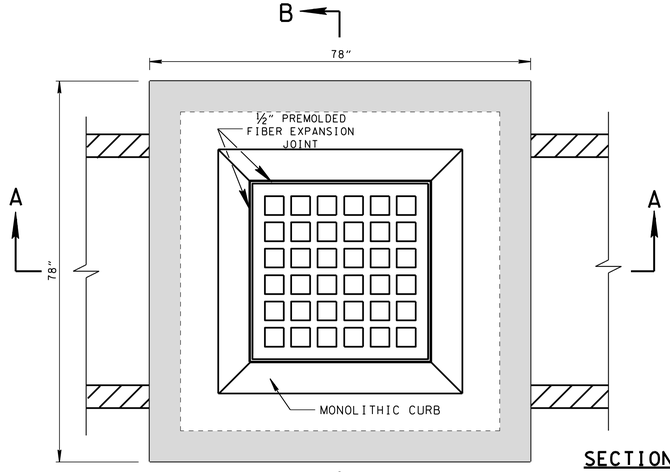
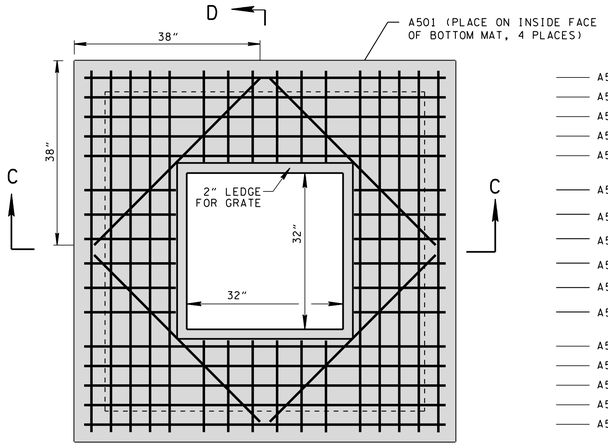
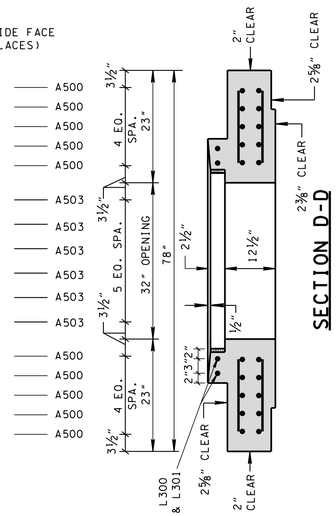






SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN DIMENSIONS

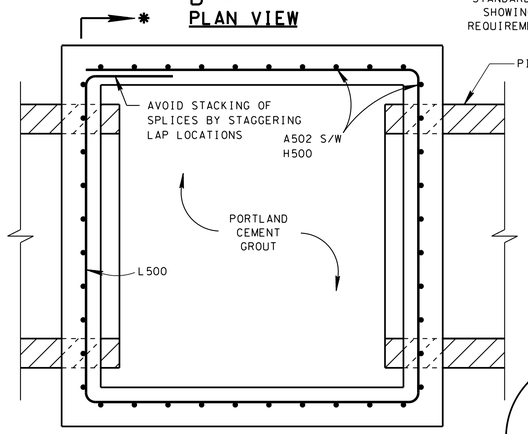
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	59	4.05
24	3	32	66	4.59
30	3½	39	73	5.13
36	4	46	80	5.67
42	4½	53	87	6.22
48	5	60	94	6.76

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

B
PLAN VIEW

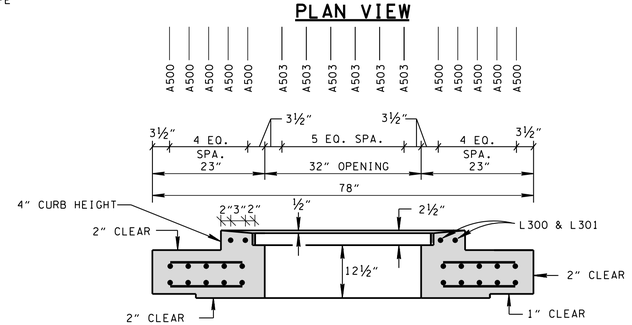


SECTION E-E

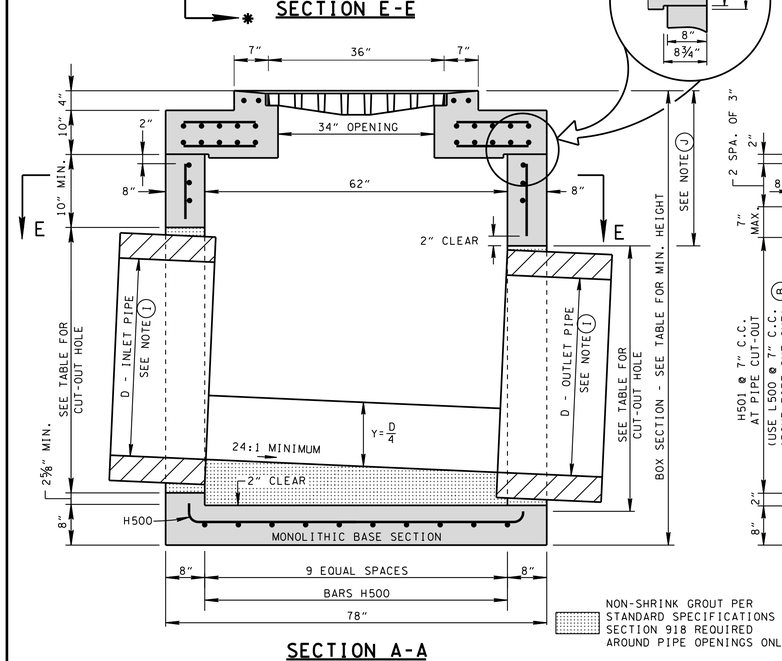
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

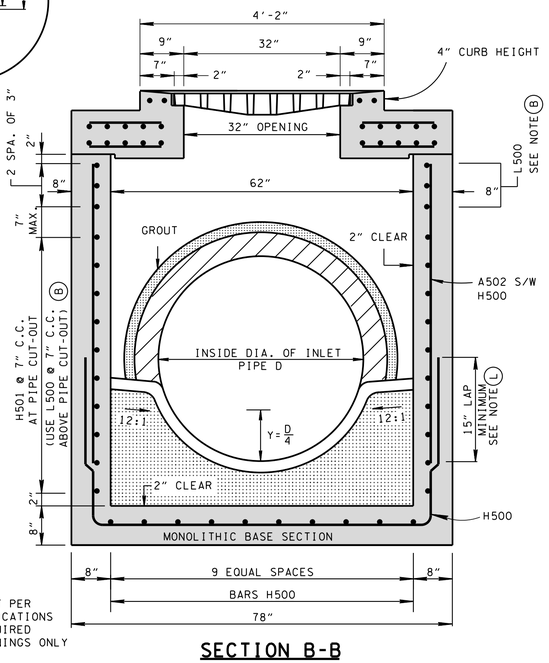
D
PLAN VIEW



SECTION C-C

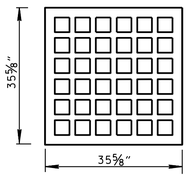


SECTION A-A



SECTION B-B

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



GRATE UNIT NO. 42

(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 42SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 42SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

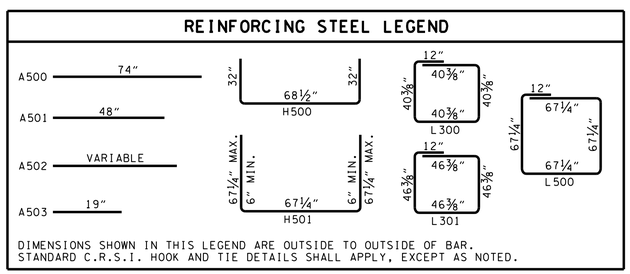
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 24 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.

(L) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-42.01 CATCH BASINS, TYPE 42, 0'-4' DEPTH THROUGH 611-42.07 CATCH BASINS, TYPE 42, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR.
STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

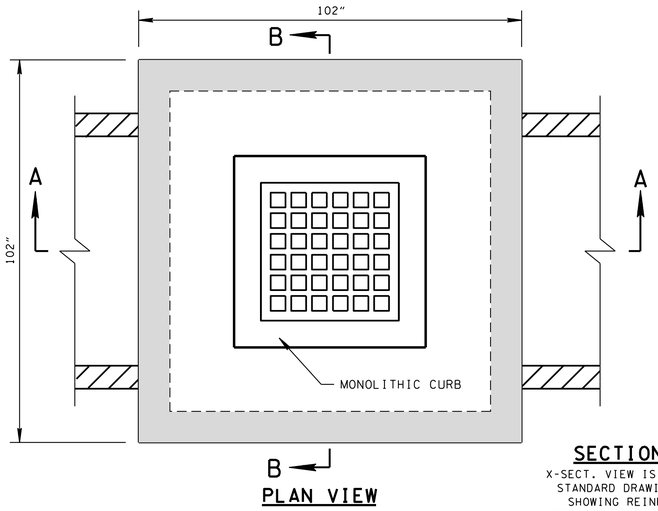
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

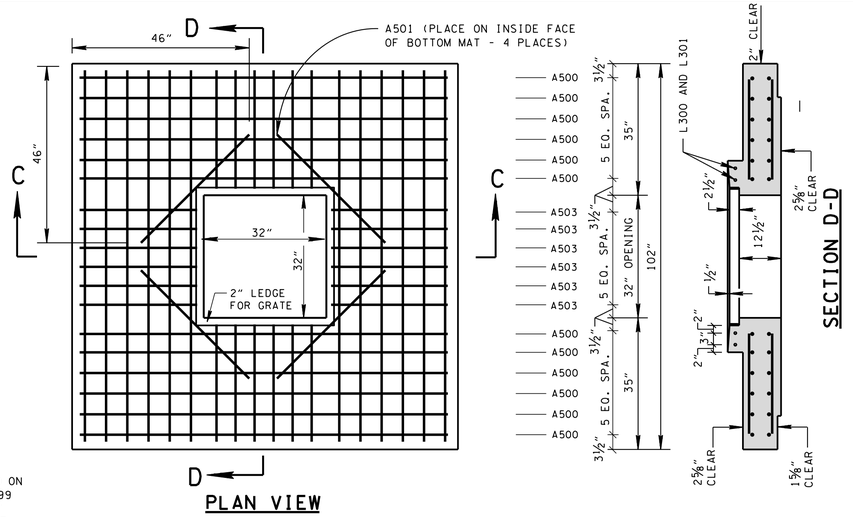
STANDARD 5'2" X 5'2" SQUARE CONCRETE NO.42 CATCH BASIN

NOT TO SCALE

2-28-03 D-CB-42SC



PLAN VIEW

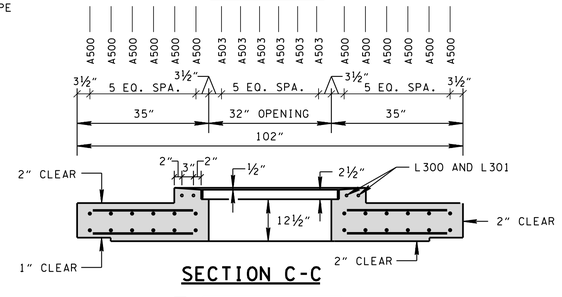


PLAN VIEW

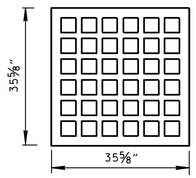
SECTION D-D

SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



GRATE UNIT NO. 42

(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	61½	4.26
24	3	32	68½	4.80
30	3½	39	75½	5.34
36	4	46	82½	5.88
42	4½	53	89½	6.42
48	5	60	96½	6.97
54	5½	67	103½	7.51
60	6	74	110½	8.05
66	6½	81	117½	8.59

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

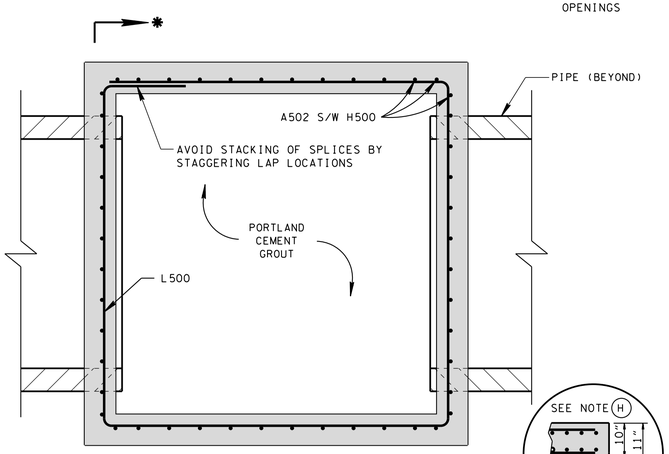
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 9-5-98: CHANGED LENGTH OF REINFORCING BAR DESIGNATED A501.
- ☐ REV. 1-19-99: ADDED CURB HEIGHT.
- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 5-30-02: MODIFIED REINFORCING STEEL.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

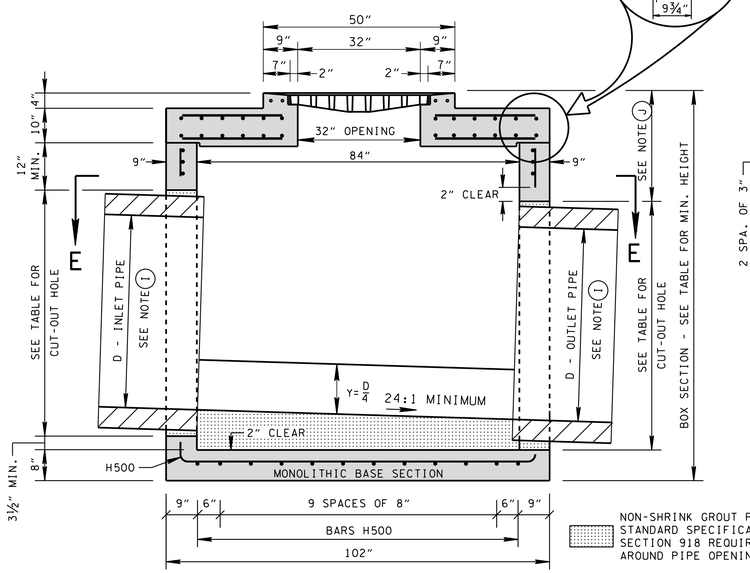
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN MAXIMUM DEPTH NOTE

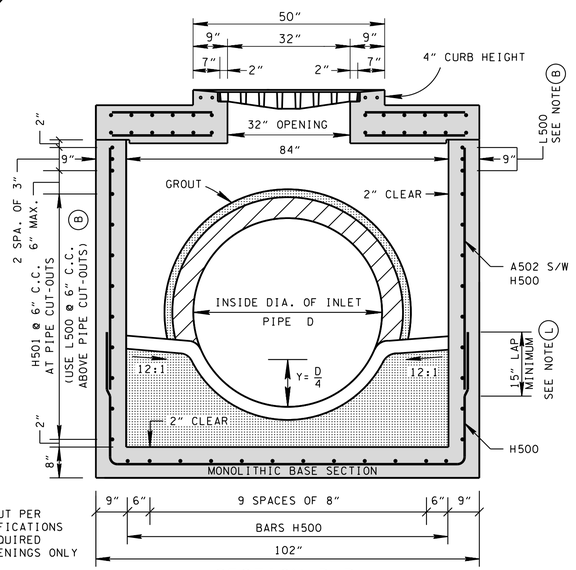
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.



SECTION E-E



SECTION A-A



NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 42SD CONCRETE CATCH BASINS AND ALL PRECAST NO. 42SD CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(G) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(H) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(I) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

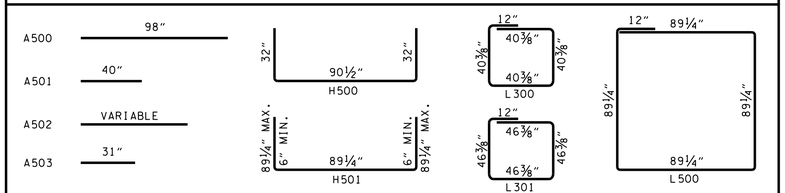
(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 26 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(K) SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.

(L) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-42.02 CATCH BASINS, TYPE 42, > 4'-8' DEPTH THROUGH 611-42.07, CATCH BASINS, TYPE 42, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☒ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

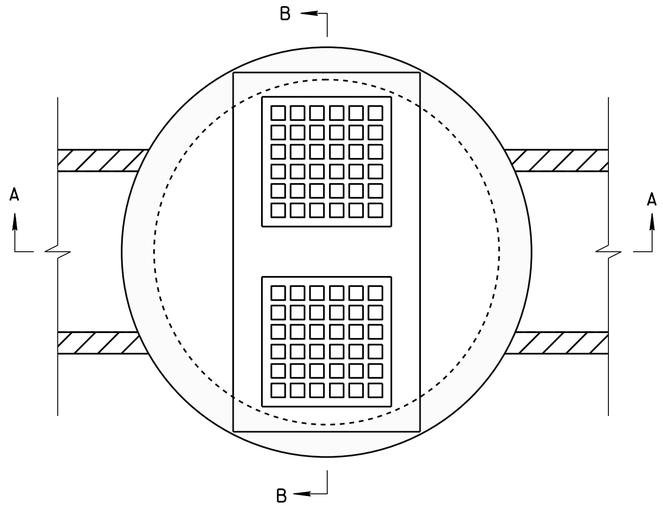
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 7' X 7' SQUARE CONCRETE NO. 42 CATCH BASIN

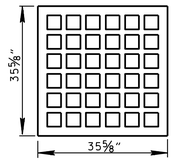
NOT TO SCALE

8-28-98

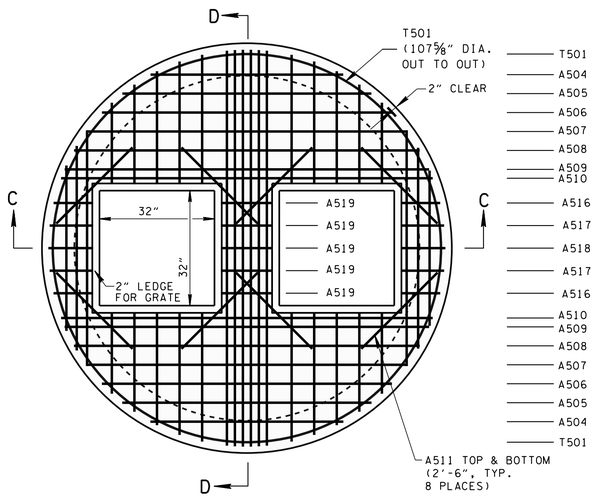
D-CB-42SD



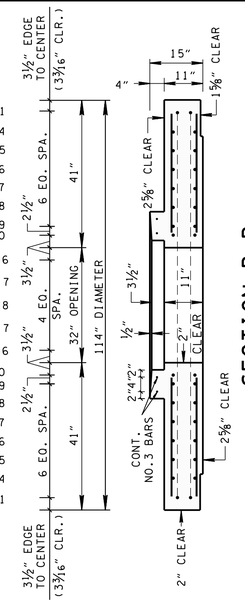
PLAN VIEW



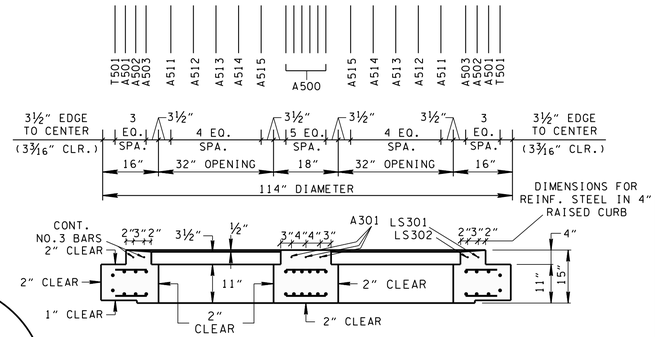
GRATE UNIT NO. 43
(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)



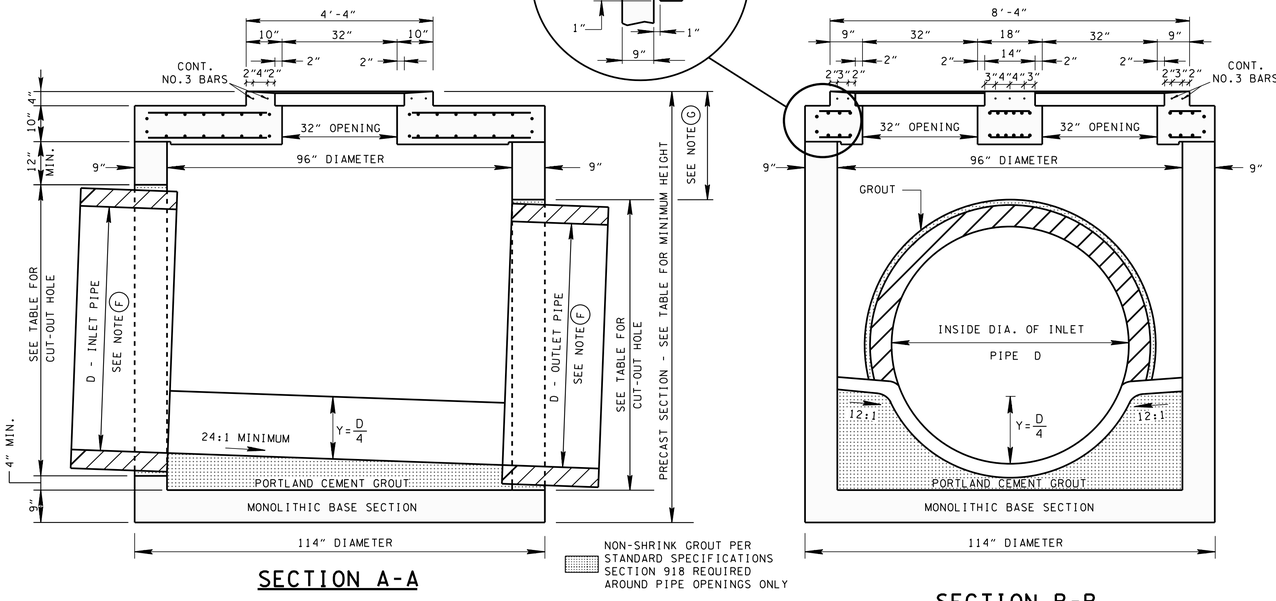
LID REINFORCING



SECTION D-D



SECTION C-C



SECTION A-A

SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

CATCH BASIN DIMENSIONS				
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	64	4.29
24	3	32	71	4.83
30	3½	39	78	5.38
36	4	46	85	5.92
42	4½	53	92	6.46
48	5	60	99	7.00
54	5½	67	106	7.54
60	6	74	113	8.08
66	6½	81	120	8.63

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (H) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

  REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.

- ☐ REV 9-24-12: ADDED BAR DESIGNATION FOR CONTINUOUS #3 BARS AROUND GRATE AND MODIFIED TOP SLAB.

- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(B) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(C) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(D) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(E) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.

(F) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(G) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 26 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(H) SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.

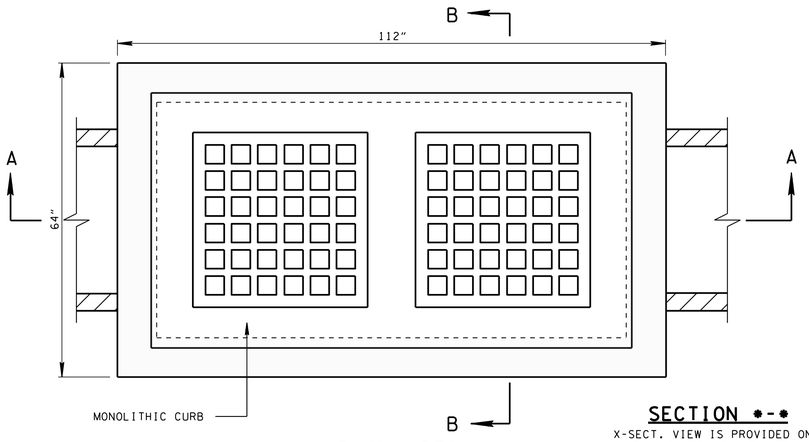
(I) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-43.02 CATCH BASINS, TYPE 43, > 4'-8' DEPTH THROUGH 611-43.07, CATCH BASINS, TYPE 43, > 24'-28' DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 28' WILL BE MADE UNDER ITEM NUMBER 611-43.08, CATCH BASINS, TYPE 43, ____ '- ____' DEPTH PER EACH. PAYMENT INCLUDES GRATES.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST CIRCULAR NO. 43R CATCH BASIN

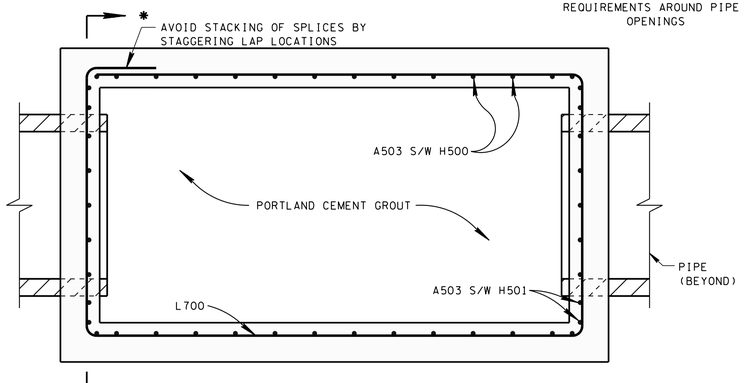
NOT TO SCALE | 1-19-00 | D-CB-43R



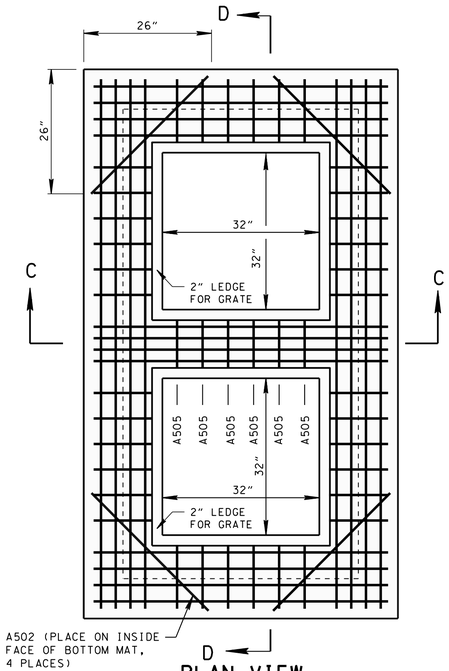
PLAN VIEW

SECTION *-*

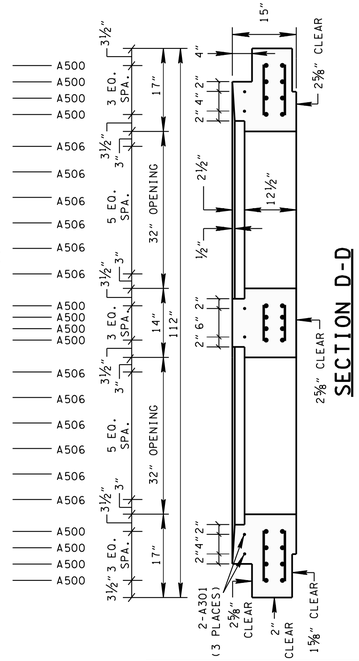
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



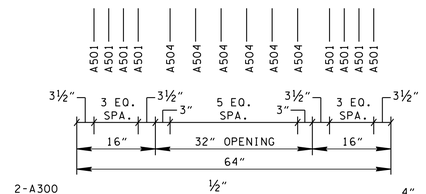
SECTION E-E

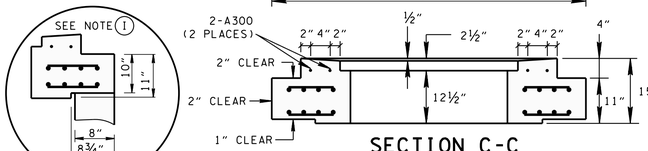


PLAN VIEW

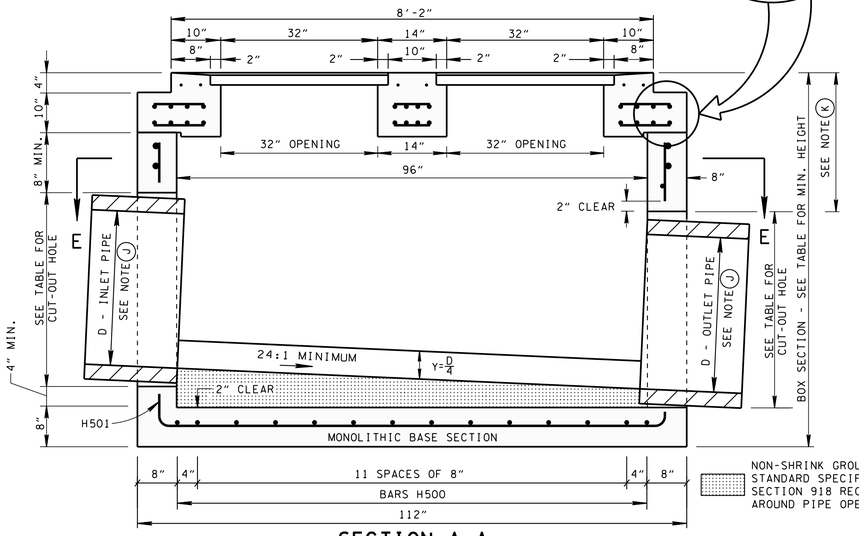


SECTION D-D

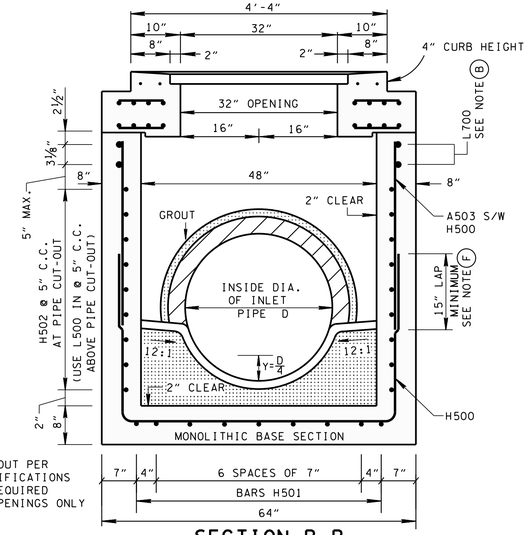




SECTION C-C



SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS

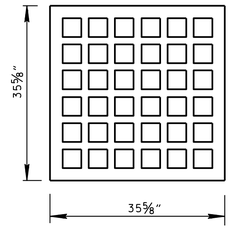
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	57	3.88
24	3	32	64	4.42
30	3½	39	71	4.97
36	4	46	78	5.51
(4) 42	4½	53	85	6.05
(4) 48	5	60	92	6.59
(4) 54	5½	67	99	7.13
(4) 60	6	74	106	7.67

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALL ONLY.



GRATE UNIT NO. 43

(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)

- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- REV. 3-11-14: ELIMINATED STIRRUPS.

- MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 43SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 43SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

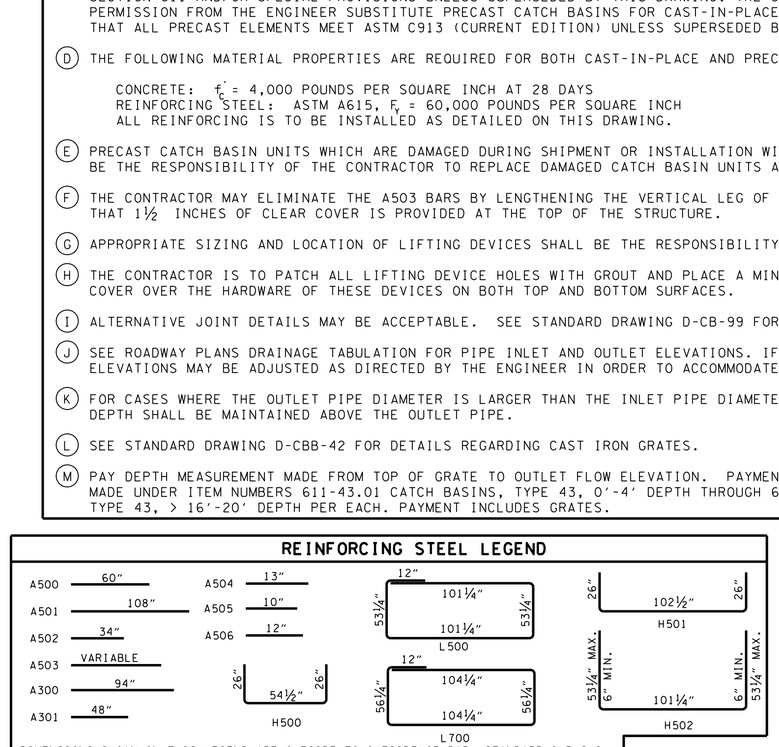
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 22 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-43.01 CATCH BASINS, TYPE 43, 0'-4' DEPTH THROUGH 611-43.05, CATCH BASINS, TYPE 43, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES GRATES.

REINFORCING STEEL LEGEND



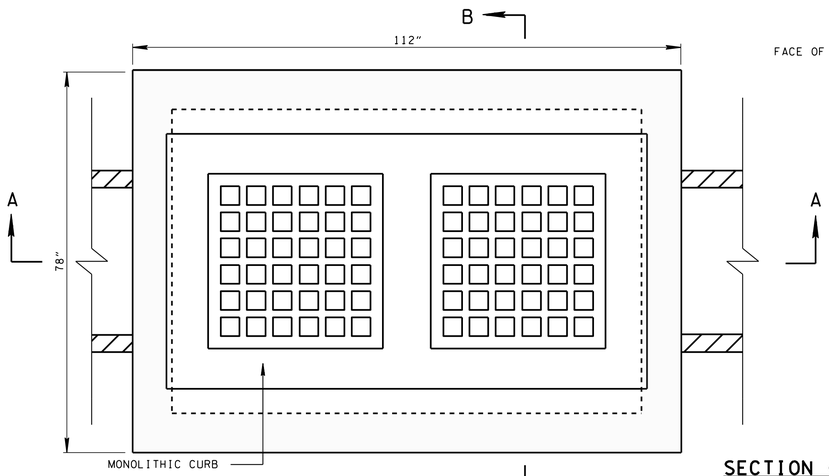
DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

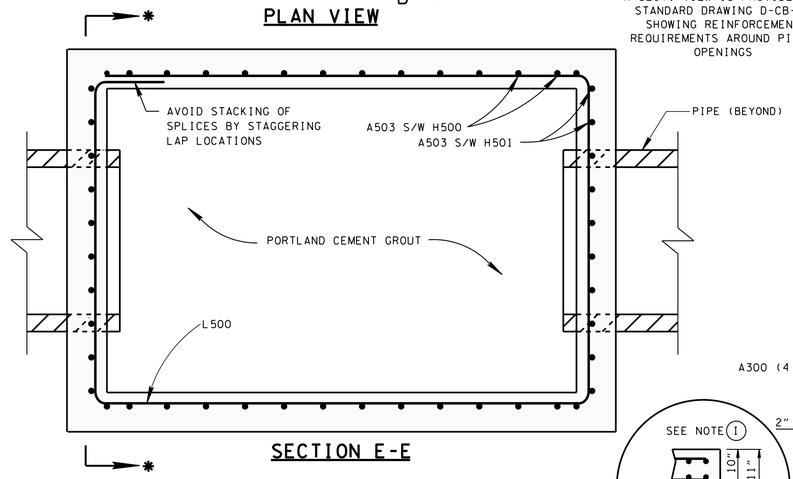
STANDARD 8' X 4' RECTANGULAR CONCRETE NO.43SB CATCH BASIN

NOT TO SCALE

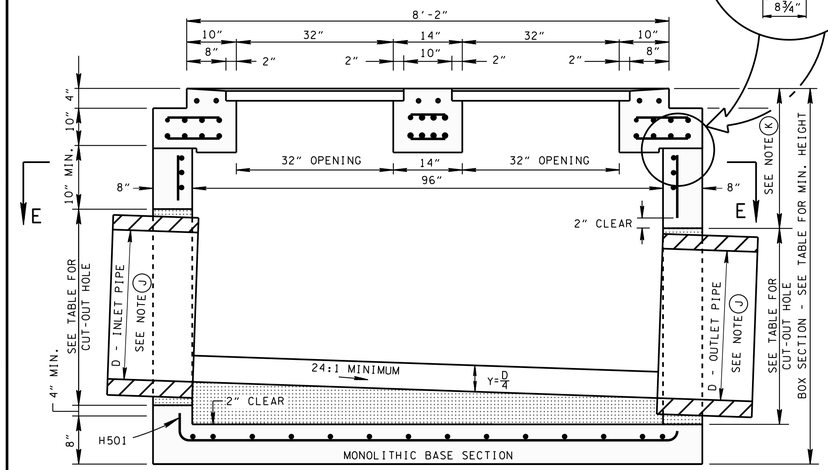
10-26-97 D-CB-43SB

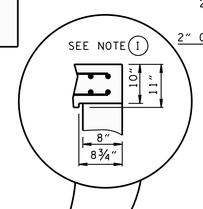


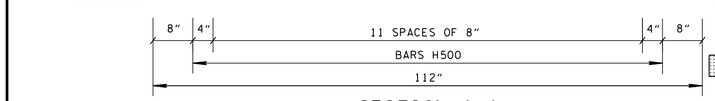
PLAN VIEW



SECTION E-E





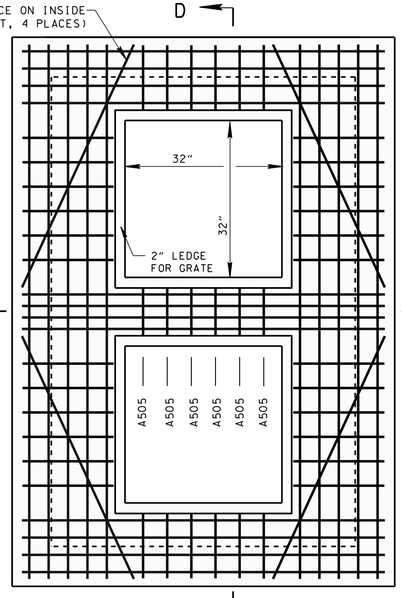


SECTION A-A

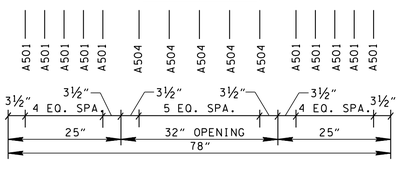
NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

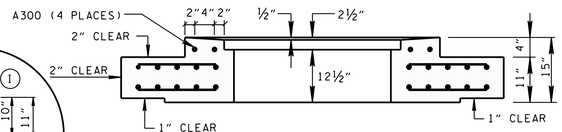
SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

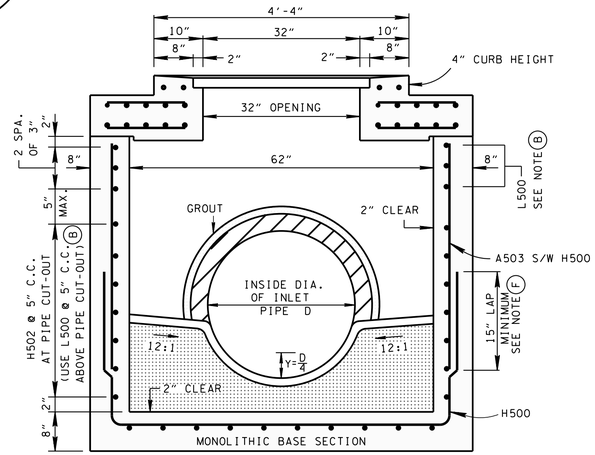


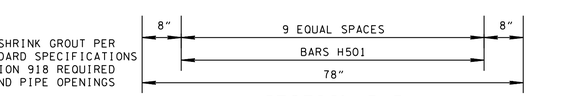
PLAN VIEW



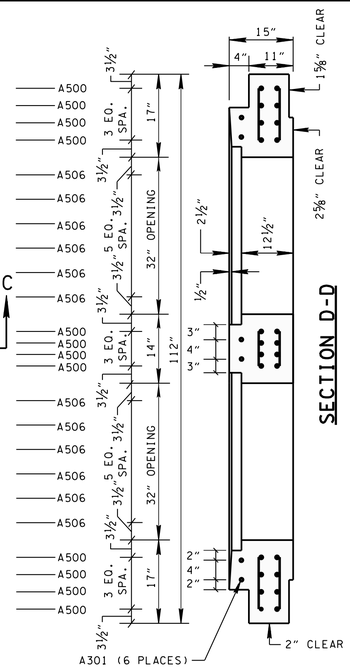


SECTION C-C





SECTION B-B



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

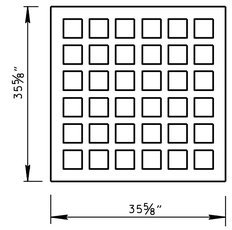
CATCH BASIN DIMENSIONS				
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	60	4.13
24	3	32	67	4.67
30	3½	39	74	5.22
36	4	46	81	5.76
42	4½	53	88	6.30
48	5	60	95	6.84
(4) 54	5½	67	102	7.38
(4) 60	6	74	109	7.92

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALL ONLY.



GRATE UNIT NO. 43

(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 43SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 43SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½" INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

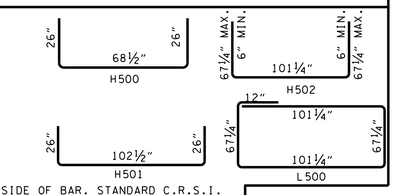
(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 24 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-43.02 CATCH BASINS, TYPE 43, > 4'-8' DEPTH THROUGH 611-43.05, CATCH BASINS, TYPE 43, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES GRATES.

REINFORCING STEEL LEGEND

A500	74"	A504	13"
A501	108"	A505	10"
A502	55"	A506	19"
A503	VARIABLE		
A300	94"		
A301	48"		



DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

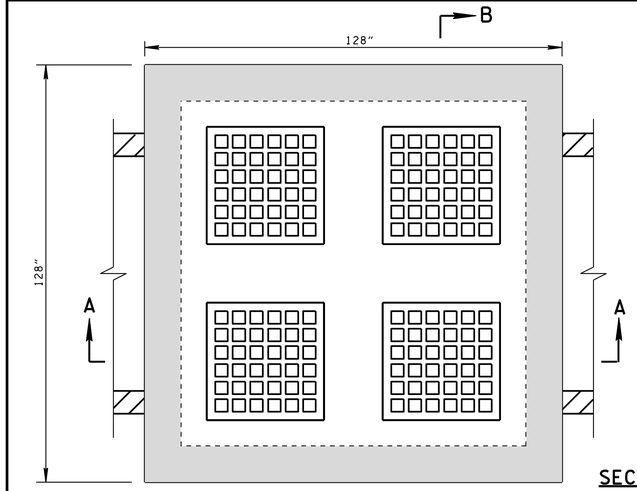
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

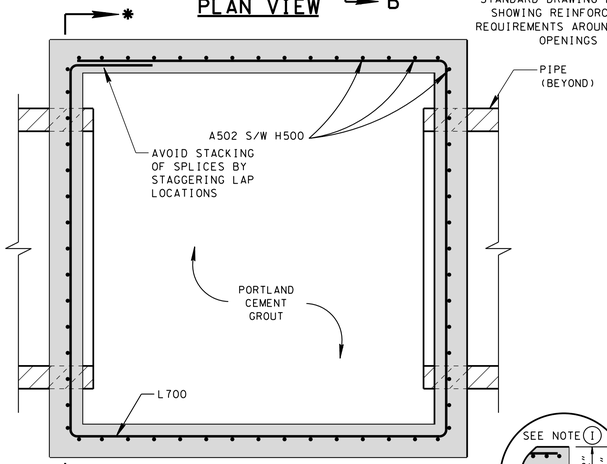
STANDARD 8' X 5'2" RECTANGULAR CONCRETE NO. 43SC CATCH BASIN

NOT TO SCALE | 1-19-00 | D-CB-43SC

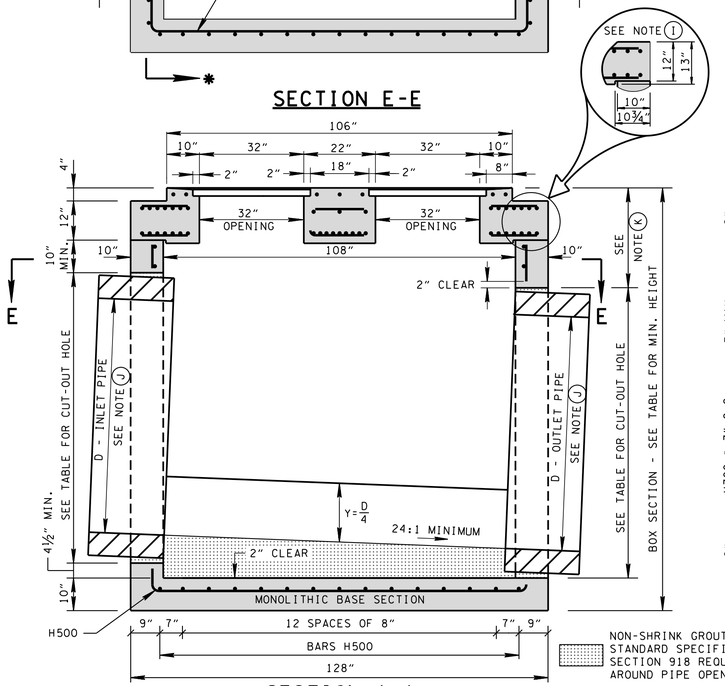
22-APR-2014 09:51
\\JJ0019083WF013.tdot.state.tn.us\JJ00615$\backup d\pak on JJ96208\WORKSTD\2014 std dwg\DCB43SC_03ill4.dgn



PLAN VIEW



SECTION E-E

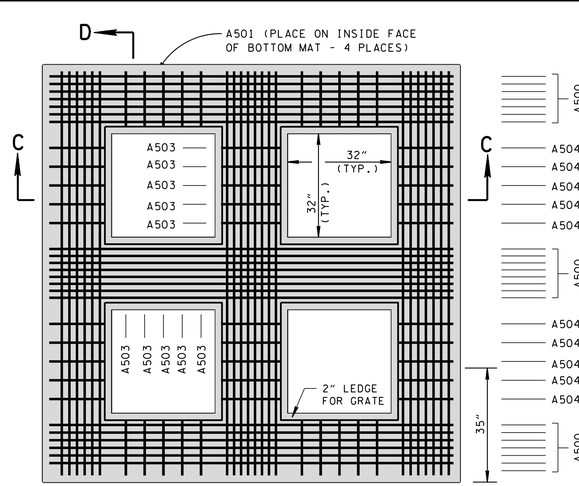


SECTION A-A

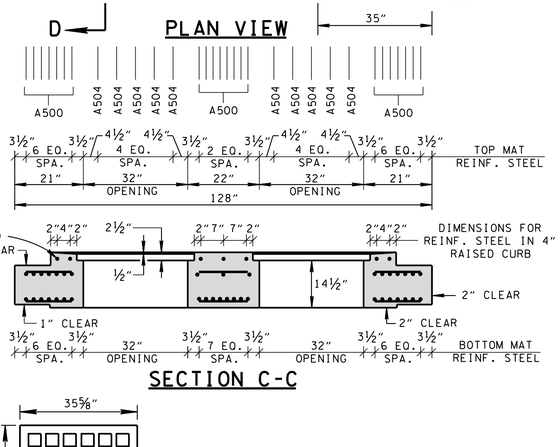
NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

SECTION ✱-✱

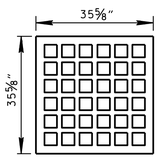
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



PLAN VIEW

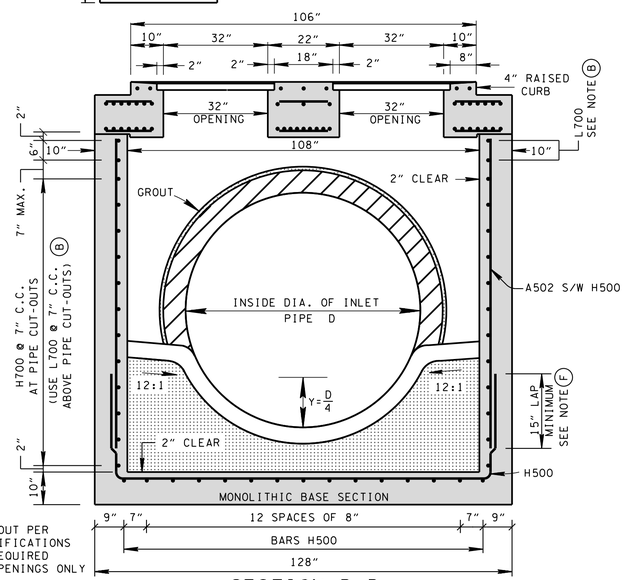


SECTION C-C



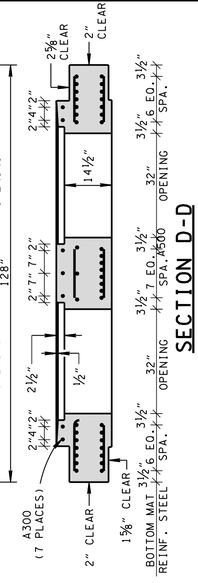
GRATE UNIT NO. 44

(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)



SECTION B-B

SECTION D-D



- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE Ⓒ
- REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 2-13-04: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 5-5-05: ADDED EXTRA STEEL DIMENSION TO SECTION C-C.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	65½	4.33
24	3	32	72½	4.88
30	3½	39	79½	5.42
36	4	46	86½	5.96
42	4½	53	93½	6.50
48	5	60	100½	7.04
54	5½	67	107½	7.58
60	6	74	114½	8.13
66	6½	81	121½	8.67
72	7	88	128½	9.21
78	7½	95	135½	9.75

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 44SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 44SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(C) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(D) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(E) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(F) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

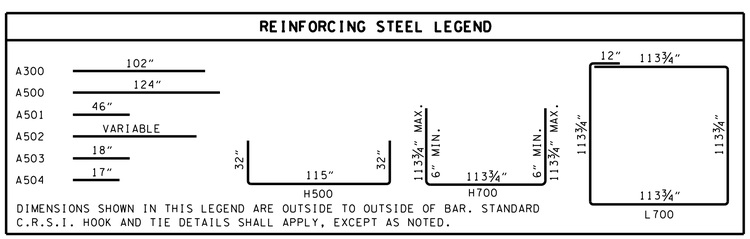
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 26 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.

(M) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-44.02 CATCH BASINS, TYPE 44, > 4'-8' DEPTH THROUGH 611-44.05, CATCH BASINS, TYPE 44, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES GRATES.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 9' X 9' SQUARE CONCRETE NO. 44 CATCH BASIN

10-26-98 | D-CB-44SE

22-APR-2014 09:51
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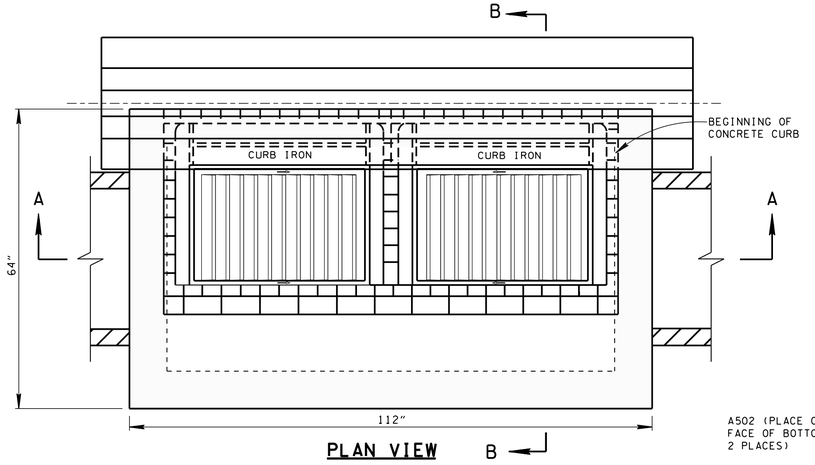
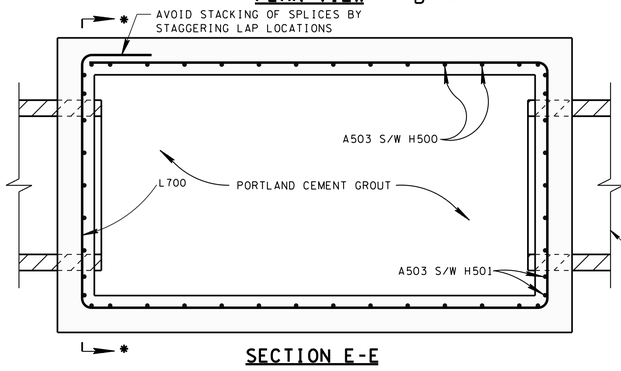
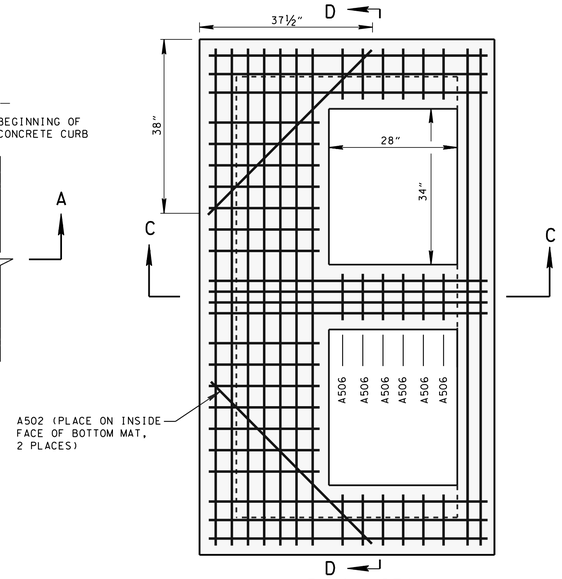


PLAN VIEW



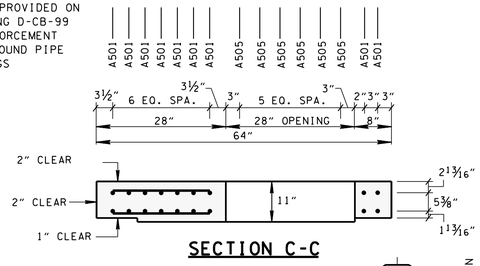
SECTION E-E



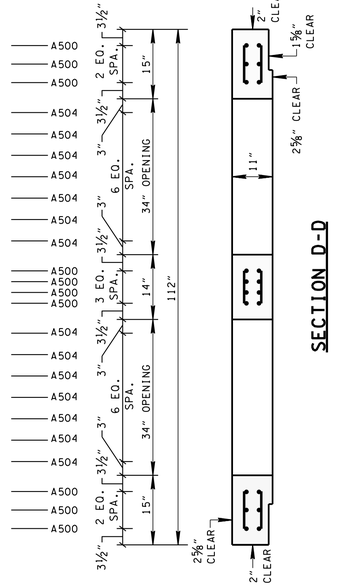
PLAN VIEW

SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	53	4.05
24	3	32	60	4.59
30	3½	39	67	5.13
36	4	46	74	5.67
(4) 42	4½	53	81	6.21
(4) 48	5	60	88	6.75
(4) 54	5½	67	95	7.30
(4) 60	6	74	102	7.84

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

(4) TO BE USED IN 96 INCH INTERIOR WALL ONLY.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J). ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 2-2-12: CHANGED GENERAL NOTES (C), MISC. EDITS MADE TO SECTIONS.
  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 45 CONCRETE CATCH BASINS AND ALL PRECAST NO. 45 CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 23 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

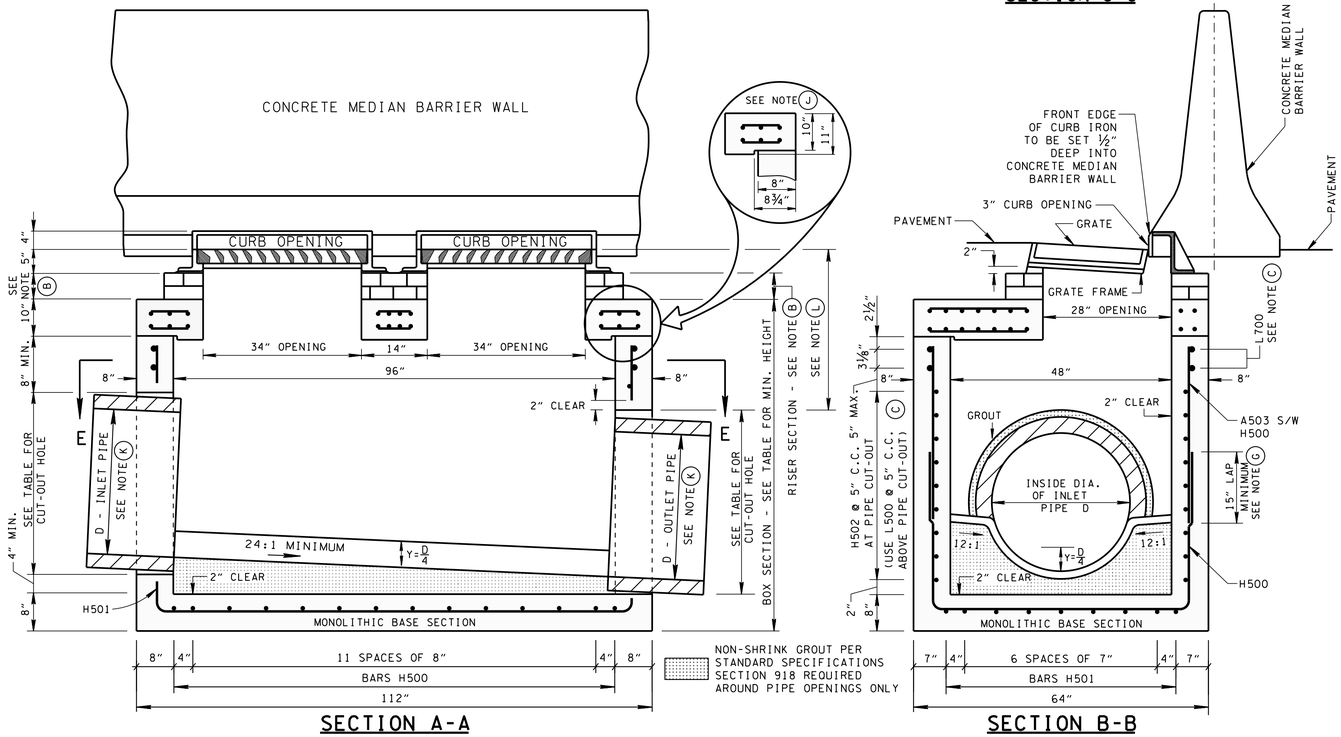
(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 23 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

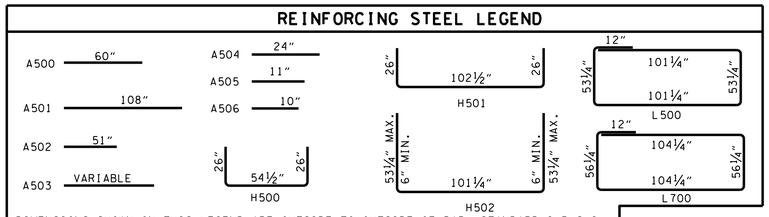
(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-45.01 CATCH BASINS, TYPE 45, 0'-4' DEPTH THROUGH 611-45.05, CATCH BASINS, TYPE 45, > 16'-20' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.



SECTION A-A

SECTION B-B

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

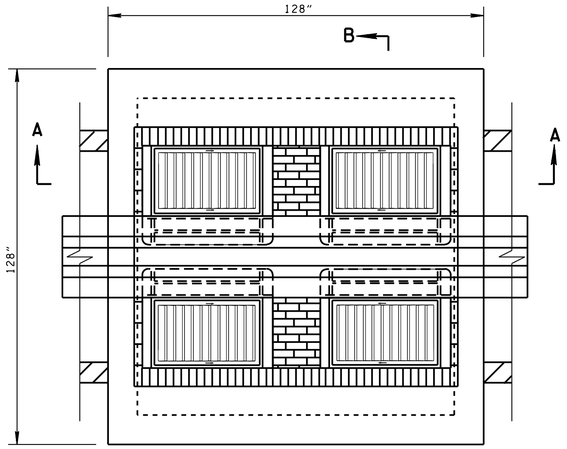
STANDARD 8' X 4' RECTANGULAR CONCRETE NO.45 CATCH BASIN

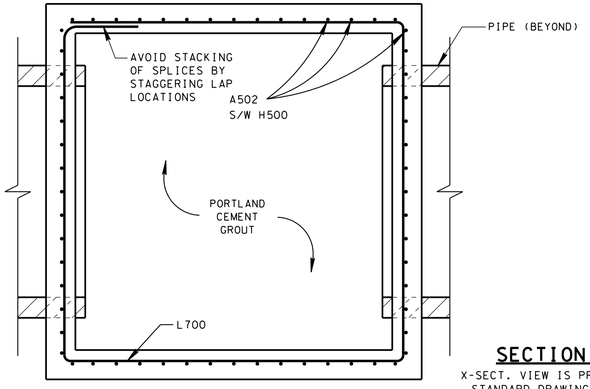
(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

NOT TO SCALE

1-19-99

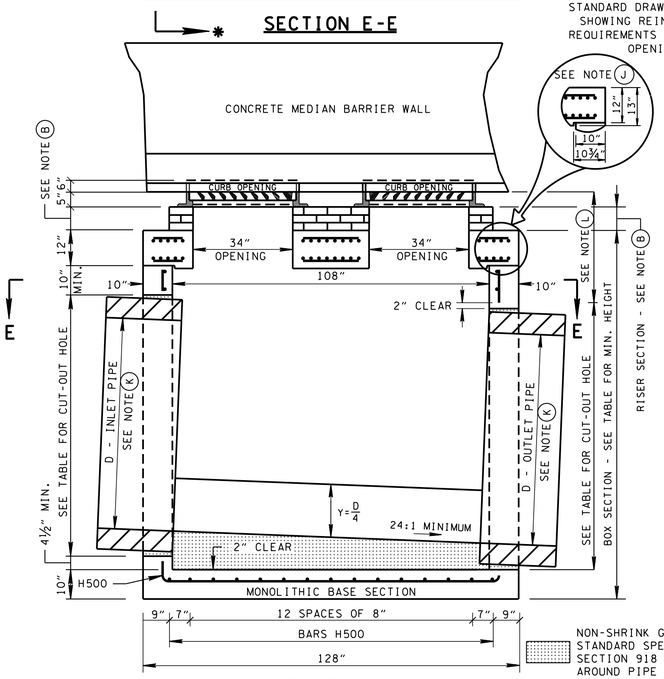
D-CB-45S



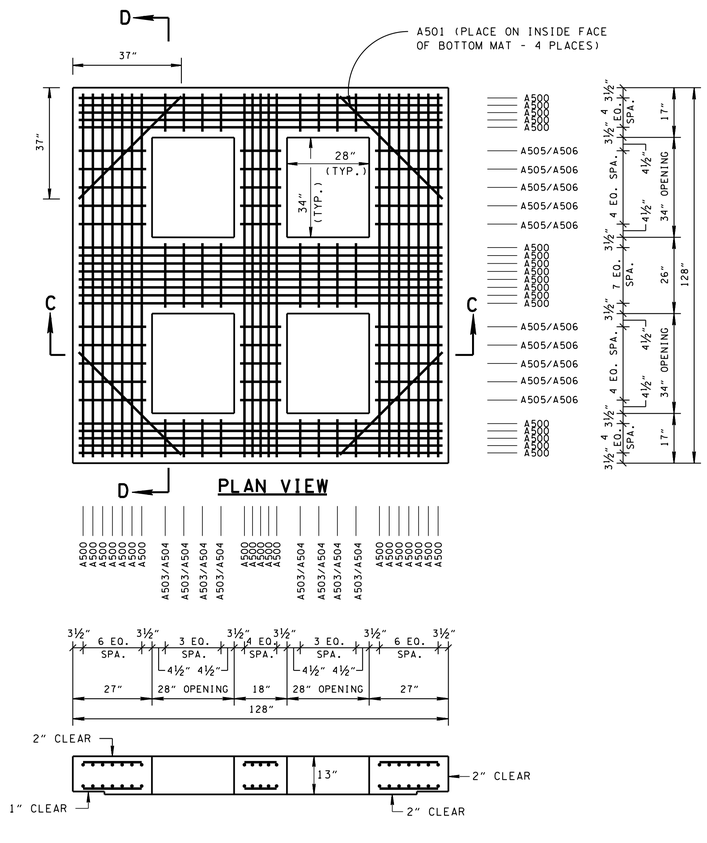


SECTION *-*

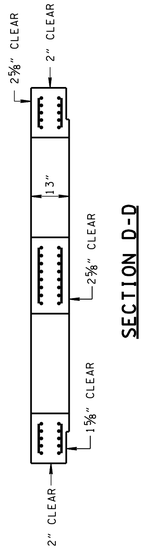
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



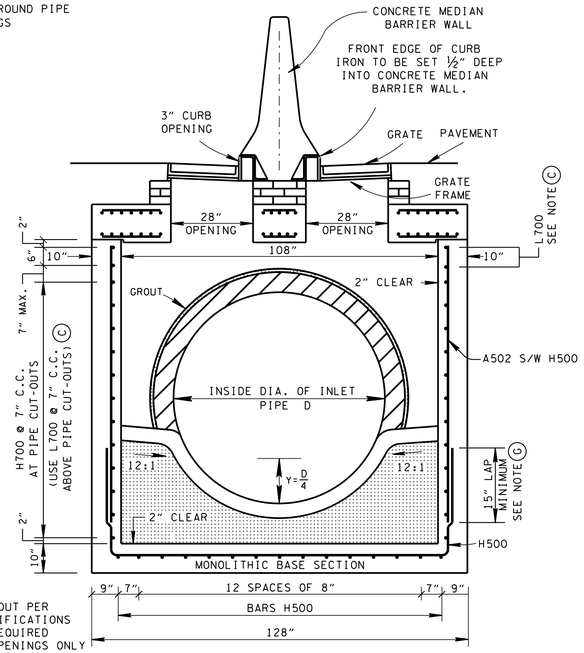
SECTION A-A



SECTION C-C



SECTION D-D



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	61½	4.42
24	3	32	68½	4.96
30	3½	39	75½	5.50
36	4	46	82½	6.04
42	4½	53	89½	6.58
48	5	60	96½	7.13
54	5½	67	103½	7.67
60	6	74	110½	8.21
66	6½	81	117½	8.75
72	7	88	124½	9.29
78	7½	95	131½	9.83

- ☐ REV. 5-30-02: MODIFIED REINFORCING STEEL.
- ☐ REV. 5-30-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- ☐ REV. 2-13-04: CHANGED REINFORCING STEEL IN BASE SECTION.
- ☐ REV. 5-5-05: ADDED EXTRA STEEL DIMENSION TO SECTION C-C.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 46 CONCRETE CATCH BASINS AND ALL PRECAST NO. 46 CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: $f_c' = 4{,}000$ POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, $F_y = 60{,}000$ POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

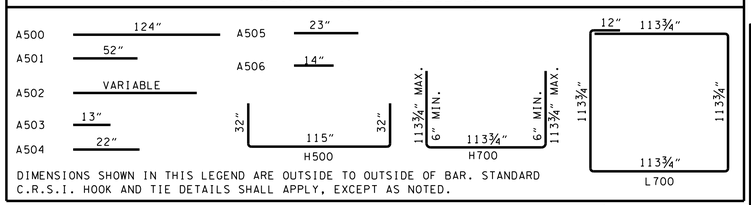
(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-46.02 CATCH BASINS, TYPE 46, > 4'-8' DEPTH THROUGH 611-46.07, CATCH BASINS, TYPE 46, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND

A500	124"	A505	23"
A501	52"	A506	14"
A502	VARIABLE		
A503	13"		
A504	22"		



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

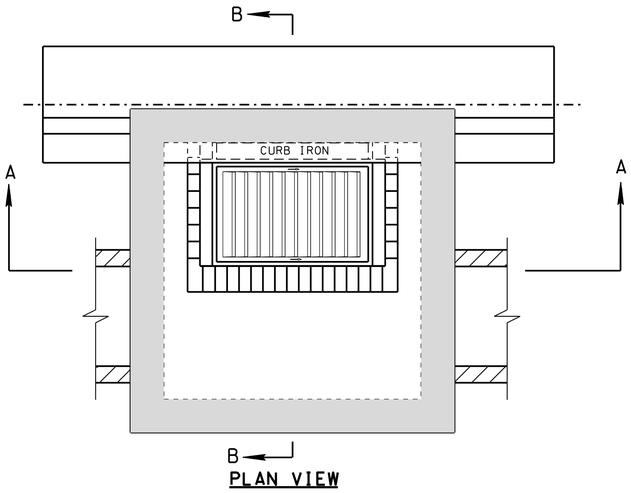
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

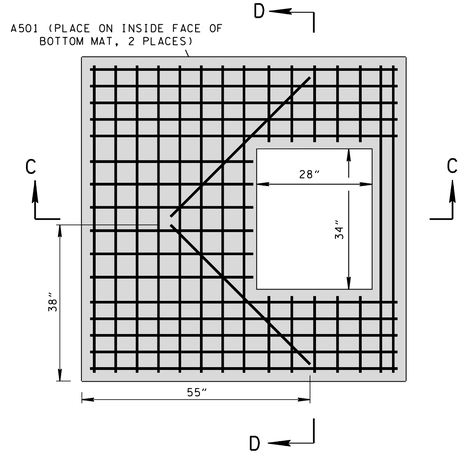
STANDARD 9' X 9' SQUARE CONCRETE NO. 46 CATCH BASIN

(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

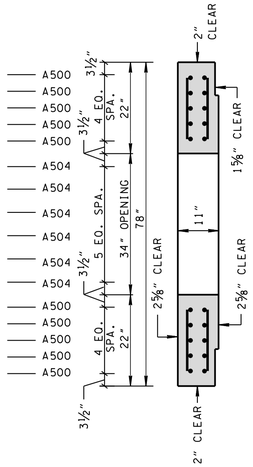
NOT TO SCALE | 5-27-99 | D-CB-46SE



PLAN VIEW



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	55	4.13
24	3	32	62	4.67
30	3½	39	69	5.22
36	4	46	76	5.76
42	4½	53	83	6.30
48	5	60	90	6.84

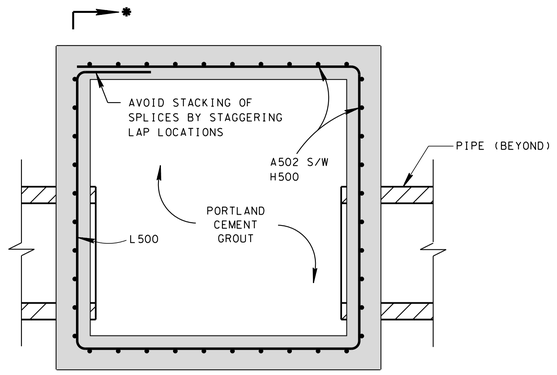
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

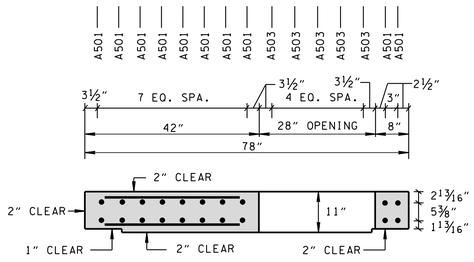
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

- ☐ REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (J) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.
- ☐ REV. 3-11-14: ELIMINATED STIRRUPS.



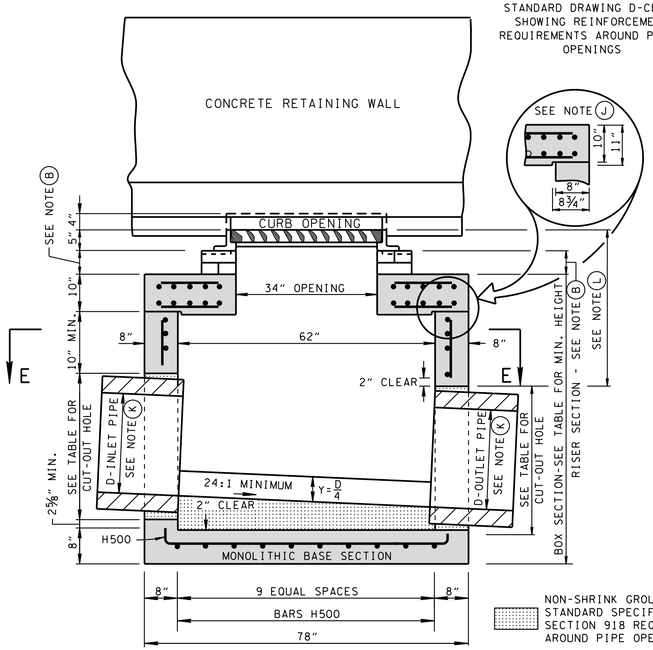
SECTION E-E



SECTION C-C

SECTION *-*

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

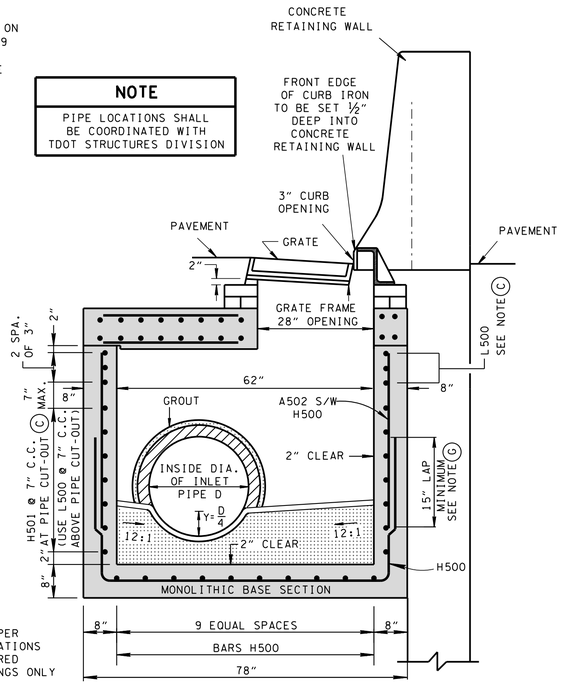


SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

NOTE

PIPE LOCATIONS SHALL BE COORDINATED WITH TDOT STRUCTURES DIVISION



SECTION B-B

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 51SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 51SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

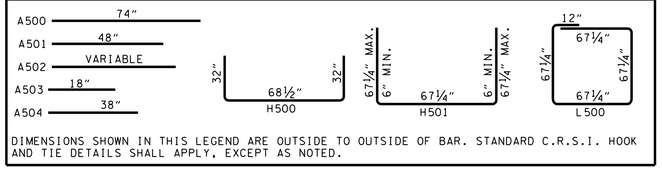
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-51.02 CATCH BASINS, TYPE 51, > 4'-8' DEPTH THROUGH 611-51.07, CATCH BASINS, TYPE 51, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

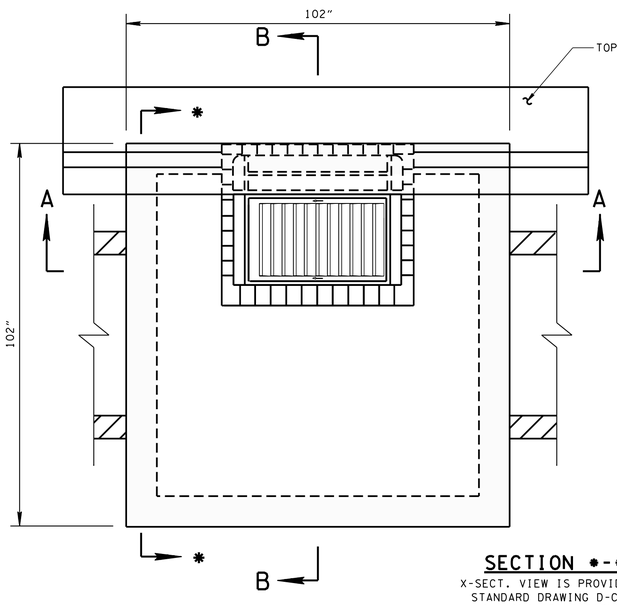
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 51 CATCH BASIN

(FOR USE IN FRONT OF CONCRETE RETAINING WALL)

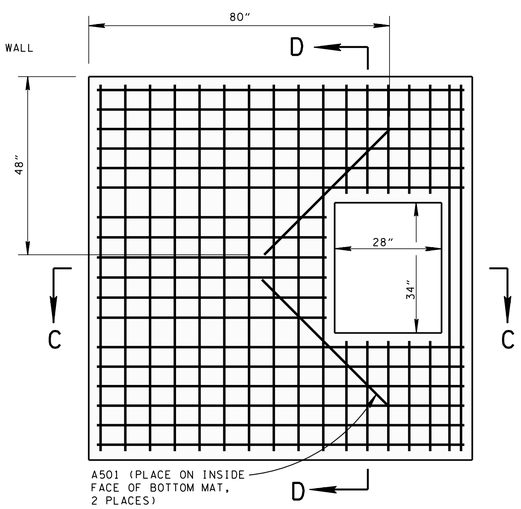
NOT TO SCALE | 10-26-00 | D-CB-51SC



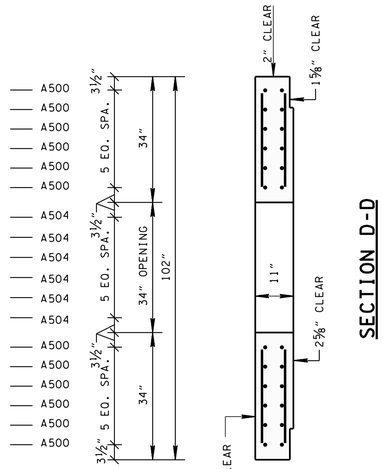
PLAN VIEW

SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



PLAN VIEW



SECTION D-D

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	57½	4.34
24	3	32	64½	4.88
30	3½	39	71½	5.42
36	4	46	78½	5.97
42	4½	53	85½	6.51
48	5	60	92½	7.05
54	5½	67	99½	7.59
60	6	74	106½	8.13
66	6½	81	113½	8.67

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

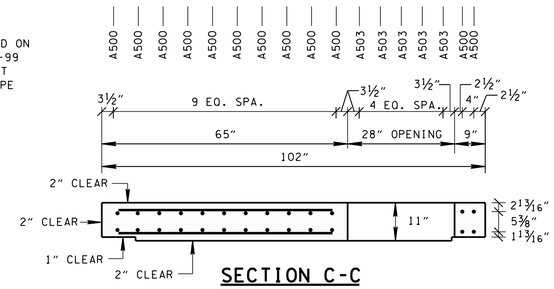
REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

☐ REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.

☐ REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.



SECTION C-C

NOTE

PIPE LOCATIONS SHALL BE COORDINATED WITH TDOT STRUCTURES DIVISION

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 51SD CONCRETE CATCH BASINS AND ALL PRECAST NO. 51SD CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

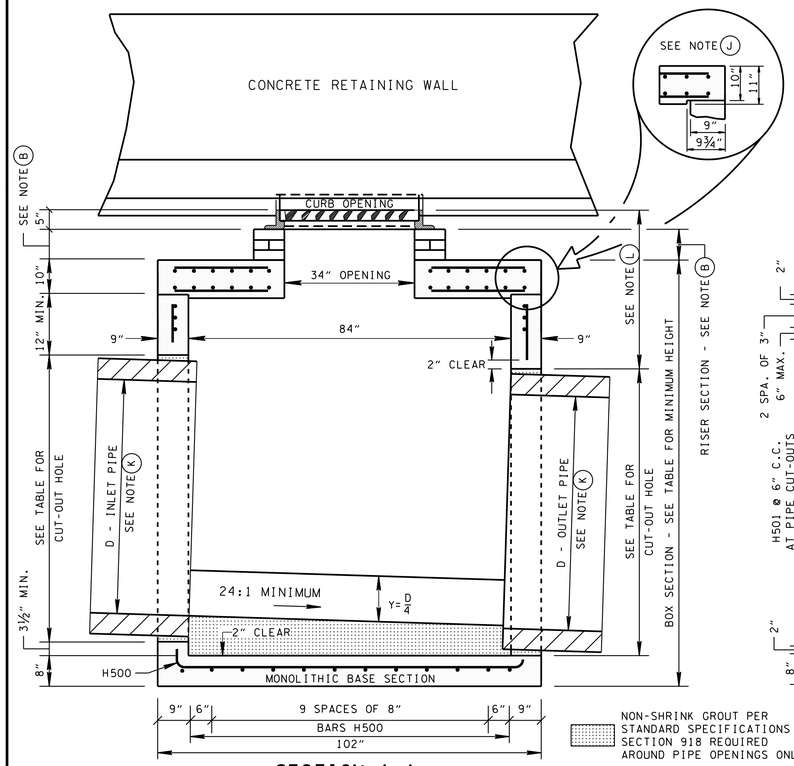
(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

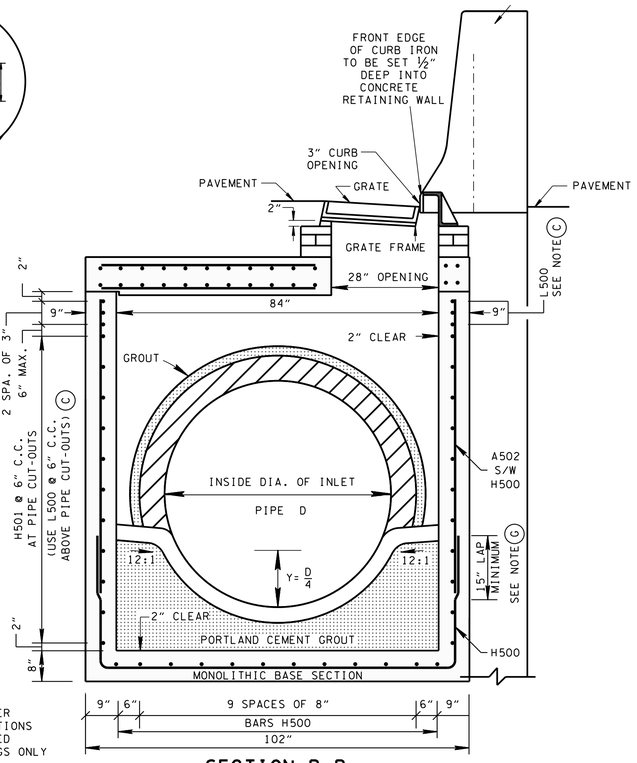
(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-51.02 CATCH BASINS, TYPE 51, > 4'-8' DEPTH THROUGH 611-51.07, CATCH BASINS, TYPE 51, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

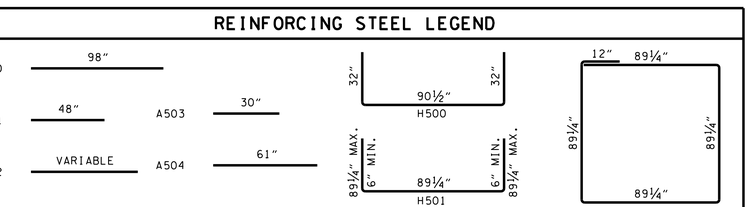


SECTION A-A



SECTION B-B

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOT TO SCALE

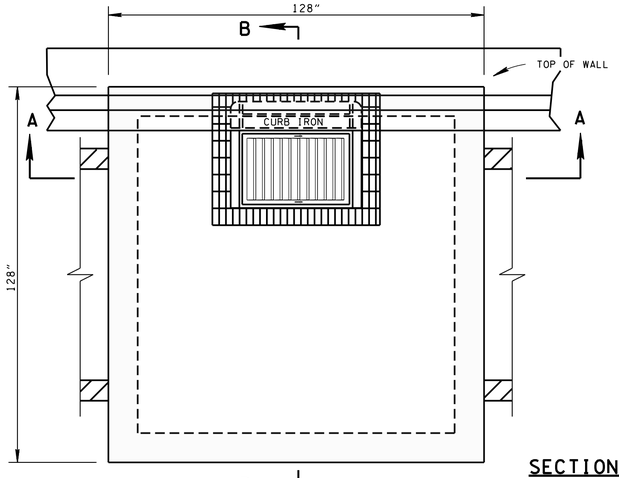
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

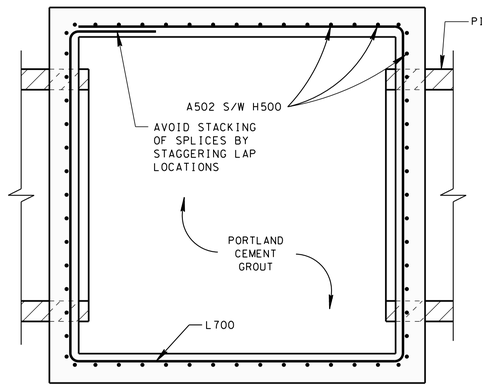
STANDARD 7' X 7' SQUARE CONCRETE NO. 51 CATCH BASIN

(FOR USE IN FRONT OF CONCRETE RETAINING WALL)

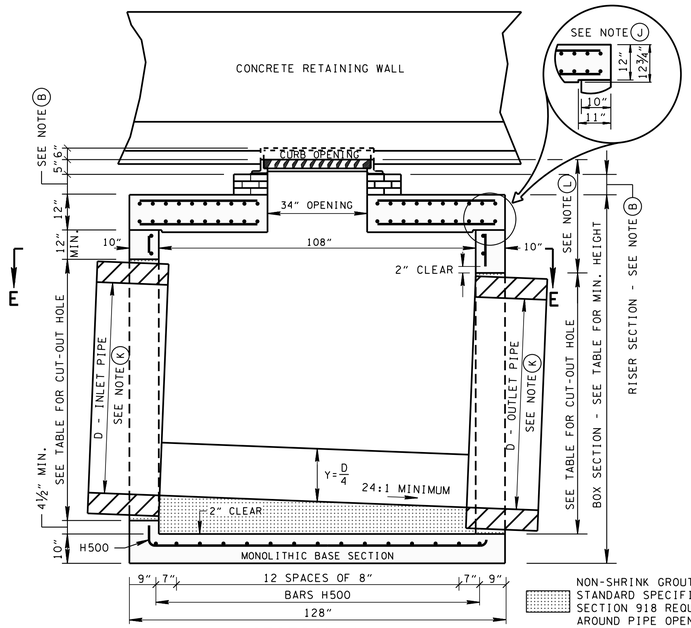
9-11-02 | D-CB-51SD



PLAN VIEW



SECTION E-E



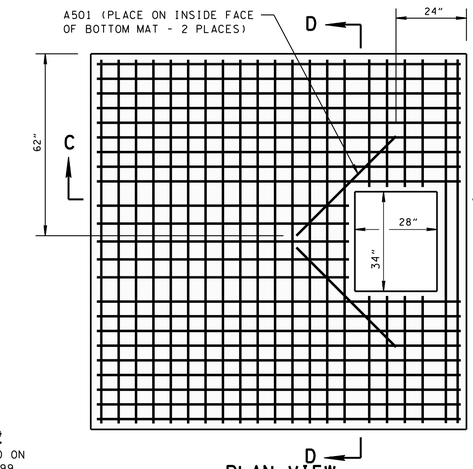
SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

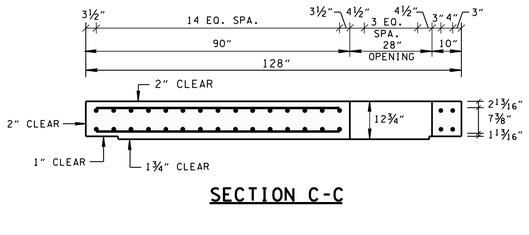
SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

PIPE (BEYOND)

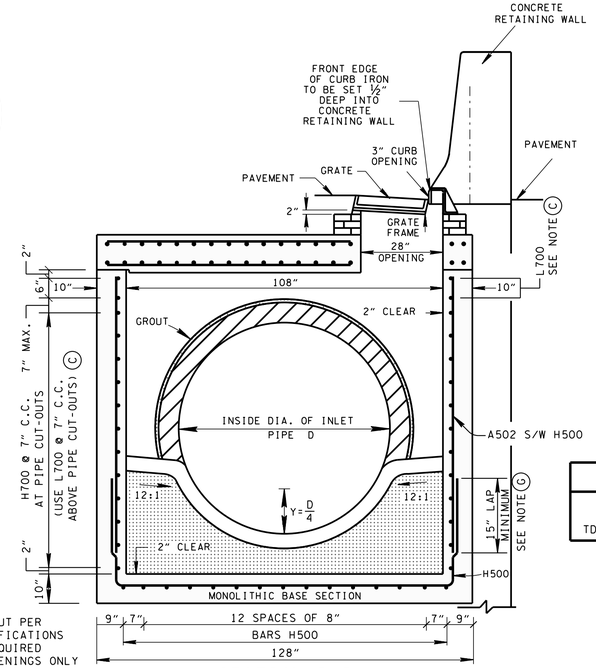


PLAN VIEW



SECTION C-C

SECTION D-D



SECTION B-B

NOTE

PIPE LOCATIONS SHALL BE COORDINATED WITH TDOT STRUCTURES DIVISION

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00′.

REV. 8-01-12: REVISED CATCH BASIN FOR LRFD DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

☐ REV. 3-11-14: ELIMINATED STIRRUPS.

CATCH BASIN DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	63½	4.58
24	3	32	70½	5.13
30	3½	39	77½	5.67
36	4	46	84½	6.21
42	4½	53	91½	6.75
48	5	60	98½	7.29
54	5½	67	105½	7.83
60	6	74	112½	8.38
66	6½	81	119½	8.92
72	7	88	126½	9.46
78	7½	95	133½	10.00

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 51SE CONCRETE CATCH BASINS AND ALL PRECAST NO. 51SE CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 29 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(H) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(I) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(J) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

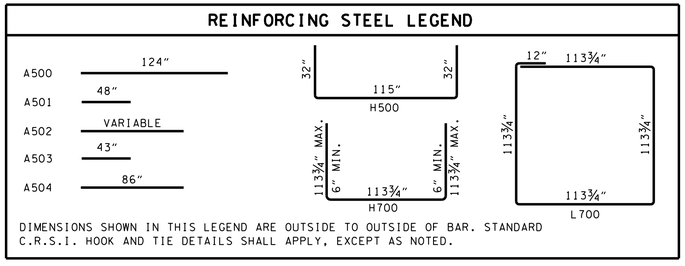
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 29 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(M) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-51.02 CATCH BASINS, TYPE 51, > 4′-8′ DEPTH THROUGH 611-51.07, CATCH BASINS, TYPE 51, > 24′-28′ DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND GRATE.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

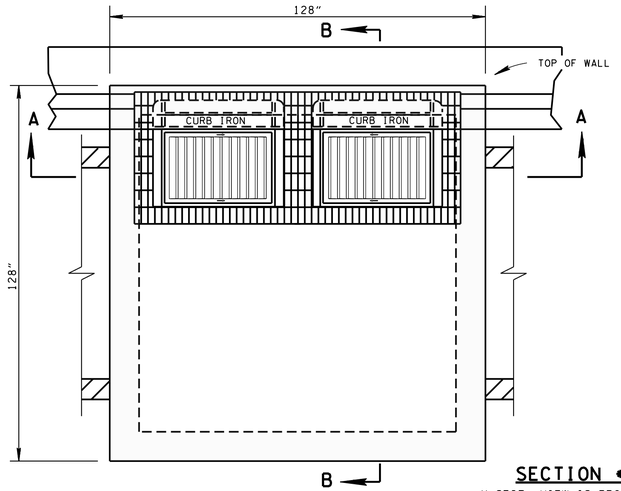
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 9′ X 9′ SQUARE CONCRETE NO. 51 CATCH BASIN

NOT TO SCALE

5-5-05

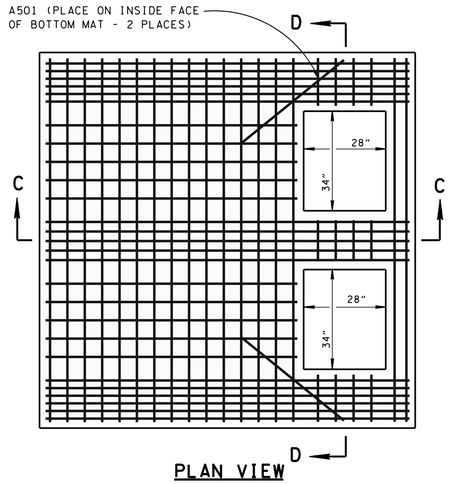
D-CB-51SE



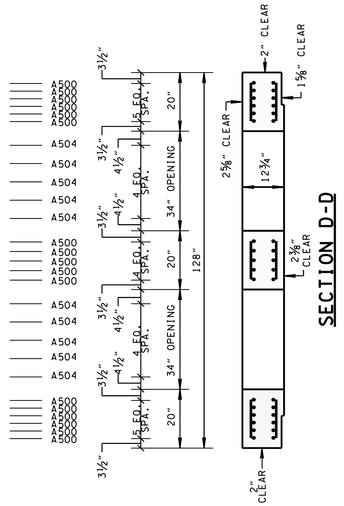
PLAN VIEW

SECTION ●-●

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



PLAN VIEW



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

CATCH BASIN MINIMUM HEIGHTS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	63½	4.58
24	3	32	70½	5.13
30	3½	39	77½	5.67
36	4	46	84½	6.21
42	4½	53	91½	6.75
48	5	60	98½	7.29
54	5½	67	105½	7.83
60	6	74	112½	8.38
66	6½	81	119½	8.92
72	7	88	126½	9.46
78	7½	95	133½	10.00

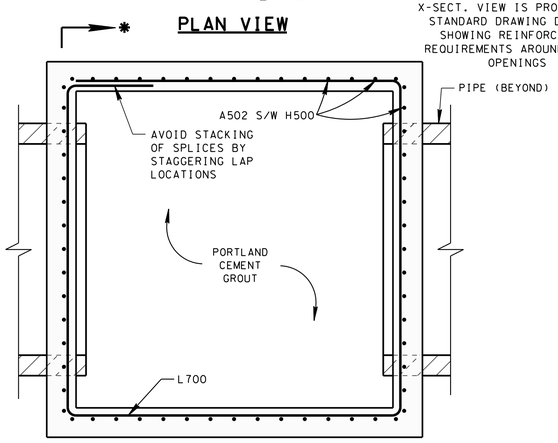
(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

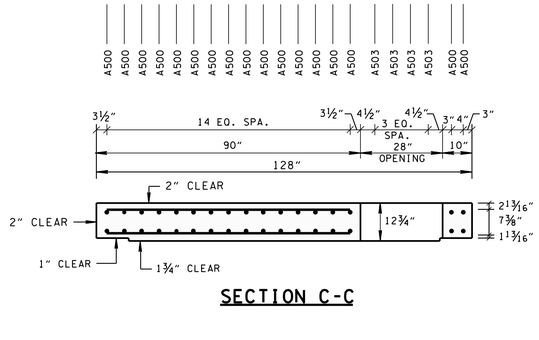
(3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.

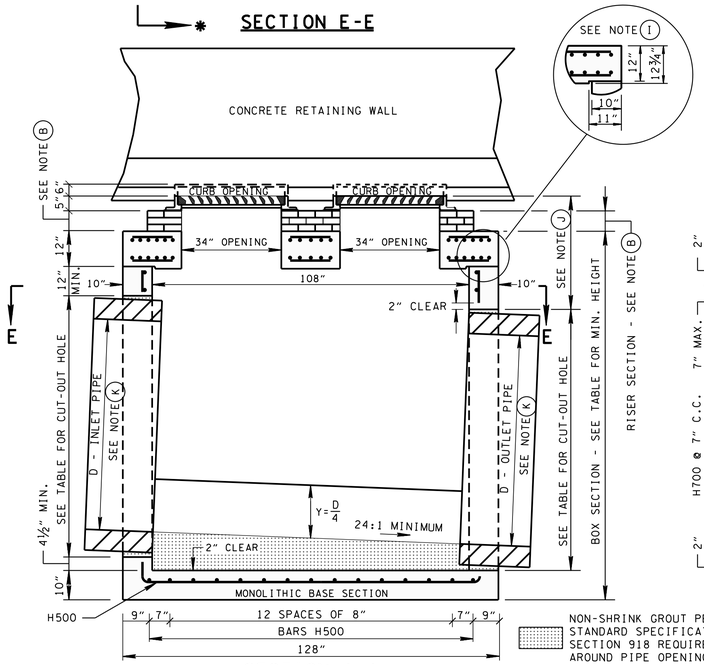
□ REV. 3-11-14: ELIMINATED STIRRUPS.



SECTION E-E

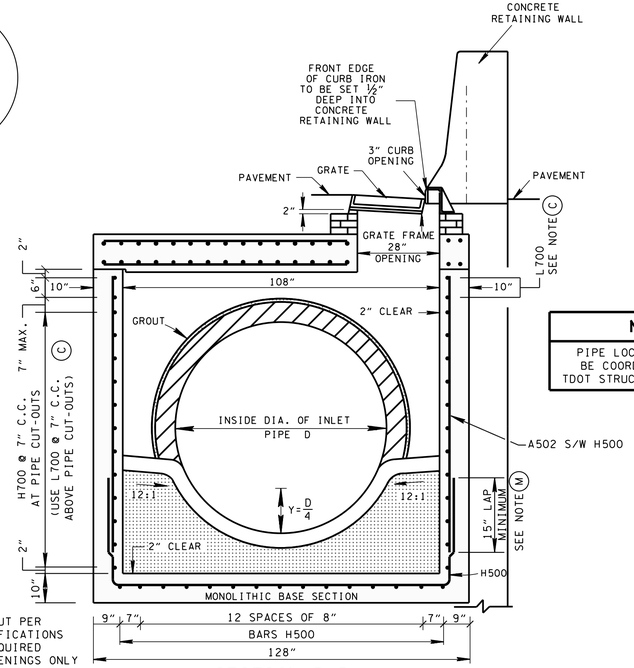


SECTION C-C



SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

NOTE
PIPE LOCATIONS SHALL BE COORDINATED WITH TDOT STRUCTURES DIVISION

GENERAL NOTES

(A) DRAWING TO BE DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 52 CONCRETE CATCH BASINS AND ALL PRECAST NO. 52 CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 29 INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS.

(D) CAST-IN-PLACE CONCRETE CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST CATCH BASINS FOR CAST-IN-PLACE CATCH BASINS PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 29 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

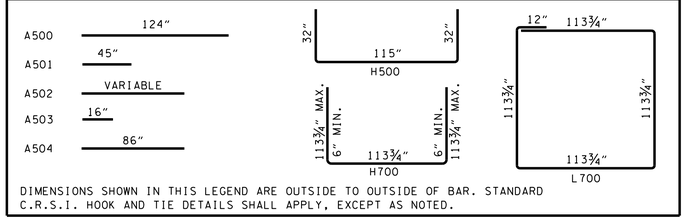
(K) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(L) SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.

(M) THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½ INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF GRATE TO OUTLET FLOW ELEVATION. PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611-52.02 CATCH BASINS, TYPE 52, > 4'-8' DEPTH THROUGH 611-52.07, CATCH BASINS, TYPE 52, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTIONS AND GRATES.

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 9' X 9' SQUARE CONCRETE NO. 52 CATCH BASIN

NOT TO SCALE

5-5-05

D-CB-52SE

- REV. 9-24-12: ADDED GENERAL NOTE C.
- REV. 3-11-14; ELIMINATED STIRRUPS ON DETAILS VIEW.

SUGGESTED SIZE OF WELDED WIRE FABRIC (WWF) FOR USE IN WALLS				
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	AREA STEEL REQ'D (SQ. IN./FT.)	WWF OPTION A	WWF OPTION B
48	5	0.12	WWF 3x8-W3xW1.8	WWF 3x12-W3xW2.1
60	6	0.15	WWF 2x8-W2.5xW2.5	WWF 3x12-W3xW2.1 (2 LAYERS)
72	7	0.18	WWF 3x6-W4.5xW2.1	WWF 3x12-W3xW2.1 (2 LAYERS)
84	8	0.21	WWF 2x6-W3.5xW2.1	WWF 3x12-W3xW2.1 (2 LAYERS)
96	9	0.24	WWF 2x8-W4xW2.1	WWF 3x12-W3xW2.1 (2 LAYERS)
108	10	0.30	WWF 2x6-W5xW2.5	---
120	11	0.36	WWF 2x8-W6xW3	---

WWF A×B-WC×WD

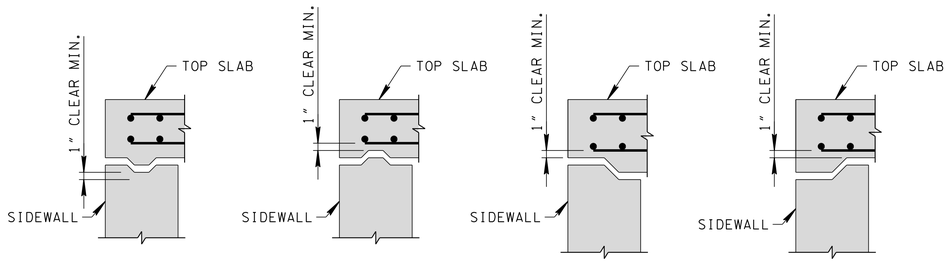
A = SPACING OF HORIZONTAL WIRES, IN.
B = SPACING OF VERTICAL WIRES, IN.
C = HORIZONTAL WIRE SIZE
D = VERTICAL WIRE SIZE

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CIRCULAR PRECAST CATCH BASINS AND MANHOLES.

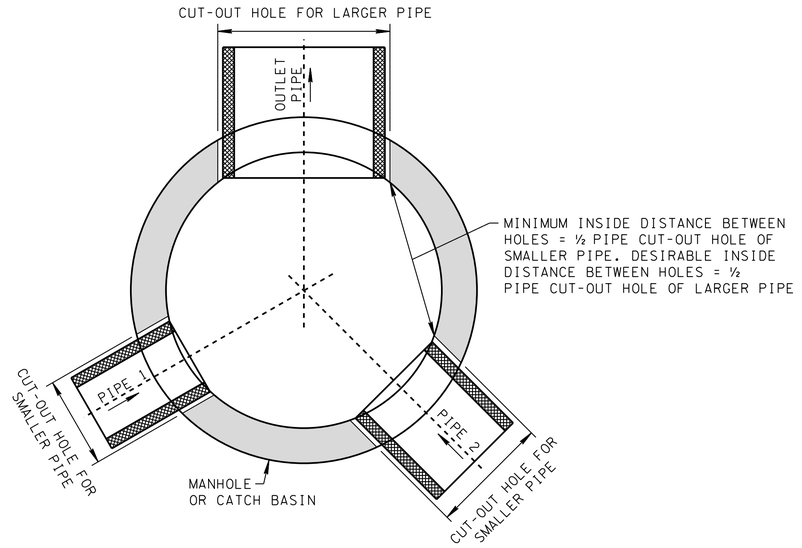
(B) WELDED WIRE FABRIC (WWF) SHALL BE PLACED AS DESCRIBED IN ASTM C478 LATEST EDITION. WWF TABLE IS PROVIDED FOR REFERENCE ONLY. OTHER WWF SIZES AND/OR GRID SPACING MAY BE UTILIZED TO OBTAIN THE REQUIRED AREA OF STEEL REINFORCEMENT. A MAXIMUM OF TWO LAYERS MAY BE UTILIZED. WWF SHALL NOT BE UTILIZED IN TOP SLABS.

(C) SEE D-CB-99RA FOR BILL OF STEEL FOR LID REINFORCEMENT.



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

ALTERNATE JOINT DETAILS



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 ROUND STRUCTURE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS FOR ROUND STRUCTURES

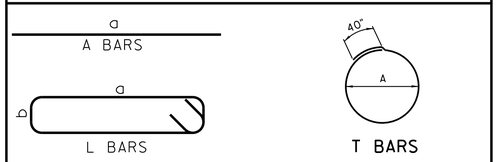
NOT TO SCALE | 8-01-12 | D-CB-99R

☐ REV 3-19-14: UPDATED TABLE TO MATCH OTHER REVISIONS ON OTHER DRAWINGS.

☐ REV 8-5-13: CORRECTED TYPO A500 BAR FOR D-CB-12RA 48"

		REINFORCING BAR SCHEDULE FOR ROUND CB TOP SLABS (inches)																								
D-CB	DIA	T500	T501	A500	A501	A502	A503	A504	A505	A506	A507	A508	A509	A510	A511	A512	A513	A514	A515	A516	A517	A518	LS301		LS302		A301
		a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	b	a	b	
10RA	48	51 5/8		36 1/2	44 3/8	47 5/16	31 5/16	37	7 1/8	7 7/8	11 3/8	13 8/16	14 5/8	15													
12RA	48	51 5/8		31 3/4	37 11/16	42 3/16	31 5/16	37	5 13/16	7 3/16	7 7/8	7 3/8	9 4/8	10 5/8	11												
12RB	60		65 5/8	40 3/8	49 3/8	55 7/8	58 7/8	37 11/16	45 3/8	51 3/8	55 3/16	13 5/16	14 3/8	14 7/8	15 3/16	16 13/16	17 11/16	18									
12RB	72		79 5/8	51 1/8	63 11/16	72 1/8	74 5/8	48 5/8	60 3/8	68 11/16	71 5/8	20 5/8	21 1/2	21 7/8	22 11/16	24	24 3/4	25									
12RC	84		93 5/8	52 11/16	65 5/8	75 1/8	82 5/16	87 11/16	89 11/16	50 7/8	63	72 3/16	79 5/16	84 13/16	87 3/16	27 7/8	28 11/16	29	30 1/8	31 3/16	31 13/16						
12RC	96		107 5/8	61 1/8	77	88 3/8	96 11/16	102 13/16	104	59 5/16	74 5/8	85 11/16	94	100 5/16	102	35	35 13/16	36	37 3/8	38 2/8	38 13/16						
12RC	108		121 5/8	69 1/2	88 3/8	101 5/8	111	117 5/8	119	67 11/16	86	99	108 1/2	115 3/8	117	42 1/8	42 13/16	43	44 5/8	45 3/8	45 13/16						
12RC	120		135 5/8	77 7/8	99 11/16	114 11/16	125 3/16	132 3/16	134	76 3/16	97 6/16	112 3/16	122 7/8	130 5/16	132	49 3/16	49 13/16	50	51 11/16	52 3/8	52 7/8						
13RA	48	SAME AS 12RA																								
13RB	60	SAME AS 12RB																								
13RB	72	SAME AS 12RB																								
13RC	84	SAME AS 12RC																								
13RC	96	SAME AS 12RC																								
13RC	108	SAME AS 12RC																								
13RC	120	SAME AS 12RC																								
14RB	96		107 5/8	109 1/2	47 5/8	57	64 11/16	56 3/8	70 3/8	81	89 3/16	95 11/16	100 11/16	102 13/16	104	14	23 2/16	27 11/16	31 3/16	34	36 1/8	37 5/8					
25RA	48	SAME AS 12RA																								
25RB	60	SAME AS 12RB																								
25RB	72	SAME AS 12RB																								
25RB	84	SAME AS 12RC																								
25RB	96	SAME AS 12RC																								
28RA	48	SAME AS 12RA																								
28RB	60	SAME AS 12RB																								
28RB	72	SAME AS 12RB																								
28RB	84	SAME AS 12RC																								
28RB	96	SAME AS 12RC																								
31R	84		93 5/8	95 3/8	47	57 5/16	54 5/16	67 7/8	77 5/8	84 13/16	87 3/16	14	16 1/8	20 5/16	23 3/8	25 11/16	27 1/2										
38RB	60		65 5/8	36 3/16	43 1/8	48 1/2	53	56 1/2	13 5/8	14 7/8	15 11/16	16															
38RB	72		79 5/8	45 5/8	56 1/8	63 7/8	69 7/8	72 5/8	21	22 1/8	22 13/16	23															
38RB	84		93 5/8	55	68 7/8	78 11/16	85 13/16	88 2/16	28 5/16	29 3/16	29 13/16	30															
38RB	96		107 5/8	64 5/16	81 3/8	93 1/8	101 3/16	103 2/16	35 1/2	36 5/16	36 13/16	37															
39RB	84		93 5/8	52 13/16	65 11/16	75 3/16	79 1/2	20 5/16	21 3/16	21 13/16	22												52	52	60	60	
39RB	96		107 5/8	63 13/16	80 11/16	92 5/16	95 7/8	27 1/2	28 5/16	28 13/16	29												52	52	60	60	
41RB	60	SAME AS 12RB																								
41RB	72	SAME AS 12RB																								
41RB	84	SAME AS 12RC																								
41RB	96	SAME AS 12RC																								
42RB	60	SAME AS 38RB																								
42RB	72	SAME AS 38RB																								
42RB	84	SAME AS 38RB																								
42RB	96	SAME AS 38RB																								
43R	96		107 5/8	109 1/2	48 7/8	59	67 3/16	56 11/16	70 13/16	81 3/8	89 11/16	96 1/8	101 1/4	103	22 7/8	27 11/16	31 3/16	33 13/16	35 3/5	14	36 11/16	37	96	48	90	46	36

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

GENERAL NOTES

(A) THE PURPOSE OF THIS DRAWING IS TO PROVIDE A BAR REINFORCEMENT SCHEDULE FOR ROUND CATCH BASIN LIDS

(B) DIMENSION DETERMINED BY GEOMETRY. TOLERANCE FOR BAR LOCATIONS AND LENGTH IS +/- 0.5"

(C) REINFORCING STEEL: ASTM A615, Fy = 60,000 PSI.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

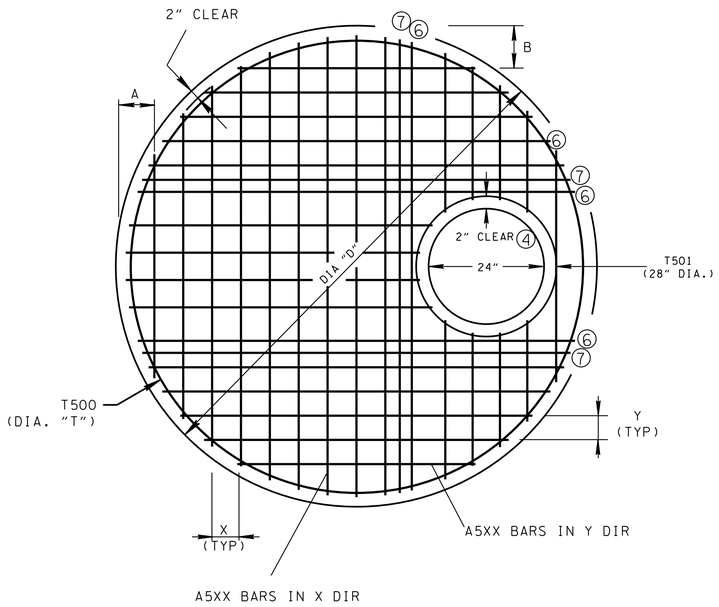
BILL OF STEEL FOR ROUND CATCH BASIN LIDS

9-21-12 | D-CB-99RA

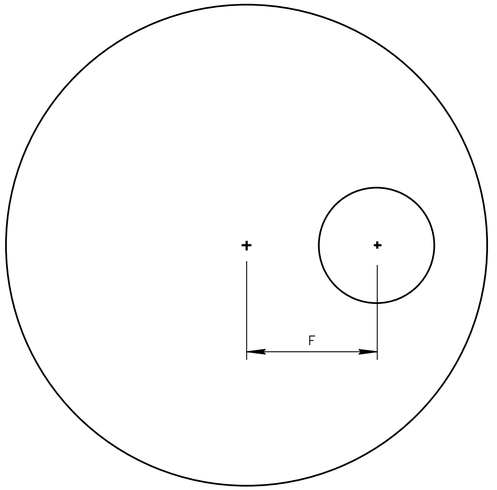
- REV. 4-15-00: CHANGED LID THICKNESS FOR 96" DIAMETER.

  REV. 8-01-12: REVISED MANHOLE LIDS FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING AND ADDITIONAL MISC. DRAFTING EDITS. ADDED 48" MANHOLE LID & MOVED 96" MANHOLE LID TO STANDARD DRAWING D-MH-3A.

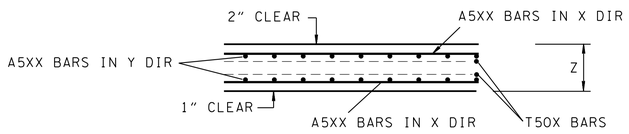
- REV. 4-21-14: VOIDED D-MH-3A AND D-MH-3B REVISED REINFORCING DETAILS.



TYPICAL REINFORCEMENT PLAN

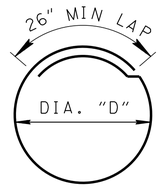


MANHOLE CUTOUT LOCATION



TYPICAL SECTION

T BAR DETAILS



LENGTH OF T BAR
$L=\pi D+26"$

A BARS DETAILS

(3)

MANHOLE DIMENSIONS TABLE								
MANHOLE SIZE	A (IN)	B (IN)	D (IN)	F (IN)	X (IN)	Y (IN)	Z (IN)	T (IN)
48"	6.5	5	58	9	5	6	8	51 5/8
60"	5.75	6	72	15	5.5	6	8	65 5/8
72"	7	8	86	21	6	6	9	79 5/8
84"	8	8	100	27	6	6	9	93 5/8
96"	9	9.75	114	33	6	6	10	107 5/8
108"	7	11.5	128	39	6	6	10	121 5/8
120"	8	10.5	142	45	6	6	10	135 5/8

GENERAL NOTES

(1) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(2) SEE D-MH-2 FOR OTHER NOTES.

(3) DETERMINATION OF THE LENGTH OF REINFORCING BARS IS THE RESPONSIBILITY OF THE MANUFACTURER BASED ON THE DIMENSIONS SHOWN ON THIS DRAWING.

(4) A BARS TO END SUCH THAT 2" CLEAR DISTANCE IS MAINTAINED AROUND THE PERIMETER OF THE LID AND AROUND THE MANHOLE CUTOUT.

(5) A BARS SHORTER THAN 9.5" MAY BE OMITTED.

(6) THE FIRST A BAR FROM THE CUTOUT HOLE SHALL BE SHIFTED TO THE 2" CLEAR IF IT WOULD OTHERWISE BE CLOSER THAN 2" TO THE CUTOUT HOLE IF THE TYPICAL SPACING WHERE FOLLOWED.

(7) ADD ONE BAR HALF WAY BETWEEN THE FIRST TWO BARS AROUND THE MANHOLE CUTOUT, THE EXTRA BAR IS NOT REQUIRED ON THE SHORT SIDE (SHOWN ON RIGHT SIDE ON THIS DRAWING).

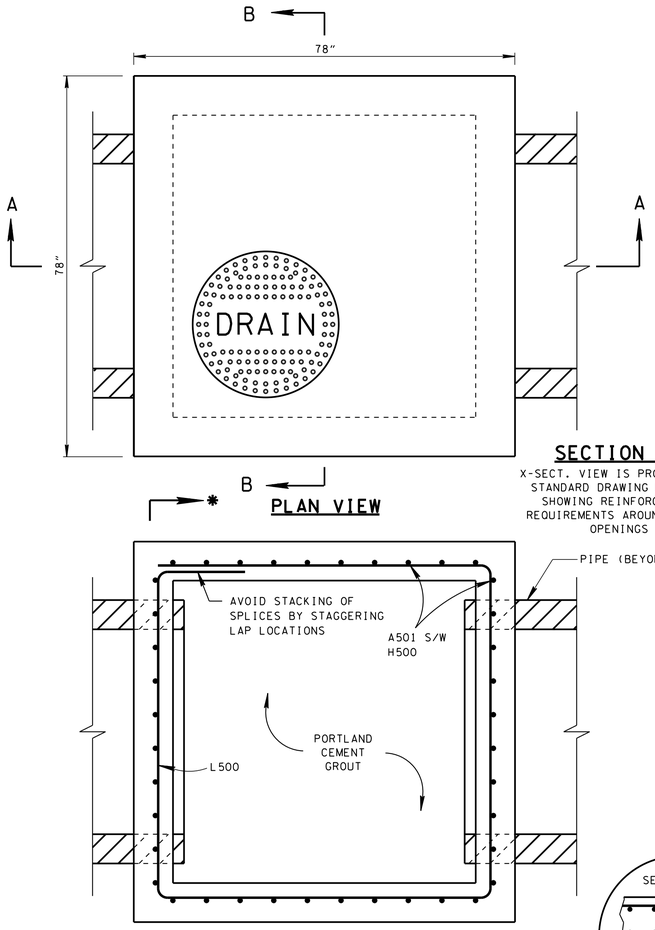
(8) SEE D-CB-99 FOR JOINT DETAIL BETWEEN LID AND STRUCTURE.

- MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL DESIGN OF LIDS FOR NO. 3 MANHOLE

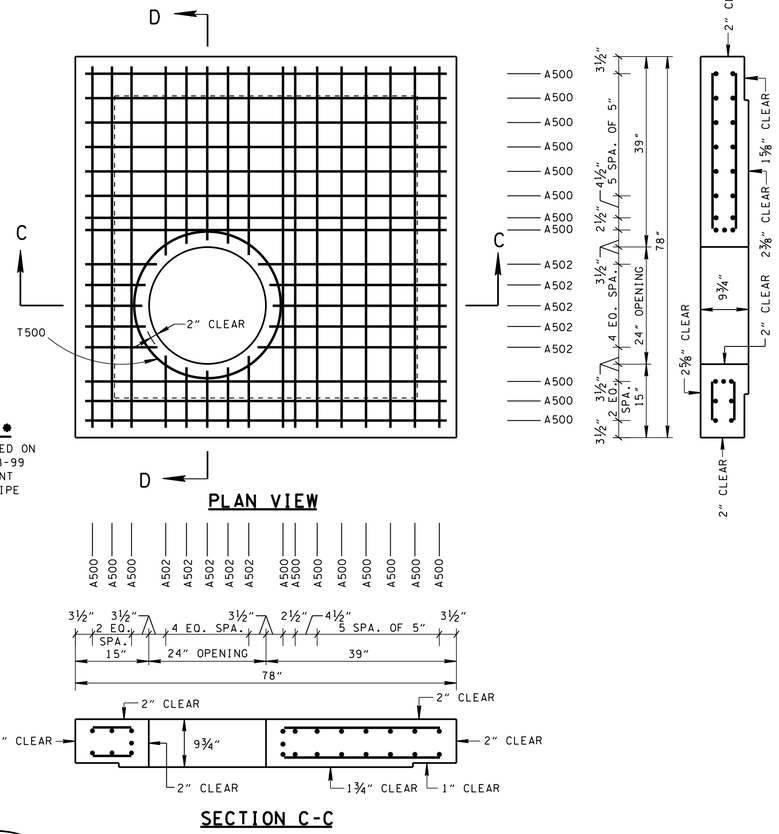
5-1-97 | D-MH-3



SECTION ✱-✱

X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

SECTION E-E



SECTION C-C

SECTION D-D

MANHOLE MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

MANHOLE DIMENSIONS				FOR DESIGN USE ONLY MANHOLE MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2½	25	55	4.19
24	3	32	62	4.73
30	3½	39	69	5.27
36	4	46	76	5.81
42	4½	53	83	6.35
48	5	60	90	6.90

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 10-26-98: MODIFIED DRAWING BY CHANGING SIZE STRUCTURE FROM 7' X 7' TO 5'2" X 5'2".
- ☐ REV. 5-27-01: CHANGED ITEM NUMBERS IN GENERAL NOTE (I) ADDED MAXIMUM DEPTH NOTE.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED MANHOLE FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 4-1-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE 5'-2" X 5'-2" NO. 3 CONCRETE MANHOLES AND ALL PRECAST 5'-2" X 5'-2" NO. 3 CONCRETE MANHOLES. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 25¾ INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF MANHOLE WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST MANHOLES FOR CAST-IN-PLACE MANHOLES PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f_c' = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST MANHOLE UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED MANHOLE UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

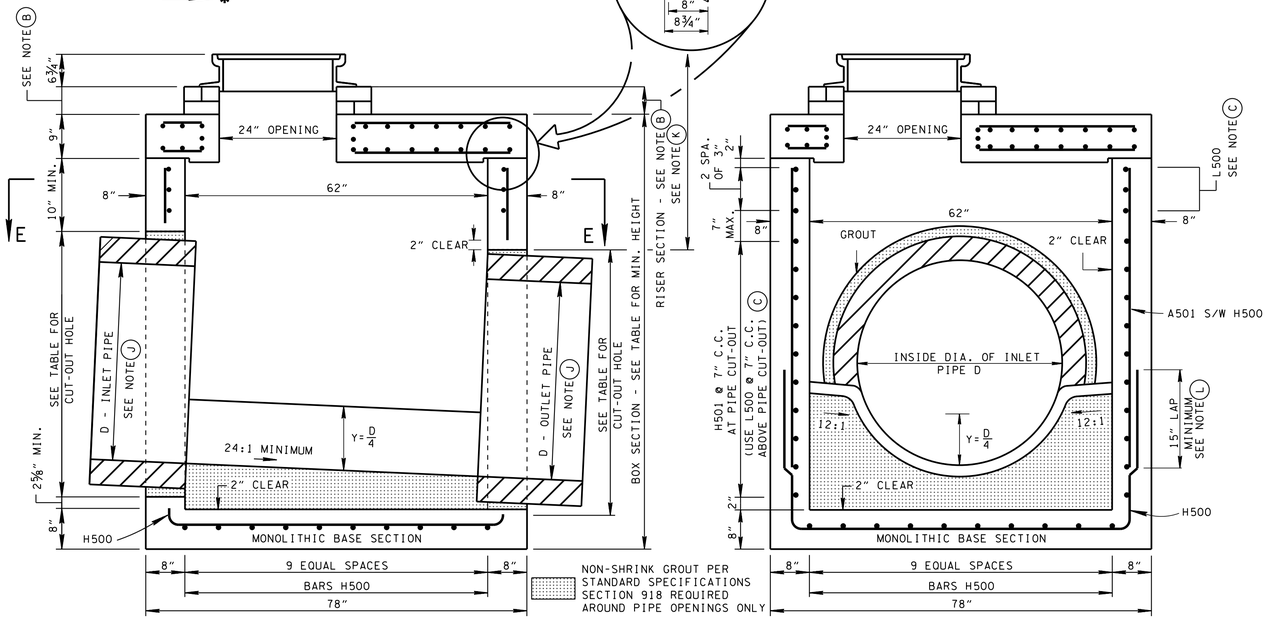
(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 25¾ INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

(L) THE CONTRACTOR MAY ELIMINATE THE A501 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½" OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

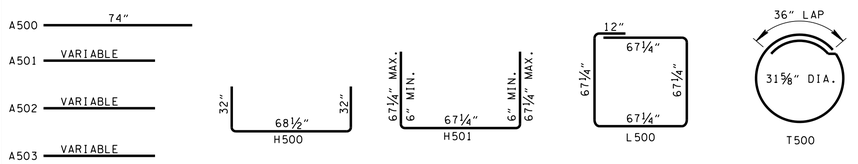
(M) SEE STANDARD DRAWING D-MH-4 FOR DETAILS REGARDING CAST IRON COVERS AND FRAMES, AND DETAILS FOR VARIOUS STEPS.

(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF MANHOLE LID TO OUTLET FLOW ELEVATION. PAYMENT FOR MANHOLE WILL BE MADE UNDER ITEM NUMBERS 611-01.02 MANHOLES, > 4'-8' DEPTH THROUGH 611-01.07 MANHOLE, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND LID.



SECTION A-A **SECTION B-B**

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

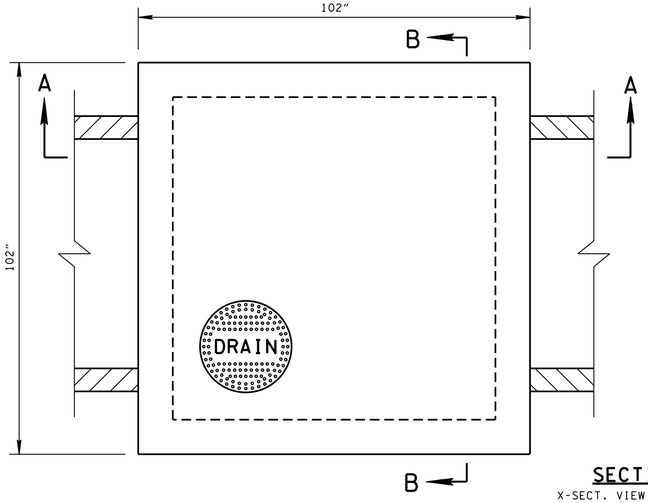
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 5'2" X 5'2" SQUARE CONCRETE NO.3 MANHOLE

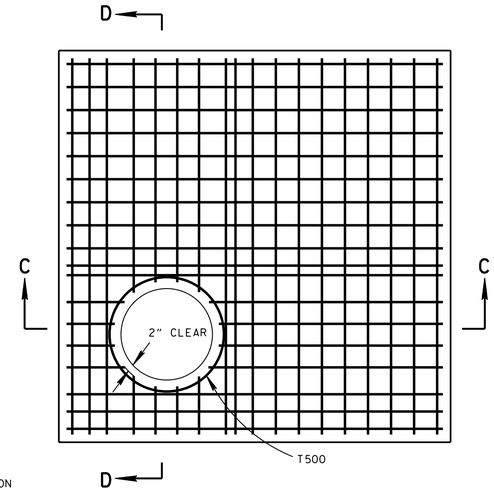
NOT TO SCALE

10-26-98

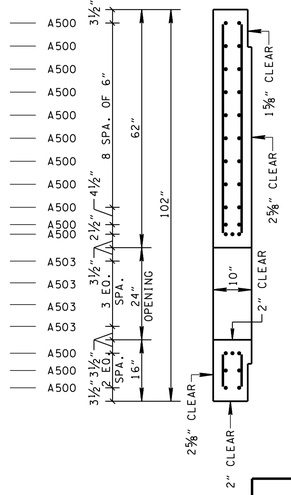
D-MH-5



PLAN VIEW



PLAN VIEW



SECTION D-D

MANHOLE DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	MANHOLE MINIMUM DESIGN DEPTH (FEET)
18	2½	25	57½	4.40
24	3	32	64½	4.94
30	3½	39	71½	5.48
36	4	46	78½	6.02
42	4½	53	85½	6.56
48	5	60	92½	7.10
54	5½	67	99½	7.65
60	6	74	106½	8.19
66	6½	81	113½	8.73

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-01: CHANGED ITEM NUMBERS IN GENERAL NOTE (I) ADDED MAXIMUM DEPTH NOTE.
- ☐ REV.5-30-02: MODIFIED REINFORCING STEEL.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)
- ☐ REV.9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED MANHOLE FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 4-1-14: ELIMINATED STIRRUPS.

MANHOLE MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE 7' X 7' NO. 3 CONCRETE MANHOLES AND ALL PRECAST 7' X 7' NO. 3 CONCRETE MANHOLES. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 27¾ INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

(C) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF MANHOLE WALLS. SEE ADDITIONAL DETAILS ON STANDARD DRAWING D-CB-99 FOR TALLER SECTIONS AND STEEL PLACEMENT ABOVE PIPE OPENINGS.

(D) CAST-IN-PLACE MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS UNLESS SUPERSEDED BY THIS DRAWING. THE CONTRACTOR MAY WITH PERMISSION FROM THE ENGINEER SUBSTITUTE PRECAST MANHOLES FOR CAST-IN-PLACE MANHOLES PROVIDED THAT ALL PRECAST ELEMENTS MEET ASTM C913 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.

(E) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR BOTH CAST-IN-PLACE AND PRECAST STRUCTURES:

CONCRETE: f'_c = 4,000 POUNDS PER SQUARE INCH AT 28 DAYS
REINFORCING STEEL: ASTM A615, F_y = 60,000 POUNDS PER SQUARE INCH
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.

(F) PRECAST MANHOLE UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED MANHOLE UNITS AT HIS OWN EXPENSE.

(G) APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.

(H) THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.

(I) ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.

(J) SEE ROADWAY PLANS DRAINAGE TABULATION FOR PIPE INLET AND OUTLET ELEVATIONS. IF NEEDED, INVERT ELEVATIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.

(K) FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 27¾ INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.

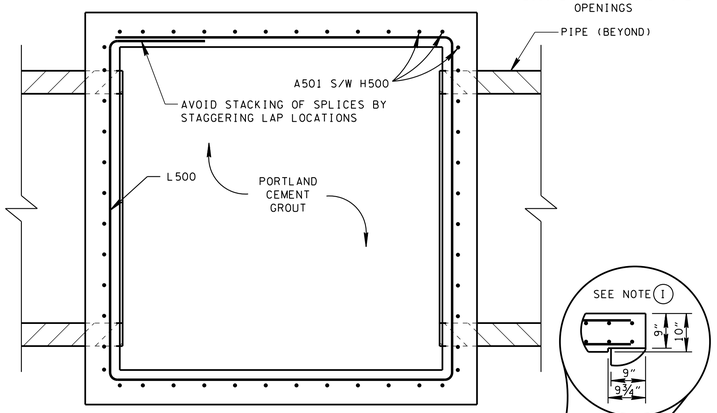
(L) THE CONTRACTOR MAY ELIMINATE THE A501 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1½" OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.

(M) SEE STANDARD DRAWING D-MH-4 FOR DETAILS REGARDING CAST IRON COVERS AND FRAMES, AND DETAILS FOR VARIOUS STEPS.

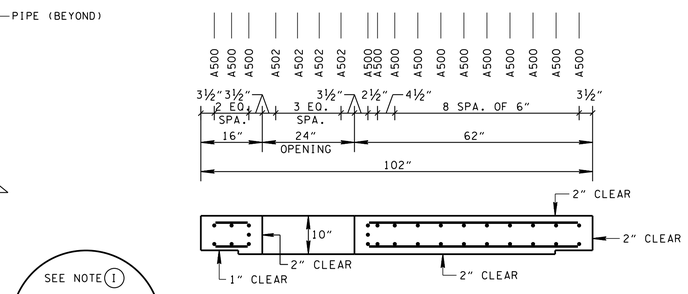
(N) PAY DEPTH MEASUREMENT MADE FROM TOP OF MANHOLE LID TO OUTLET FLOW ELEVATION. PAYMENT FOR MANHOLE WILL BE MADE UNDER ITEM NUMBERS 611-01.02 MANHOLES, > 4'-8' DEPTH THROUGH 611-01.07 MANHOLE, > 24'-28' DEPTH PER EACH. PAYMENT INCLUDES RISER SECTION AND MANHOLE LID.

SECTION *-*

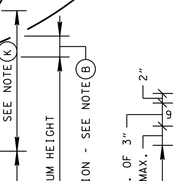
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION E-E

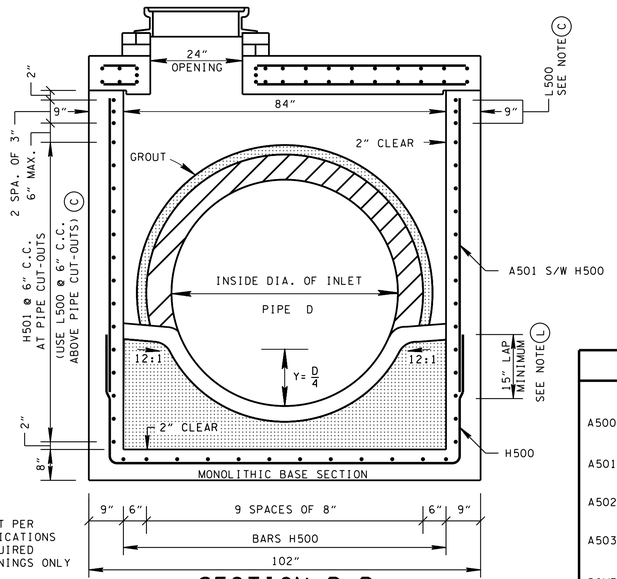


SECTION C-C



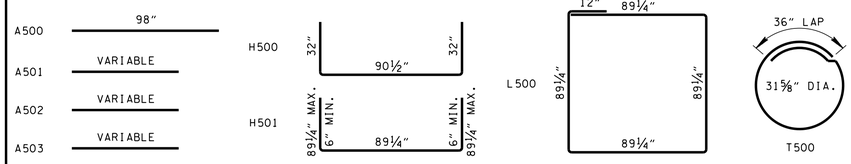
SECTION A-A

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



SECTION B-B

REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

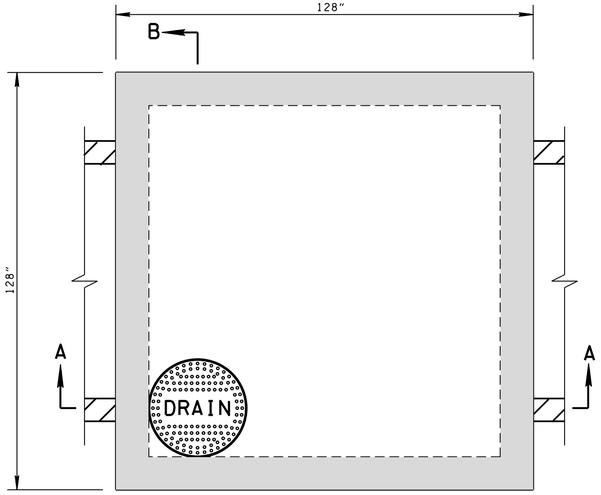
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 7' X 7' SQUARE CONCRETE NO. 3 MANHOLE

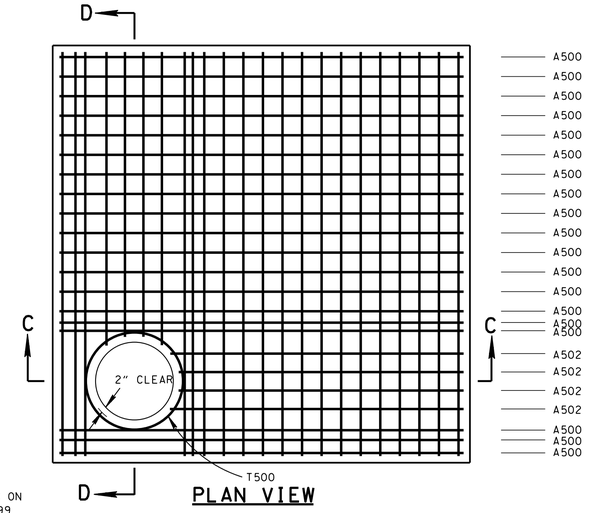
NOT TO SCALE

9-5-97

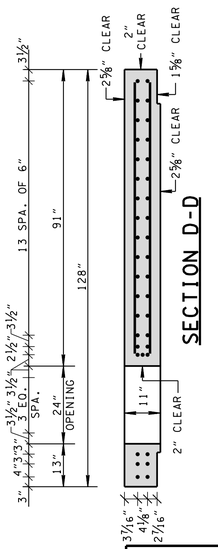
D-MH-6



PLAN VIEW



PLAN VIEW



SECTION D-D

MANHOLE MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

MANHOLE DIMENSIONS

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY MANHOLE MINIMUM DESIGN DEPTH (FEET)
18	2½	25	59½	4.40
24	3	32	66½	4.94
30	3½	39	73½	5.48
36	4	46	80½	6.02
42	4½	53	87½	6.56
48	5	60	94½	7.10
54	5½	67	101½	7.65
60	6	74	108½	8.19
66	6½	81	115½	8.73
72	7	88	122½	9.27
78	7½	95	129½	9.81

(1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".

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

(3) 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.

- ☐ REV. 5-27-01: CHANGED ITEM NUMBERS IN GENERAL NOTE (I) ADDED MAXIMUM DEPTH NOTE.
- ☐ REV. 5-30-02: MODIFIED REINFORCING STEEL.
- ☐ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (B)
- ☐ REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.

  REV. 8-01-12: REVISED MANHOLE FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- ☐ REV. 4-1-14: ELIMINATED STIRRUPS.

GENERAL NOTES

(A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE 9' X 9' NO. 3 CONCRETE MANHOLES AND ALL PRECAST 9' X 9' NO. 3 CONCRETE MANHOLES. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.

(B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG AS 26¾ INCHES IS SATISFIED. THE CONTRACTOR HAS THE OPTION OF USING BRICK OR STANDARD PRECAST CONCRETE RISER FRAMES. THE USE OF BRICK SHALL BE LIMITED TO 6 INCHES. IF THIS DIMENSION EXCEEDS 6 INCHES, PRECAST CONCRETE RISER FRAMES SHALL BE USED AS SHOWN ON STANDARD DRAWING D-RF-1.

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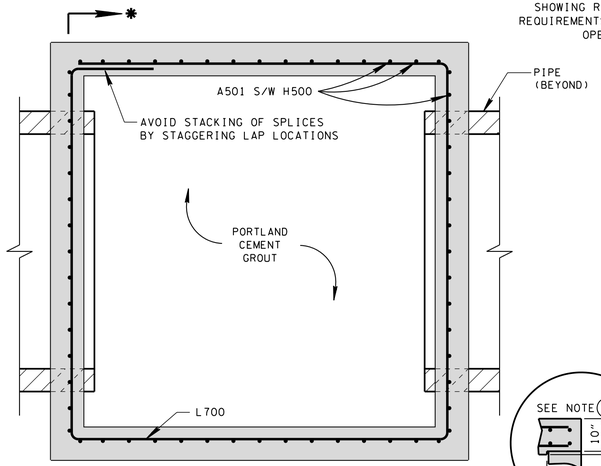
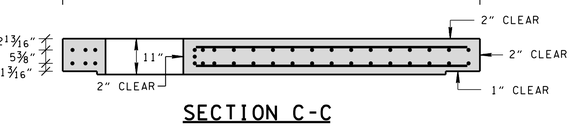
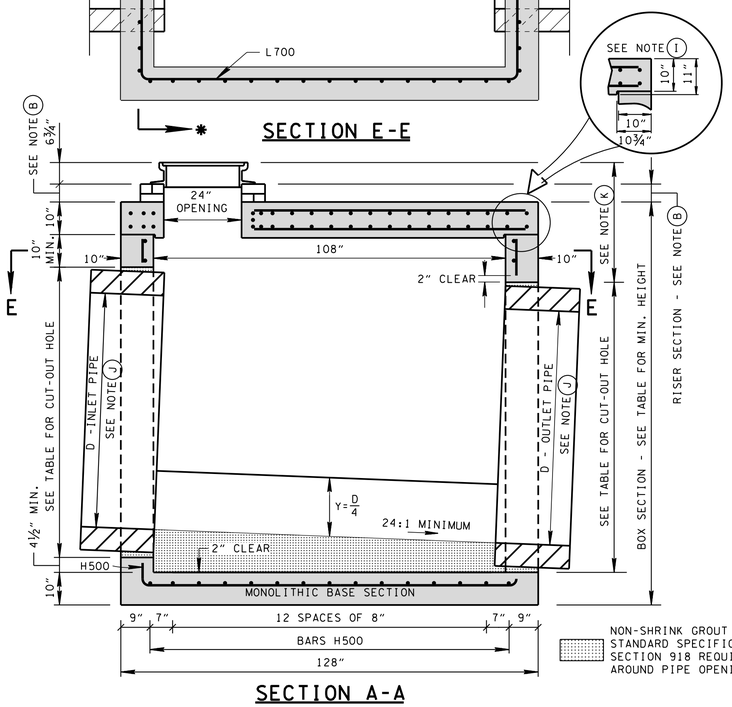


SECTION E-E



SECTION C-C



SECTION A-A

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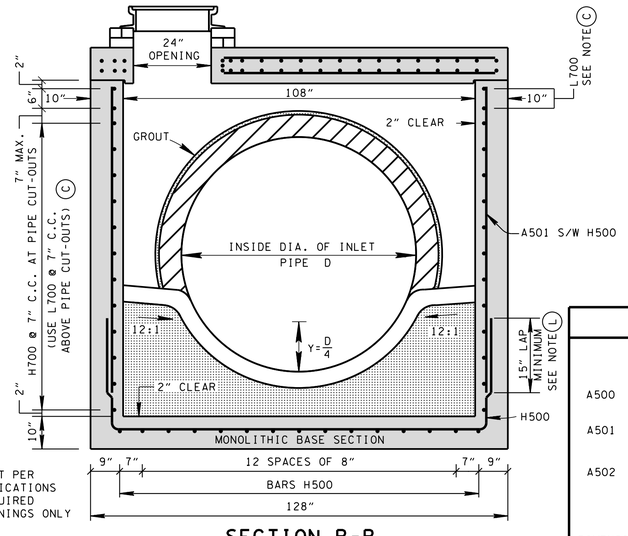
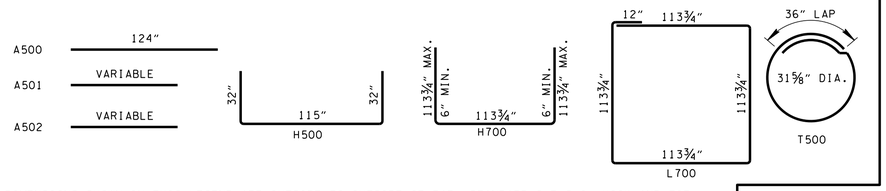


SECTION B-B

REINFORCING STEEL LEGEND



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 9' X 9' SQUARE CONCRETE NO. 3 MANHOLE

9-5-98

D-MH-7