



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
DESIGN DIVISION**

NASHVILLE, TENNESSEE 37243-0348

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

INSTRUCTIONAL BULLETIN NO. 13-1

Regarding New and Revised Standard Drawings

Effective immediately, the following Standard Drawings are new or revised and Section V of the Design Guidelines is revised for this update.

<u>DRAWING NUMBER</u>	<u>CURRENT REVISION DATE</u>	<u>DESCRIPTION</u>
D-CB-10RA	9-24-12	PRECAST 48" CIRCULAR NO.10 CATCH BASIN
D-CB-10S	9-24-12	RECTANGULAR CONCRETE NO.10 CATCH BASIN
D-CB-10SB	9-24-12	4'X4' SQUARE CONCRETE NO.10 CATCH BASIN
D-CB-12B	9-24-12	RECTANGULAR BRICK NO.12 CATCH BASIN
D-CB-12P	9-24-12	PRECAST RECTANGULAR CONCRETE NO.12 CATCH BASIN
D-CB-12RA	9-24-12	PRECAST 48" CIRCULAR NO.12 CATCH BASIN
D-CB-12RB	9-24-12	PRECAST 60" AND 72" CIRCULAR NO.12 CATCH BASIN
D-CB-12RC	9-24-12	PRECAST 84" THRU 120" CIRCULAR NO. 12 CATCH BASIN
D-CB-12S	9-24-12	RECTANGULAR CONCRETE NO.12 CATCH BASIN
D-CB-12SB	9-24-12	4'X4' SQUARE CONCRETE NO.12 CATCH BASIN
D-CB-12SC	9-24-12	5' 2" X 5' 2" SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-12SD	9-24-12	7' X 7' SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-13B	9-24-12	RECTANGULAR BRICK NO.13 CATCH BASIN
D-CB-13P	9-24-12	PRECAST RECTANGULAR CONCRETE NO.13 CATCH BASIN
D-CB-13RA	9-24-12	PRECAST 48" CIRCULAR NO. 13 CATCH BASIN
D-CB-13RB	9-24-12	PRECAST 60" AND 72" CIRCULAR NO.13 CATCH BASIN
D-CB-13RC	9-24-12	PRECAST 84" THRU 120" CIRCULAR NO. 13 CATCH BASIN


IB 13-1

D-CB-13S	9-24-12	RECTANGULAR CONCRETE NO.13 CATCH BASIN
D-CB-14B	9-24-12	RECTANGULAR BRICK NO.14 CATCH BASIN
D-CB-14P	9-24-12	PRECAST RECTANGULAR CONCRETE NO.14 CATCH BASIN
D-CB-14S	9-24-12	RECTANGULAR CONCRETE NO.14 CATCH BASIN
D-CB-16B	9-24-12	RECTANGULAR BRICK NO.16 CATCH BASIN
D-CB-16S	9-24-12	RECTANGULAR CONCRETE NO.16 CATCH BASIN
D-CB-17S	9-24-12	RECTANGULAR CONCRETE NO.17 CATCH BASIN
D-CB-25B	9-24-12	RECTANGULAR BRICK NO.25 CATCH BASIN
D-CB-25P	9-24-12	PRECAST RECTANGULAR CONCRETE NO.25 CATCH BASIN
D-CB-25RA	9-24-12	PRECAST 48" CIRCULAR NO. 25 CATCH BASIN
D-CB-25RB	9-24-12	PRECAST CIRCULAR NO. 25 CATCH BASIN
D-CB-25S	9-24-12	RECTANGULAR CONCRETE NO.25 CATCH BASIN
D-CB-25SB	9-24-12	4'X4' SQUARE CONCRETE NO.25 CATCH BASIN
D-CB-25SC	9-24-12	5' 2" X 5' 2" SQUARE CONCRETE NO. 25 CATCH BASIN
D-CB-25SD	9-24-12	7' X 7' SQUARE CONCRETE NO. 25 CATCH BASIN
D-CB-26P	9-24-12	PRECAST RECTANGULAR CONCRETE NO.26 CATCH BASIN
D-CB-26S	9-24-12	RECTANGULAR CONCRETE NO.26 CATCH BASIN
D-CB-27S	9-24-12	RECTANGULAR CONCRETE NO.27 CATCH BASIN
D-CB-28B	9-24-12	RECTANGULAR BRICK NO.28 CATCH BASIN
D-CB-28P	9-24-12	PRECAST RECTANGULAR CONCRETE NO.28 CATCH BASIN
D-CB-28RA	9-24-12	PRECAST 48" CIRCULAR NO. 28 CATCH BASIN
D-CB-28RB	9-24-12	PRECAST CIRCULAR NO. 28 CATCH BASIN
D-CB-28S	9-24-12	RECTANGULAR CONCRETE NO.28 CATCH BASIN
D-CB-29P	9-24-12	PRECAST RECTANGULAR CONCRETE NO.29 CATCH BASIN
D-CB-29S	9-24-12	RECTANGULAR CONCRETE NO.29 CATCH BASIN
D-CB-31R	9-24-12	PRECAST CIRCULAR NO. 31 CATCH BASIN
D-CB-31SD	9-24-12	7' X 7' SQUARE CONCRETE NO. 31 CATCH BASIN
D-CB-38RB	9-24-12	PRECAST CIRCULAR NO.38 CATCH BASIN
D-CB-38SB	9-24-12	4'X4' SQUARE CONCRETE NO.38 CATCH BASIN
D-CB-38SC	9-24-12	5' 2" X 5' 2" SQUARE CONCRETE NO. 38 CATCH BASIN

IB 13-1

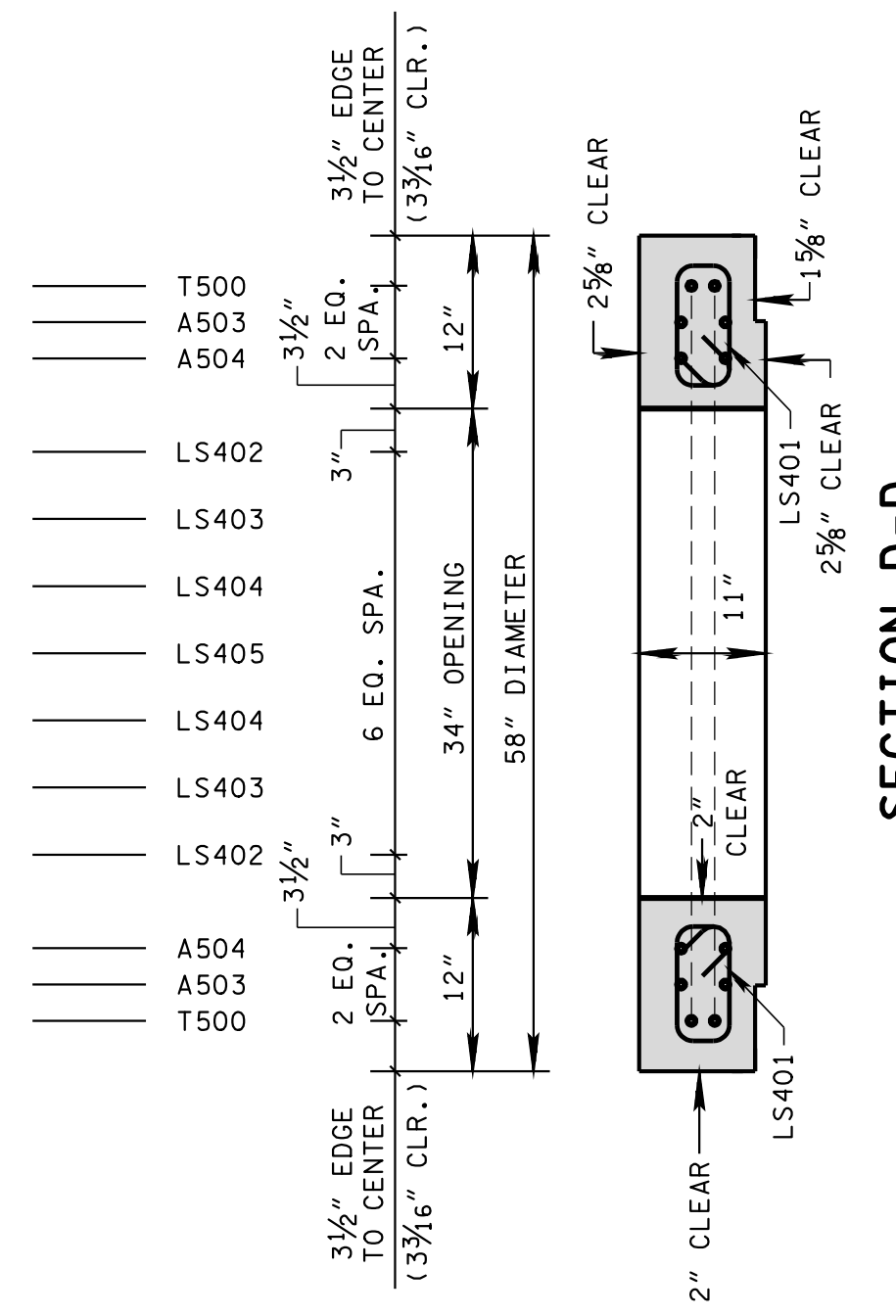
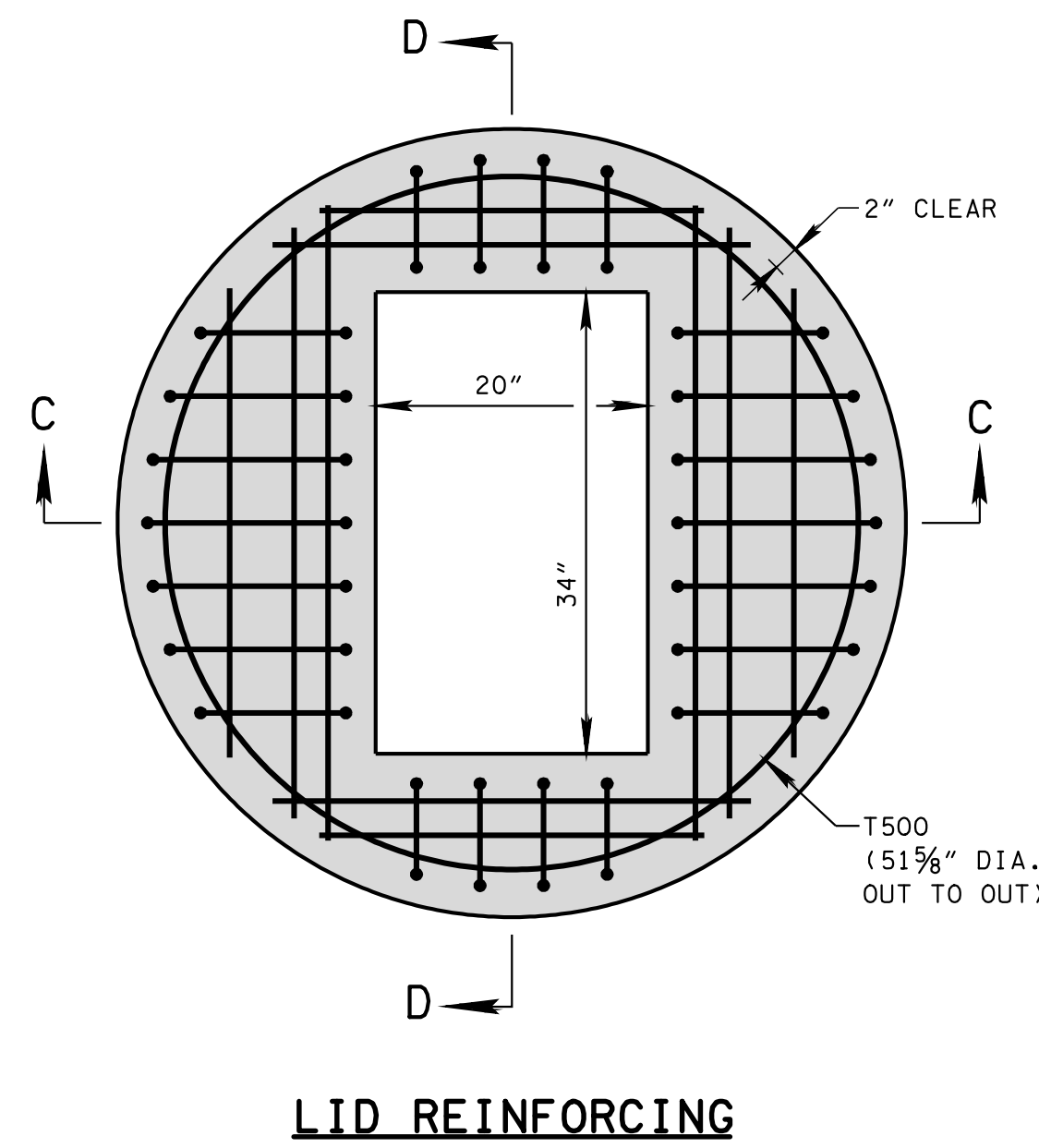
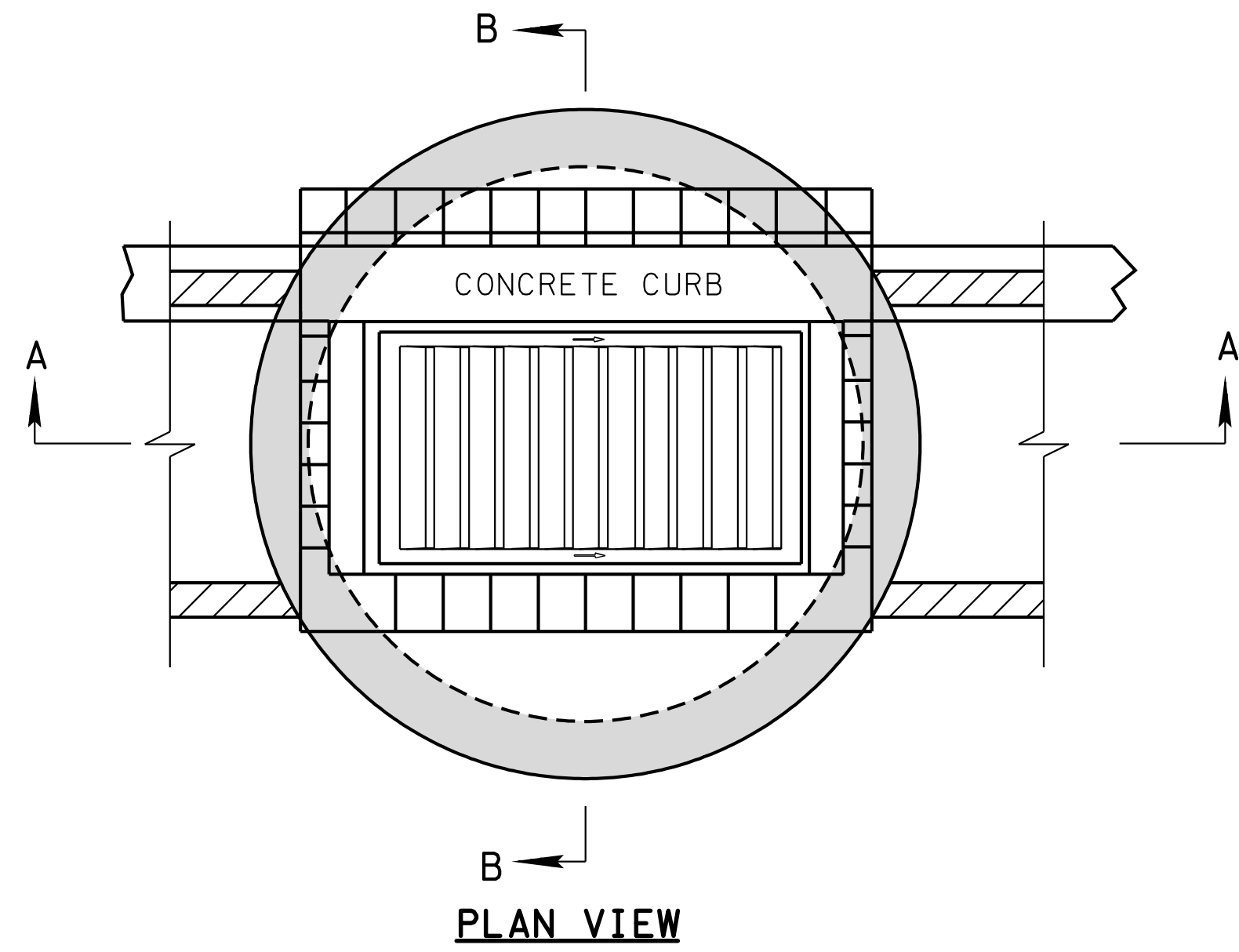
D-CB-39RB	9-24-12	PRECAST CIRCULAR NO.39 CATCH BASIN
D-CB-39SC	9-24-12	5' 2" X 5' 2" SQUARE CONCRETE NO. 39 CATCH BASIN
D-CB-39SD	9-24-12	7' X 7' SQUARE CONCRETE NO. 39 CATCH BASIN
D-CB-41P	9-24-12	4'X3' PRECAST RECTANGUALR CONC. NO.41 CATCH BASIN
D-CB-41RB	9-24-12	PRECAST CIRCULAR NO.41 CATCH BASIN
D-CB-41S	9-24-12	4'X3' RECTANGULAR CONCRETE NO.41 CATCH BASIN
D-CB-41SB	9-24-12	4'X4' SQUARE CONCRETE NO.41 CATCH BASIN
D-CB-41SC	9-24-12	5' 2" X 5' 2" SQUARE CONCRETE NO. 41 CATCH BASIN
D-CB-41SD	9-24-12	7' X 7' SQUARE CONCRETE NO. 41 CATCH BASIN
D-CB-42RB	9-24-12	PRECAST CIRCULAR NO.42 CATCH BASIN
D-CB-42SB	9-24-12	4'X4' SQUARE CONTERE NO.42 CATCH BASIN
D-CB-42SC	9-24-12	5' 2" X 5' 2" SQUARE CONCRETE NO. 42 CATCH BASIN
D-CB-42SD	9-24-12	7' X 7' SQUARE CONCRETE NO. 42 CATCH BASIN
D-CB-43R	9-24-12	PRECAST CIRCULAR NO.43R CATCH BASIN
D-CB-43SB	9-24-12	4'X4' SQUARE CONTERE NO.43 CATCH BASIN
D-CB-43SC	9-24-12	5' 2" X 5' 2" SQUARE CONCRETE NO. 43 CATCH BASIN
D-CB-45S	9-24-12	8'X4' RECTANGULAR CONCRETE NO.45 CATCH BASIN
D-CB-51SC	9-24-12	5' 2" X 5' 2" SQUARE CONCRETE NO. 51 CATCH BASIN
D-CB-51SD	9-24-12	7' X 7' SQUARE CONCRETE NO. 51 CATCH BASIN
D-CB-99R	9-24-12	MISC. DETAILS FOR ROUND STRUCTURES
D-CB-99RA		BILL OF STEEL FOR ROUND CATCH BASIN LIDS

A copy of the revised standard drawings are attached.



Carolyn Stonecipher, P.E.,
Civil Engineering Director
Design Division

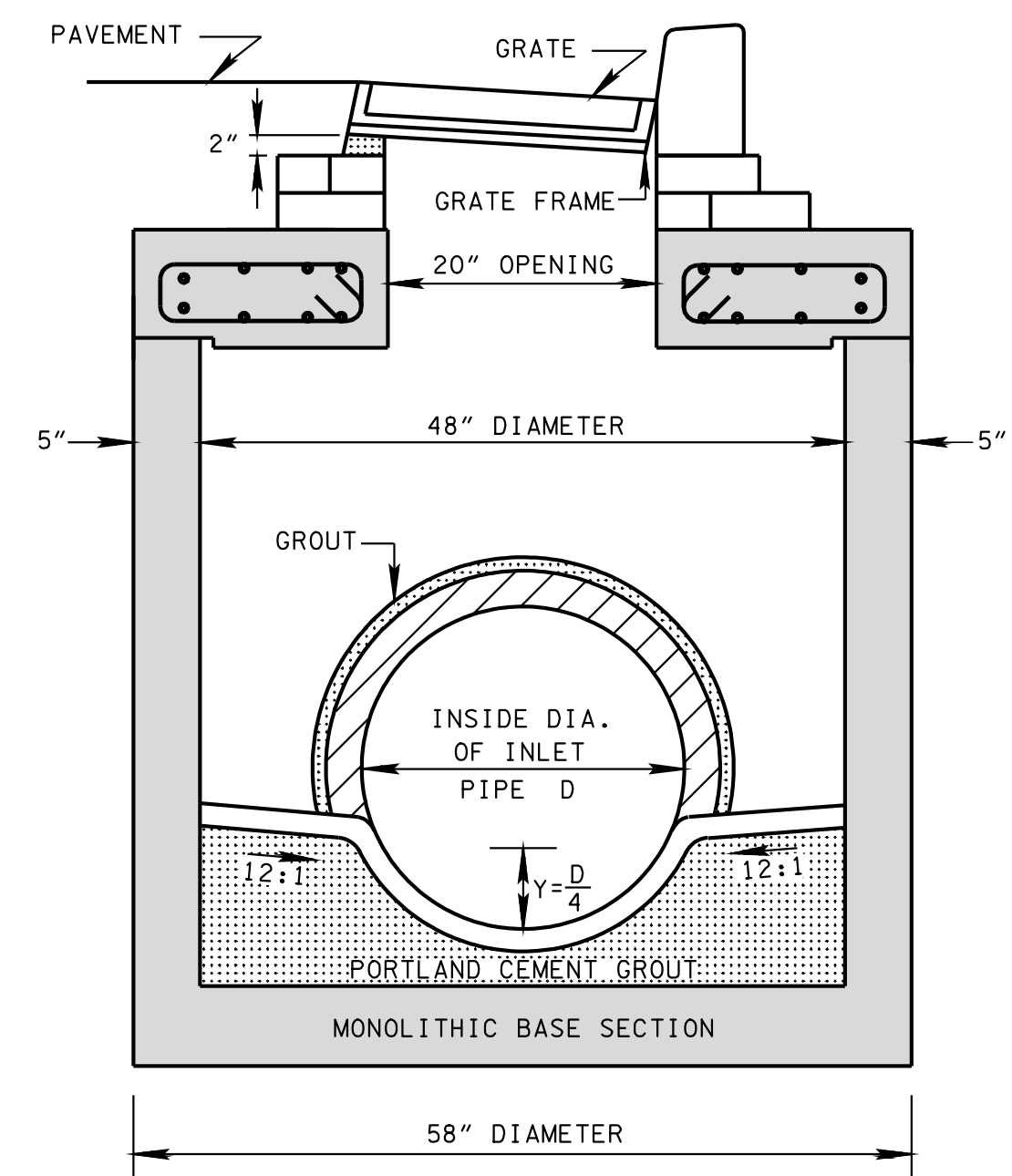
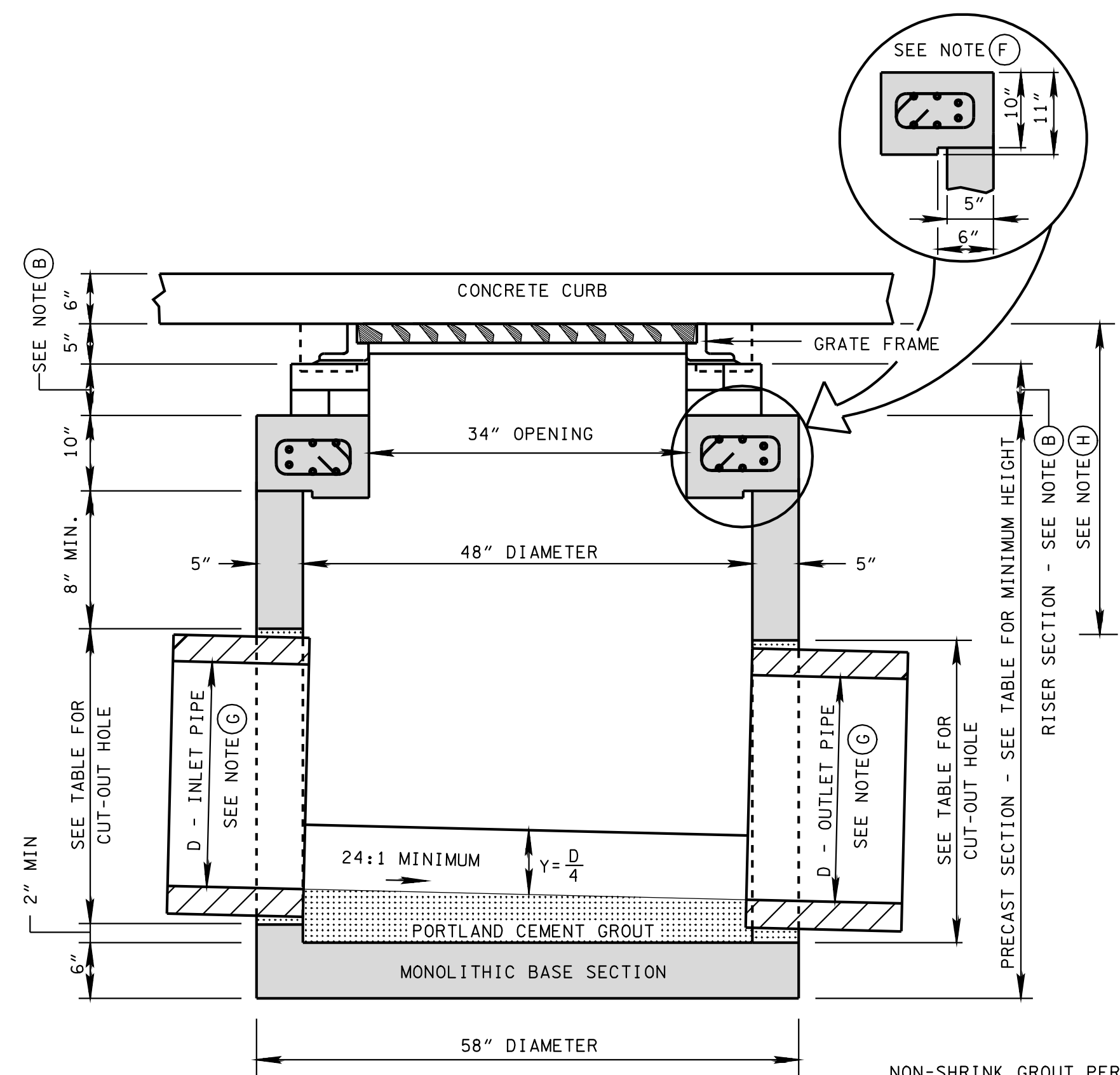
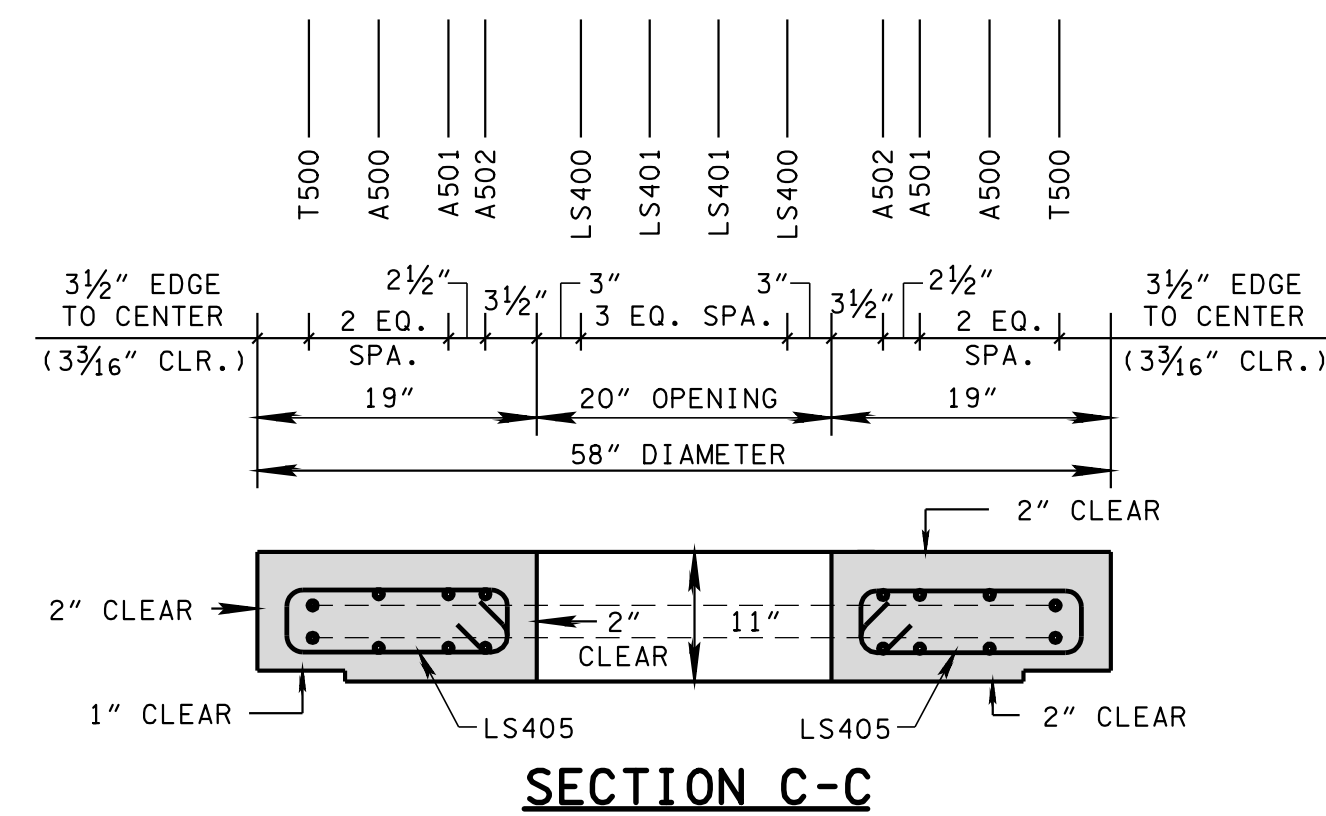
CS:ARH:MWC
Attachment



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)	PRECAST SECTION HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	49	3.88
24	3	32	56	4.42

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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 UN CUT WILL NOT BE PERMITTED.



GENERAL NOTES

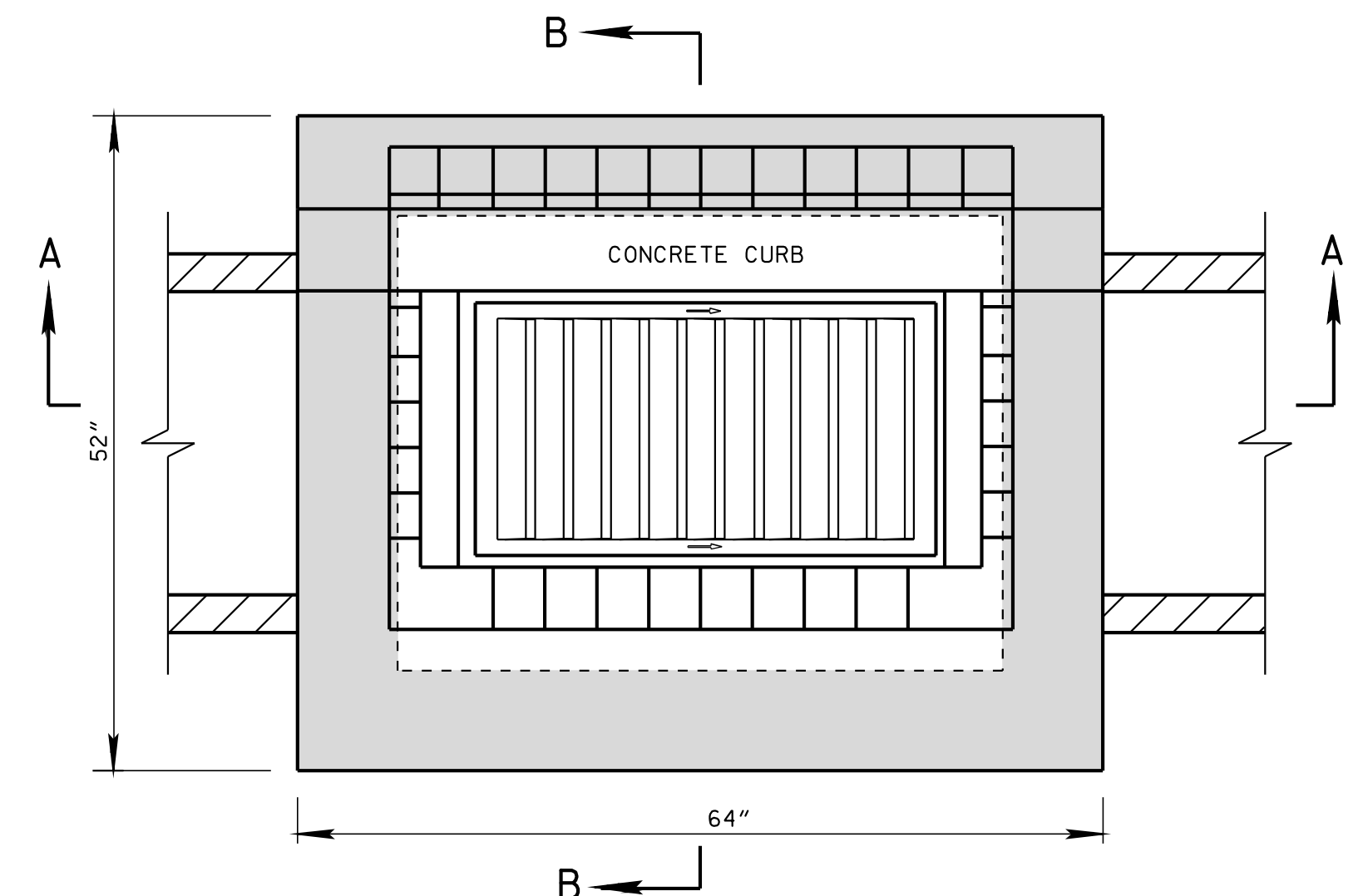
- ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.
 CONCRETE: $f'_c = 4,000$ POUNDS PER SQUARE INCH AT 28 DAYS
 REINFORCING STEEL: ASTM A615, $F_y = 60,000$ POUNDS PER SQUARE INCH
 ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- 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.

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

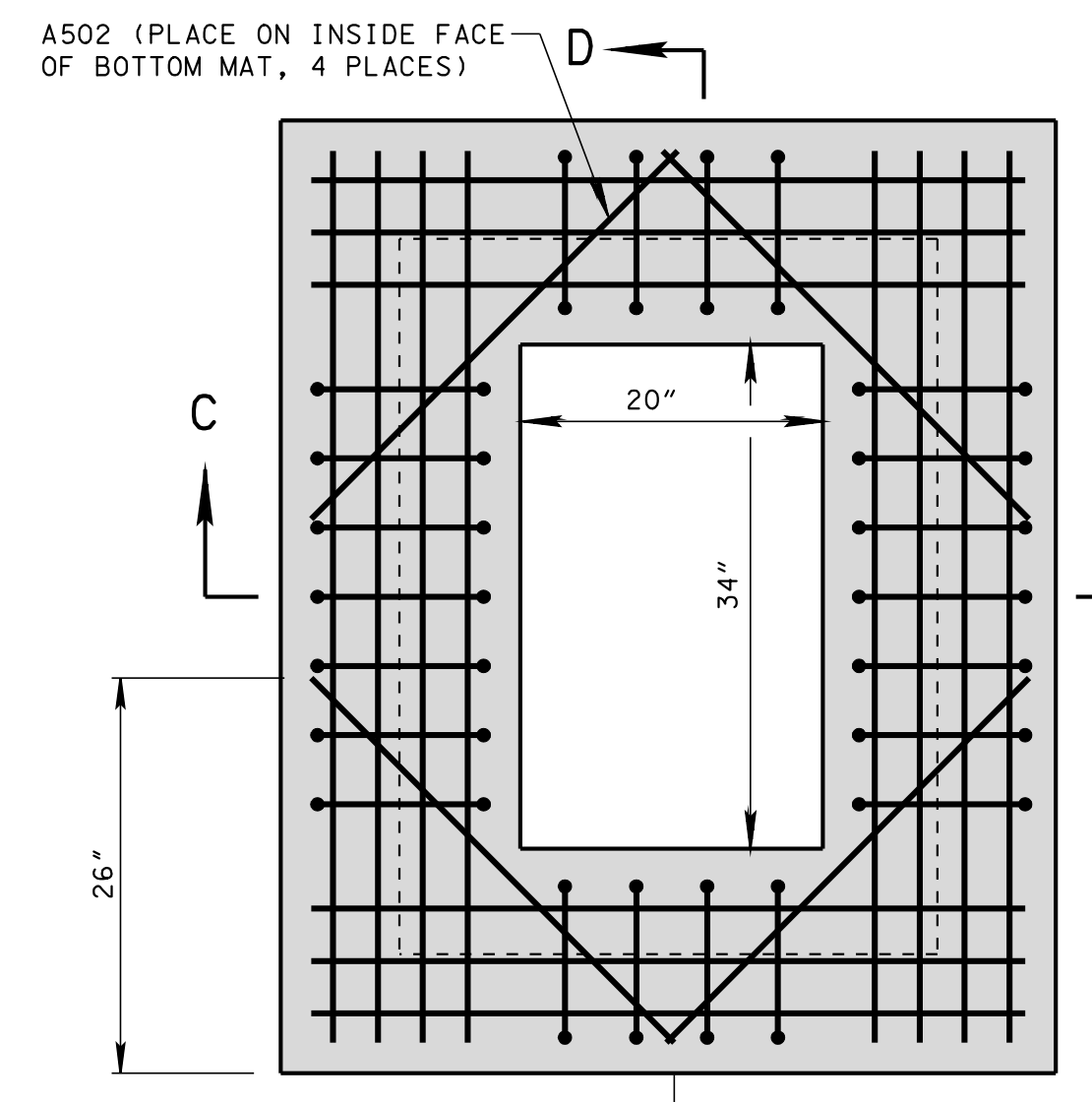
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

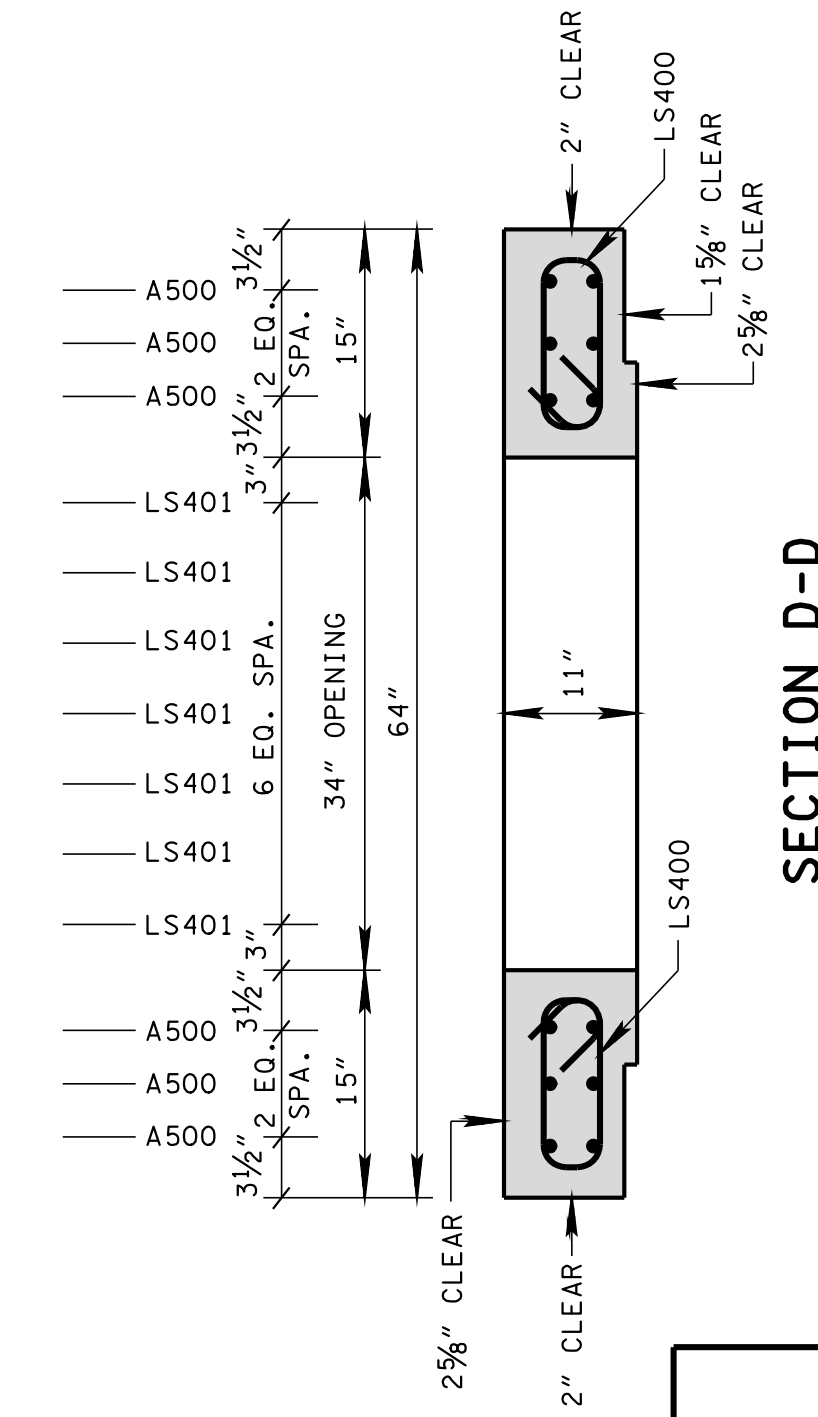
**STANDARD PRECAST
 48" CIRCULAR NO. 10
 CATCH BASIN**
 (FOR USE WITH 6" NONMOUNTABLE CURB)



PLAN VIEW



PLAN VIEW

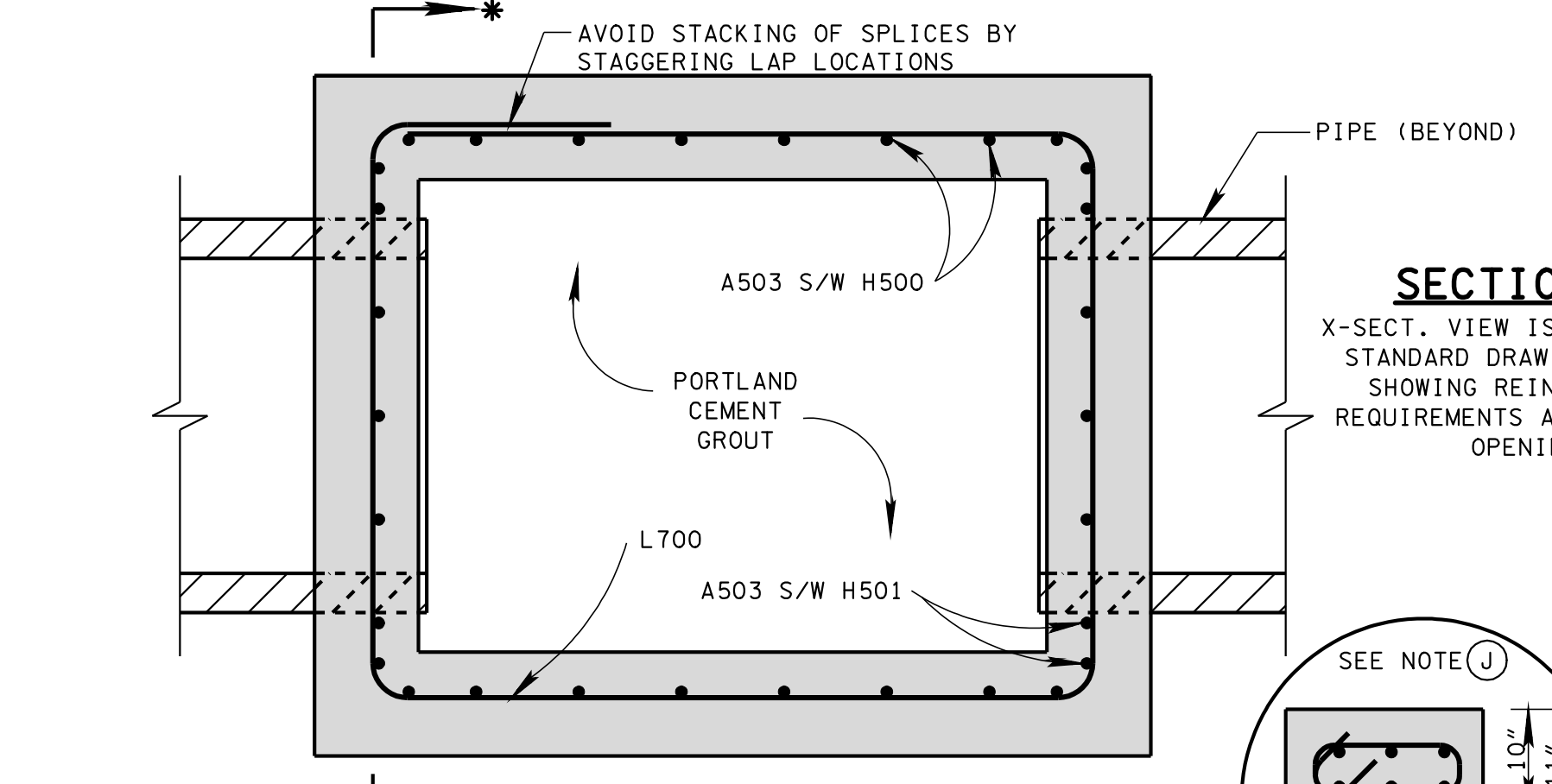


SECTION D-D

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

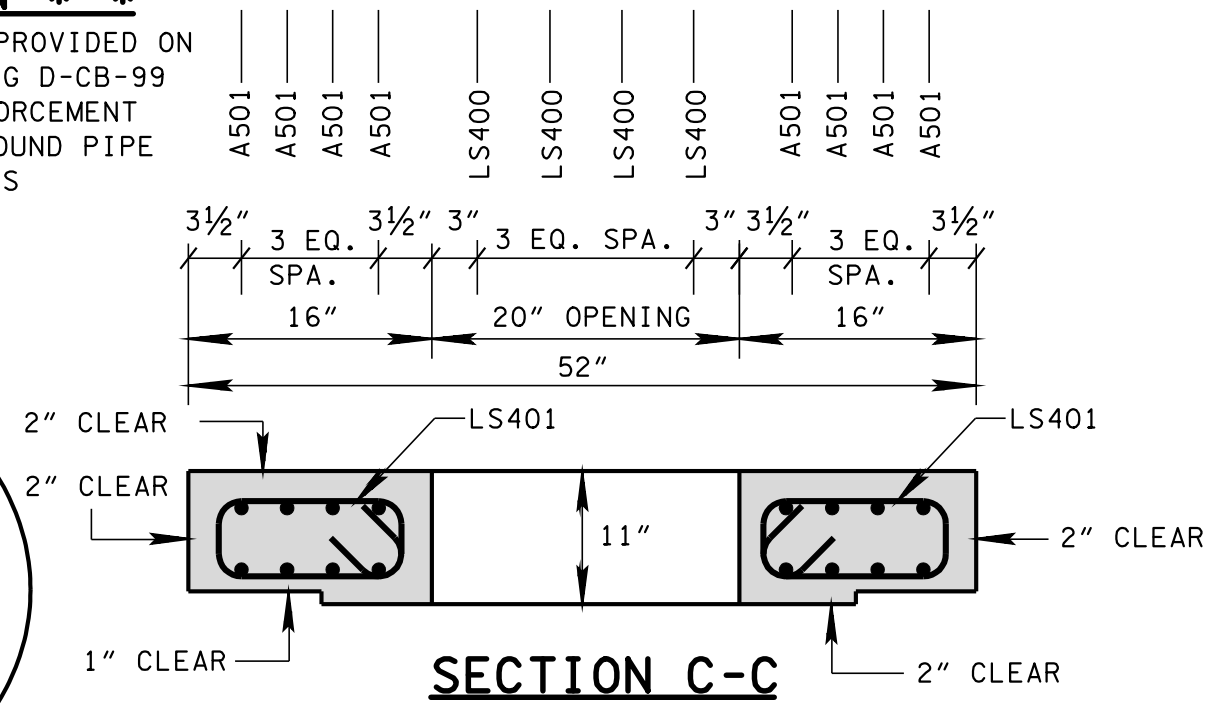
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	51	3.88
24	3	32	58	4.42
④ 30	3 1/2	39	65	4.96
④ 36	4	46	72	5.50

- 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 UN CUT WILL NOT BE PERMITTED.
- ④ TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

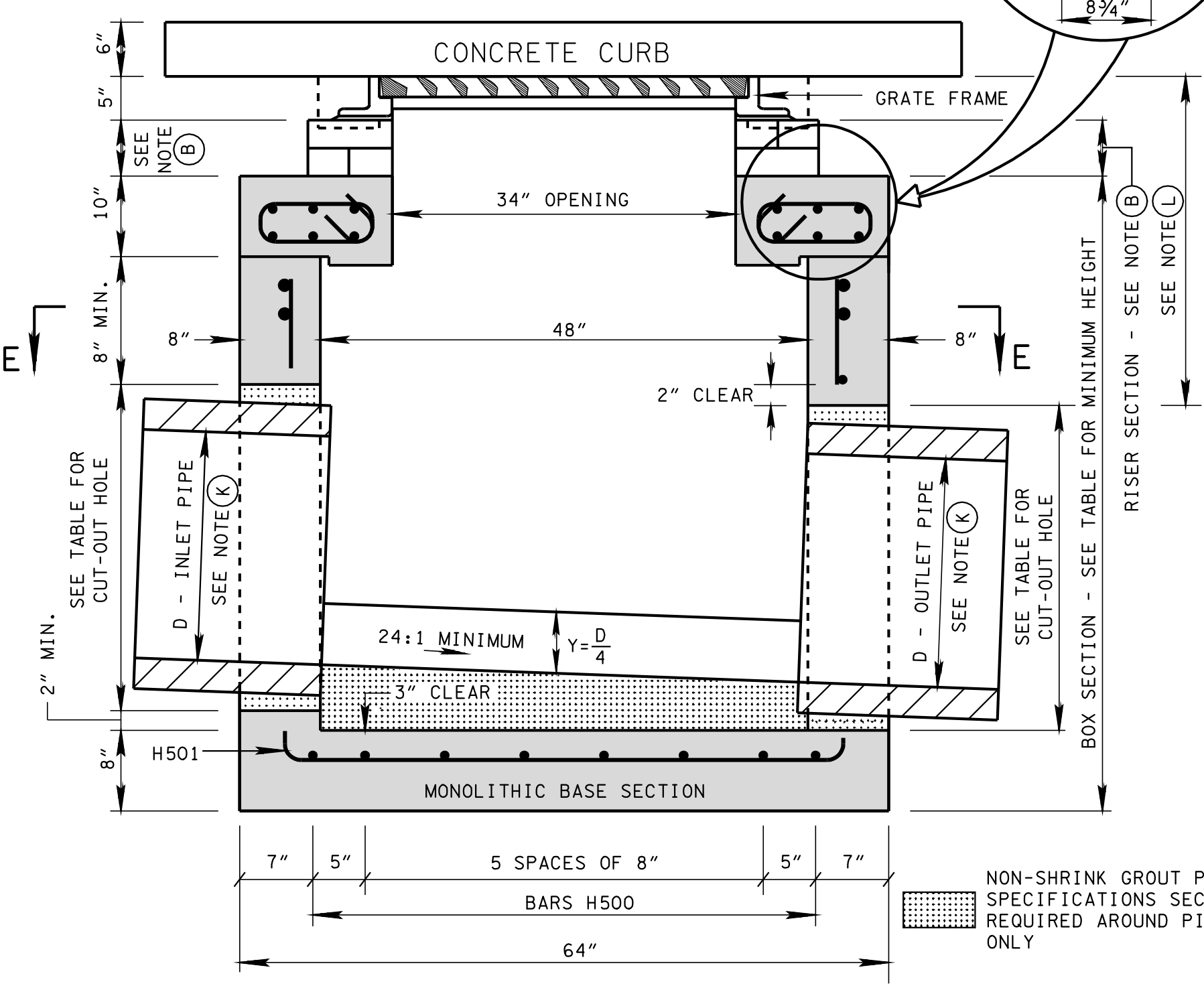


SECTION E-E

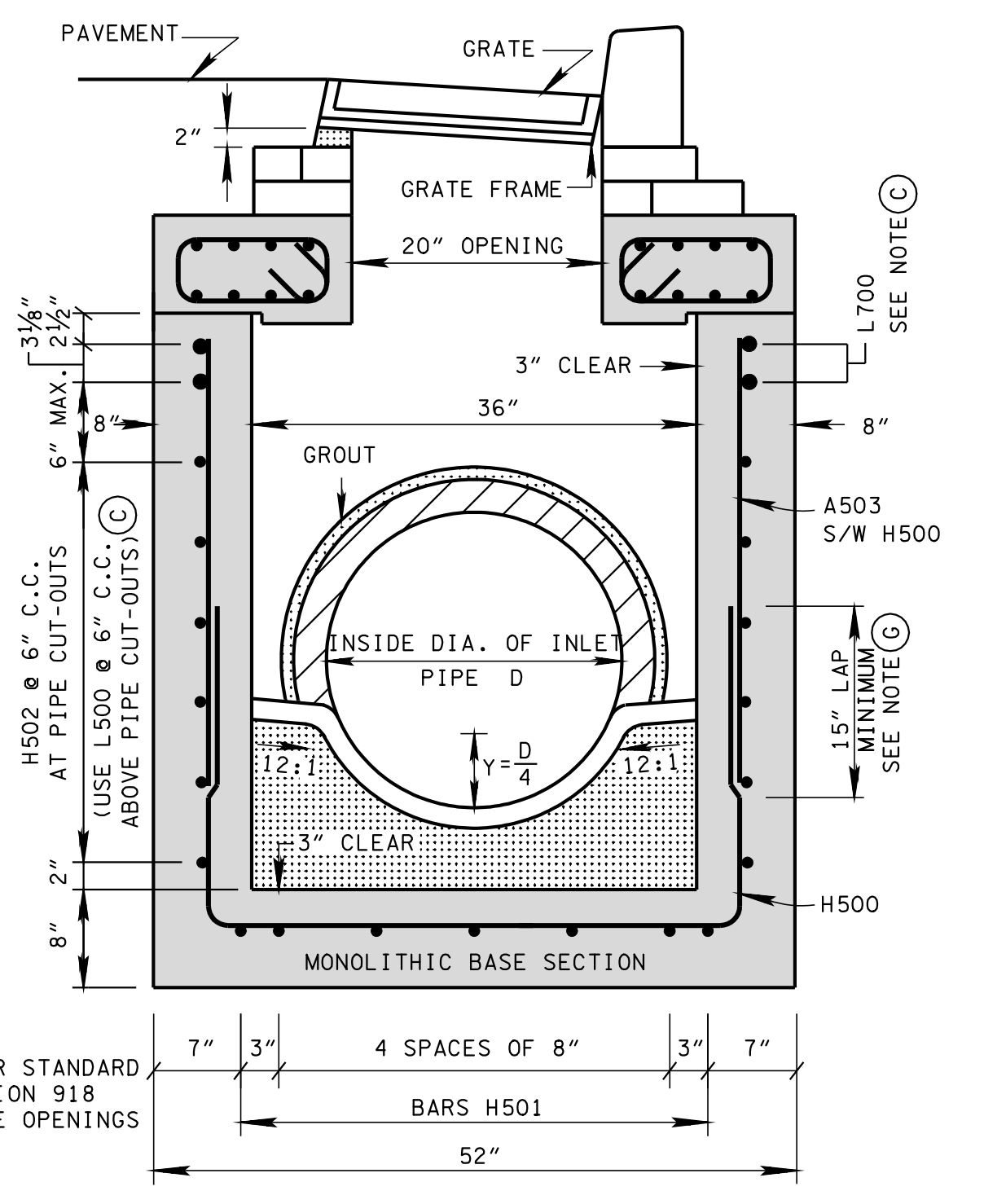
SECTION **
 X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



SECTION A-A

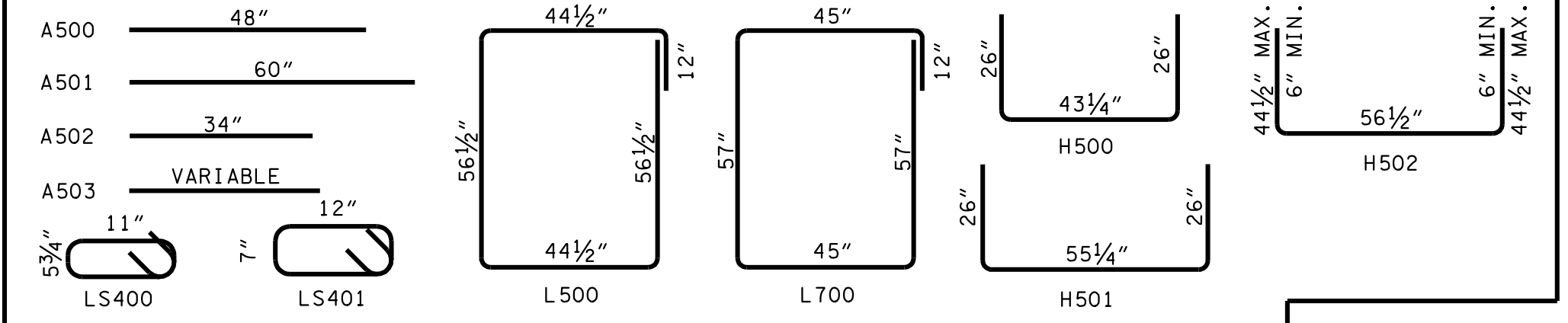


SECTION B-B

GENERAL NOTES

- (A) DRAWING TO BE USED FOR ALL 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 1 1/2 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.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**STANDARD
 RECTANGULAR
 CONCRETE NO.10
 CATCH BASIN**

NOT TO SCALE

10-26-97 D-CB-10S

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.

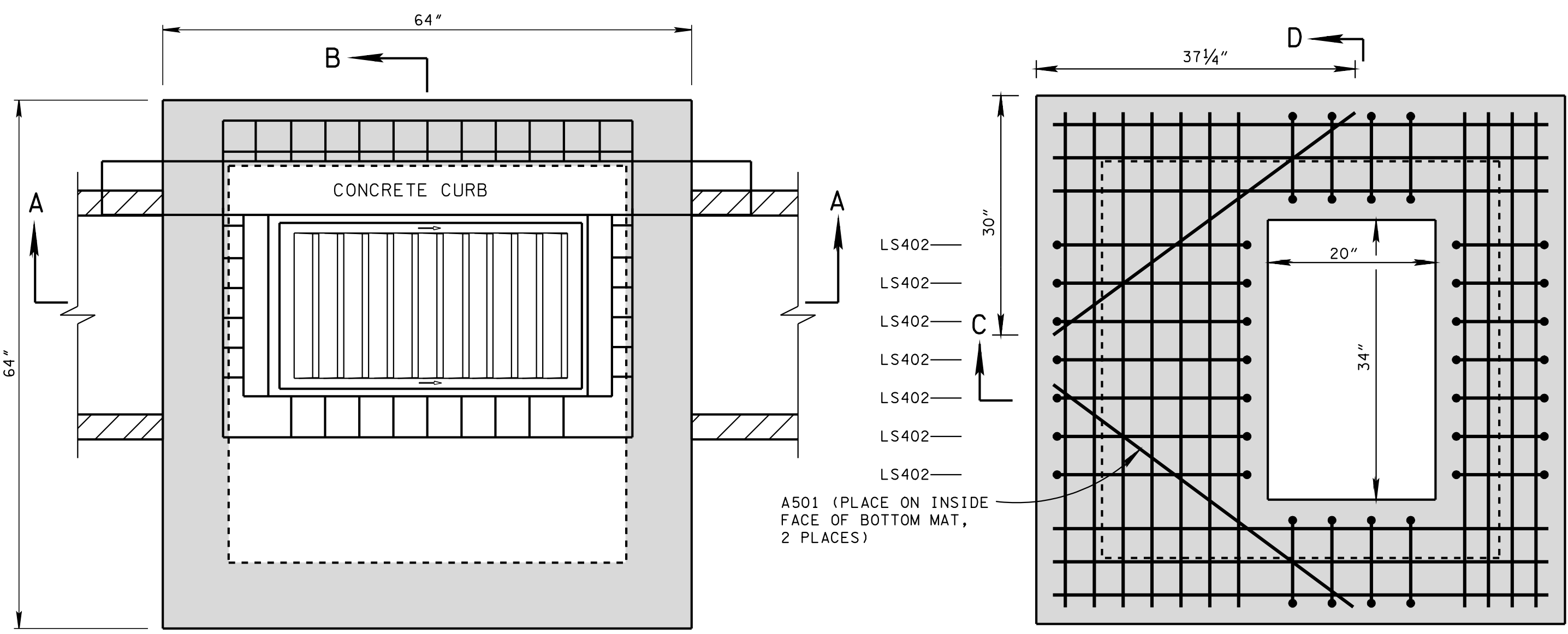
CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

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

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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.

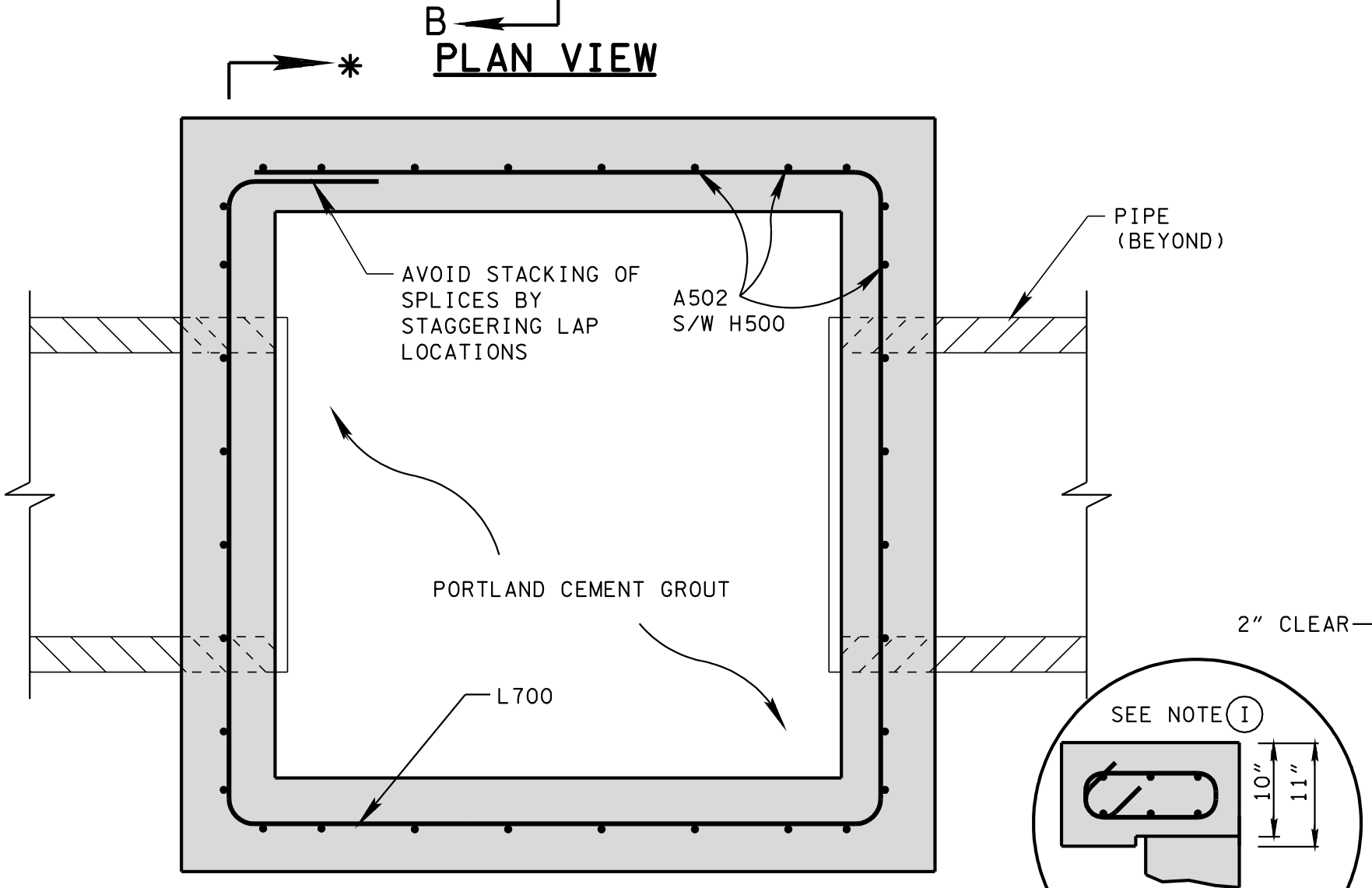
GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-12A FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.
- 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.
- 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.



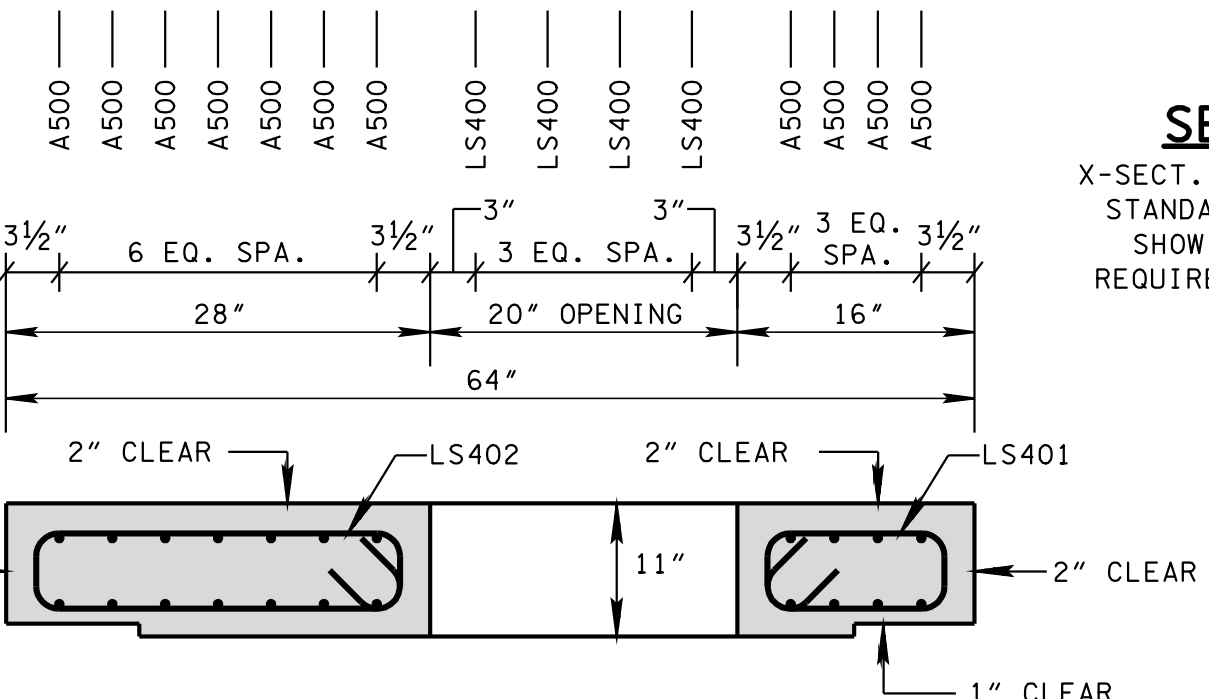
PLAN VIEW

SECTION D-D



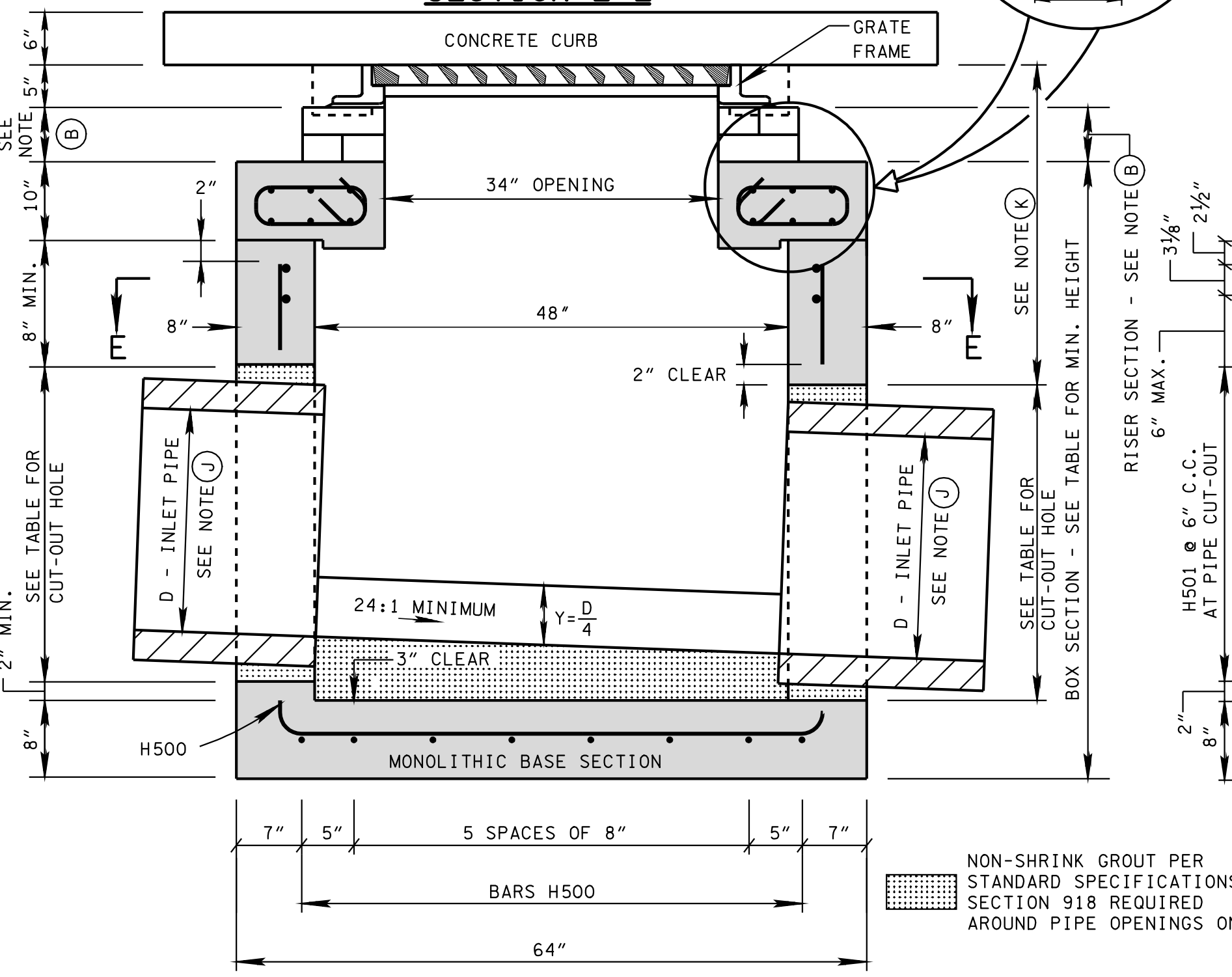
PLAN VIEW

SECTION E-E

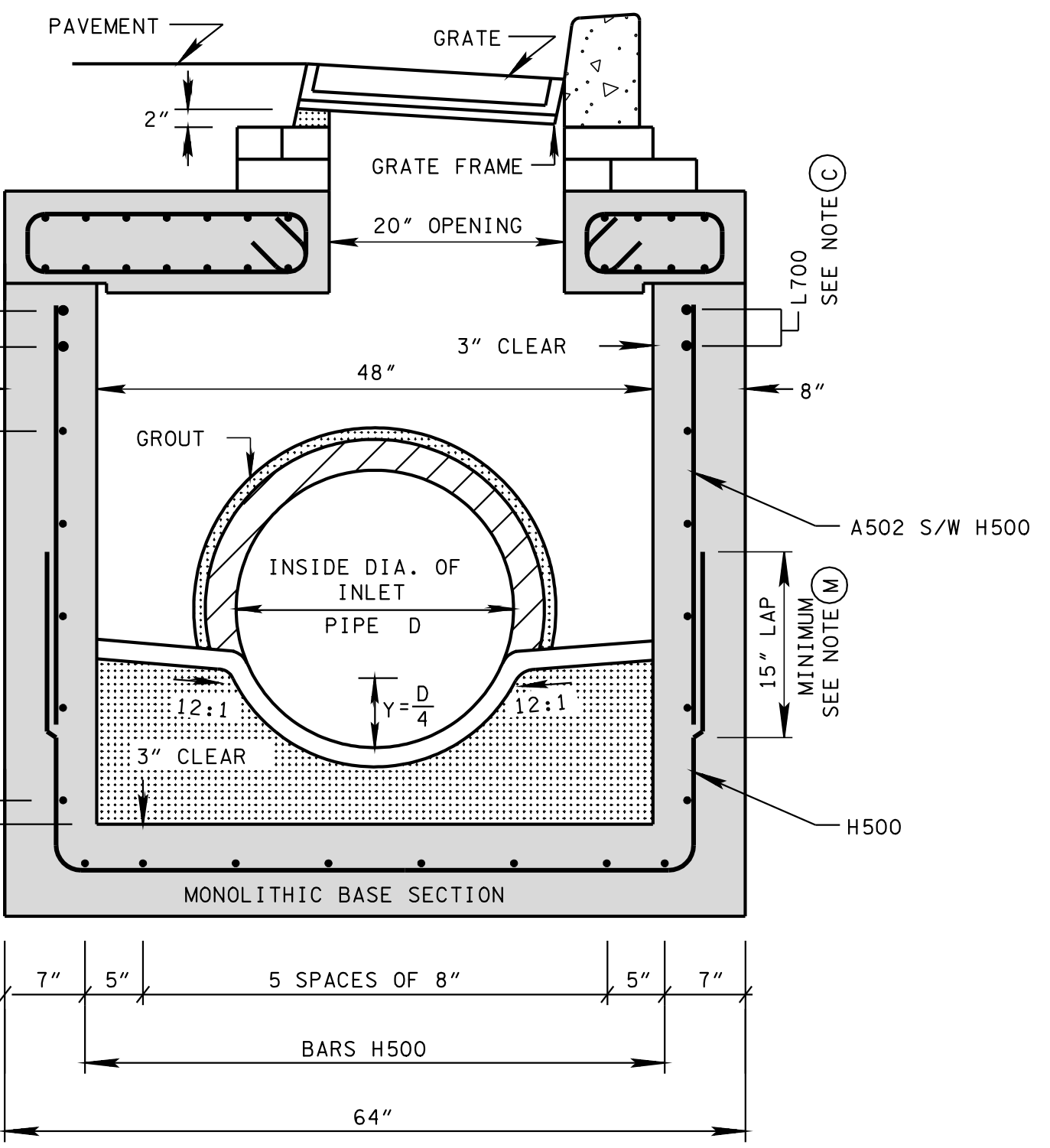


SECTION C-C

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



SECTION A-A



SECTION B-B

REINFORCING STEEL LEGEND

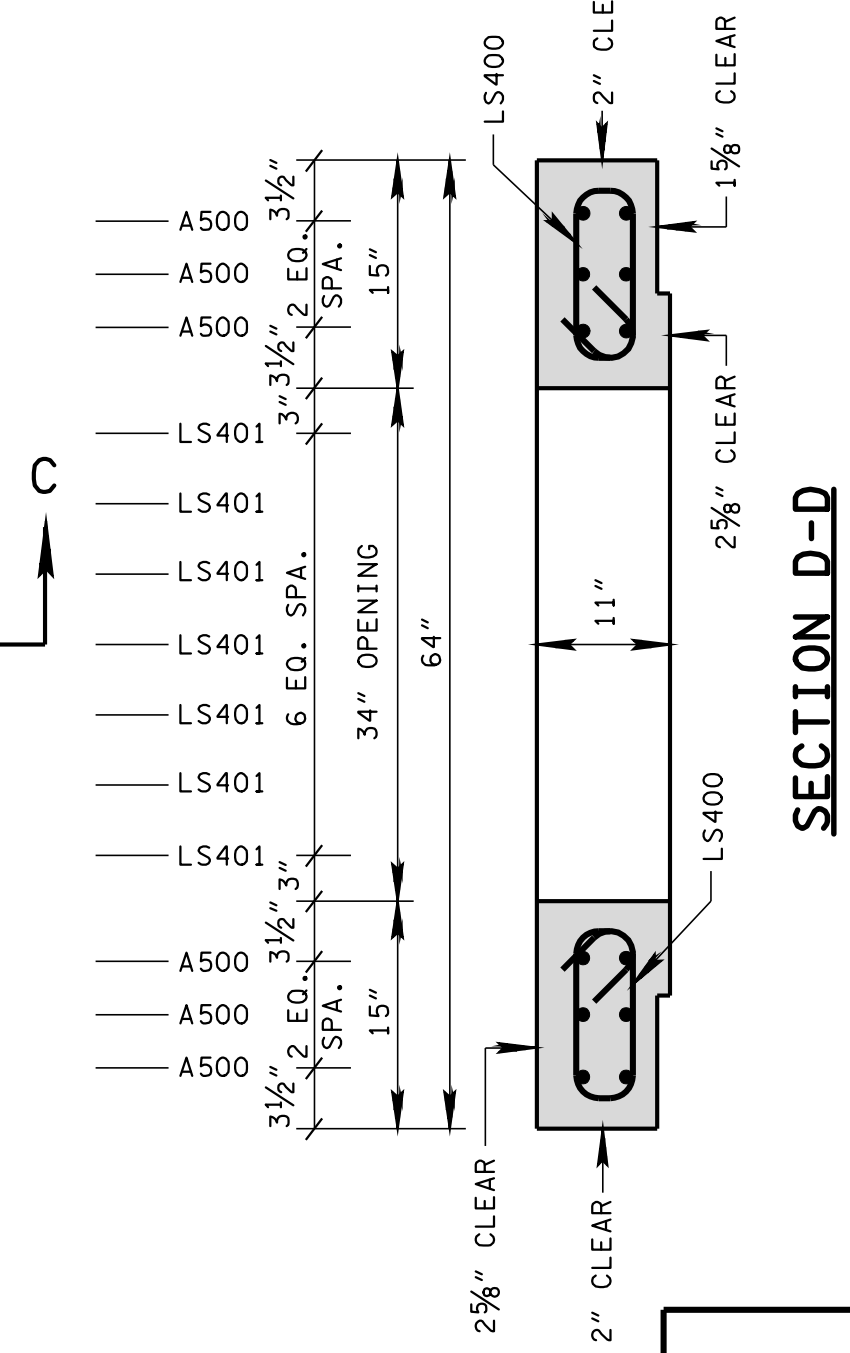
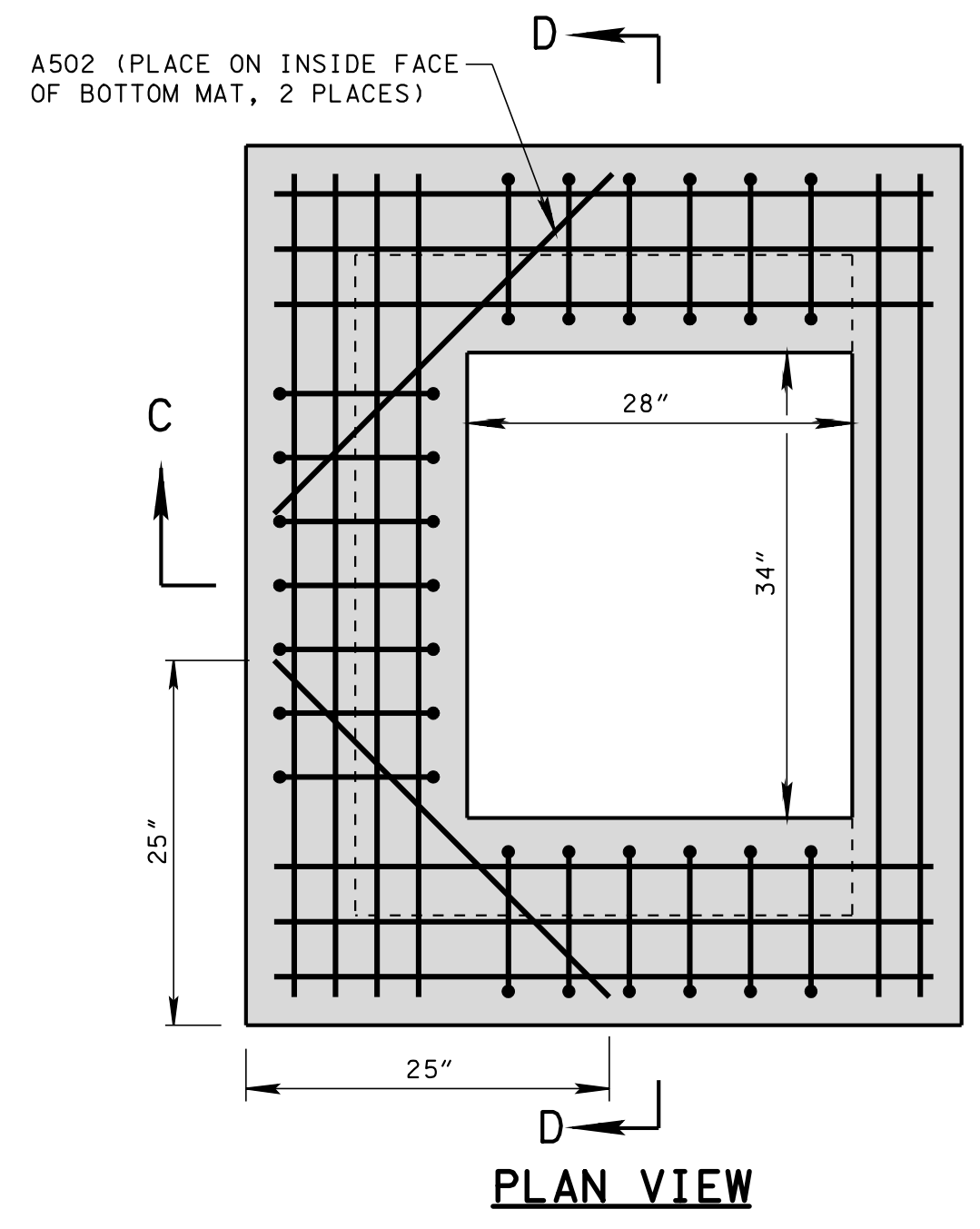
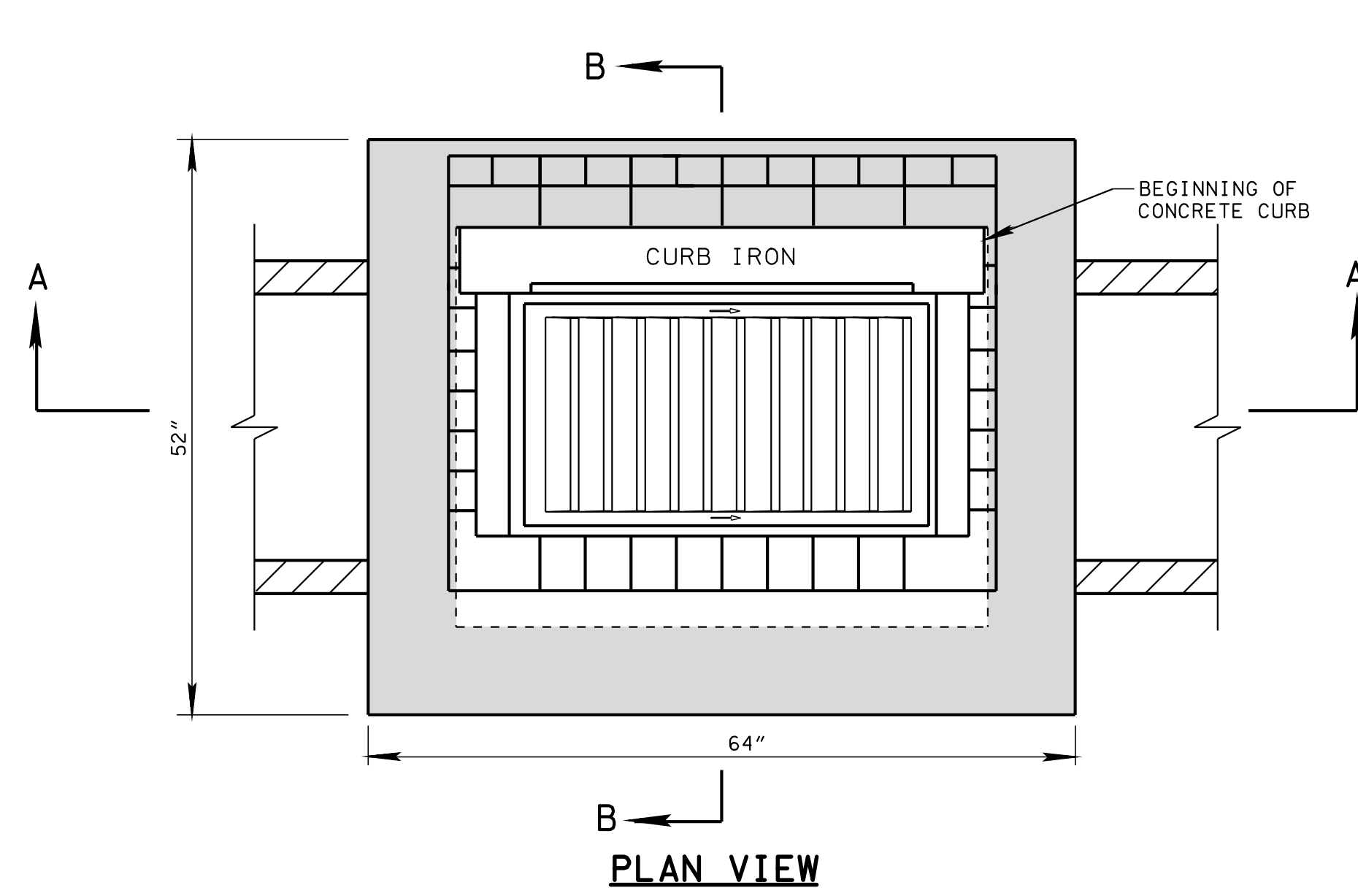
A500	60"	24"	26"	26"
A501	45"	5"	57"	H500
A502	VARIABLE	LS402	57"	H500
LS400	11"	12"	55¾"	55¾"
LS401	7"	55¾"	55¾"	55¾"
L500	12"	55¾"	55¾"	55¾"
L700	12"	55¾"	55¾"	55¾"
H501	55¾" MAX.	6" MIN.	55¾" MAX.	55¾" MAX.

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**

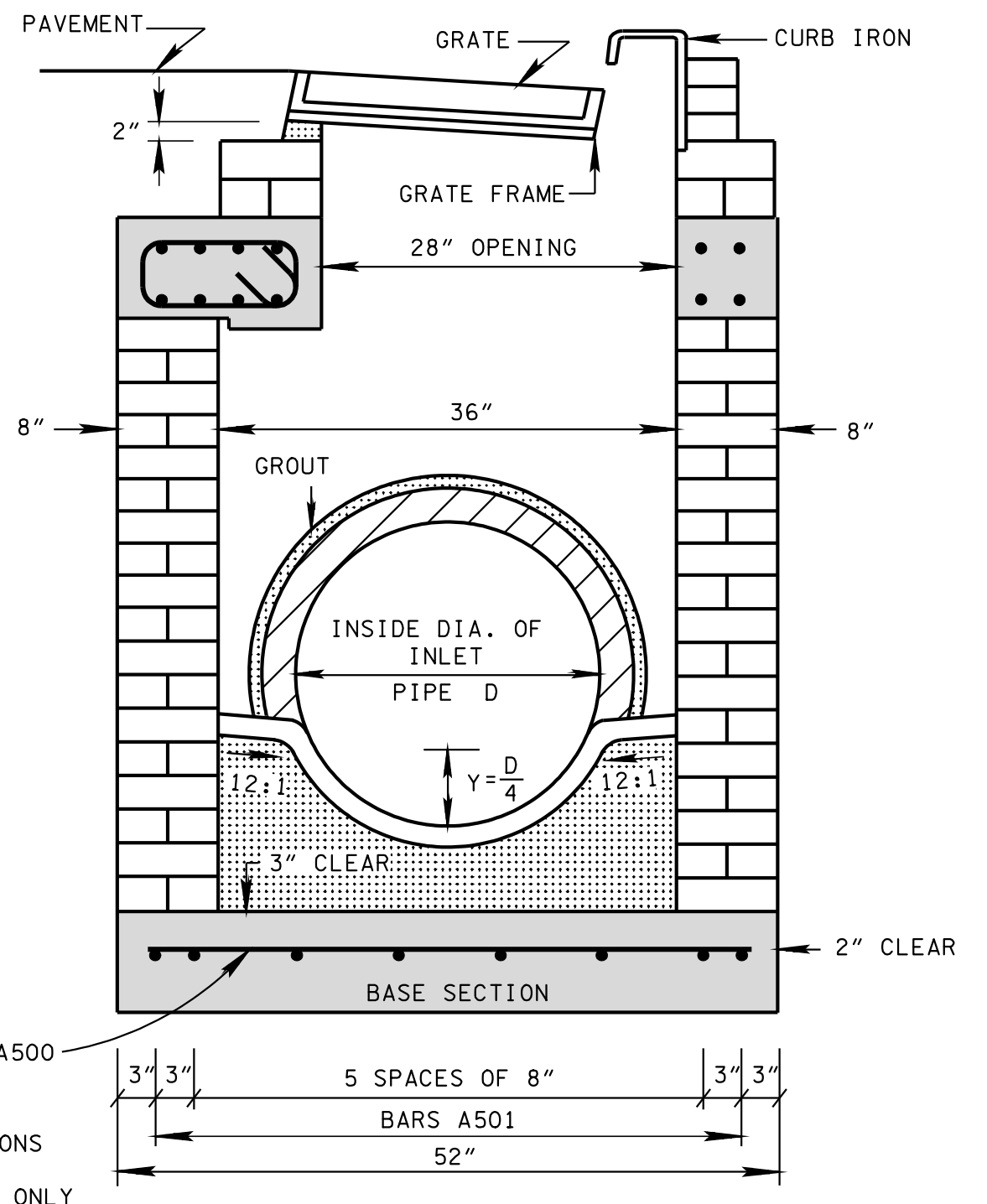
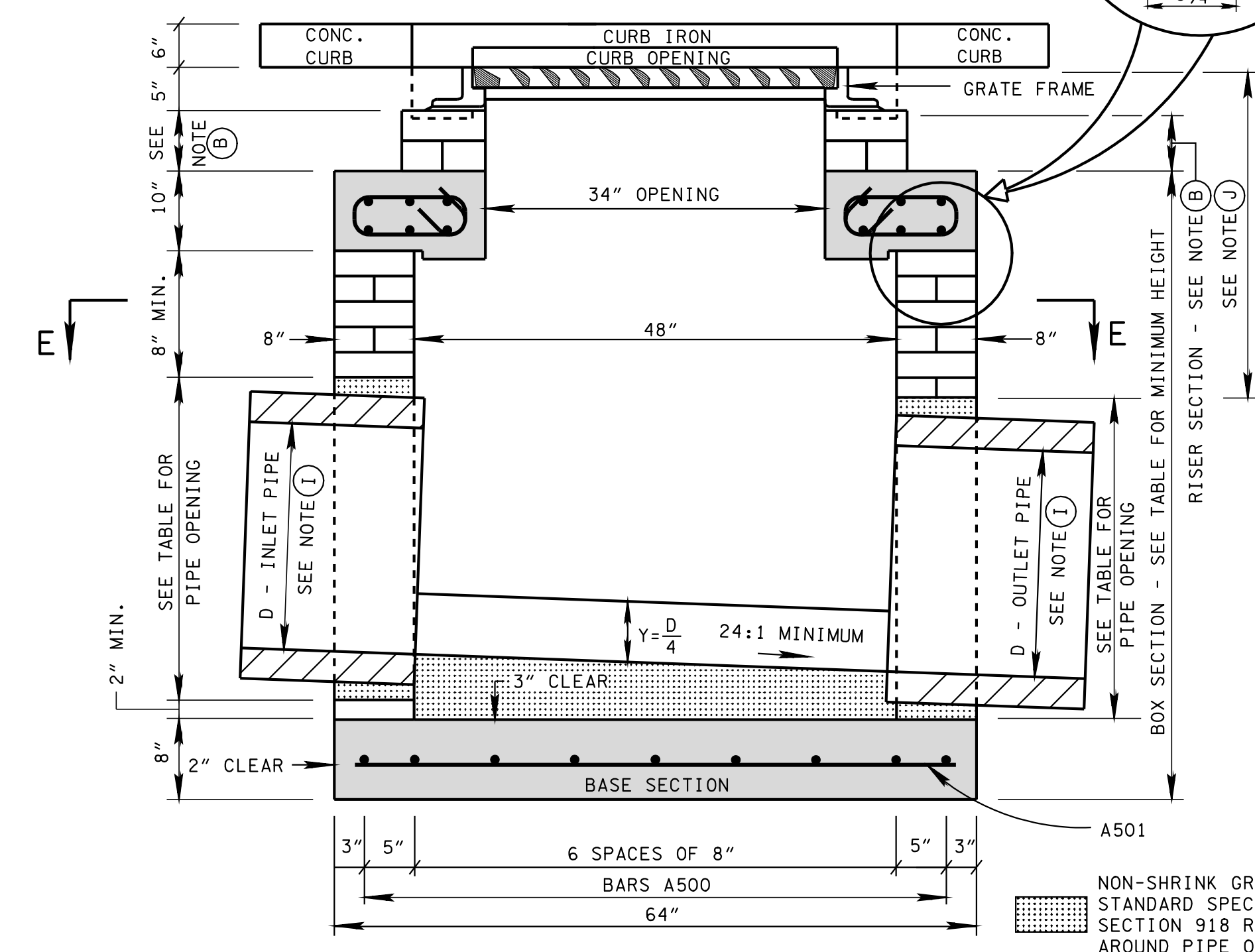
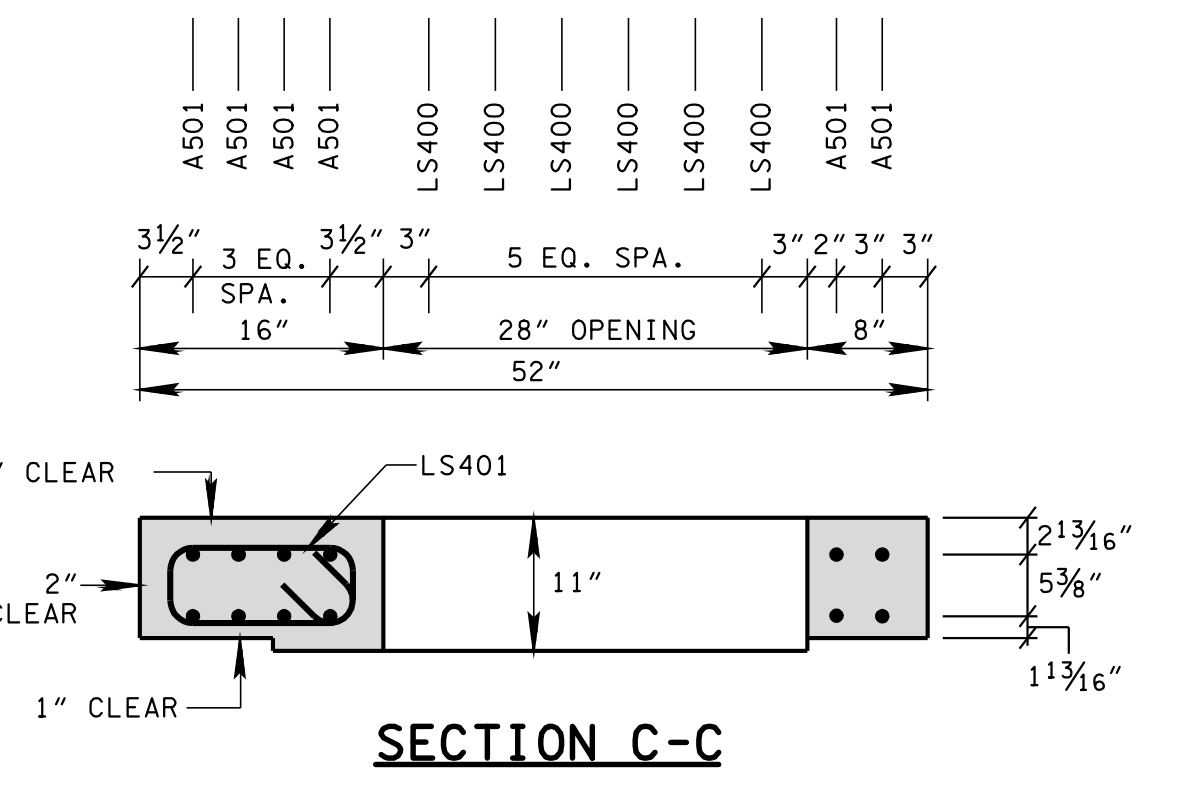
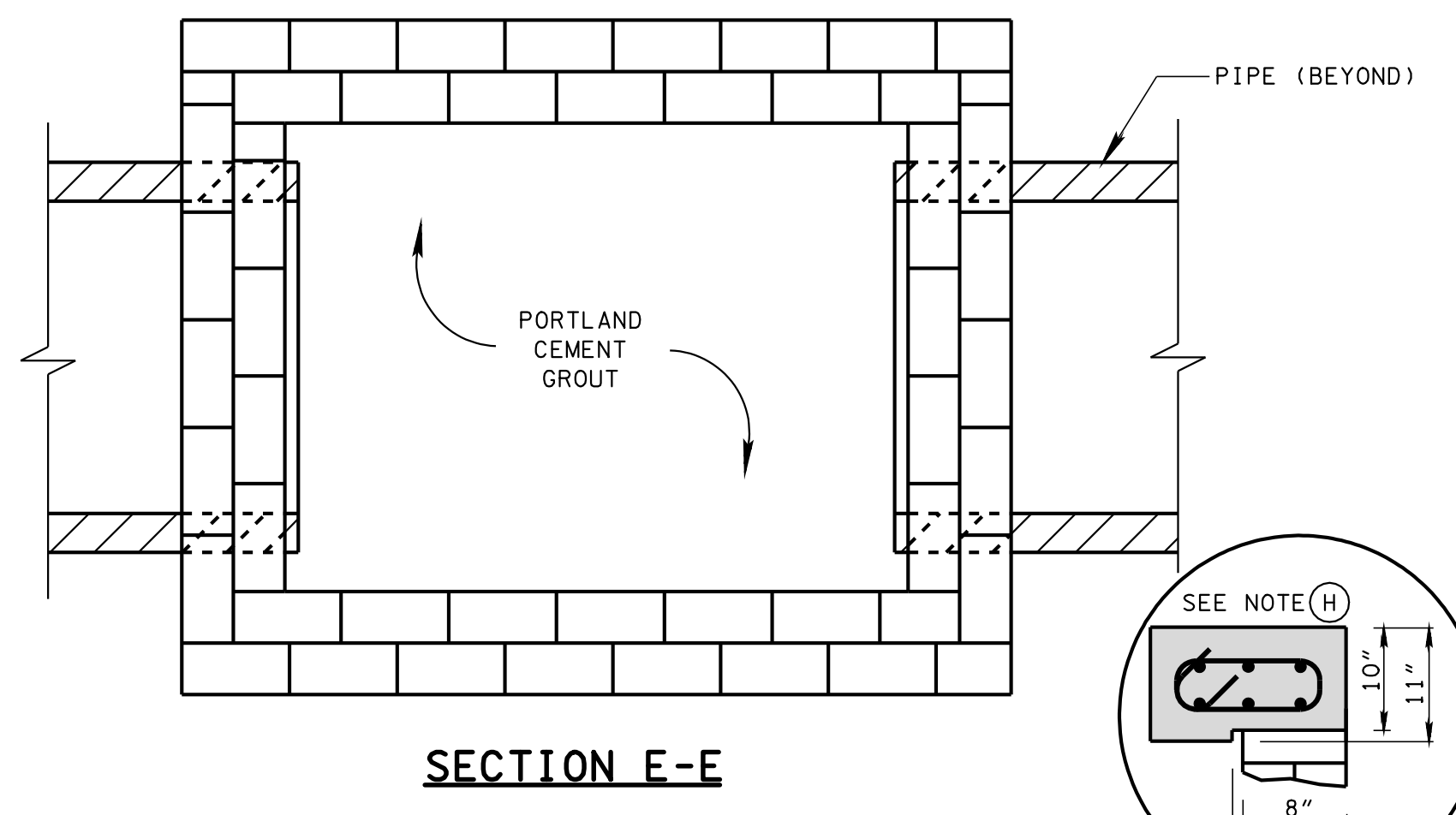


CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 8.00'.

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 ③ 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 ①
- ❑ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ③
- ❑ 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.



- 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

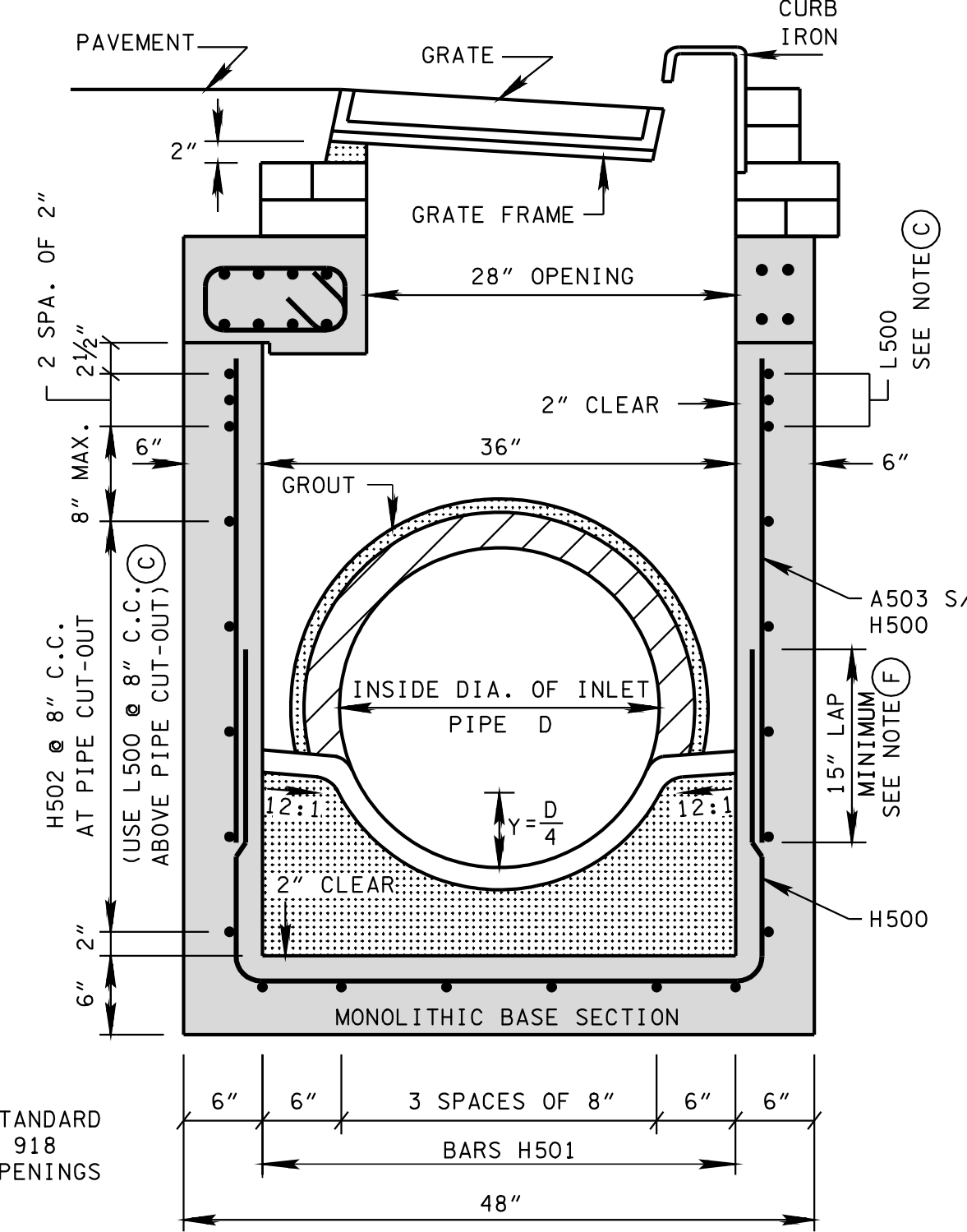
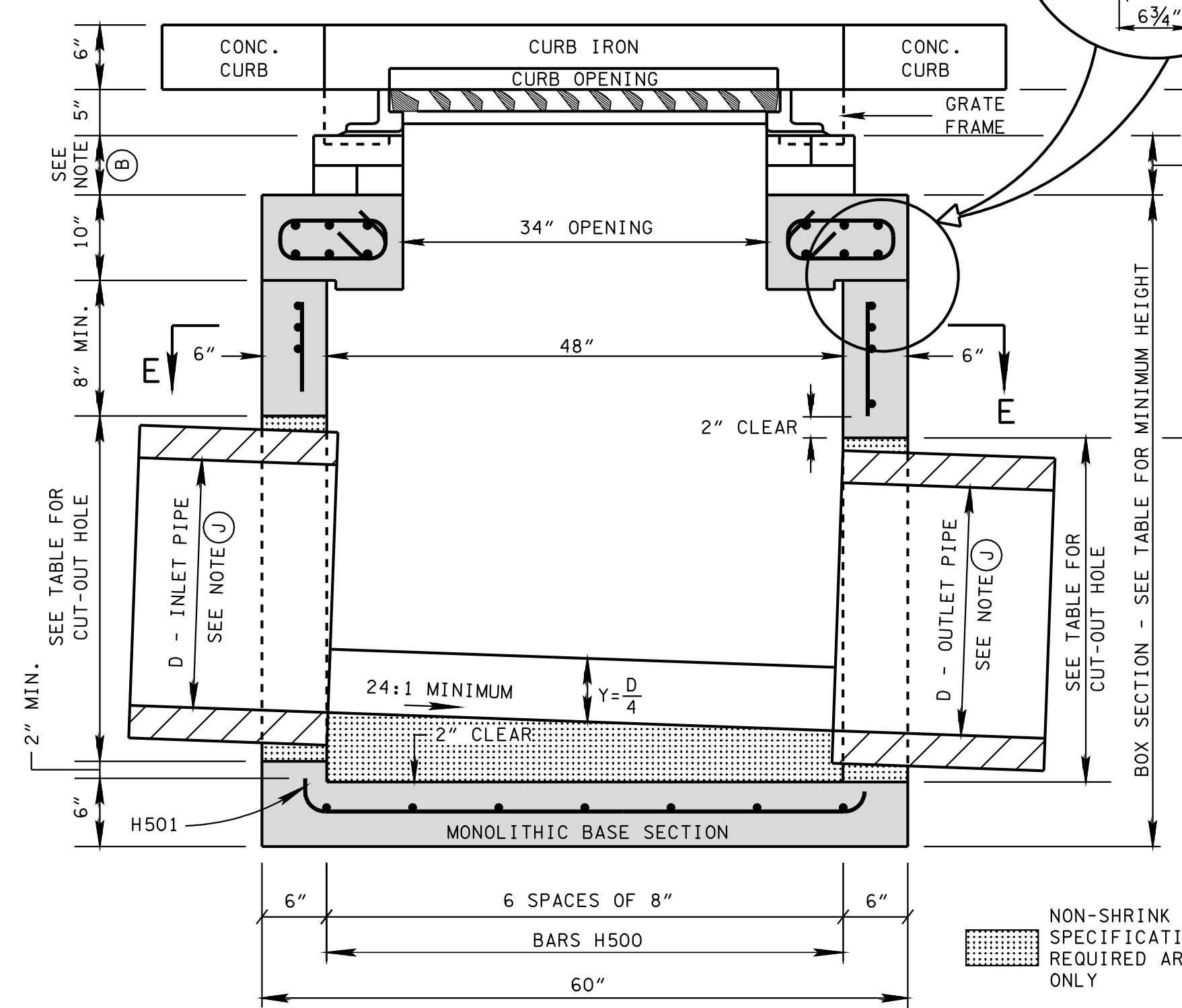
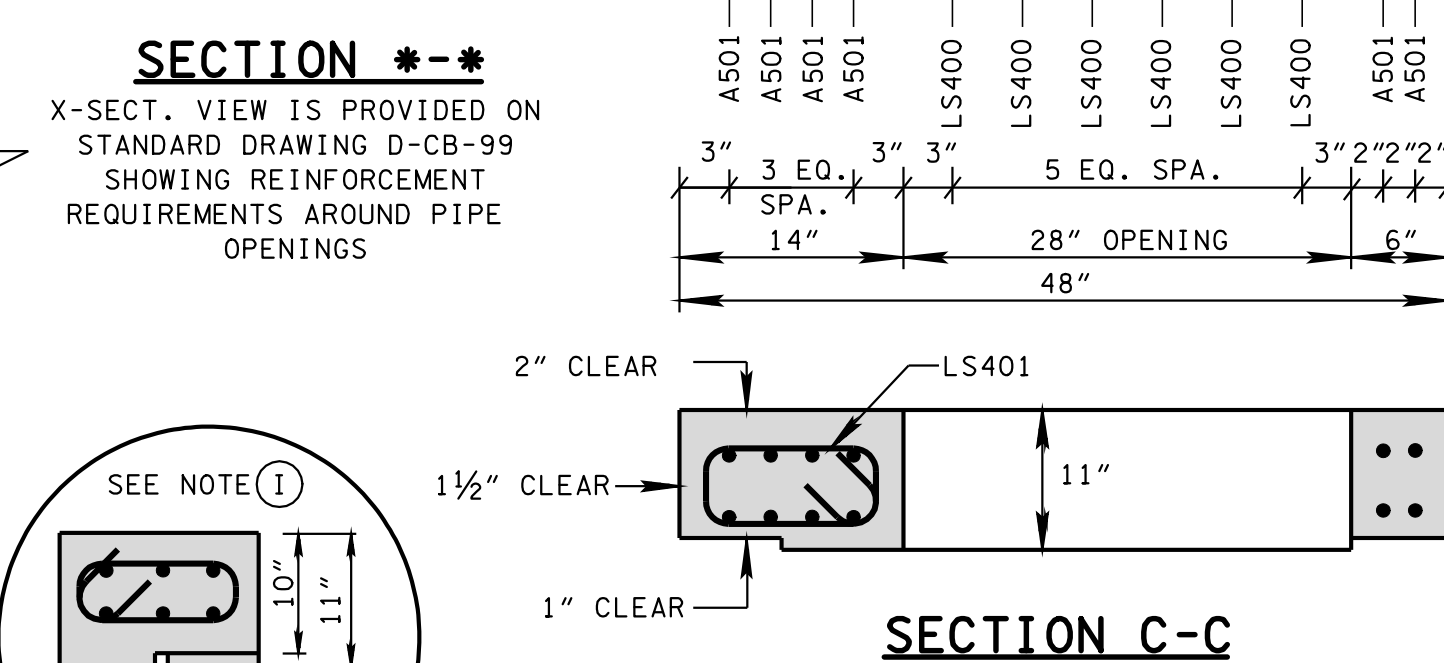
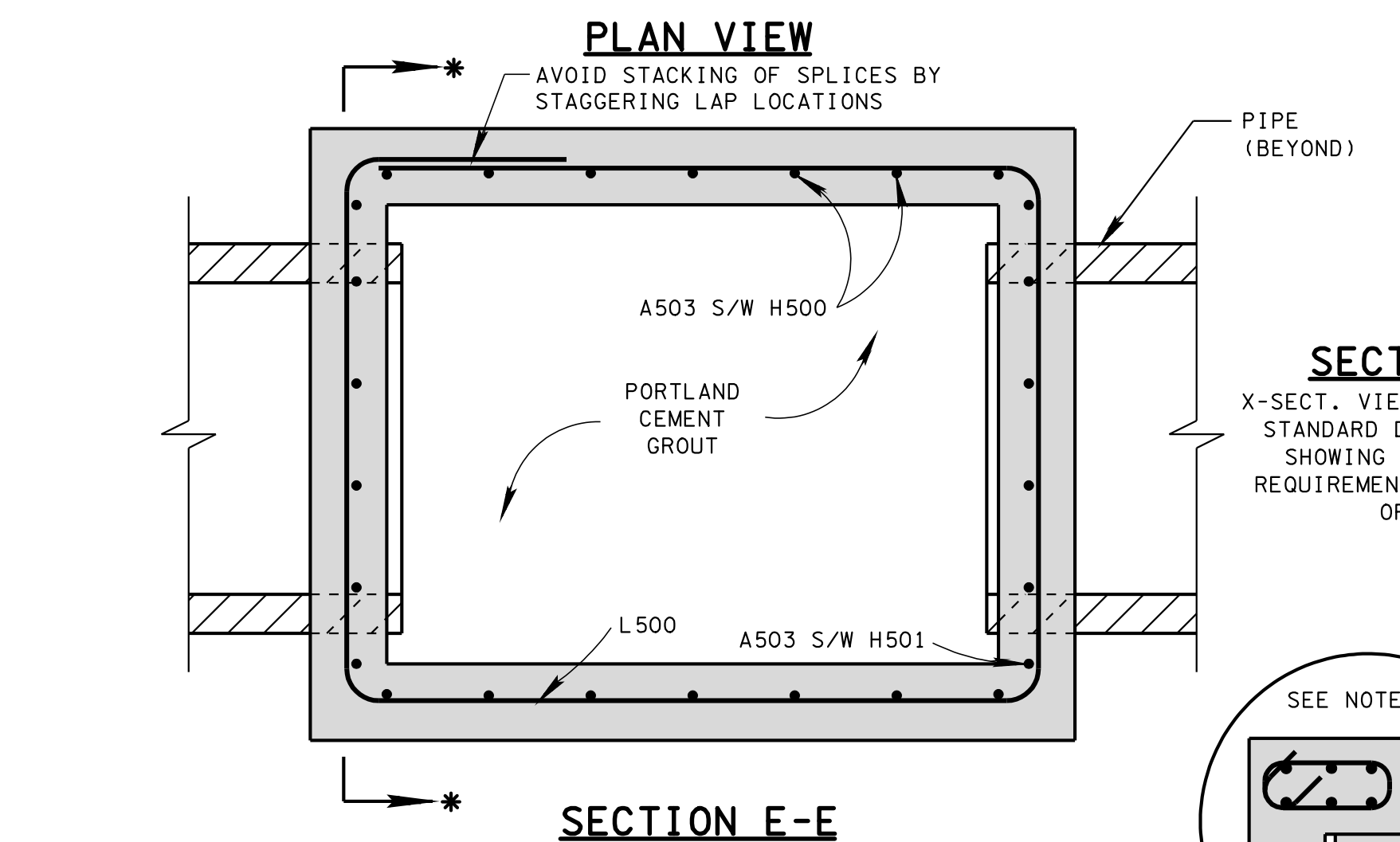
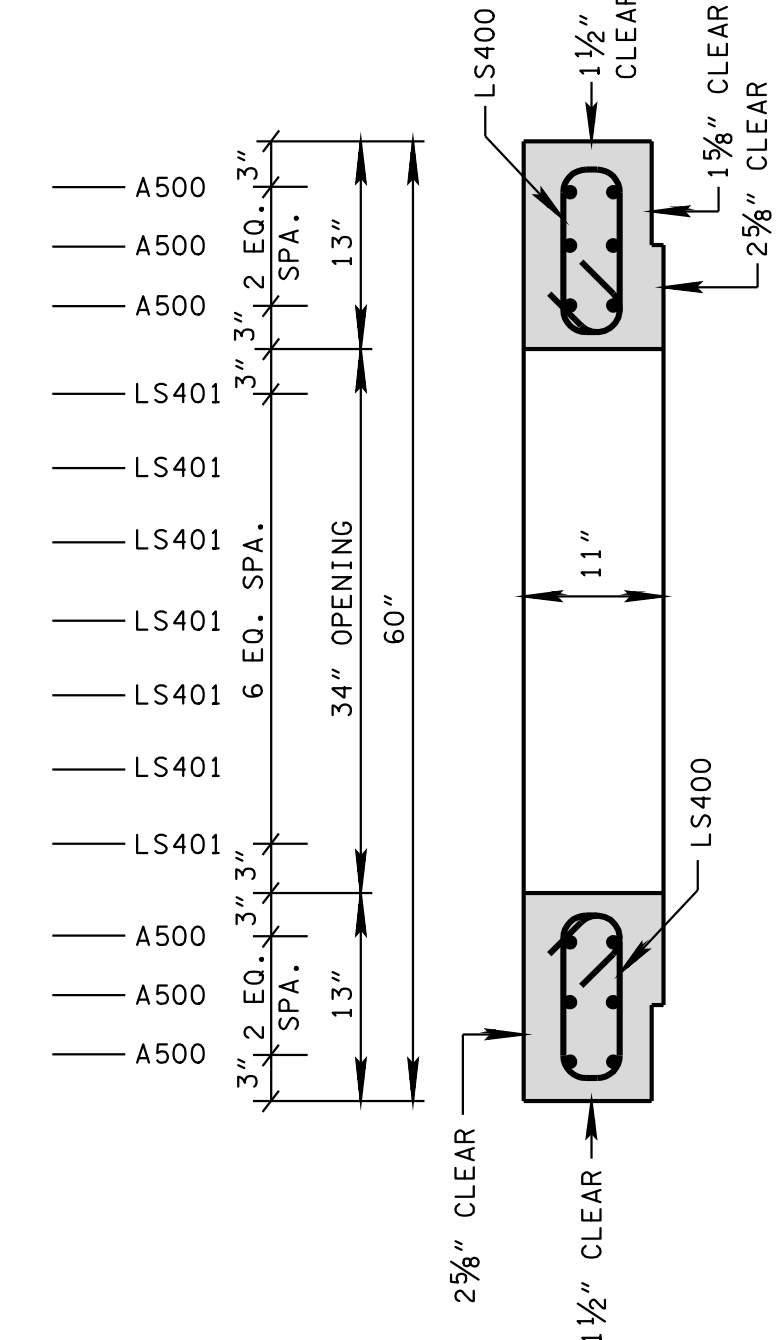
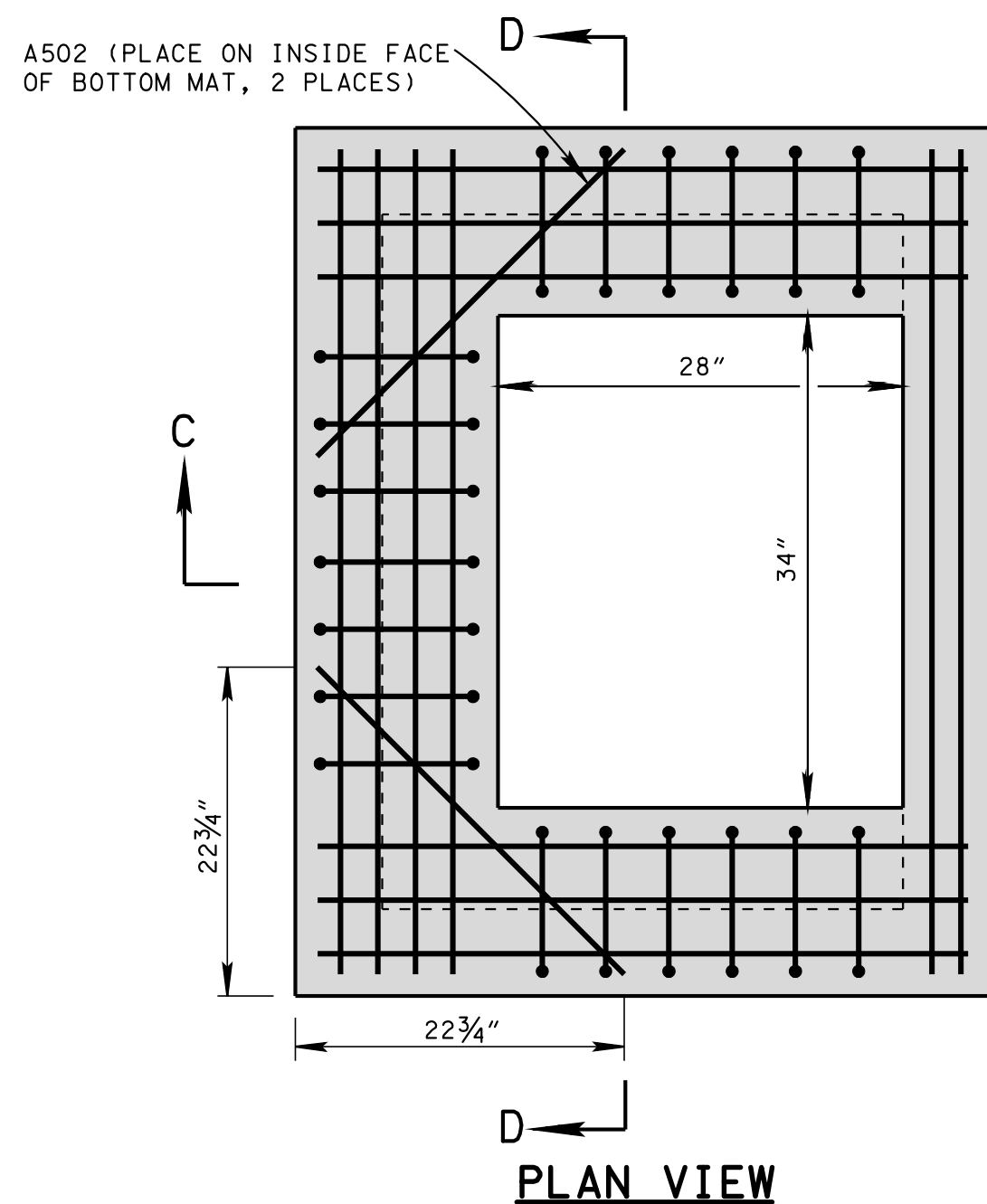
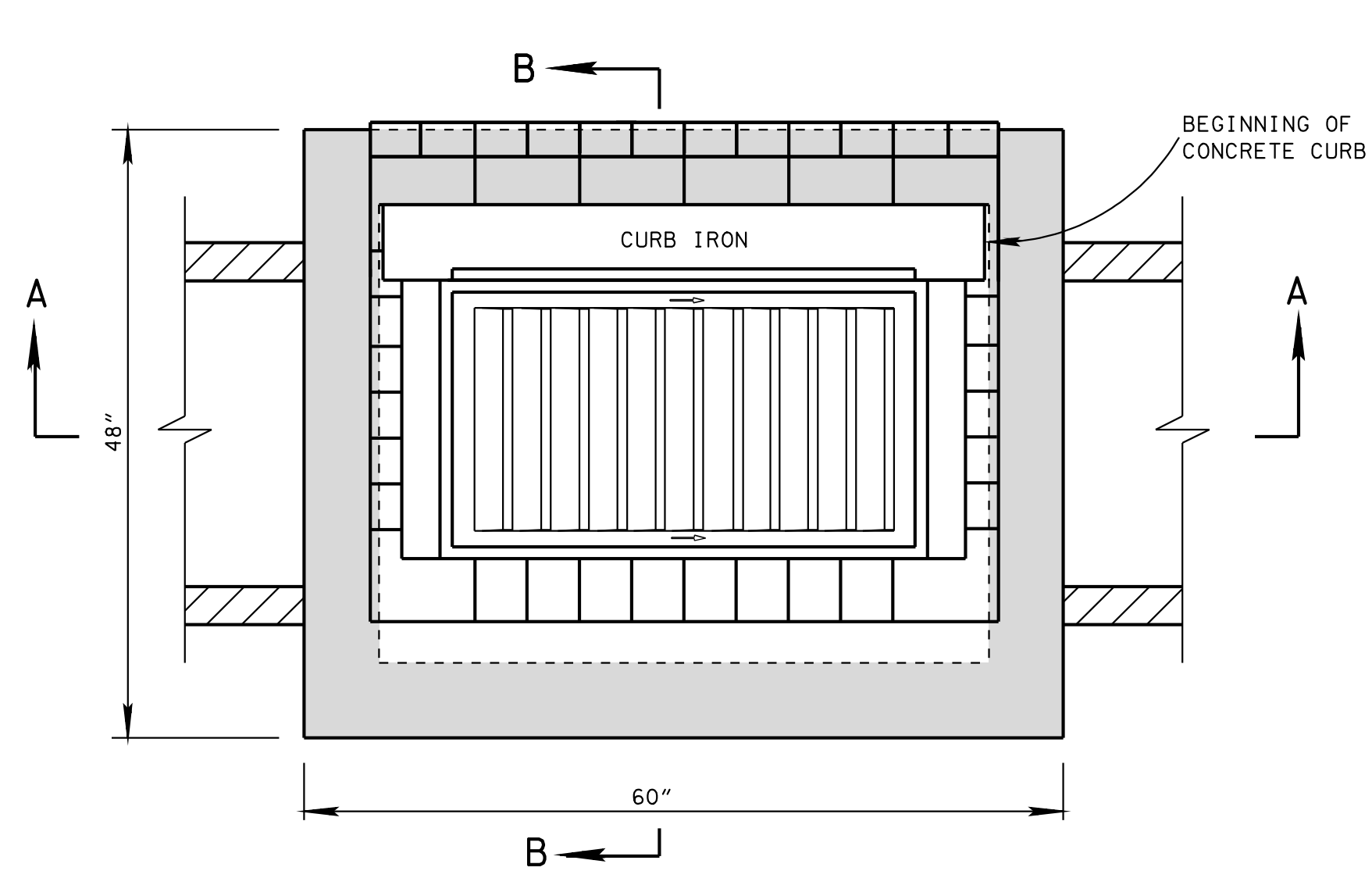
A500	48"	11"
A501	60"	5¾"
A502	33"	12"

LS400
LS401

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
 CATCH NO. 12
 CATCH BASIN**



CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'.

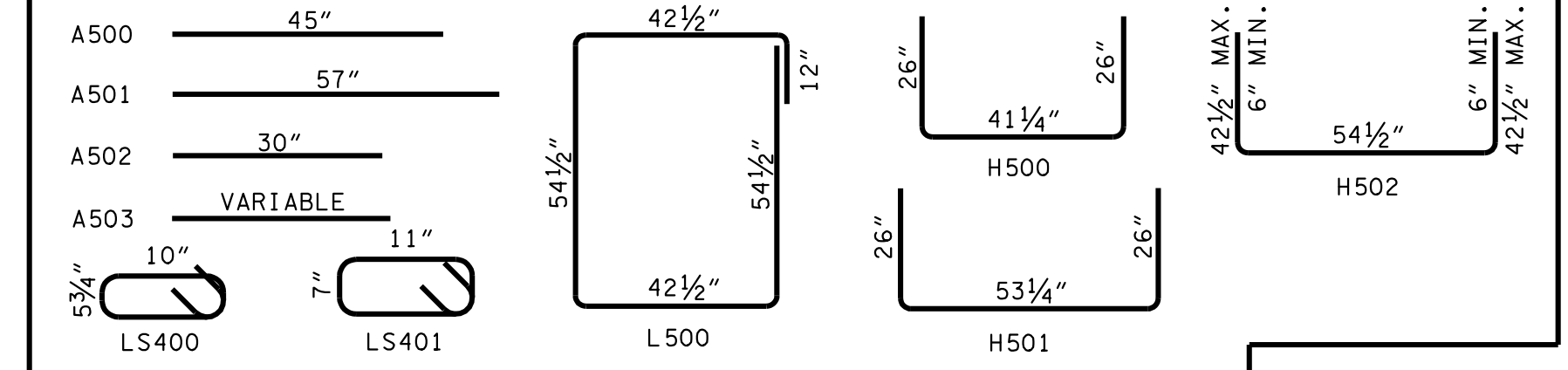
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	49	3.88
24	3	32	56	4.42
④ 30	3½	39	63	4.96
④ 36	4	46	70	5.50

- 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 UN CUT WILL NOT BE PERMITTED.
- ④ TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

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

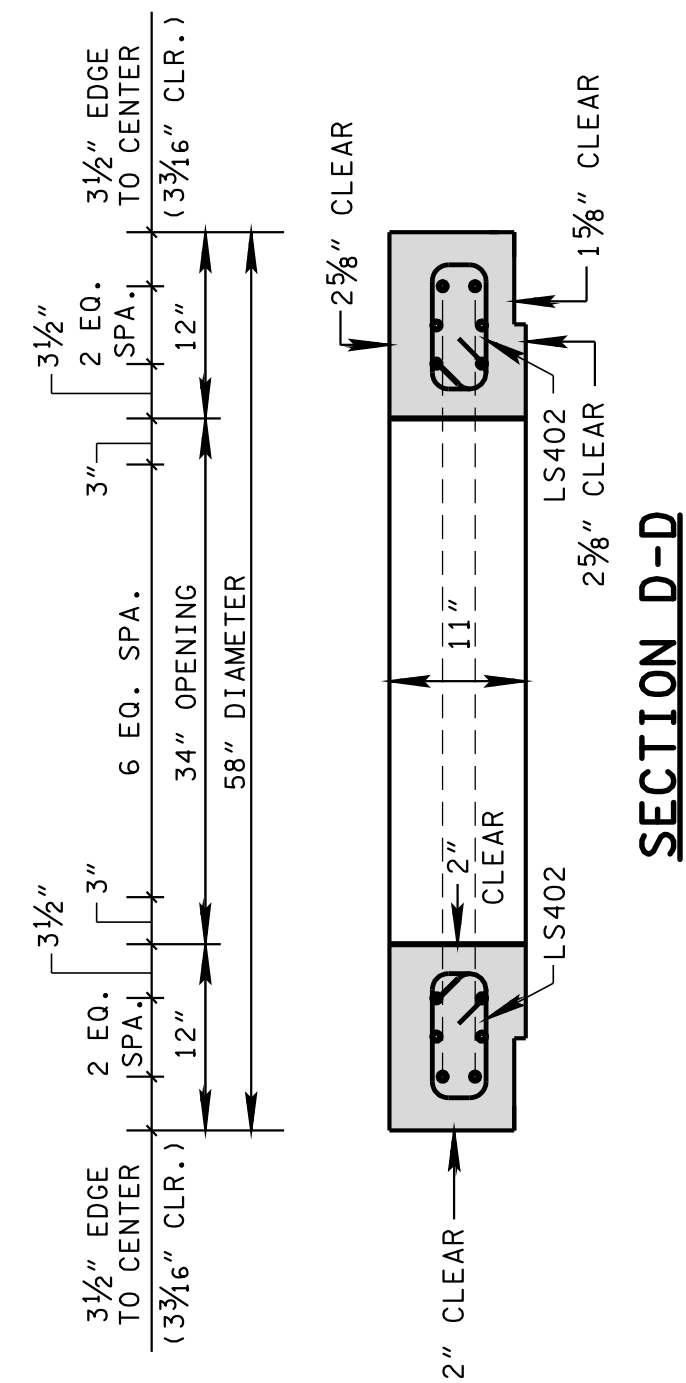
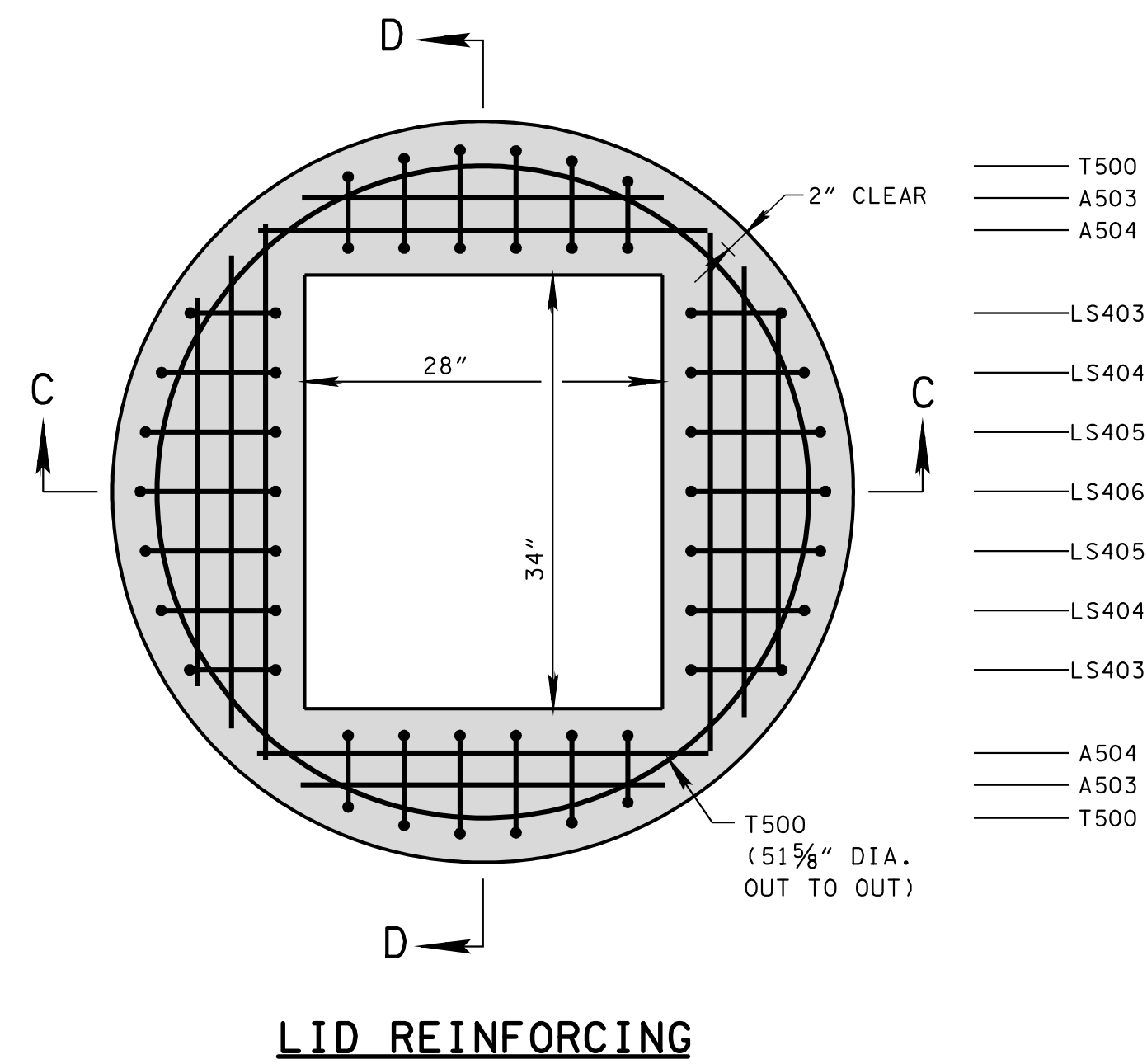
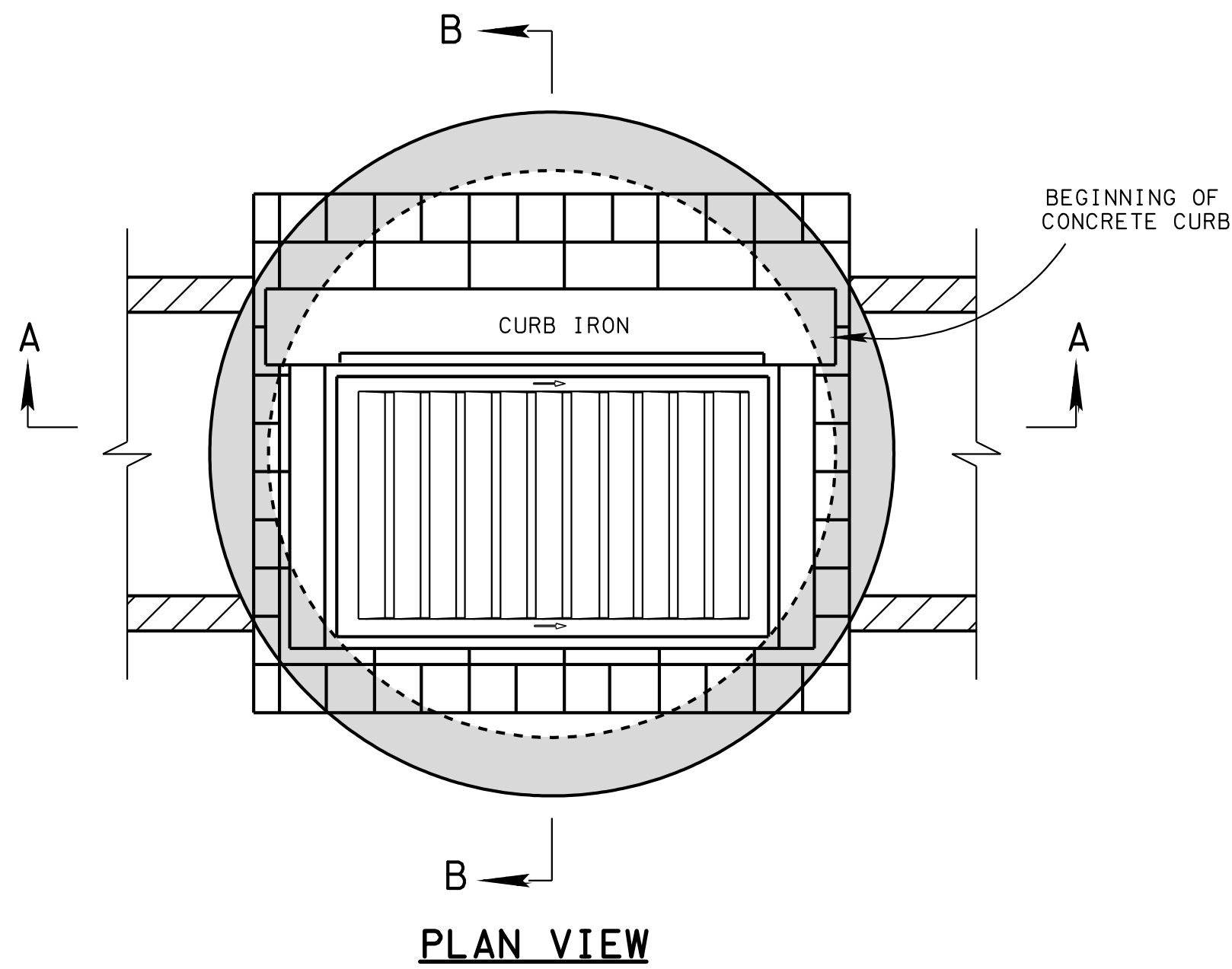


DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**STANDARD PRECAST
 RECTANGULAR
 CONCRETE NO. 12
 CATCH BASIN**

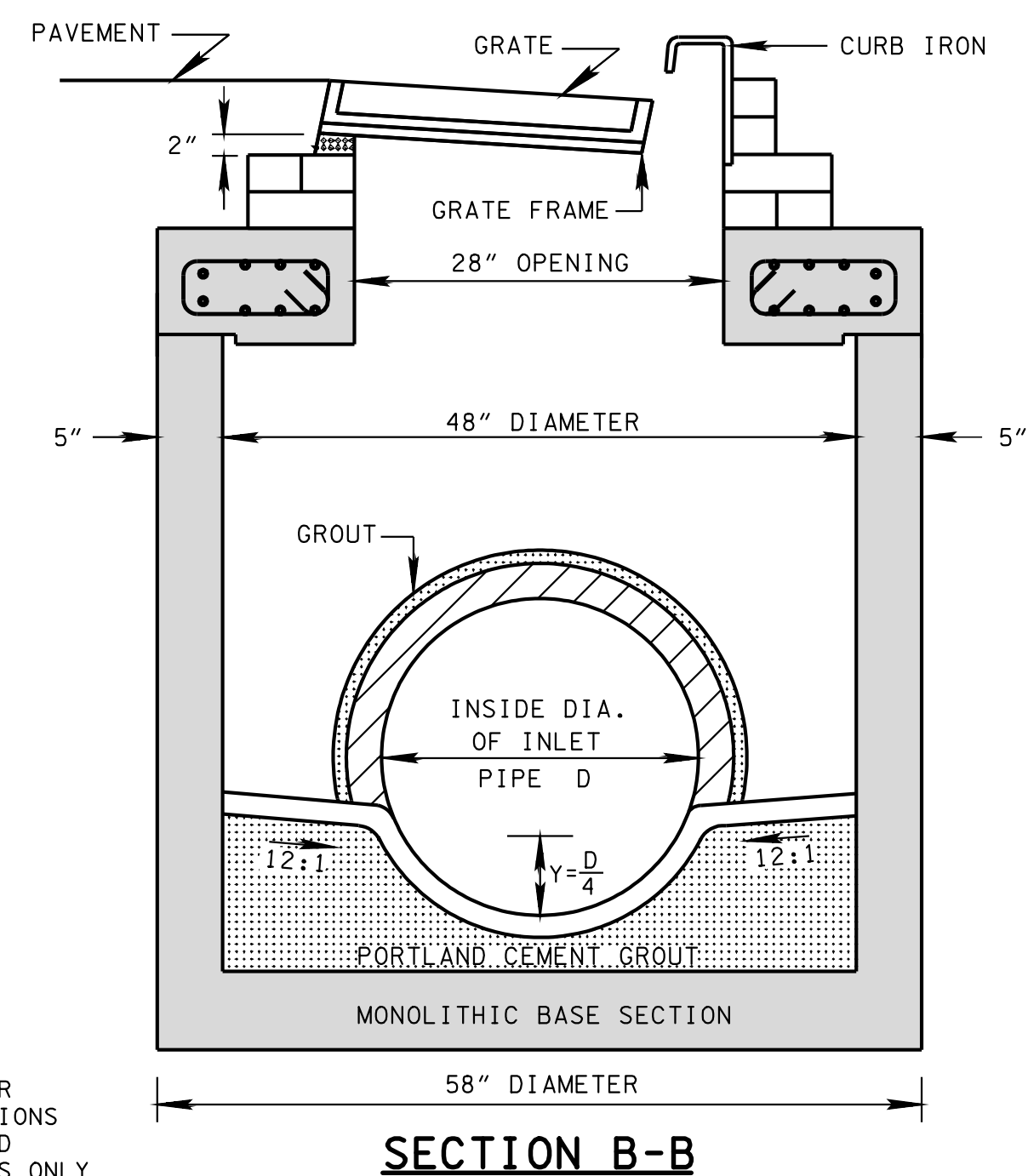
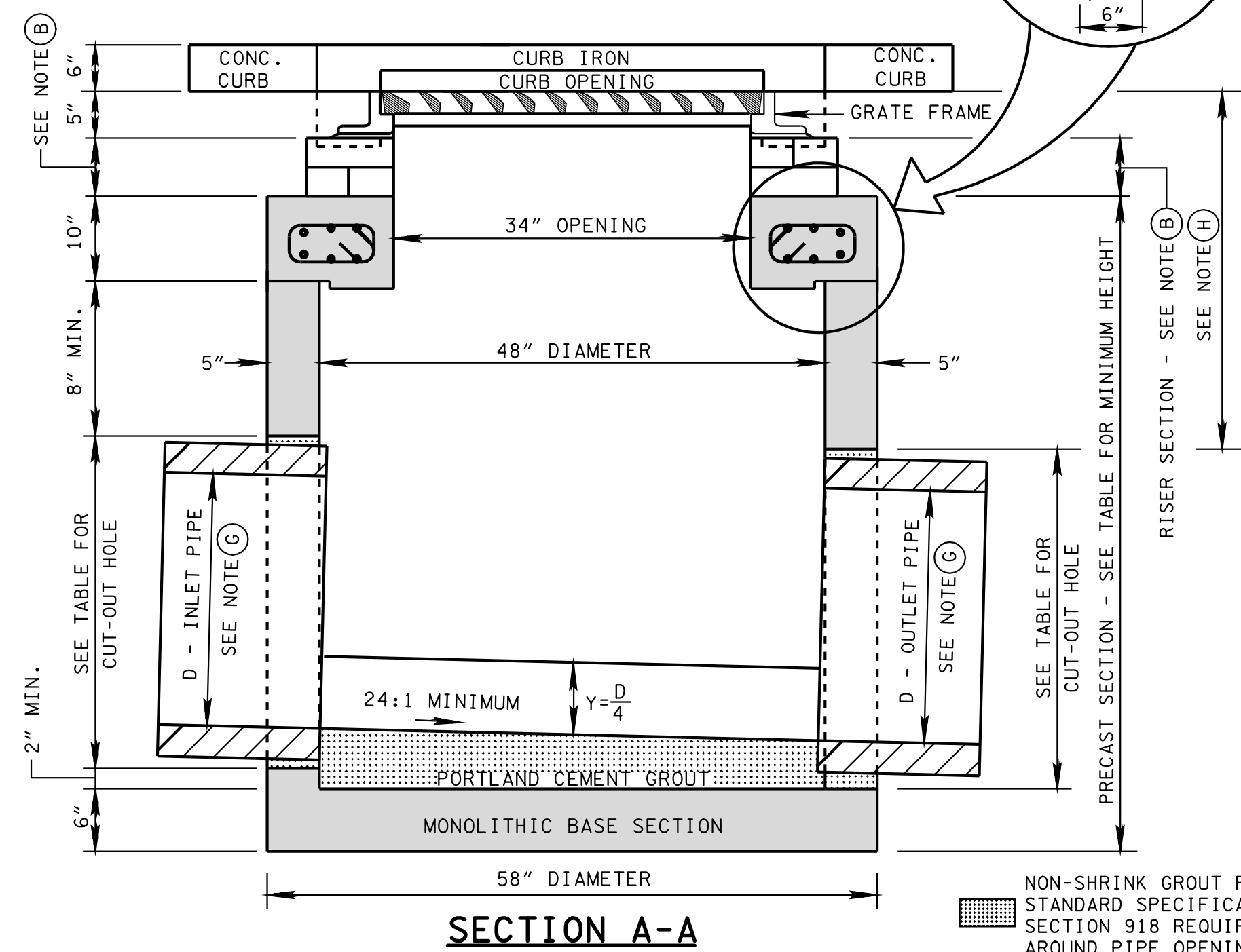
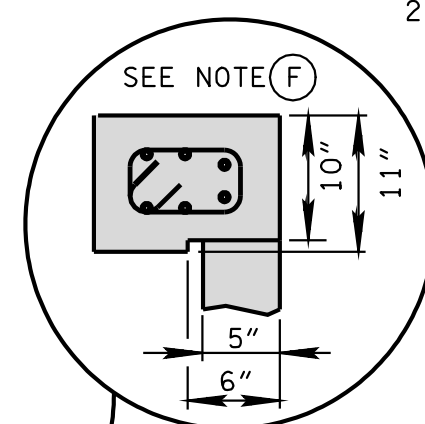
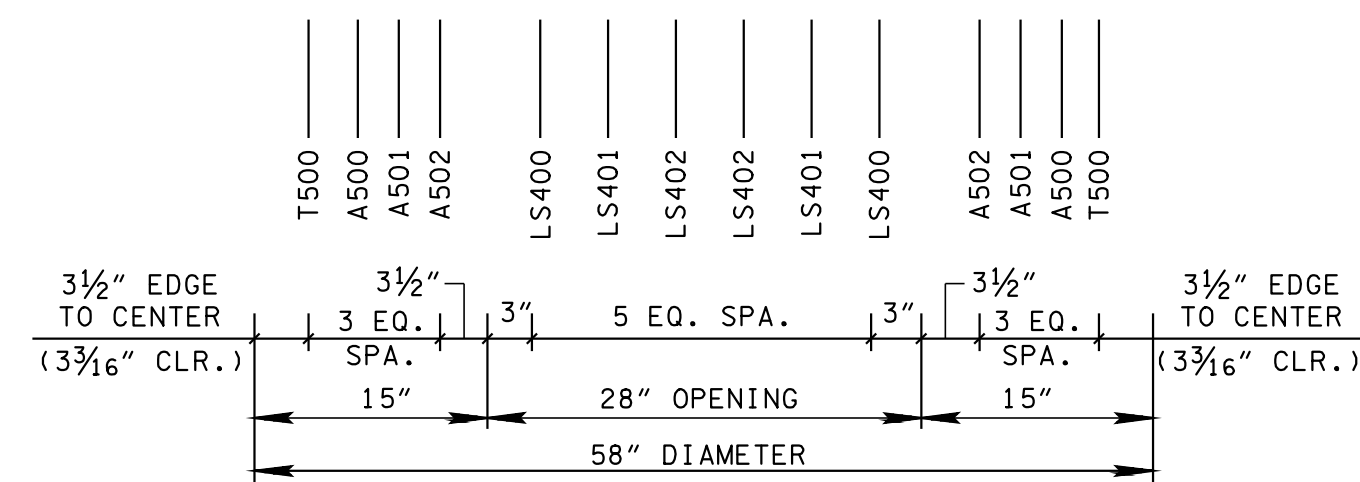


CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	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 ⑥ 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 ① 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.



- 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 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 INCLUDES RISER SECTION AND GRATE.

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

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)

- REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (E) 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 (L) 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.

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

CATCH BASIN DIMENSIONS						
INSIDE DIA. 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 UN CUT WILL NOT BE PERMITTED.

GENERAL NOTES

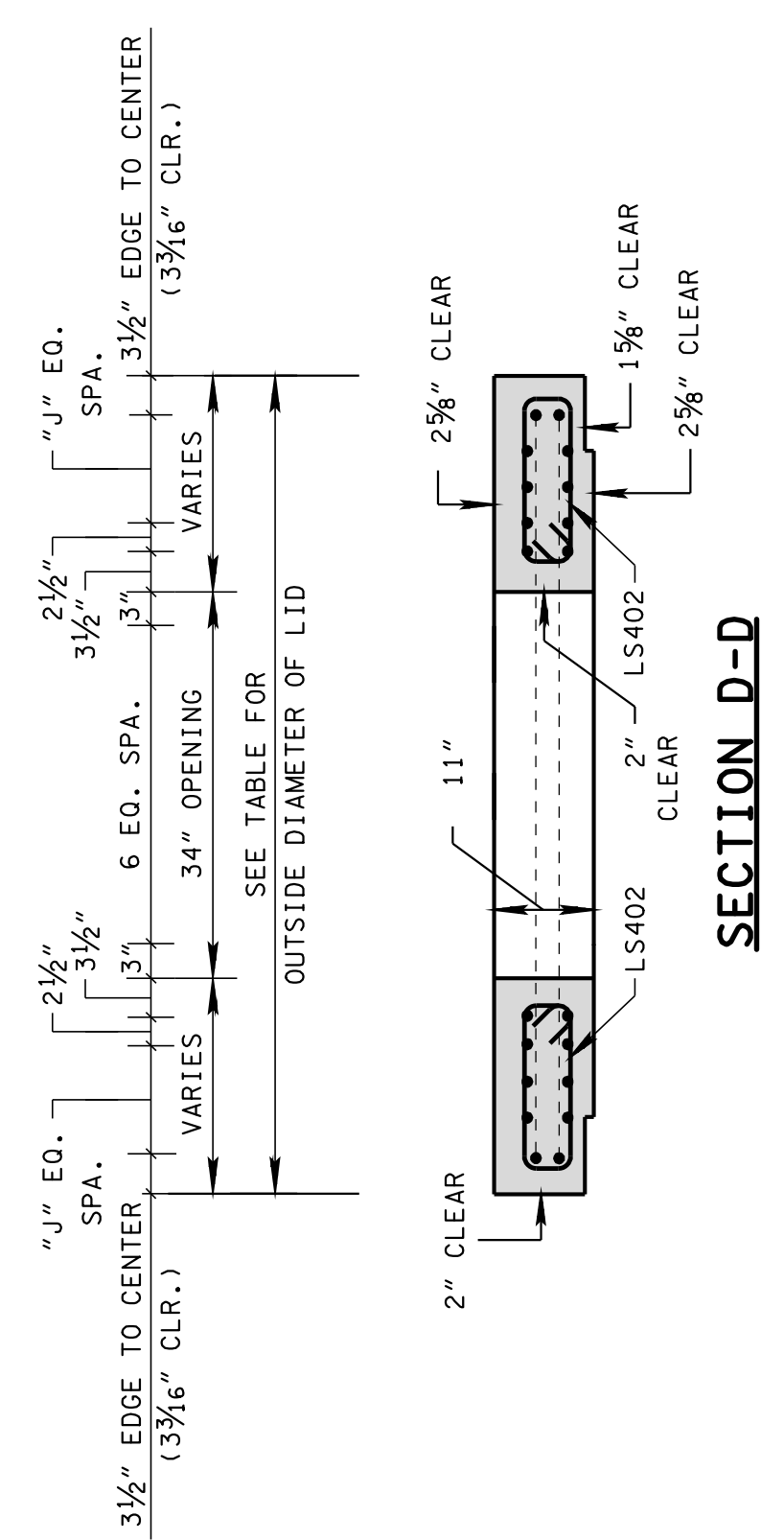
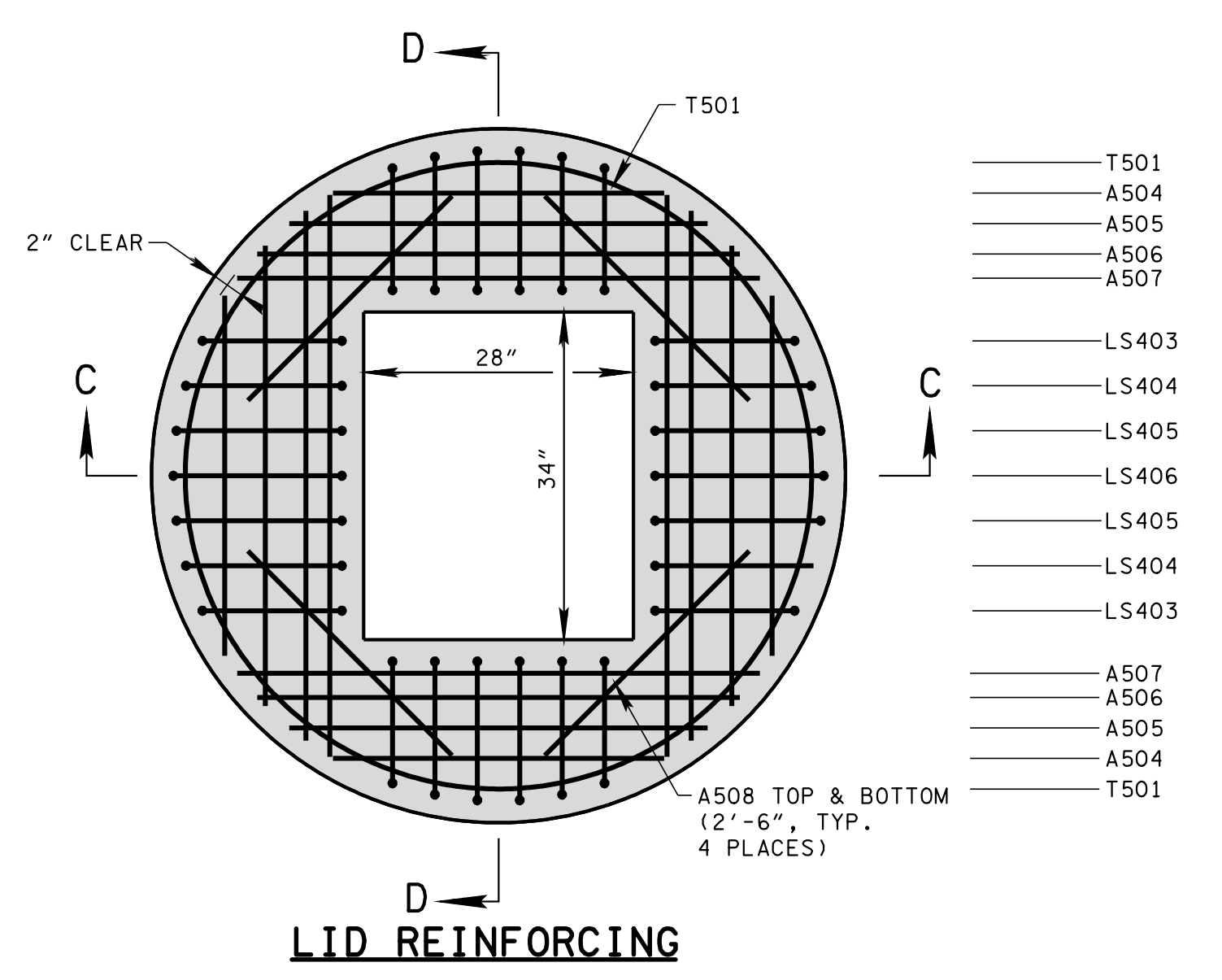
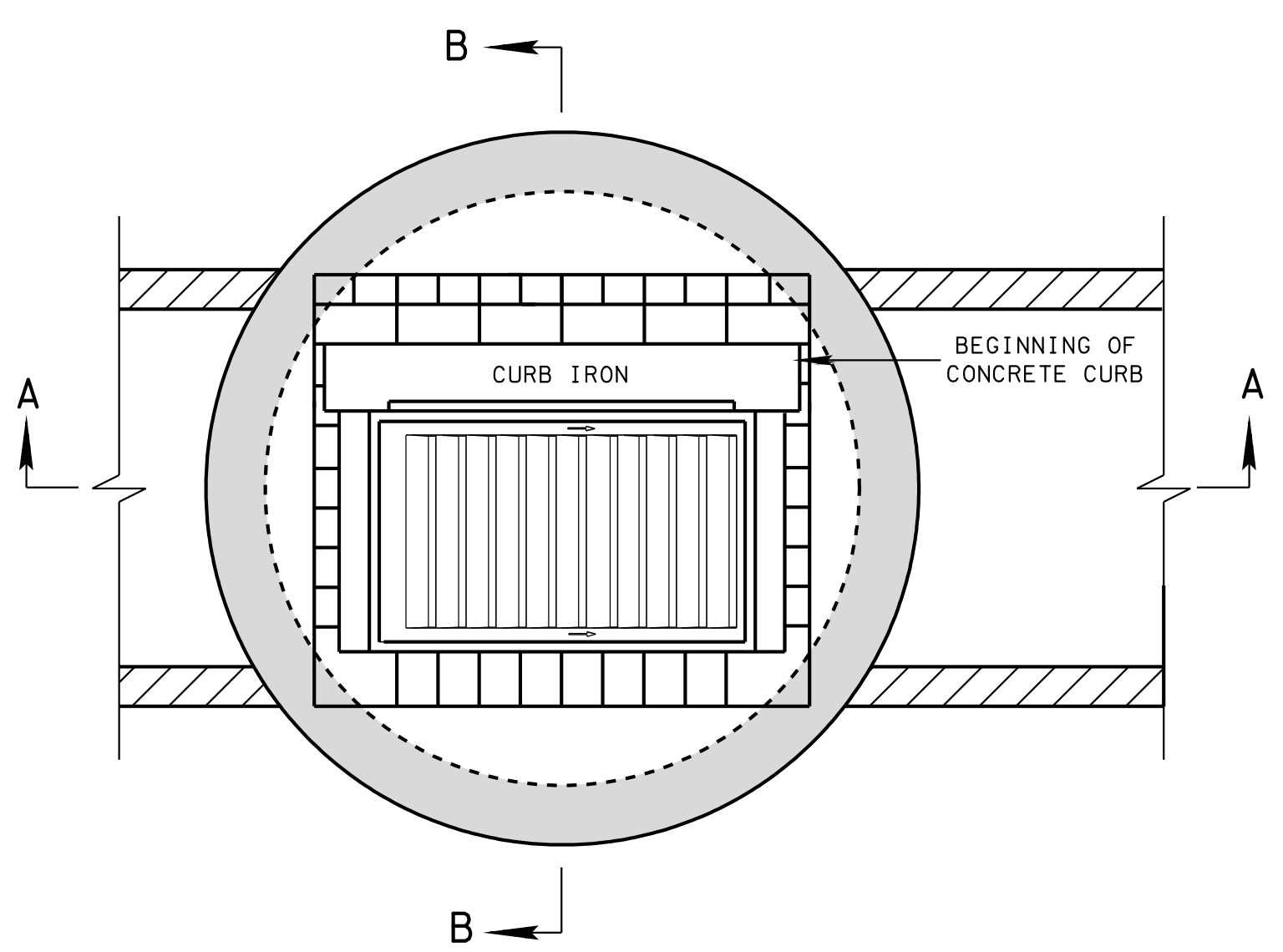
- (A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.
 CONCRETE: $f'_c = 4,000$ POUNDS PER SQUARE INCH AT 28 DAYS
 REINFORCING STEEL: ASTM A615, $F_y = 60,000$ POUNDS PER SQUARE INCH
 ALL REINFORCING IS TO BE INSTALLED AS DETAILED 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 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.

○ 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)**

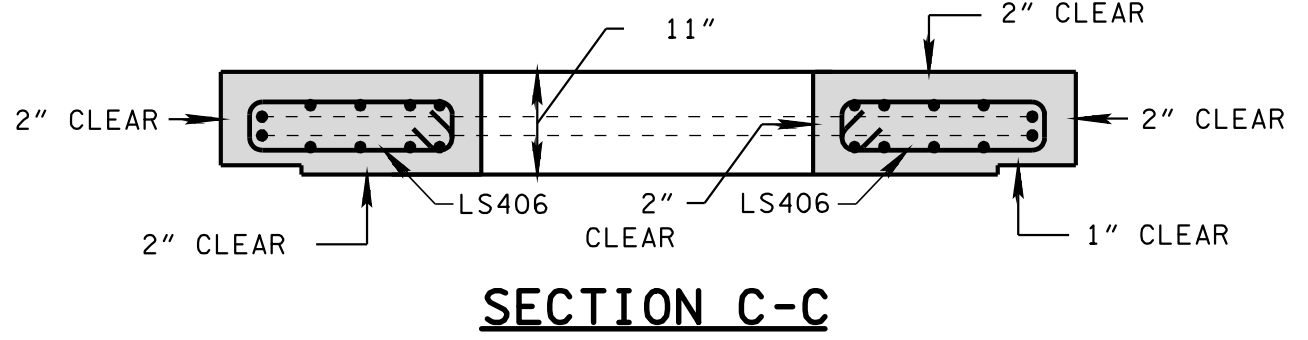
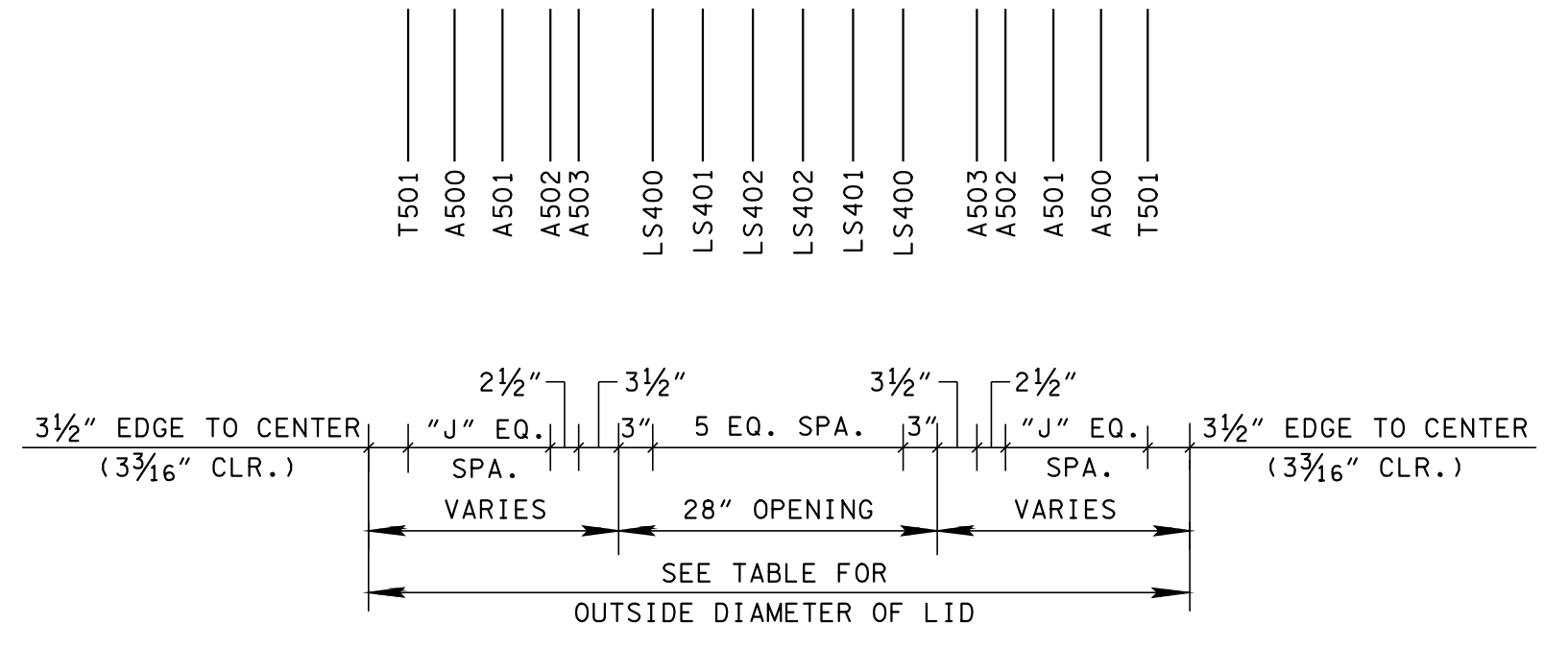
CATCH BASIN DIMENSIONS						
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION C (INCHES)
60	6	10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



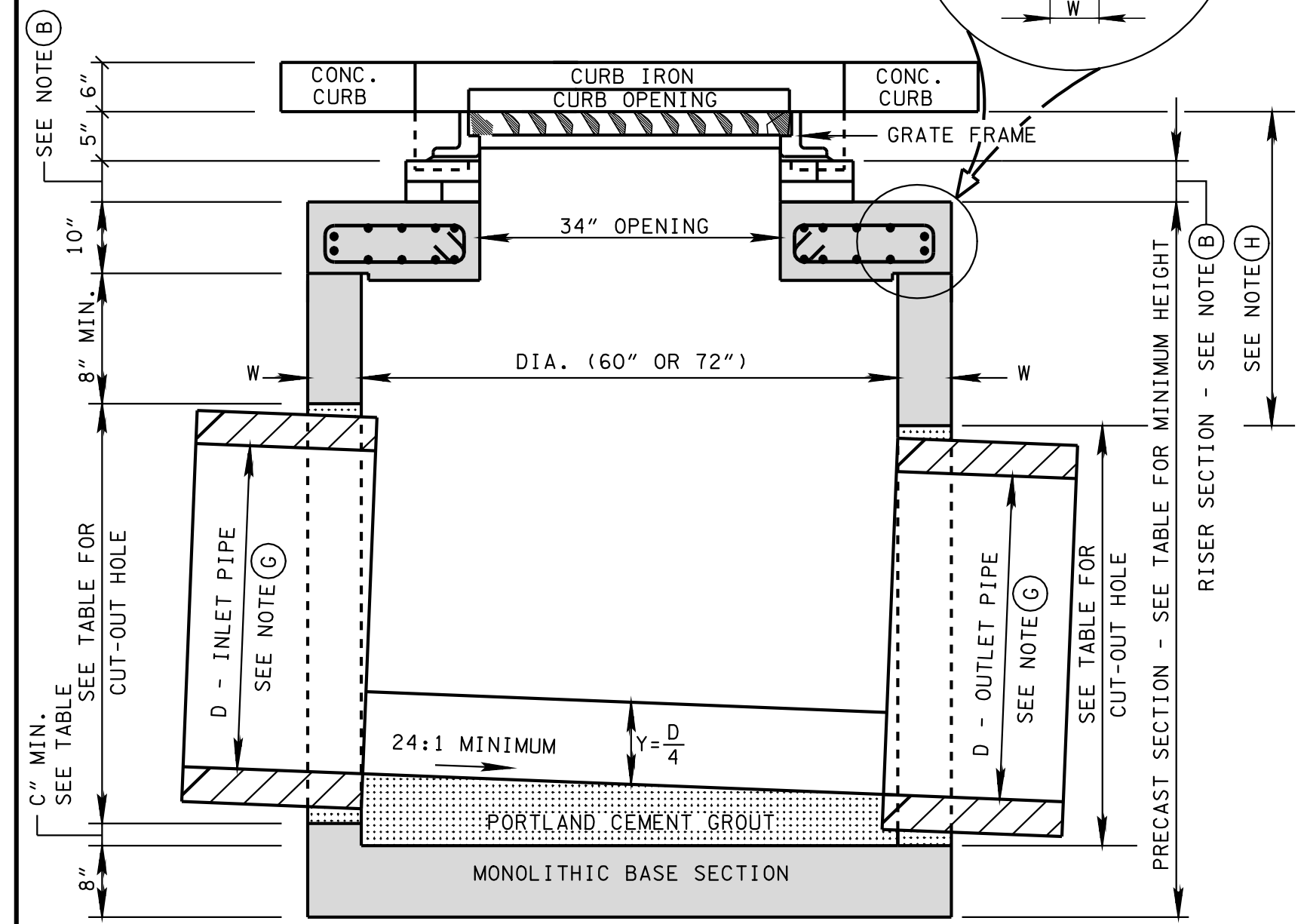
VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4

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

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

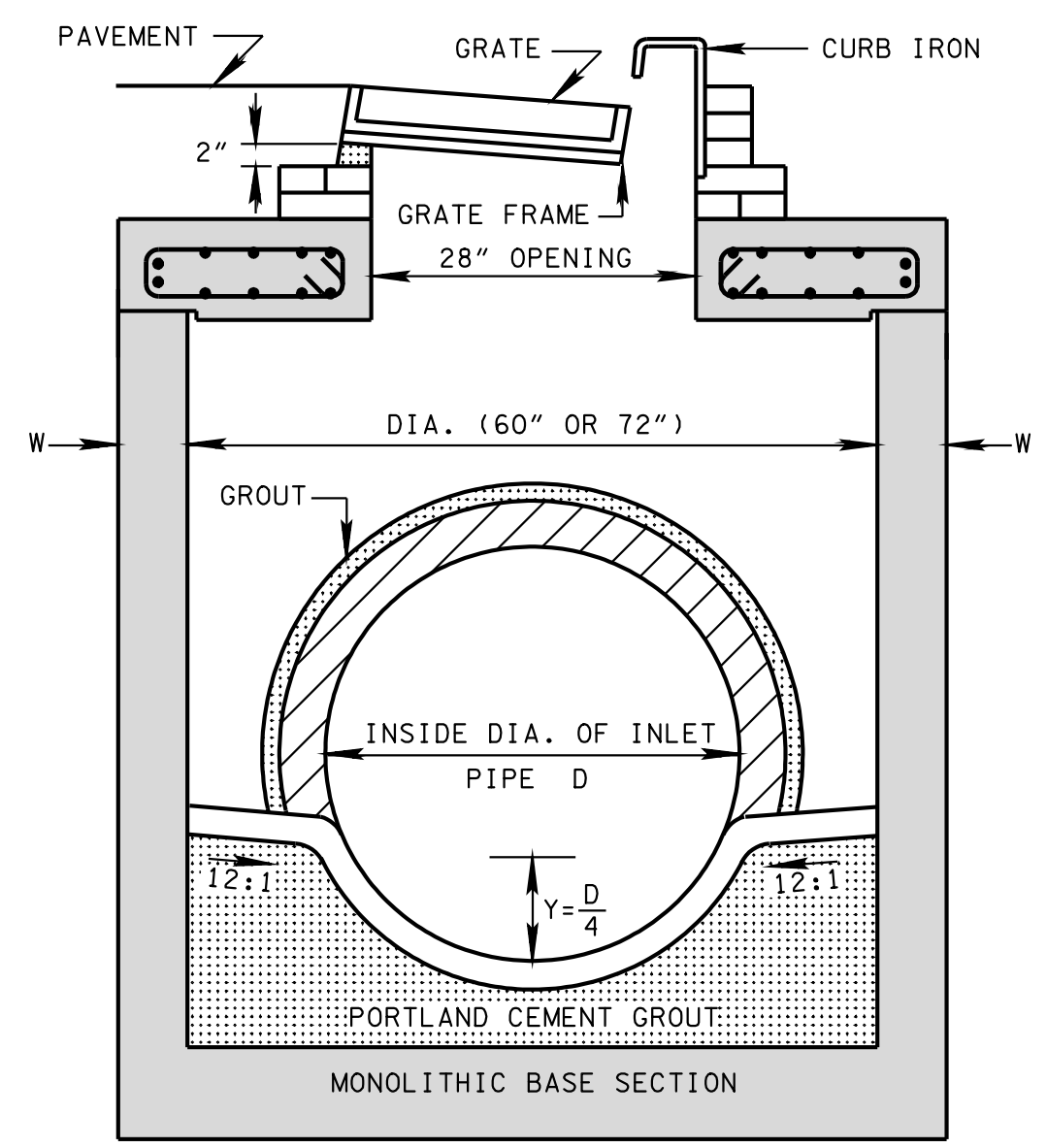


PLAN VIEW



SECTION A-A

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



SECTION B-B

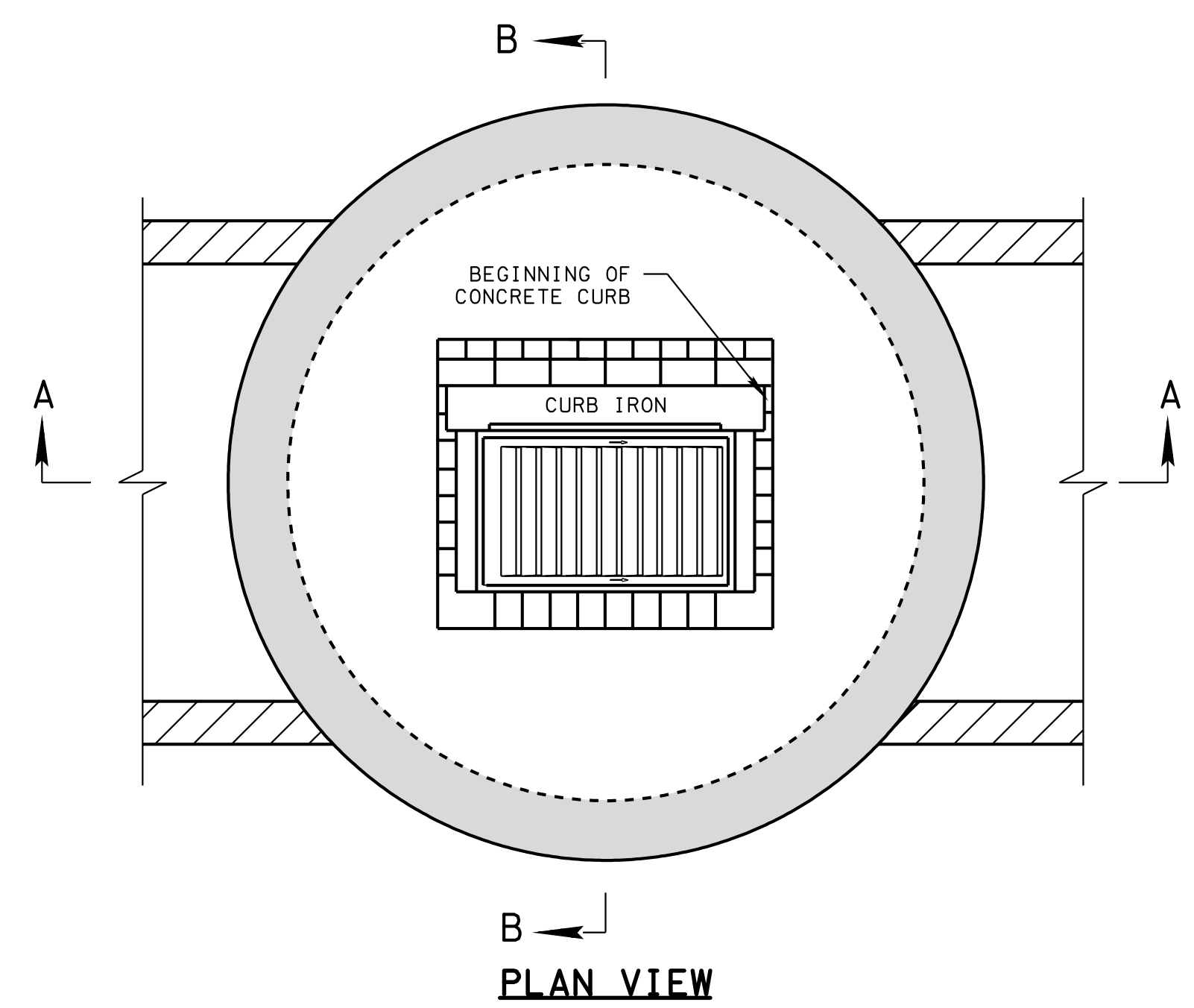
REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH. REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (L) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.

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.

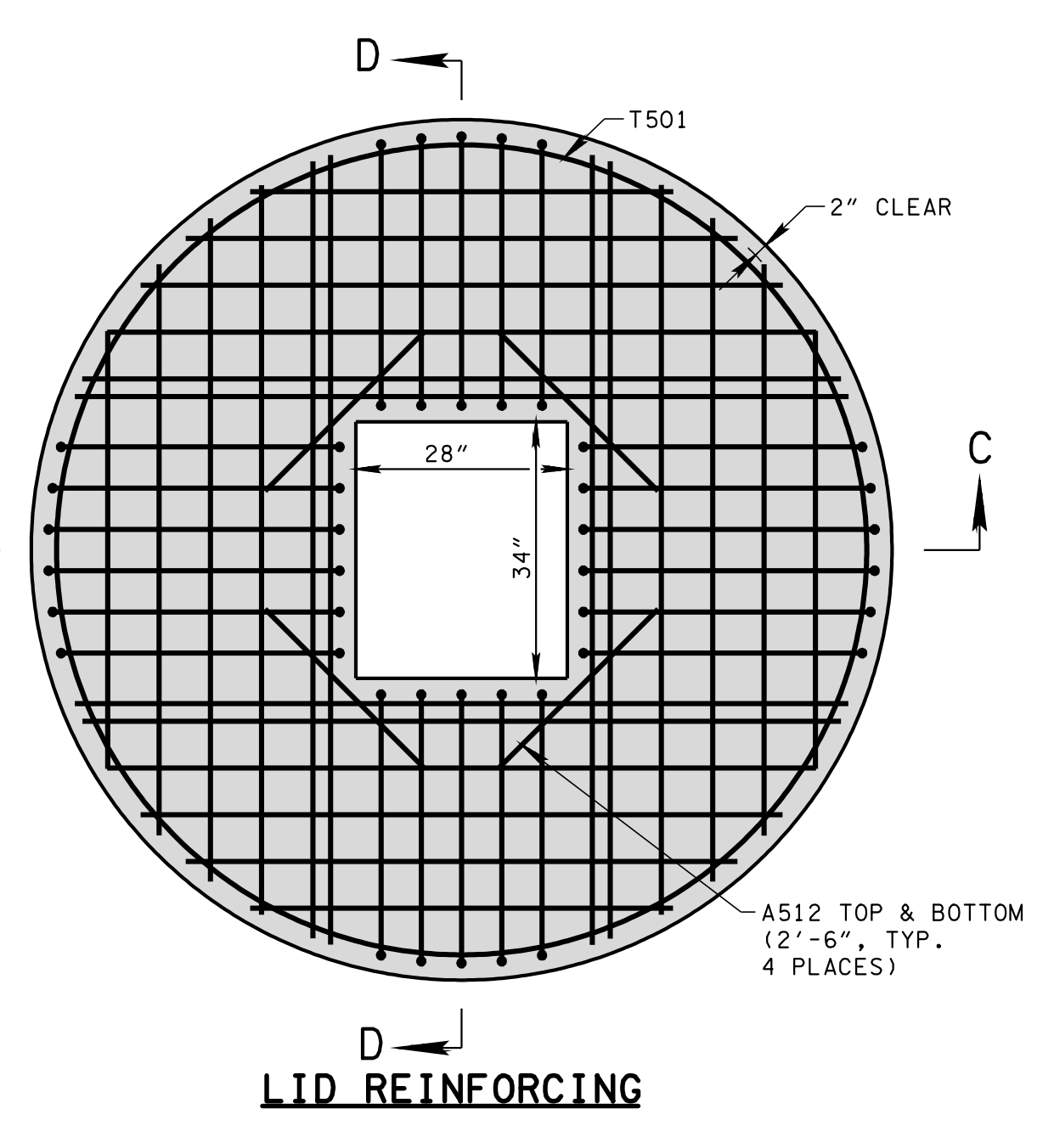
CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION HEIGHTS MIN. (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

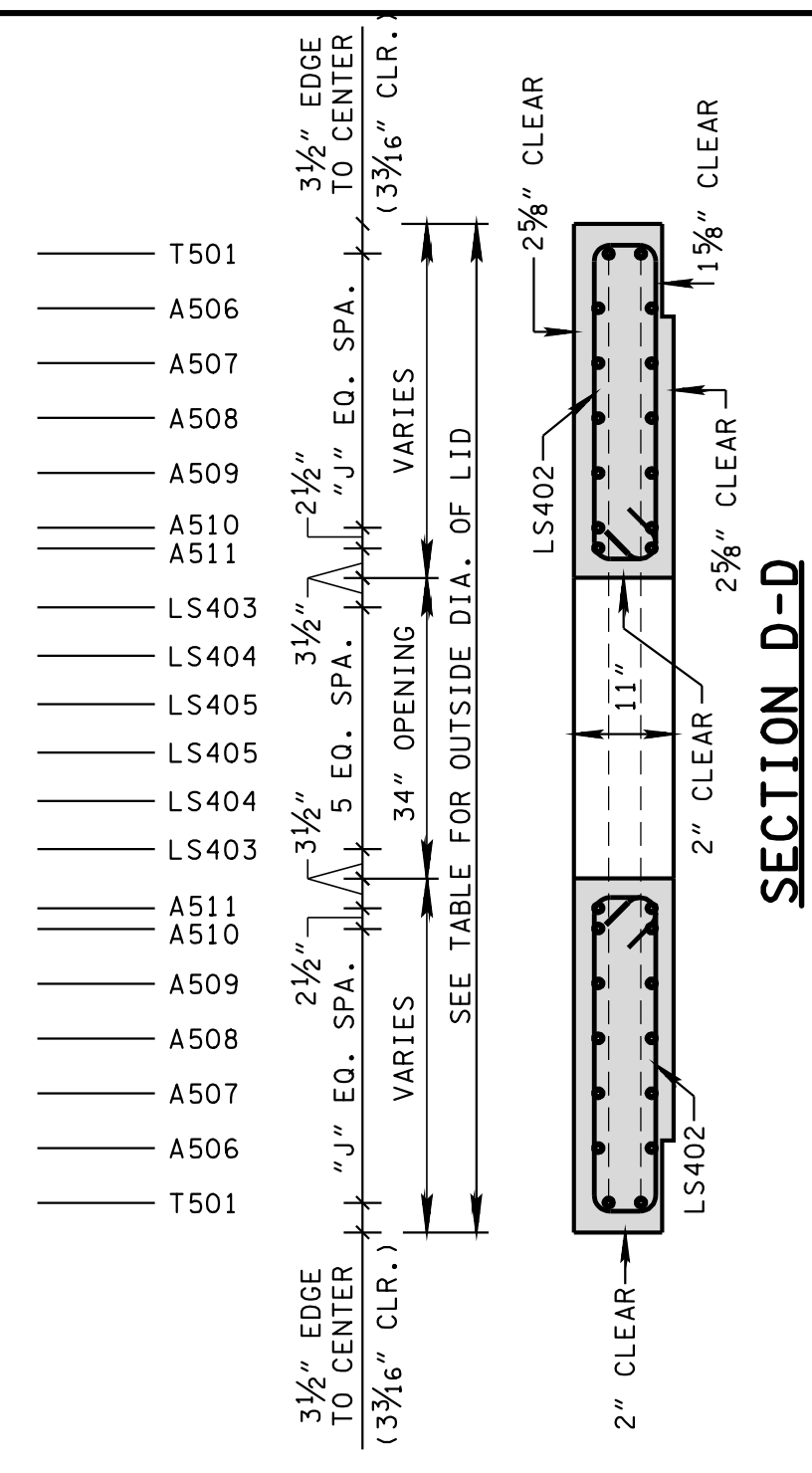
- (1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- (2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- (3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUOT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



PLAN VIEW



LID REINFORCING



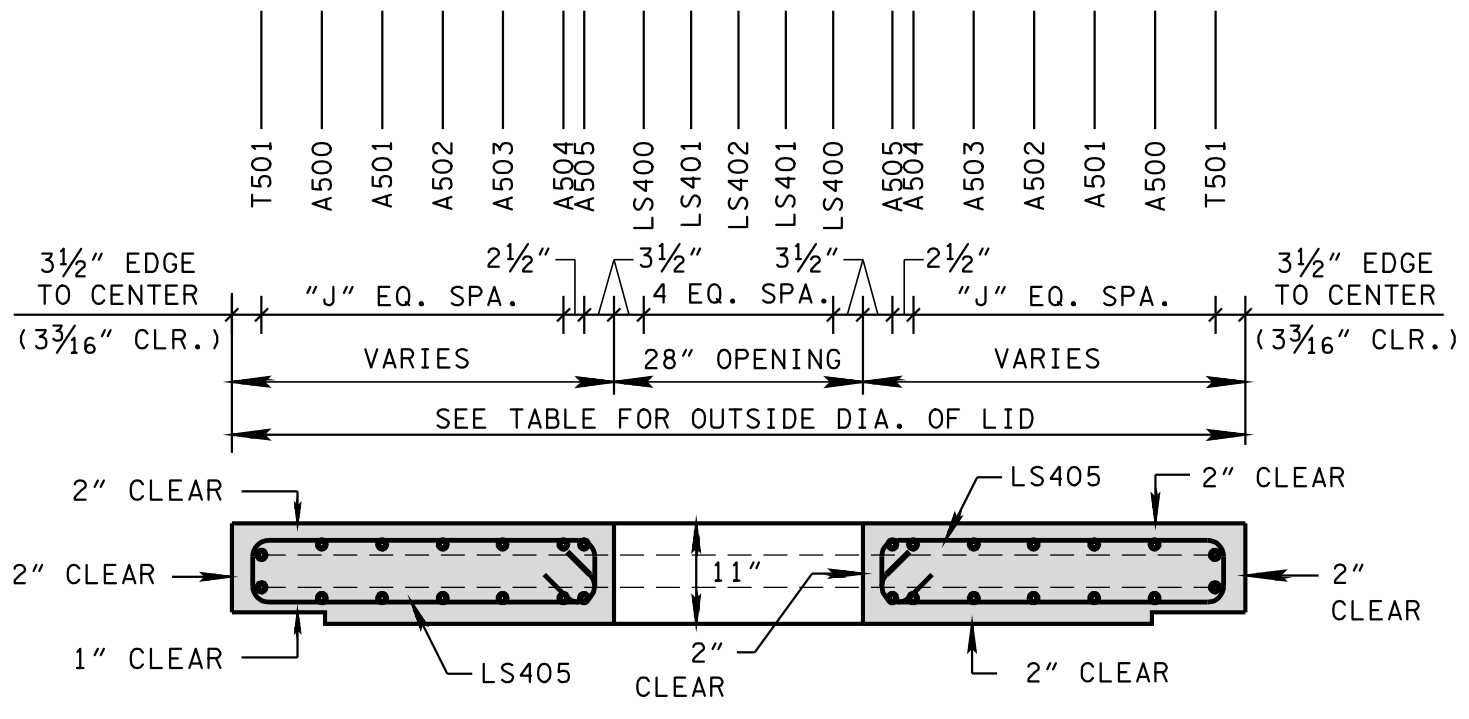
SECTION D-D

VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID

INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
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 6 3/8 INCHES.

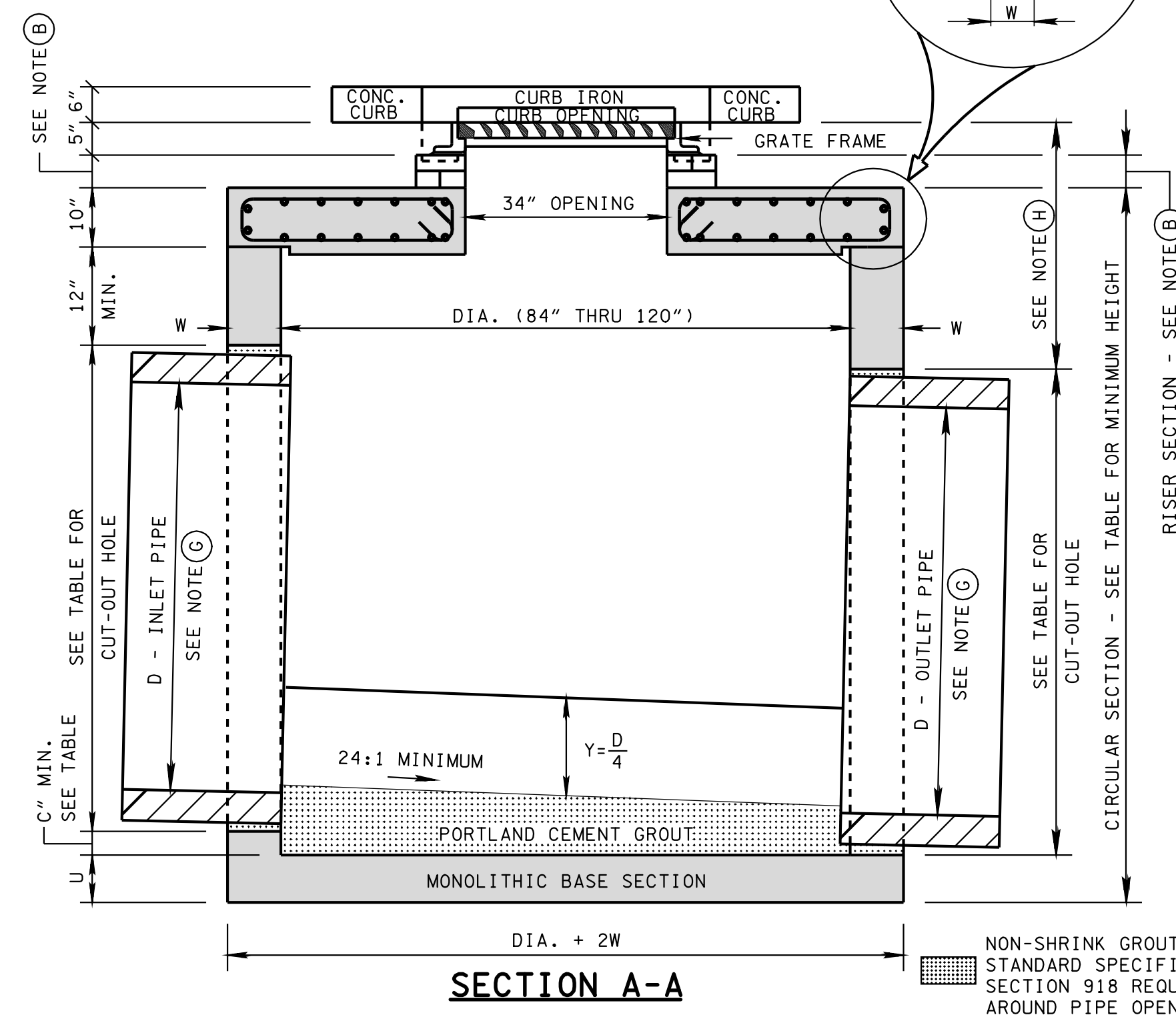
ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE AS INDICATED BY "NO. OF EQ. SPACES 'J'".



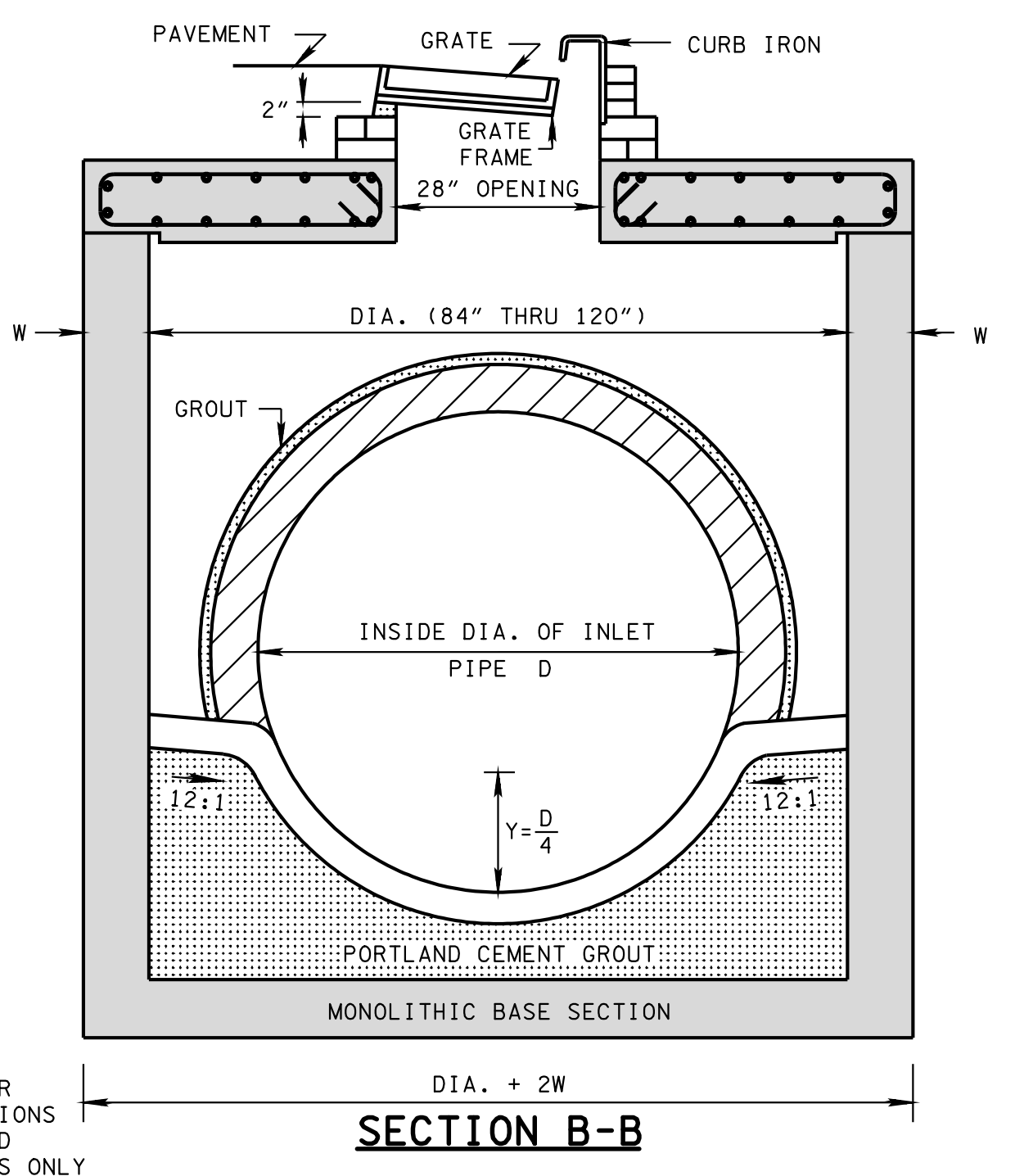
SECTION C-C

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.



SECTION A-A



SECTION B-B

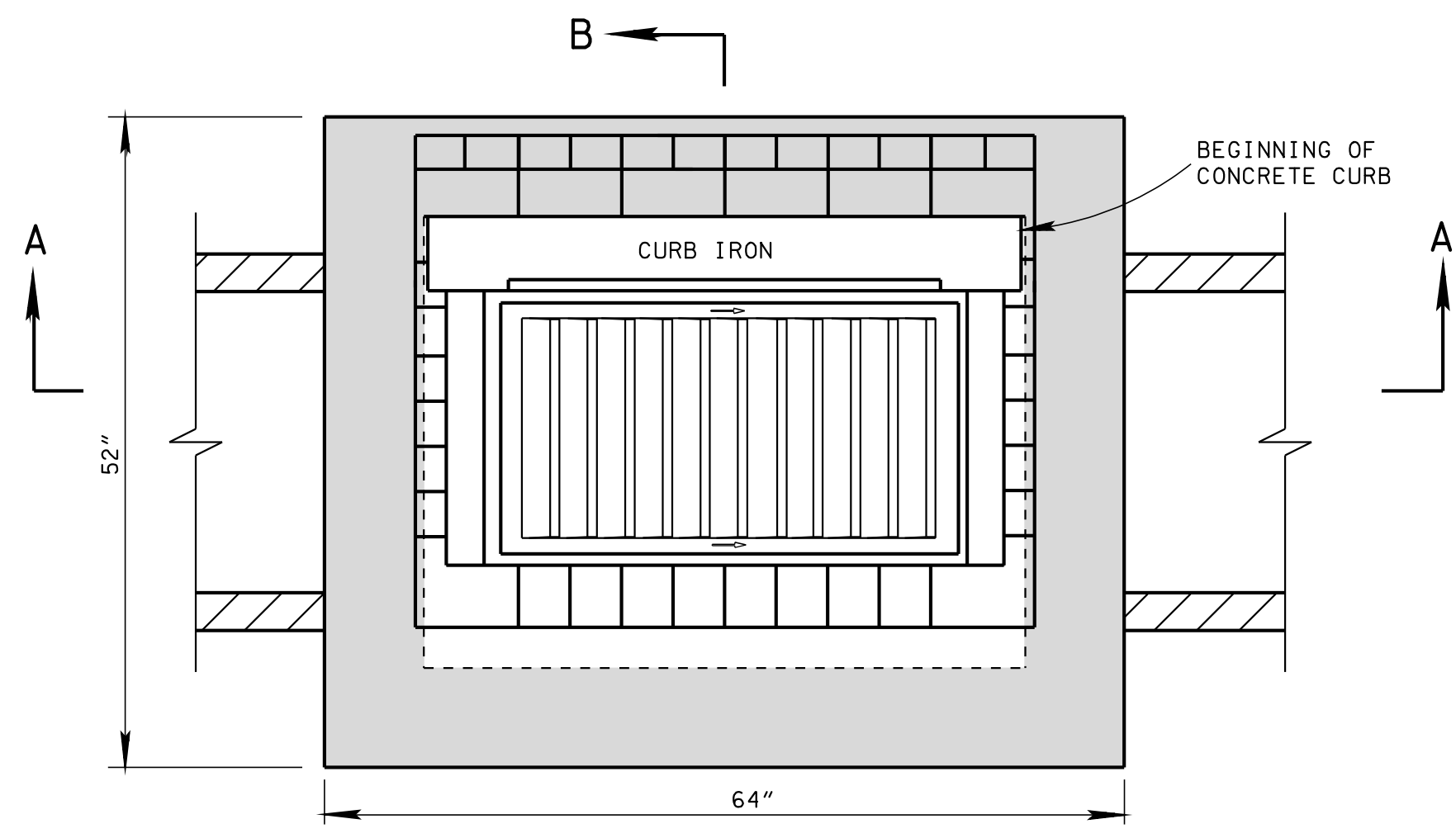
CATCH BASIN DIMENSIONS

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.

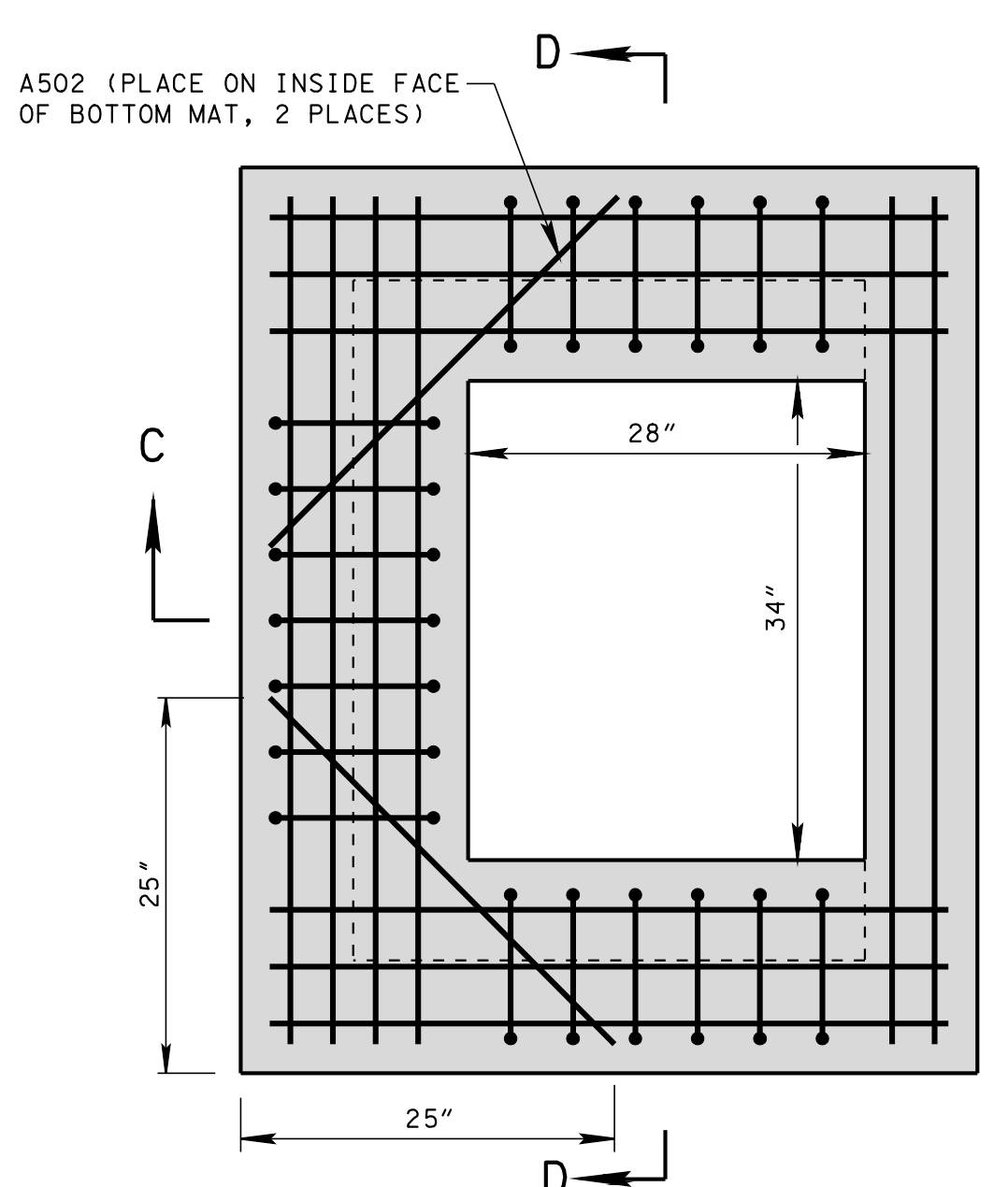
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

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

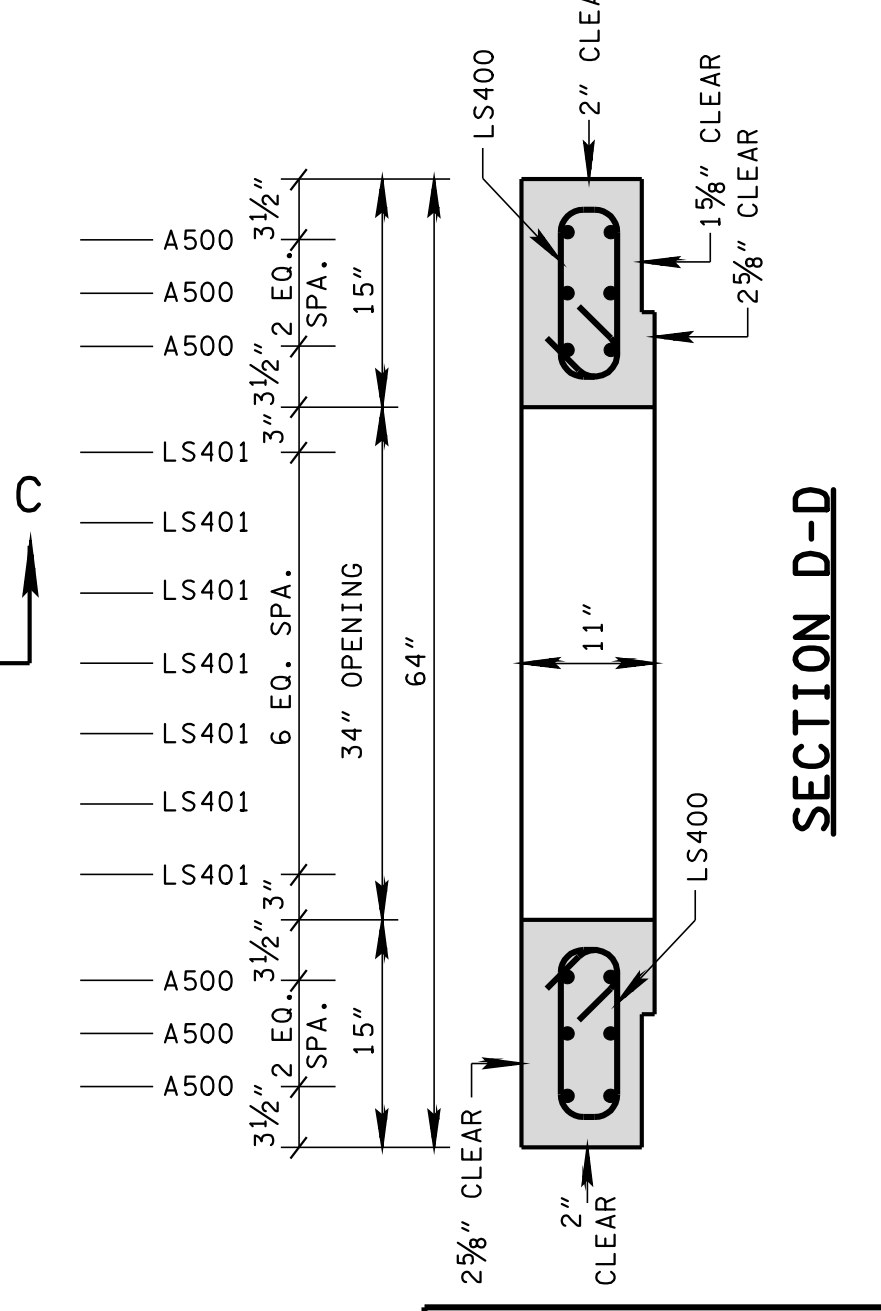


SECTION **
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

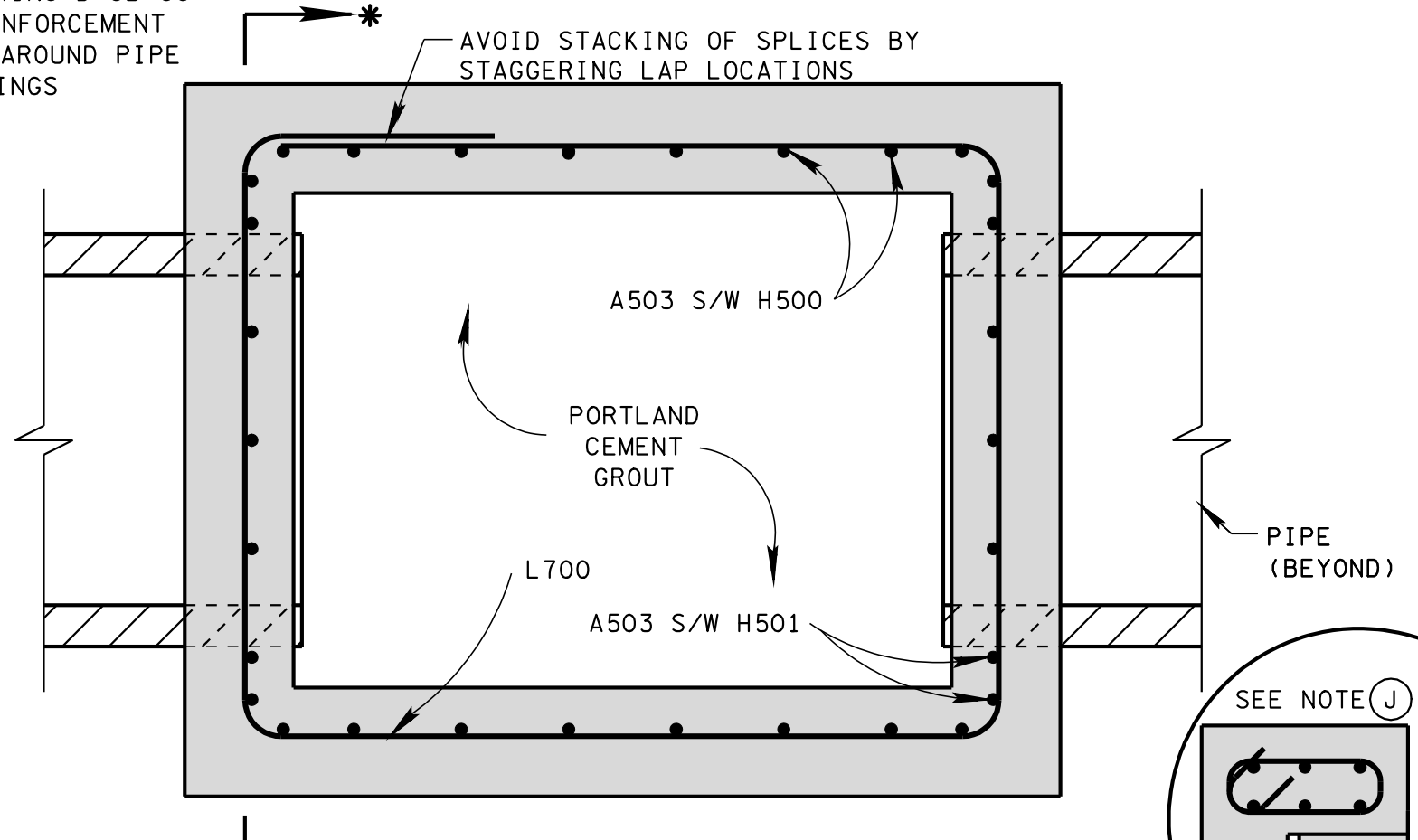
PLAN VIEW



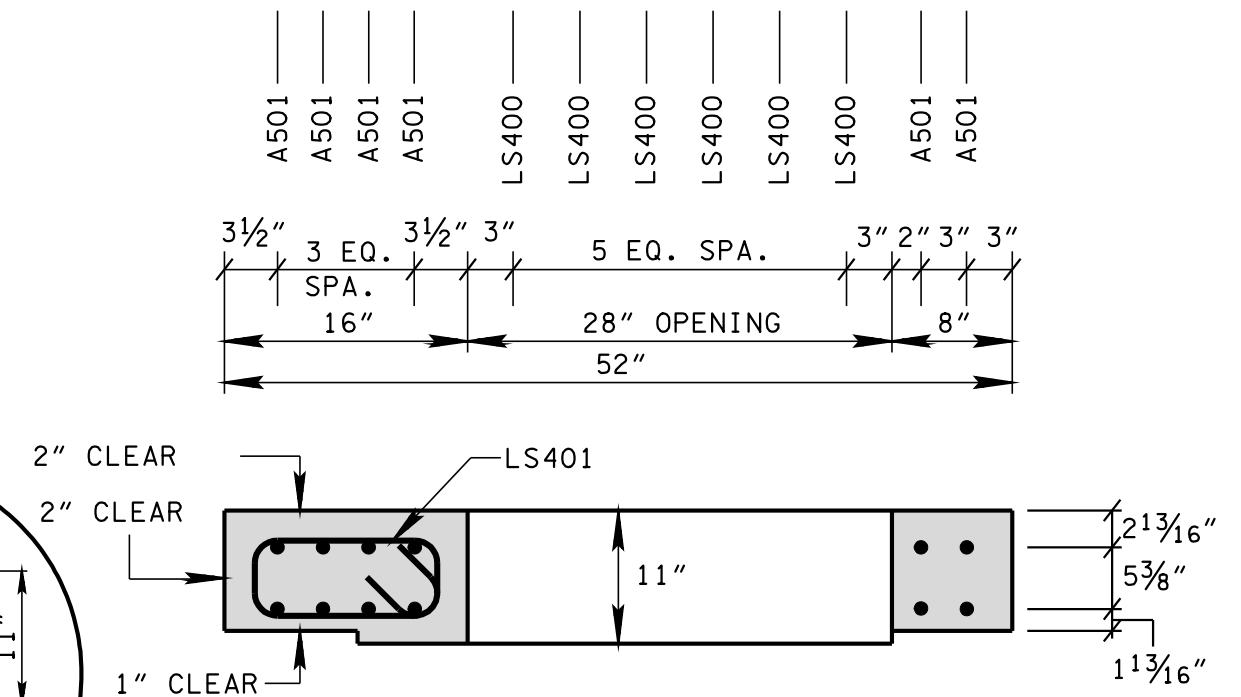
PLAN VIEW



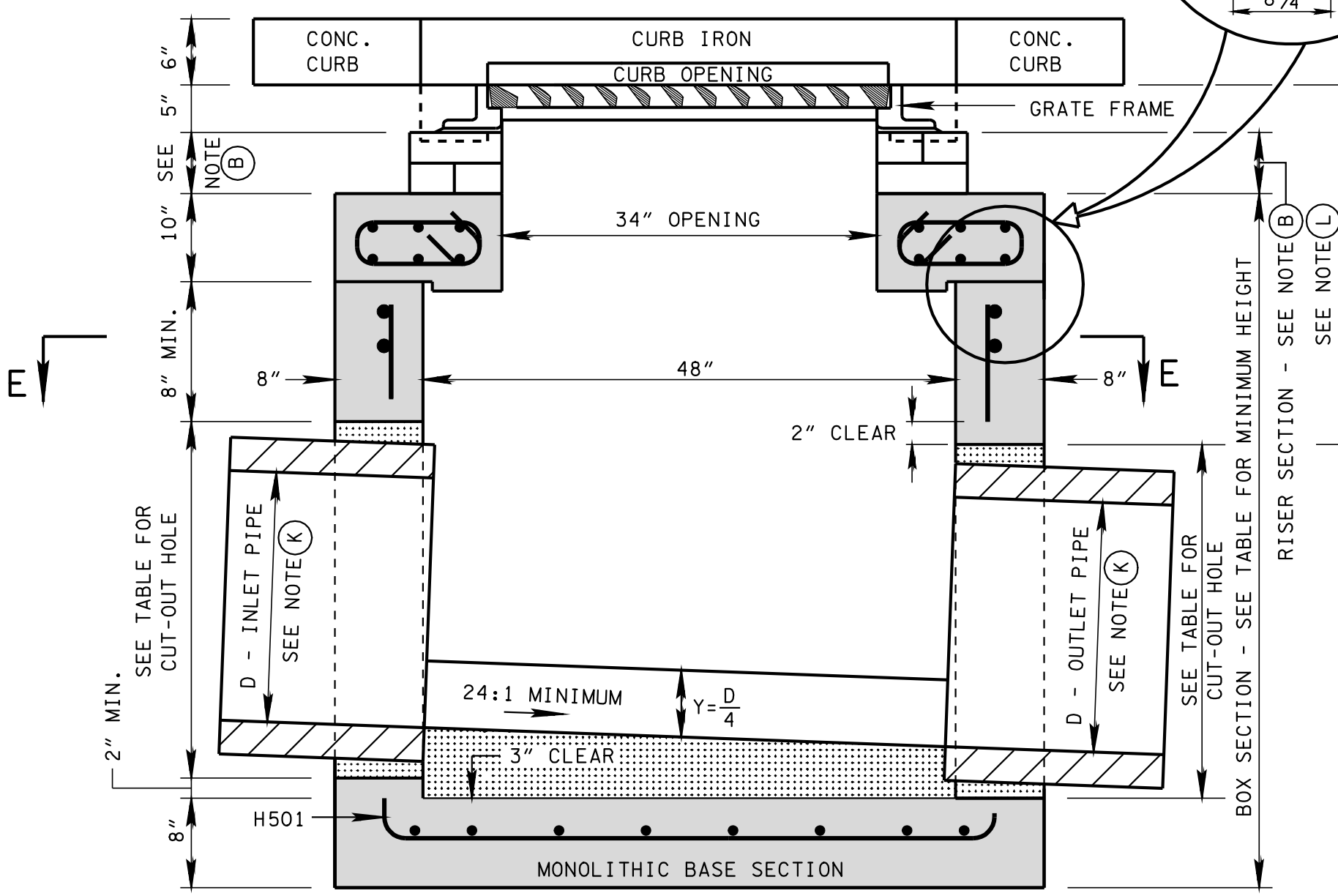
SECTION D-D



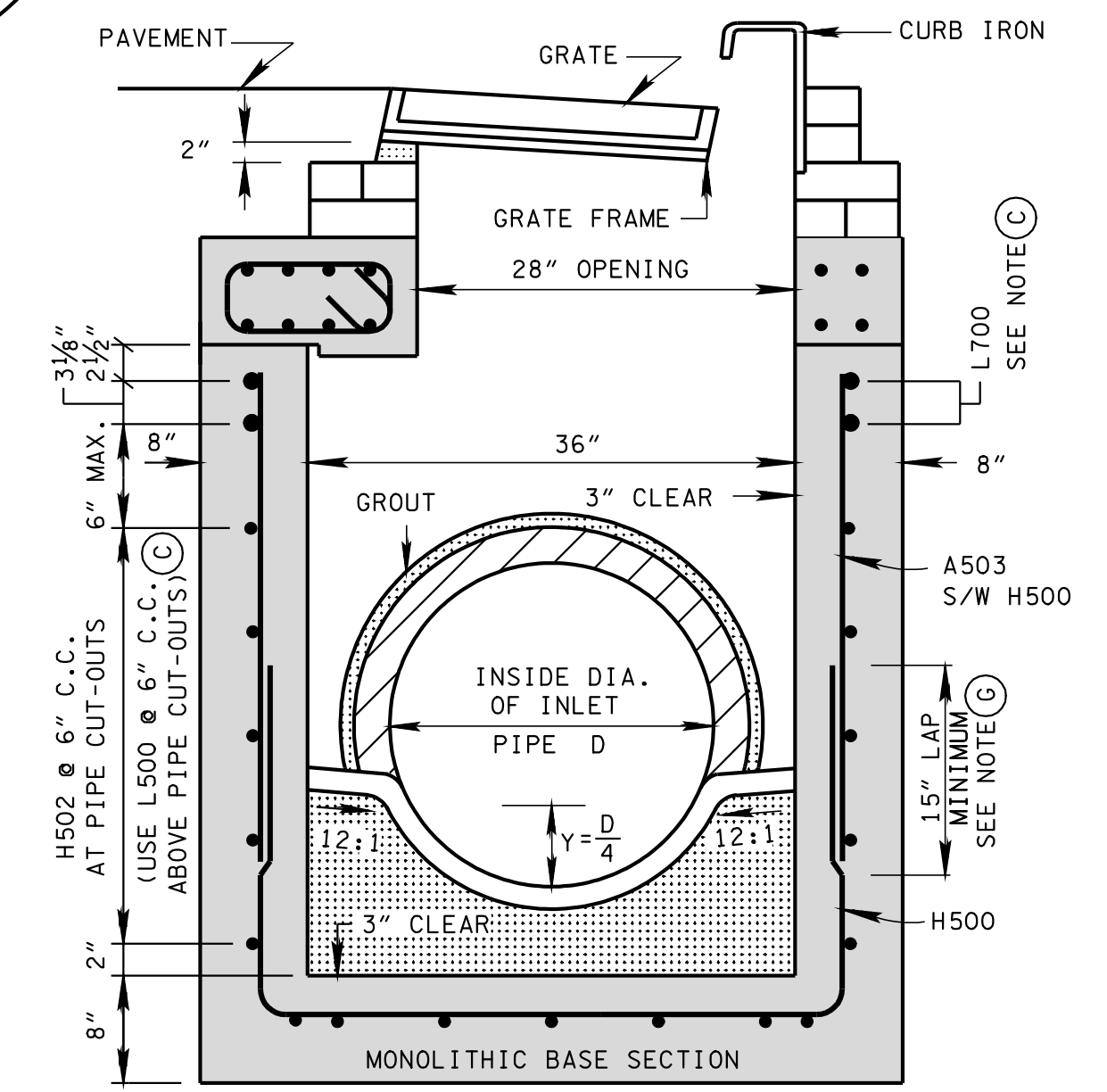
SECTION E-E



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 UN CUT 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 (B) 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) 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.

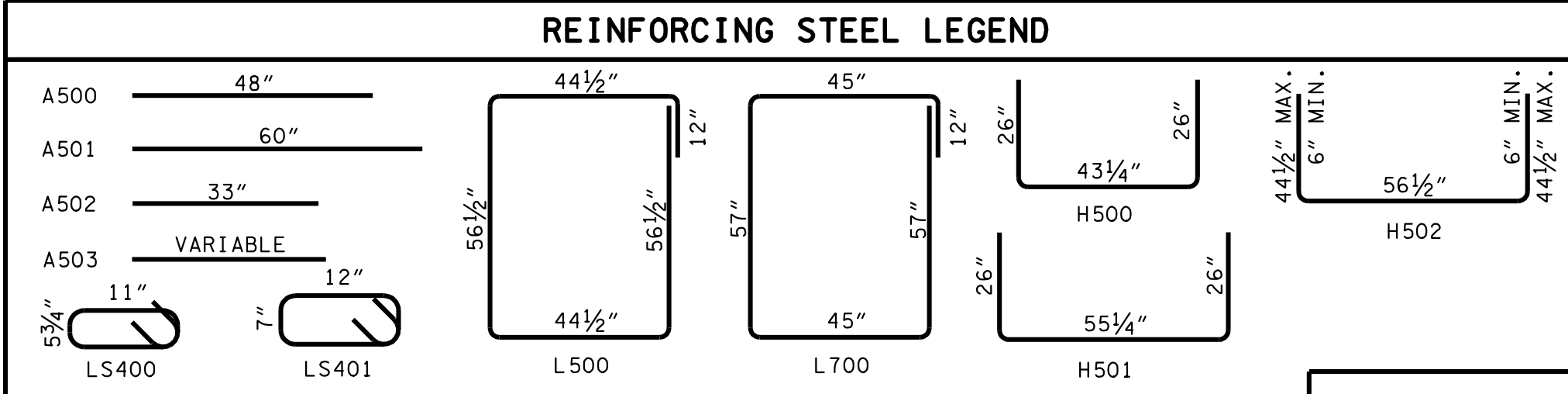
GENERAL NOTES

- (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.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

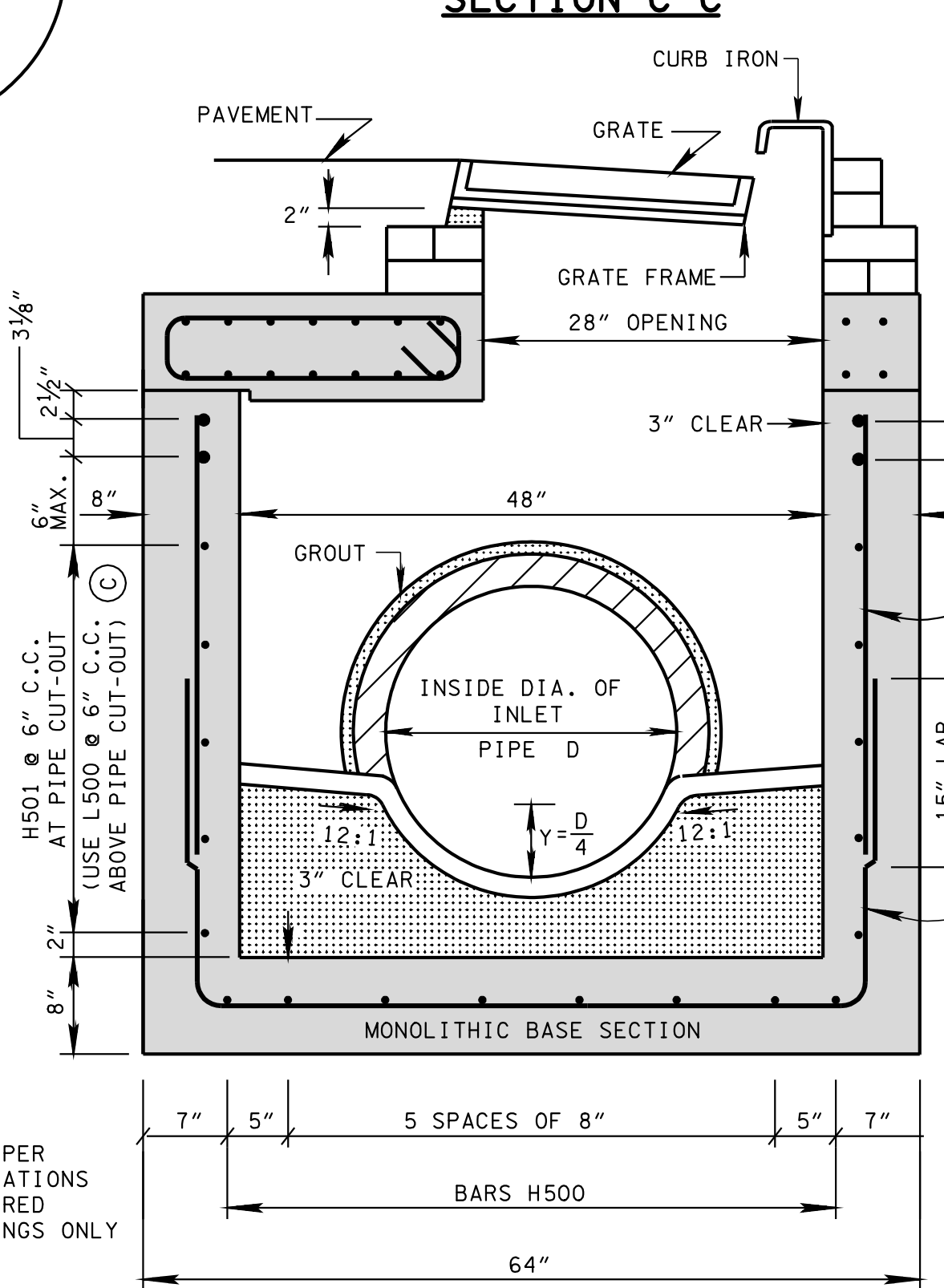
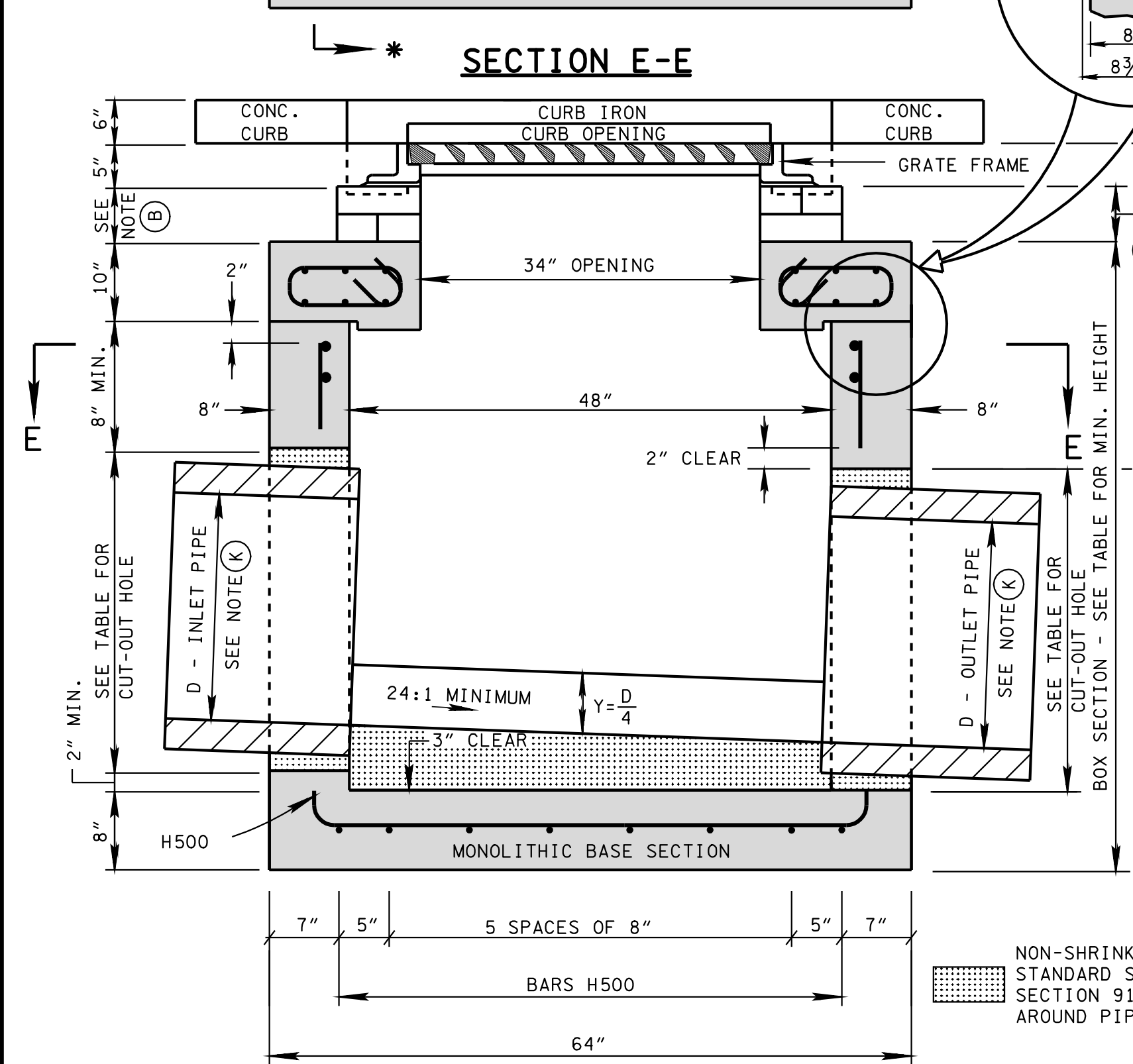
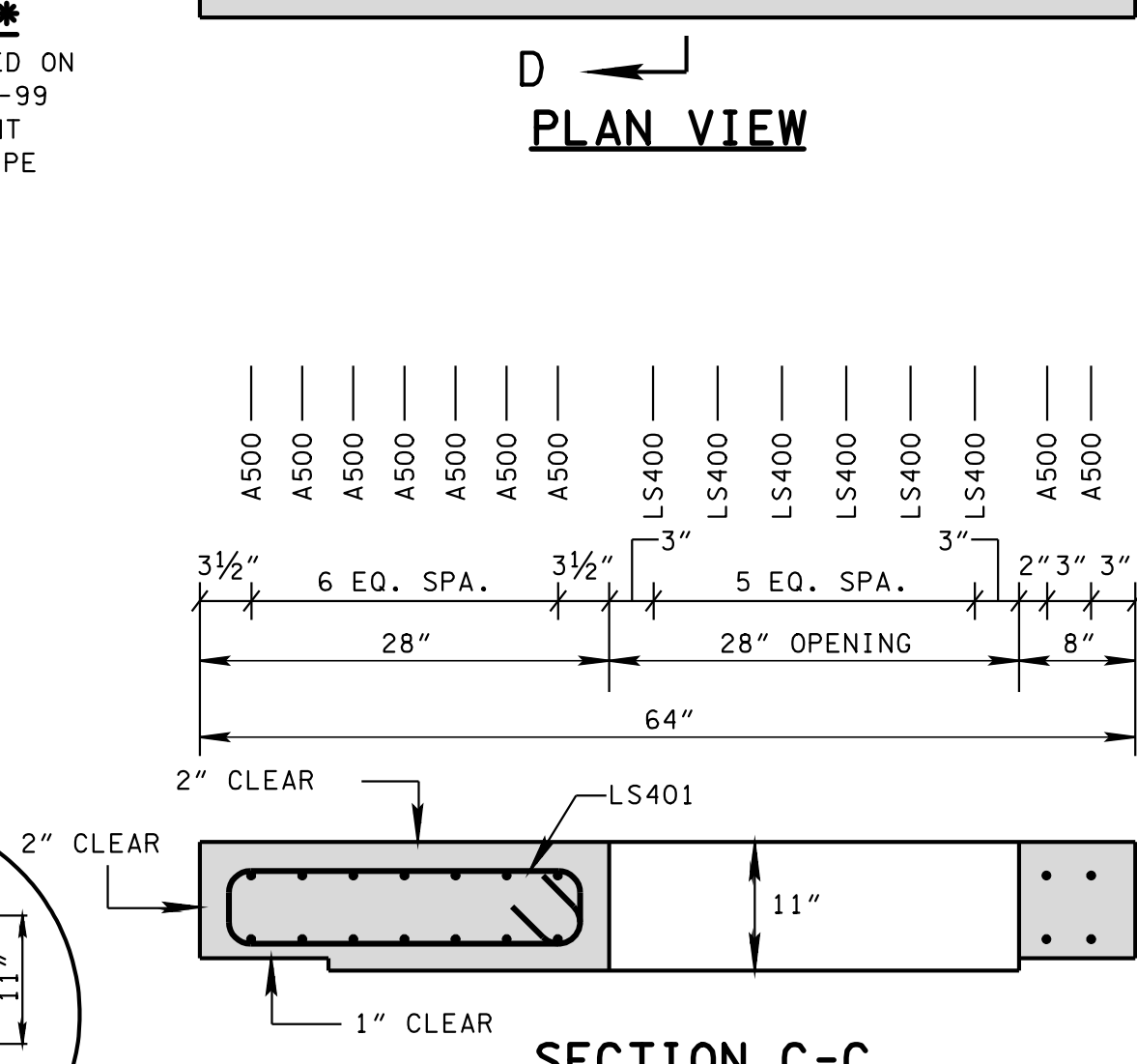
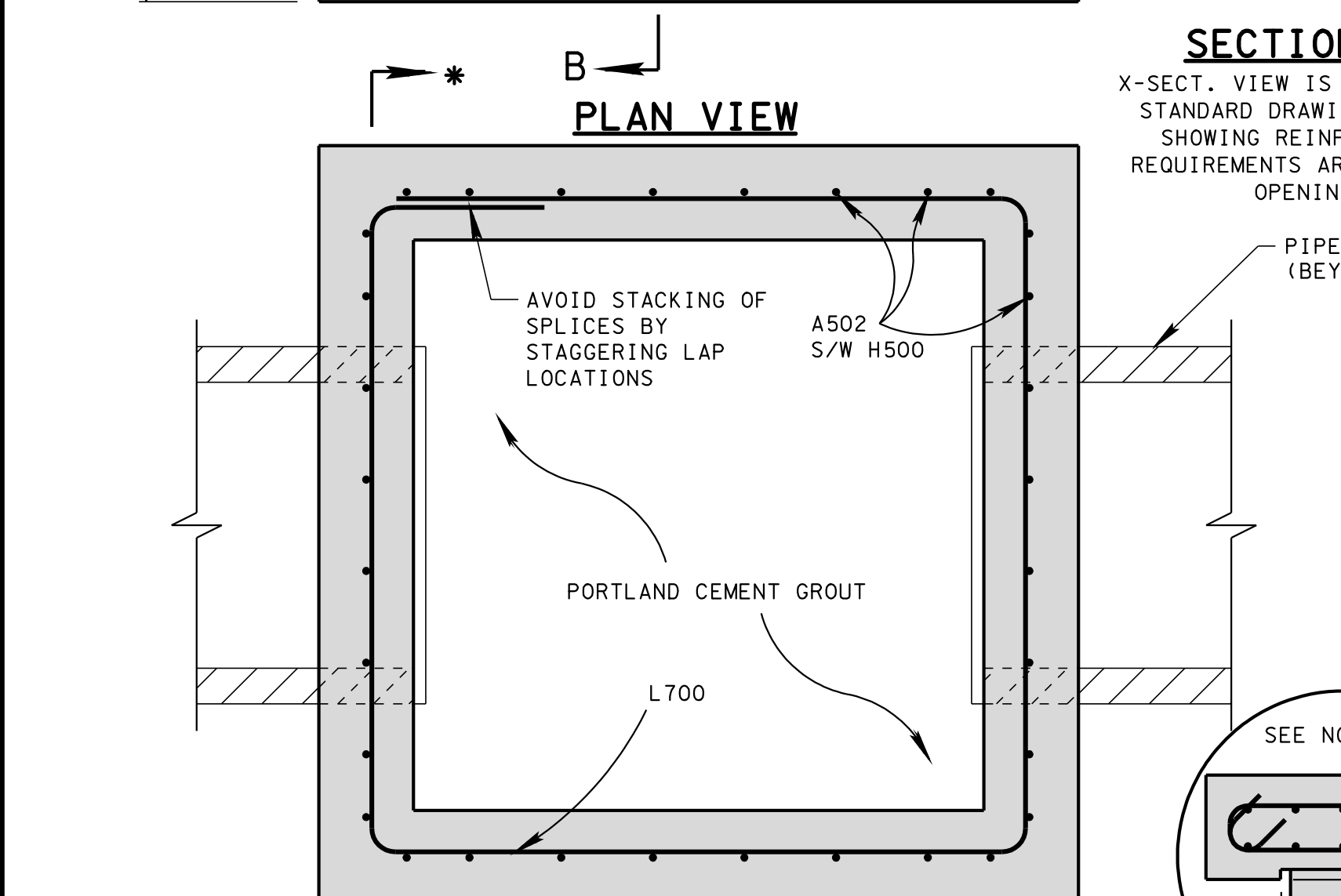
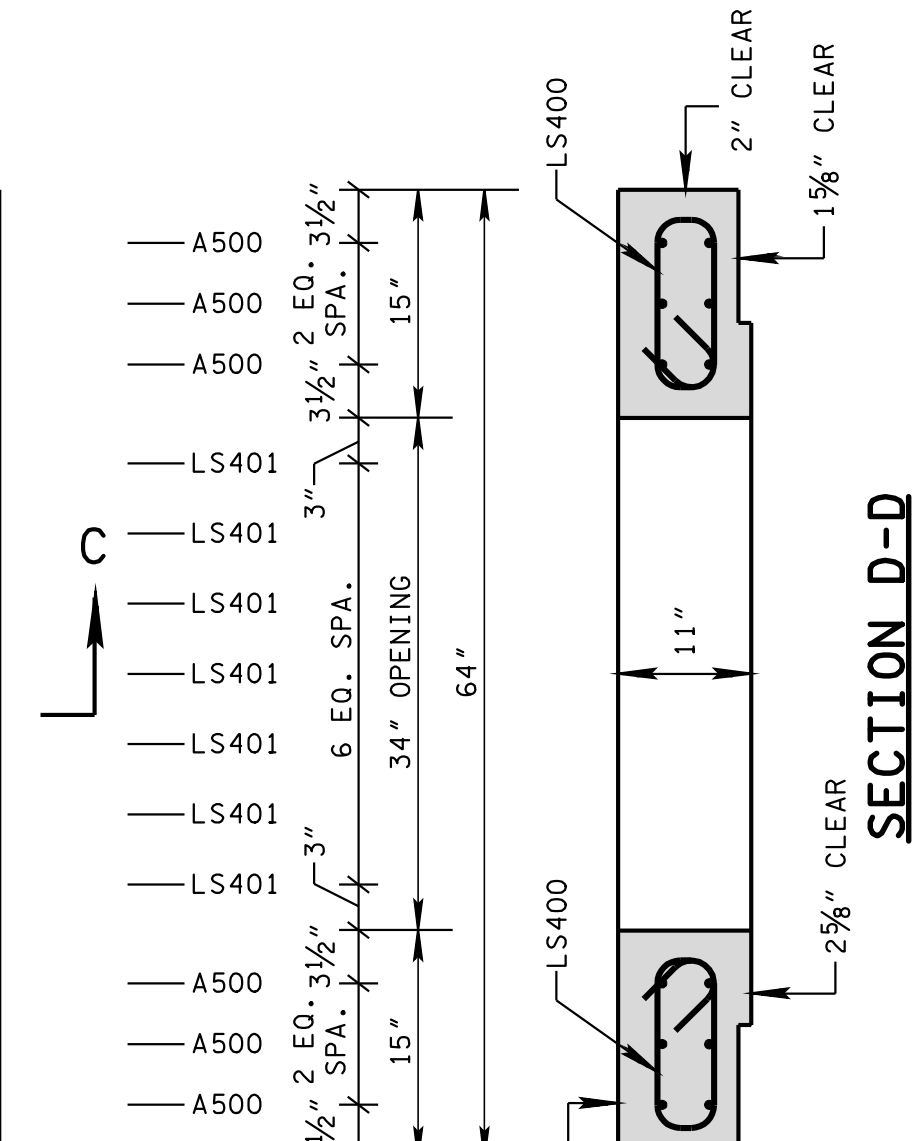
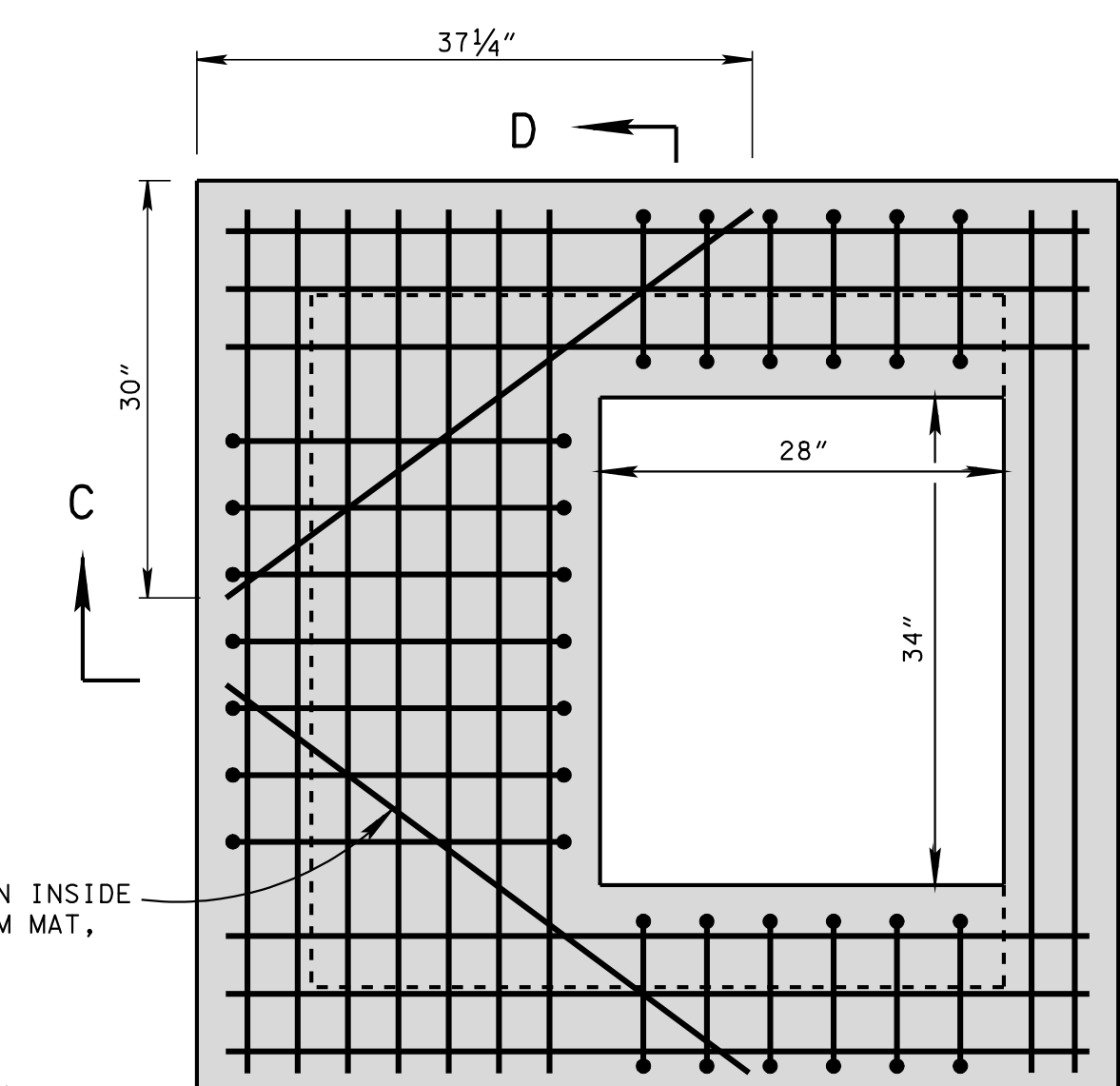
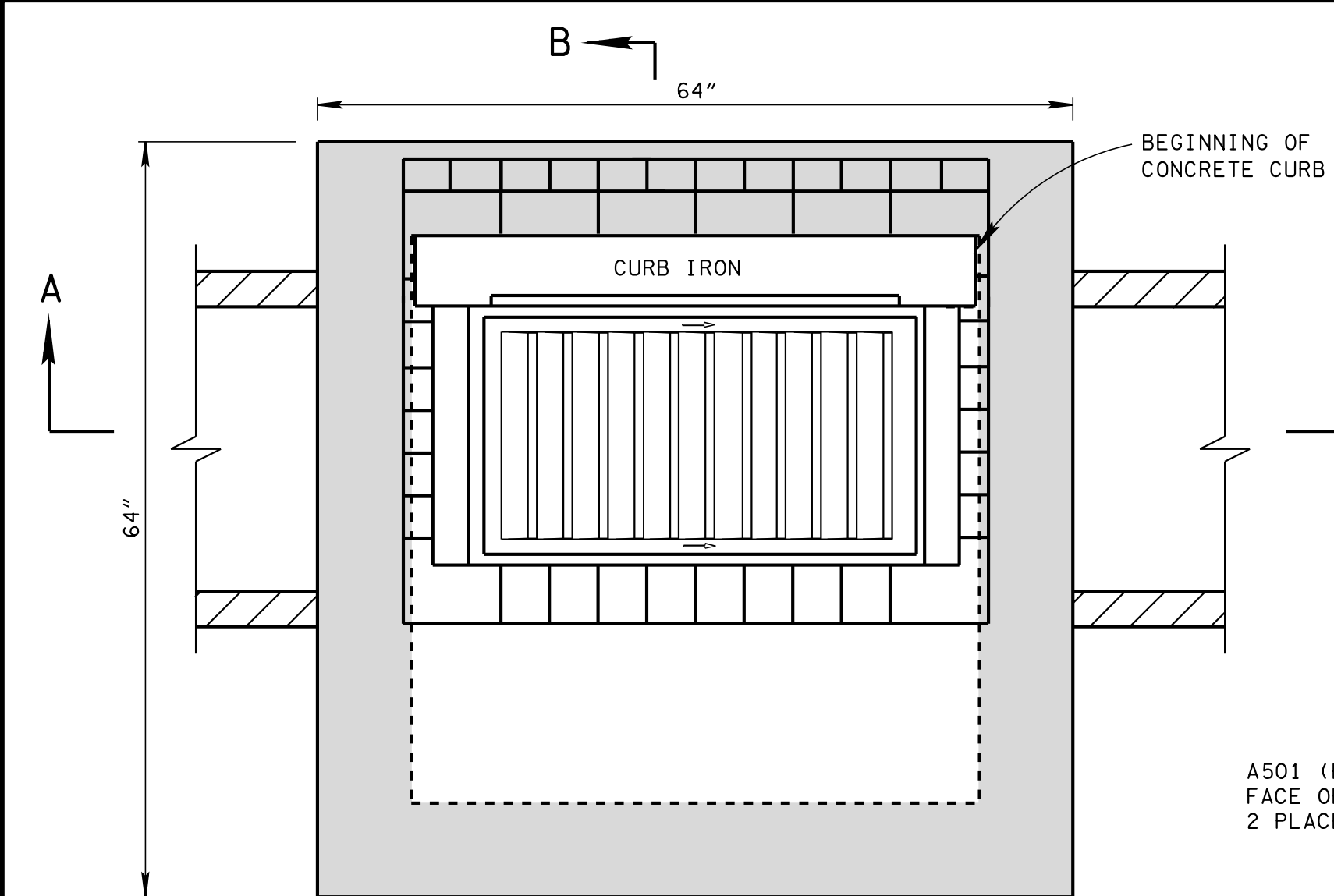
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD RECTANGULAR CONCRETE NO.12 CATCH BASIN



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



SECTION A-A

SECTION B-B

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

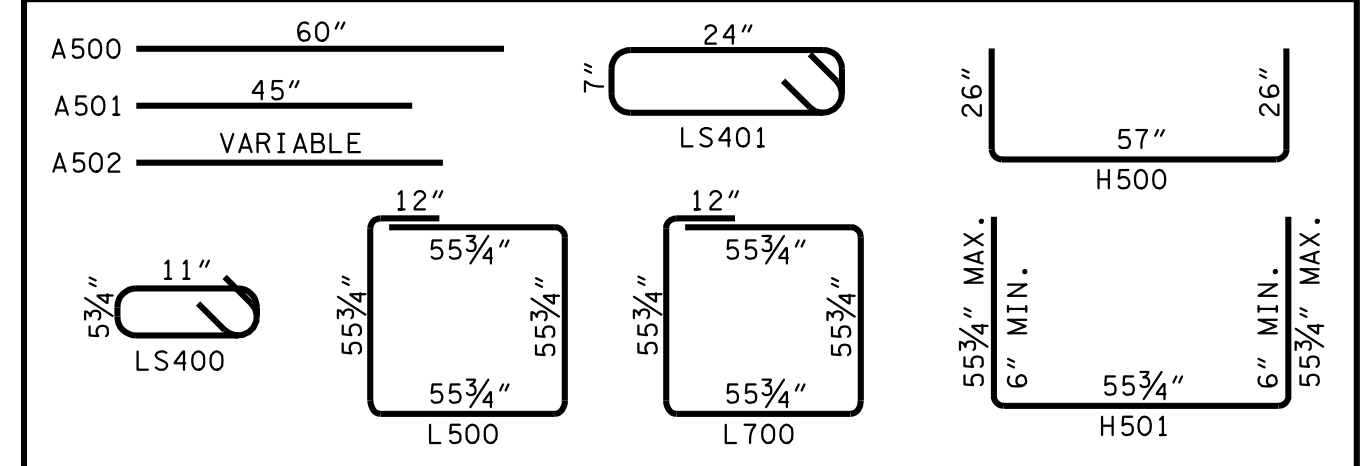
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	51	3.88
24	3	32	58	4.42
30	3 1/2	39	65	4.96
36	4	46	72	5.50

- 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 UN-CUT WILL NOT BE PERMITTED.

GENERAL NOTES

- (A) 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 1 1/2 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.

REINFORCING STEEL LEGEND

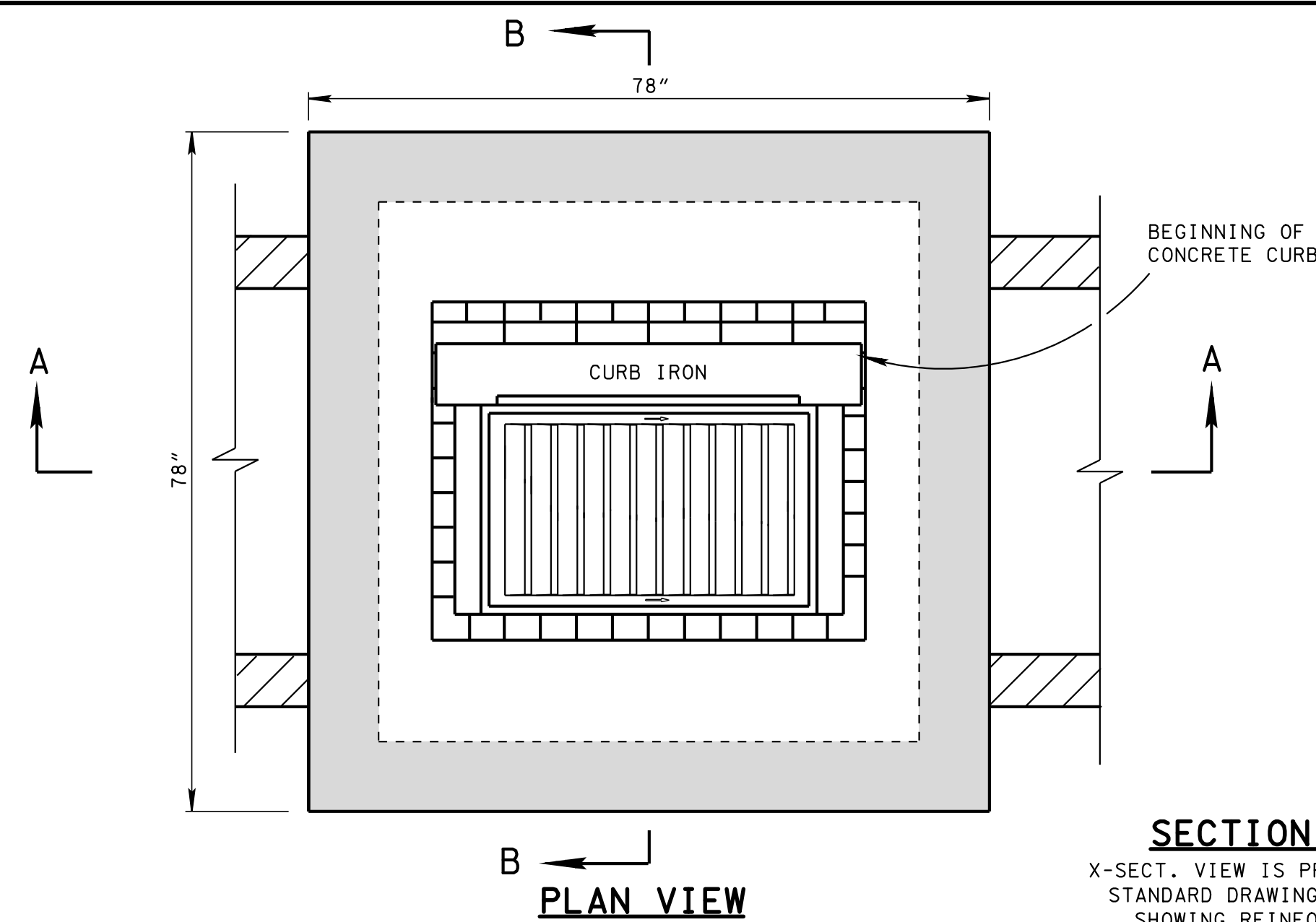


DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

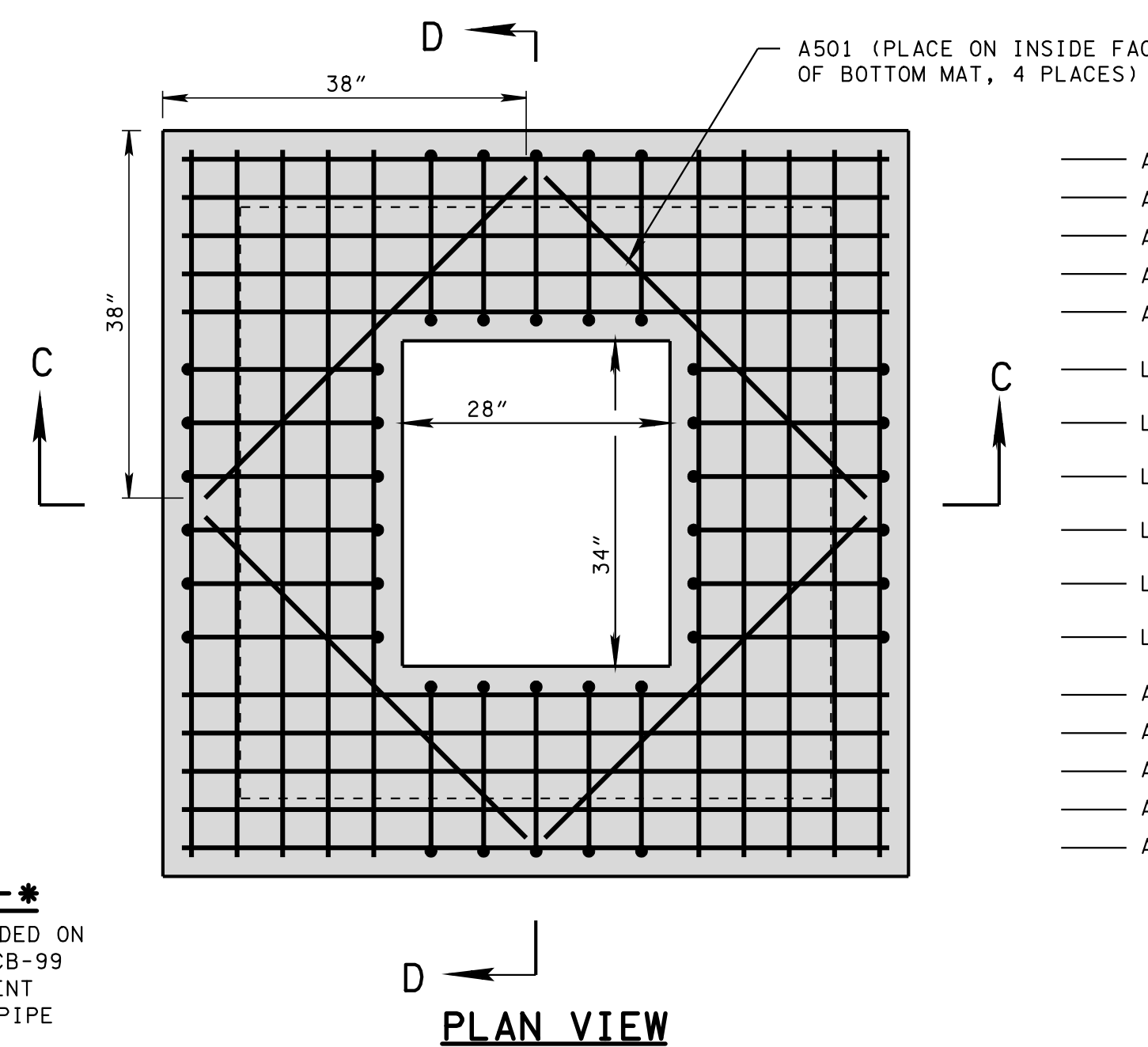
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

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



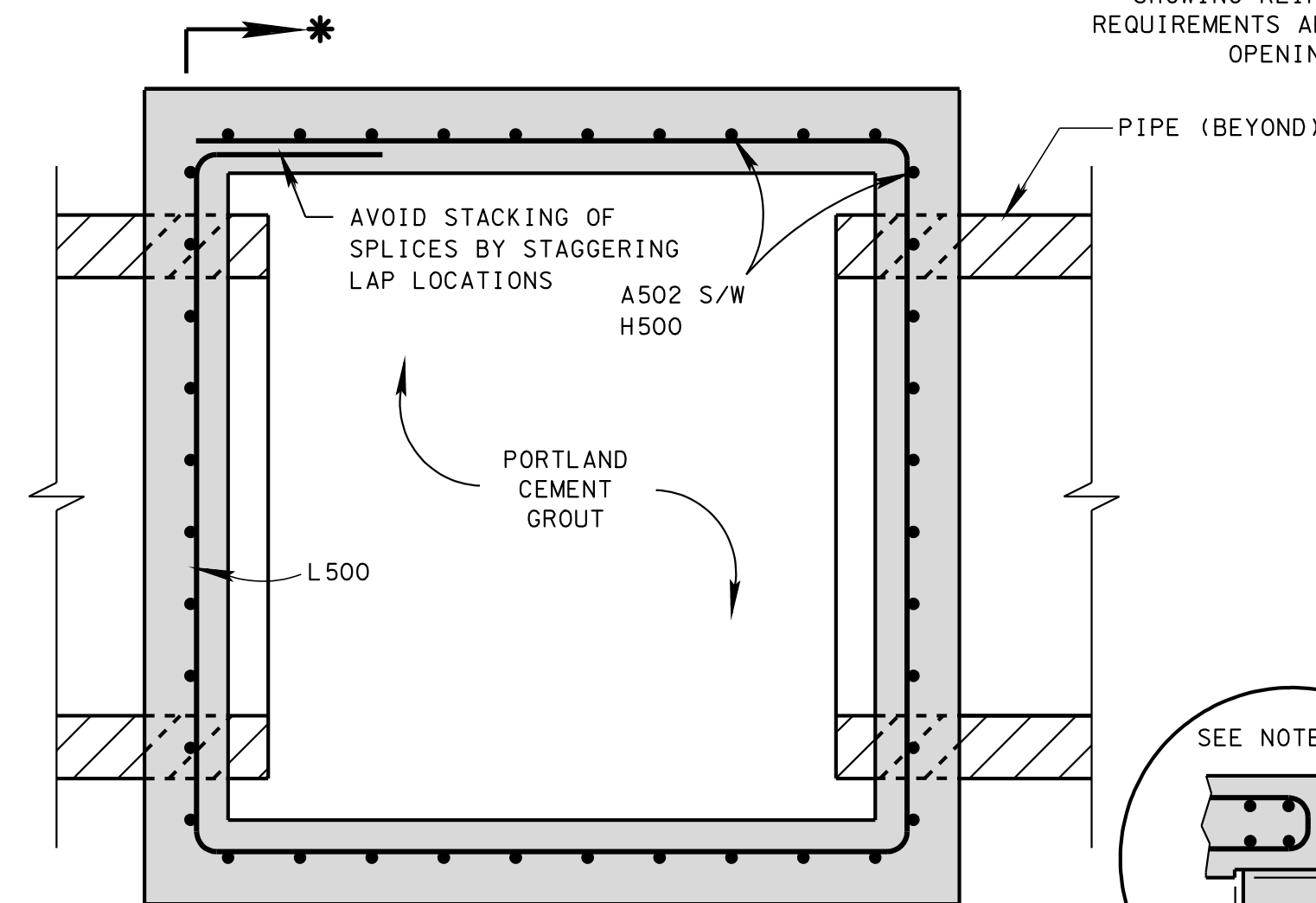
PLAN VIEW



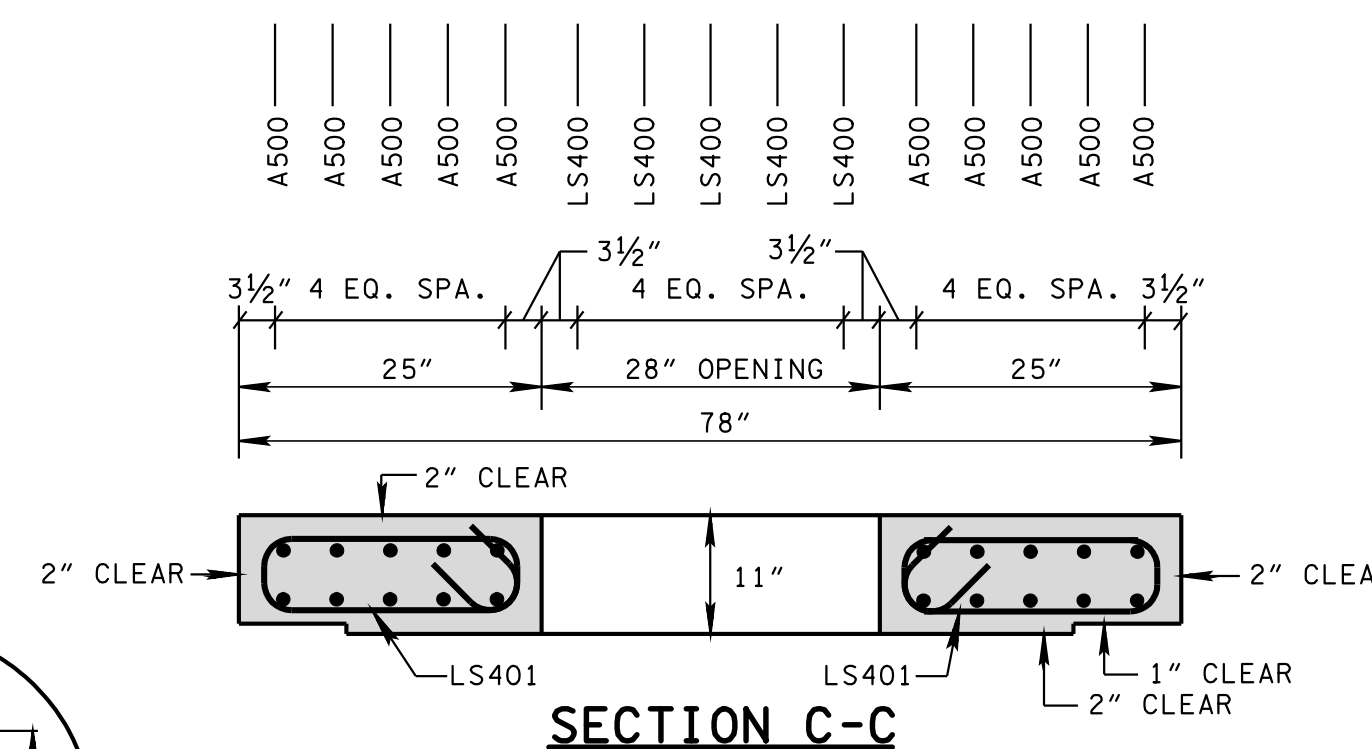
PLAN VIEW

SECTION *-*

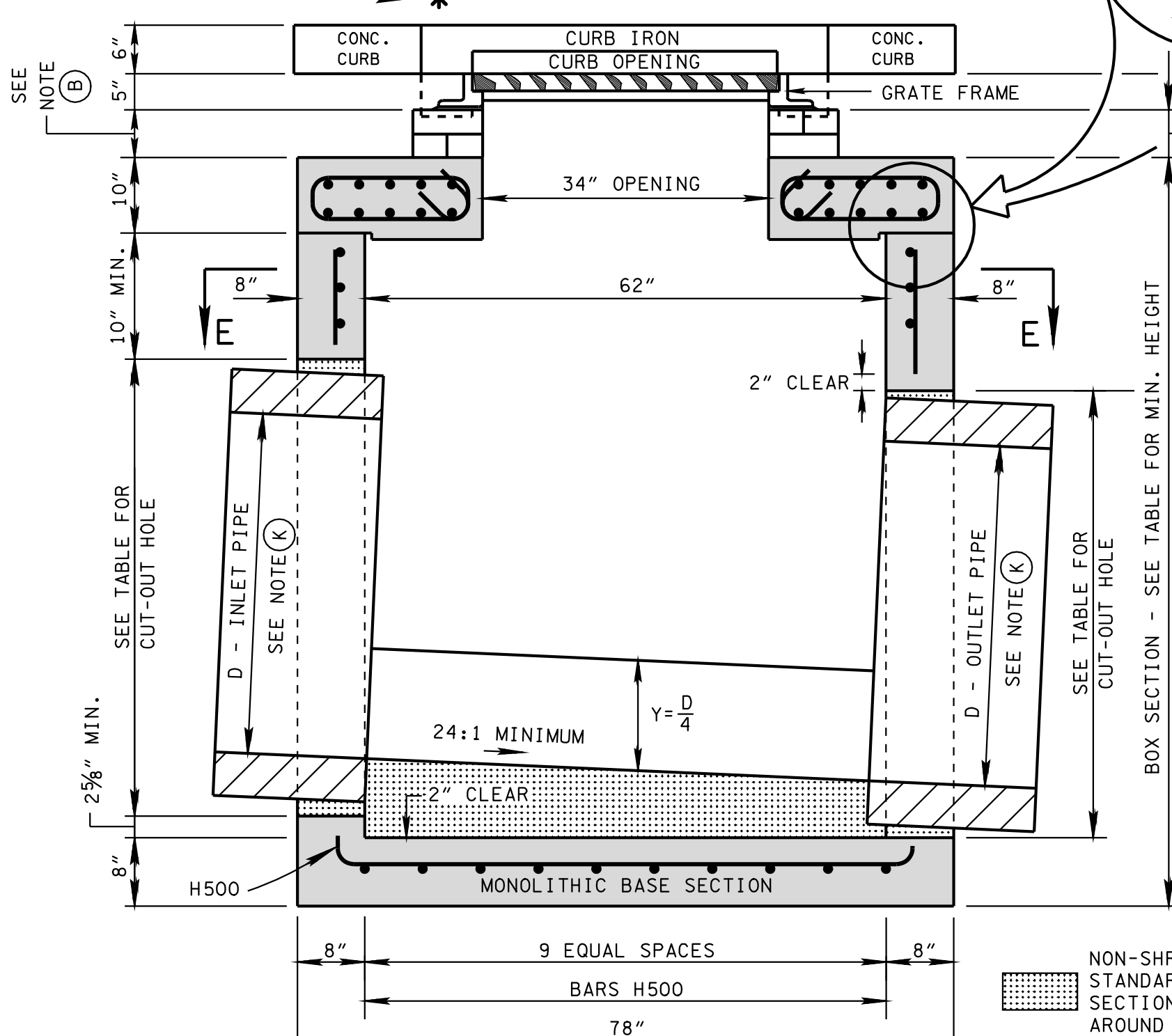
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



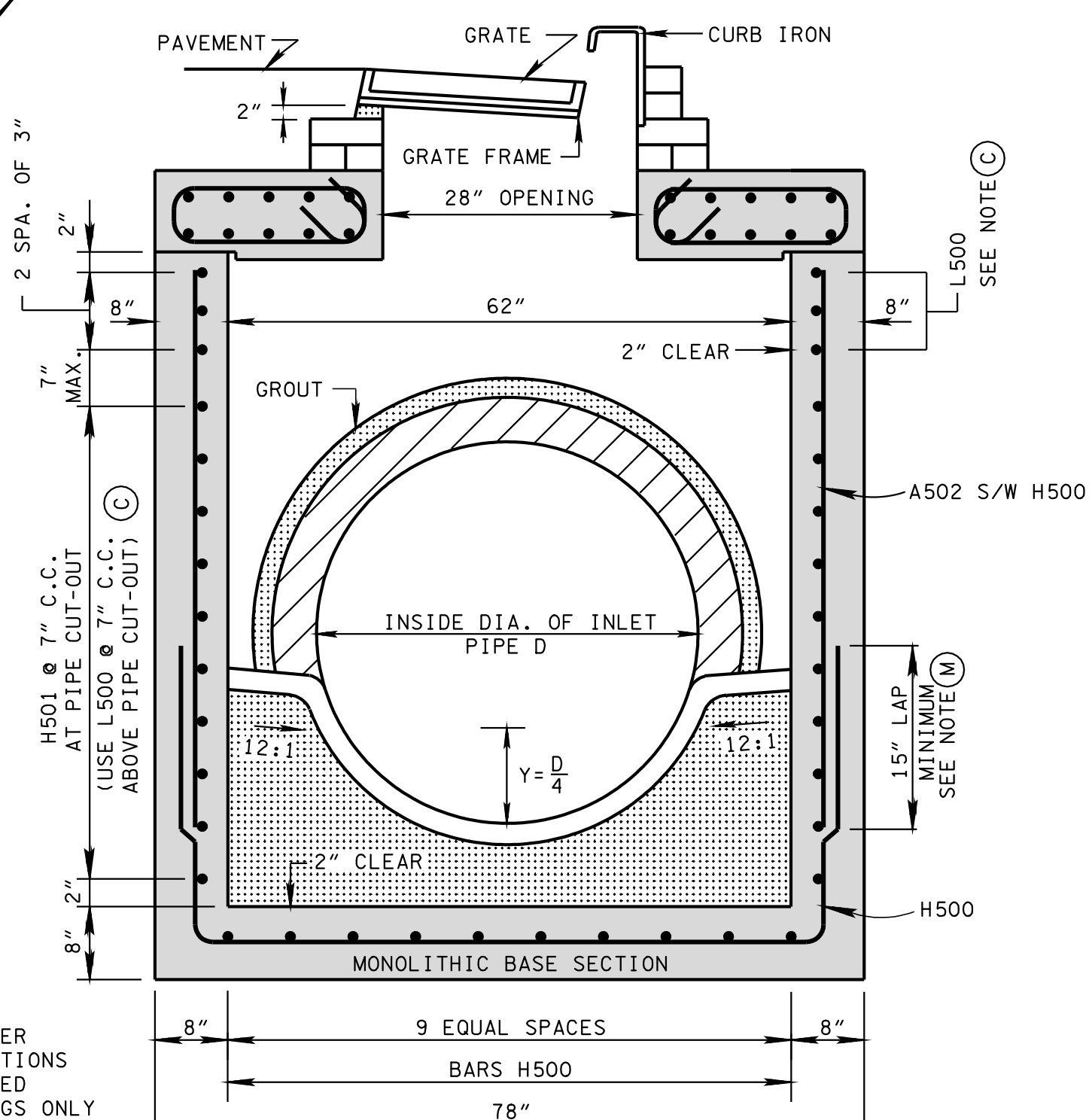
SECTION E-E



SECTION C-C



SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'

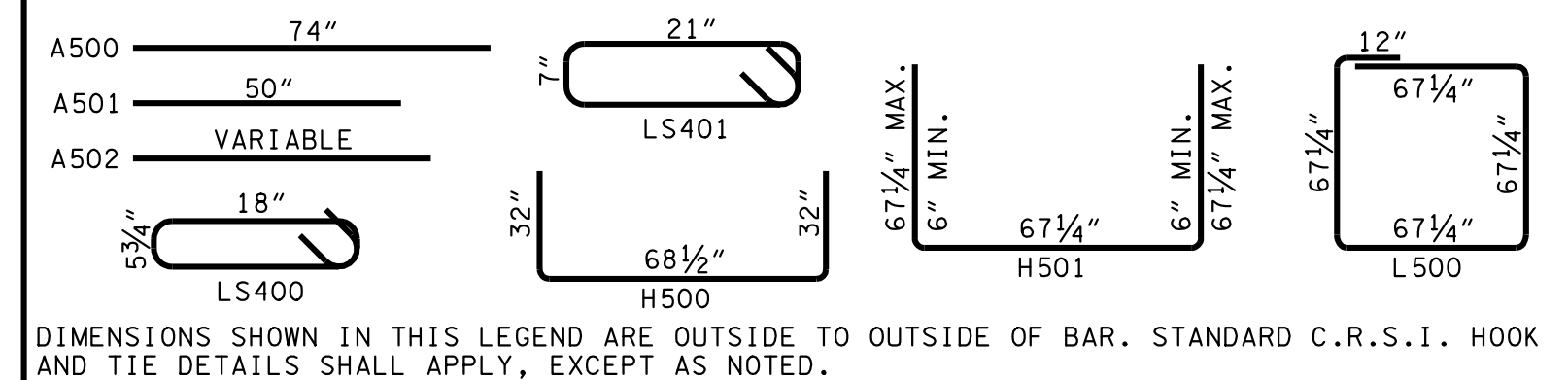
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	55	4.13
24	3	32	62	4.67
30	3 1/2	39	69	5.22
36	4	46	76	5.76
42	4 1/2	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.

GENERAL NOTES

- (A) 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 1 1/2 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 OF OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

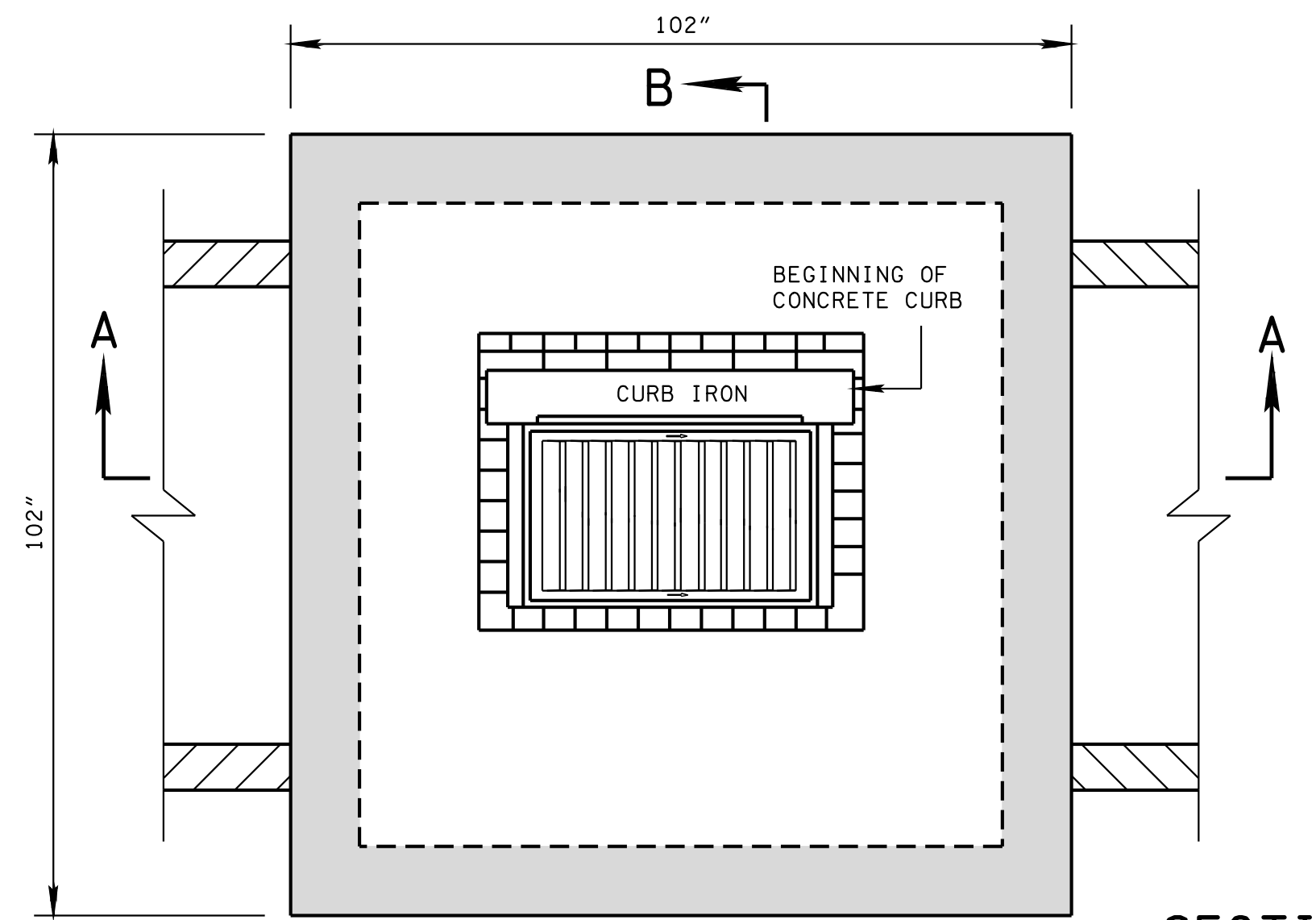
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

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

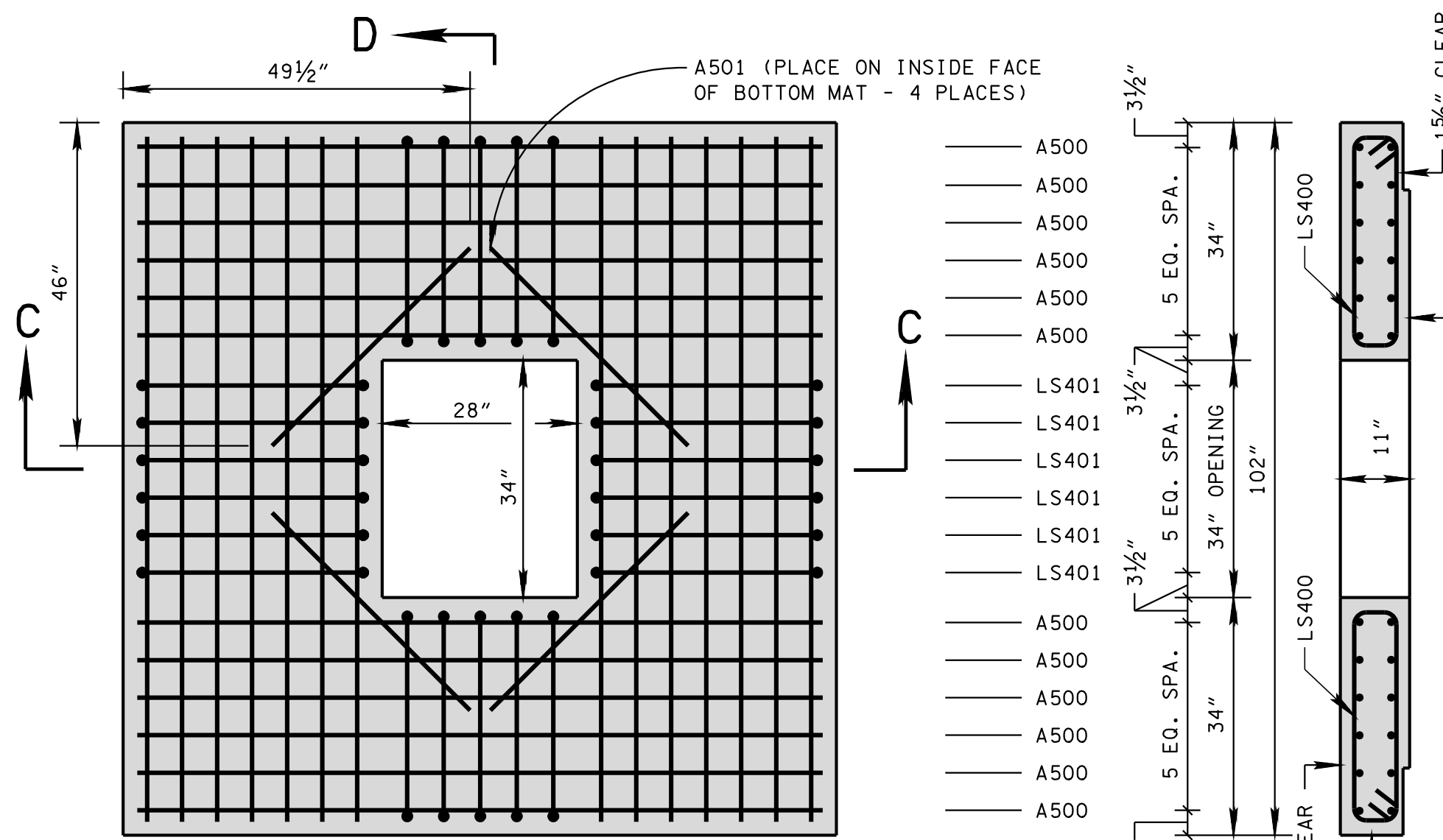
NOT TO SCALE

9-5-97

D-CB-12SC



PLAN VIEW



PLAN VIEW

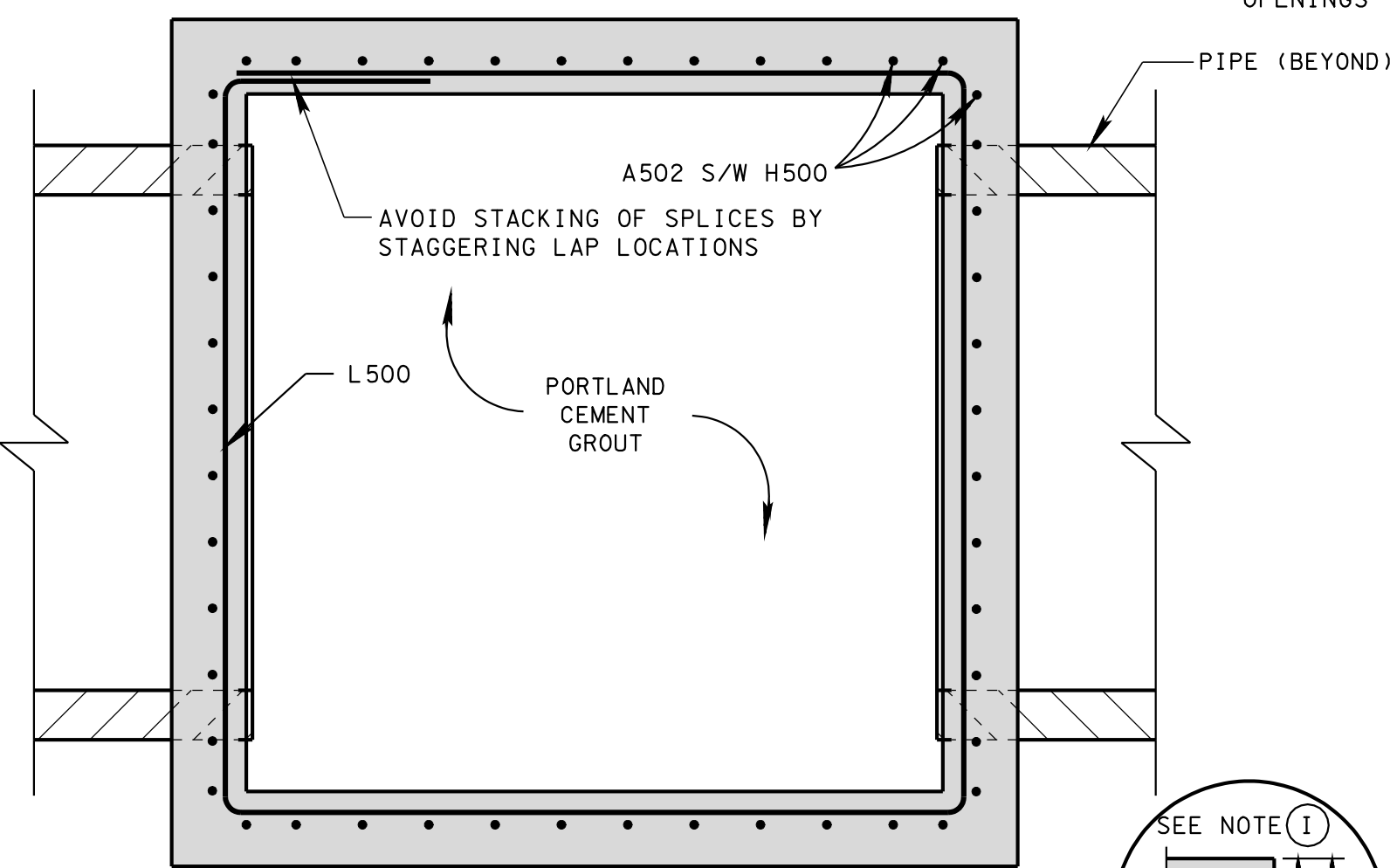
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	55 1/2	4.17
24	3	32	62 1/2	4.72
30	3 1/2	39	69 1/2	5.26
36	4	46	76 1/2	5.80
42	4 1/2	53	83 1/2	6.34
48	5	60	90 1/2	6.88
54	5 1/2	67	97 1/2	7.42
60	6	74	104 1/2	7.97
66	6 1/2	81	111 1/2	8.51

- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE ①. ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 5-30-02: MODIFIED REINFORCING STEEL.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ②.
- 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.

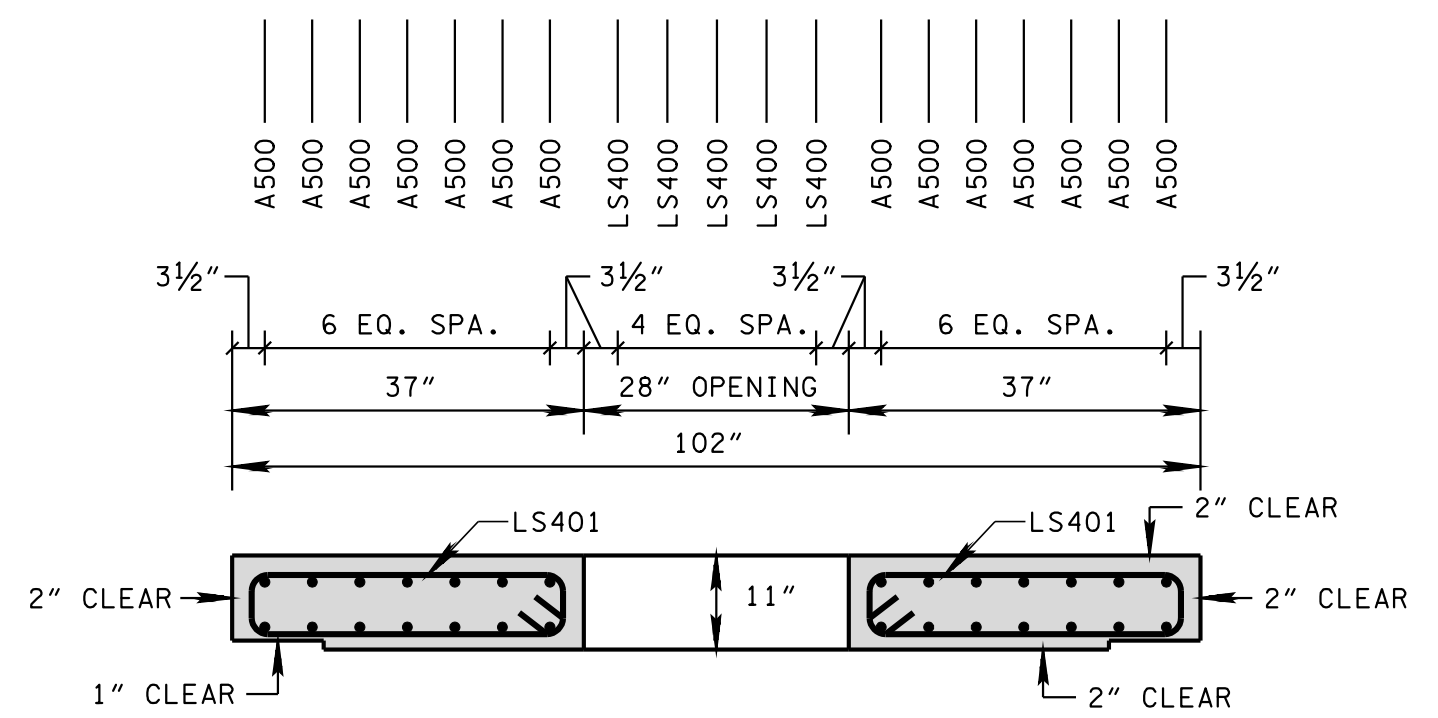
CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

- 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 EDGE 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



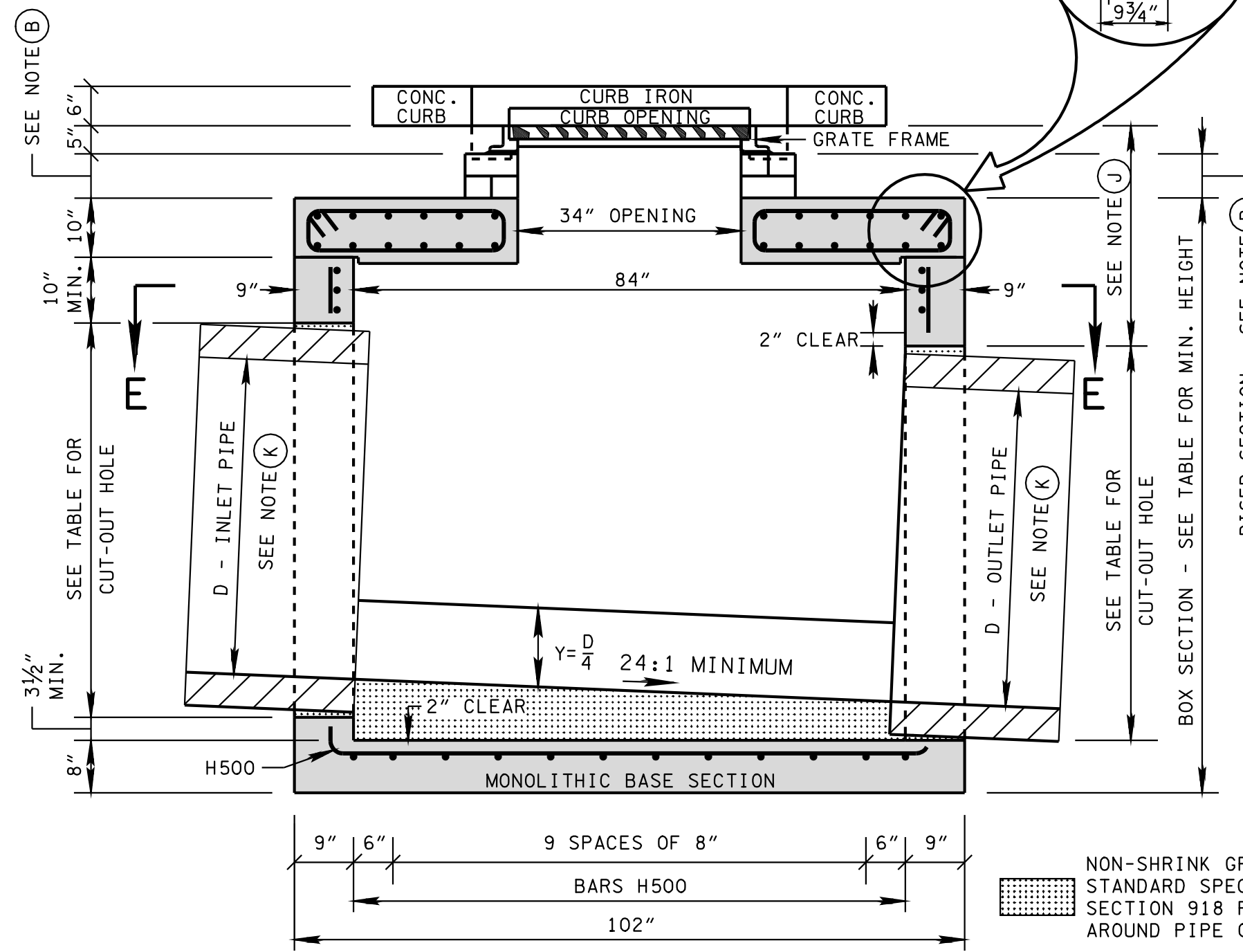
SECTION E-E



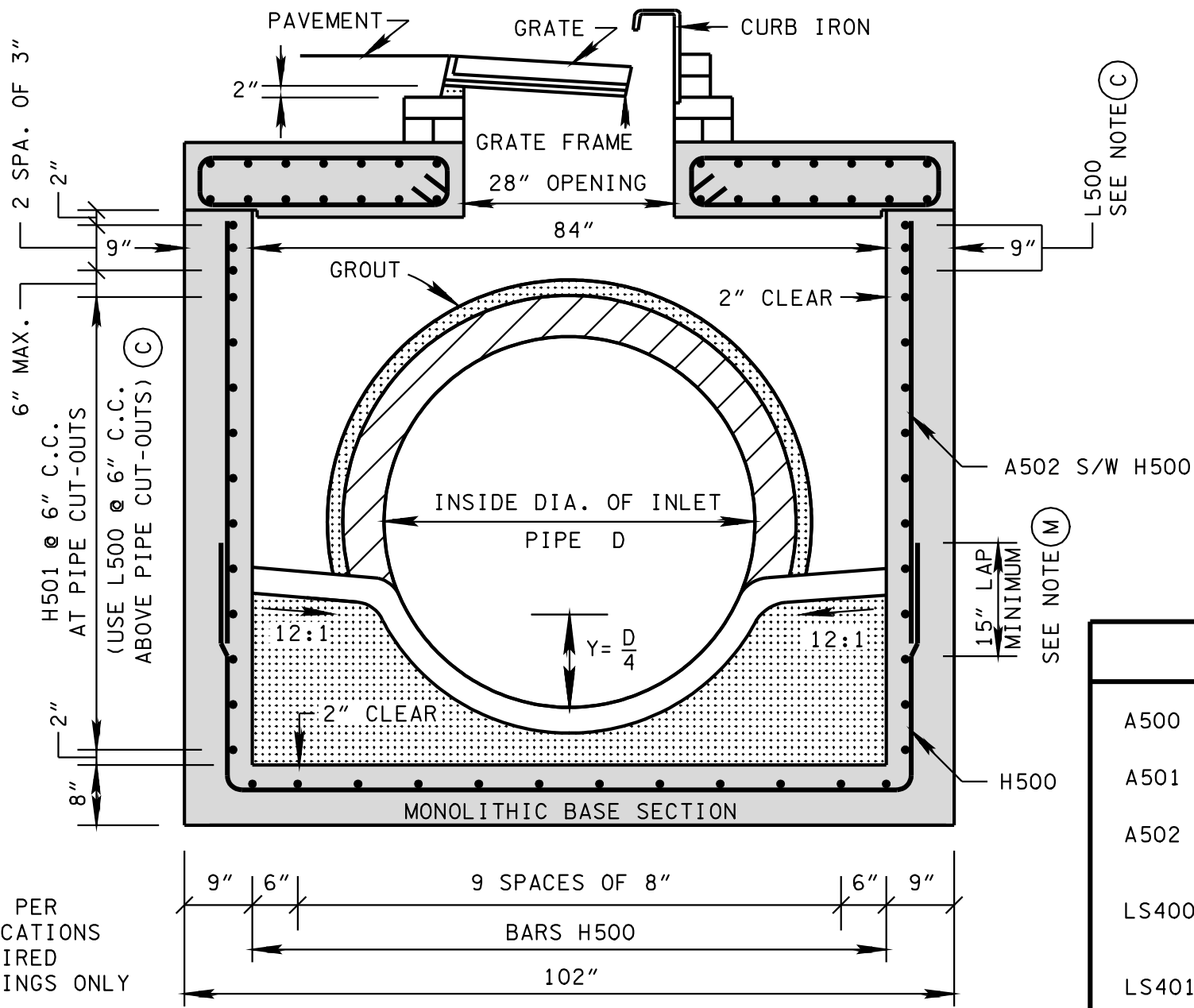
SECTION C-C

GENERAL NOTES

- (A) 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 1 1/2 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.

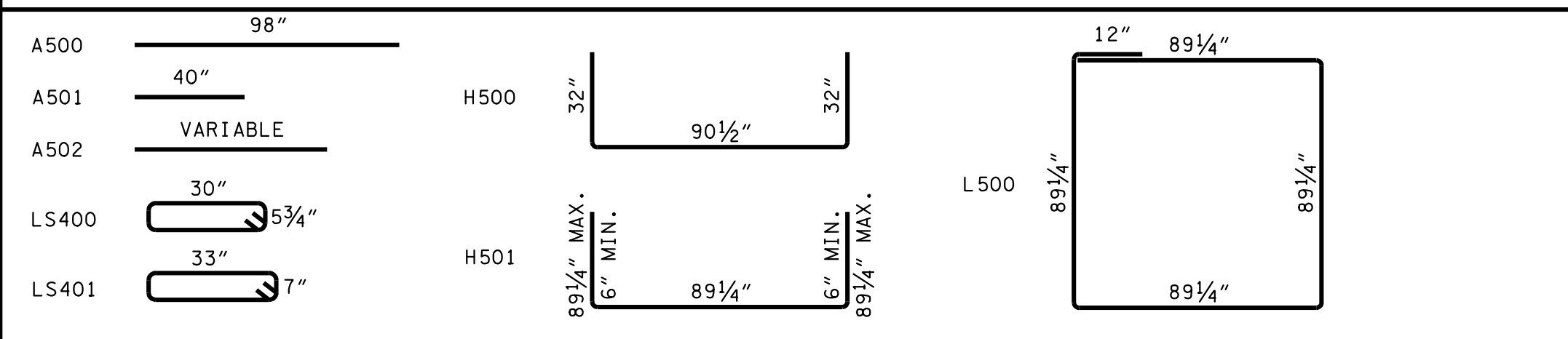


SECTION A-A



SECTION B-B

REINFORCING STEEL LEGEND

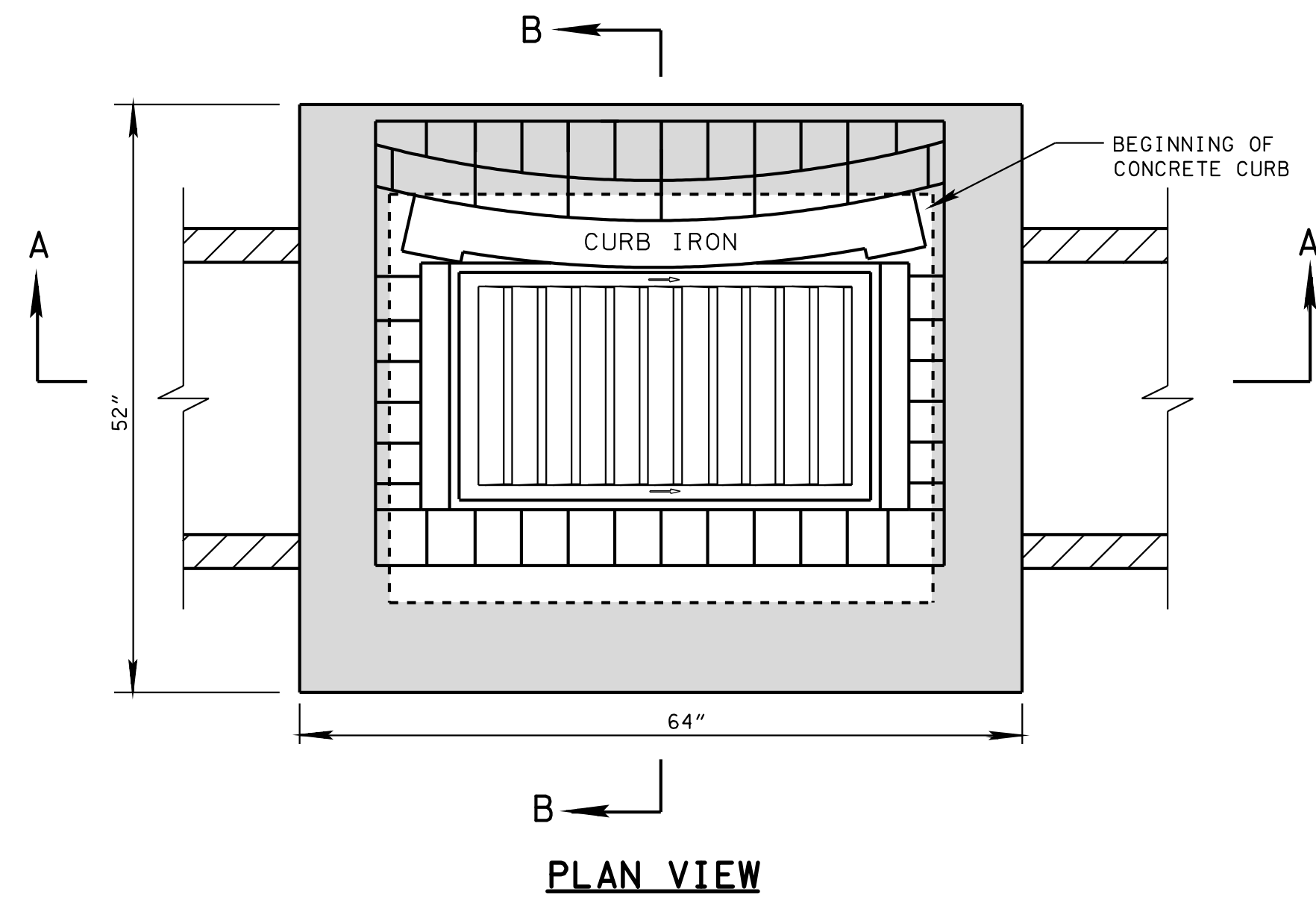


DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

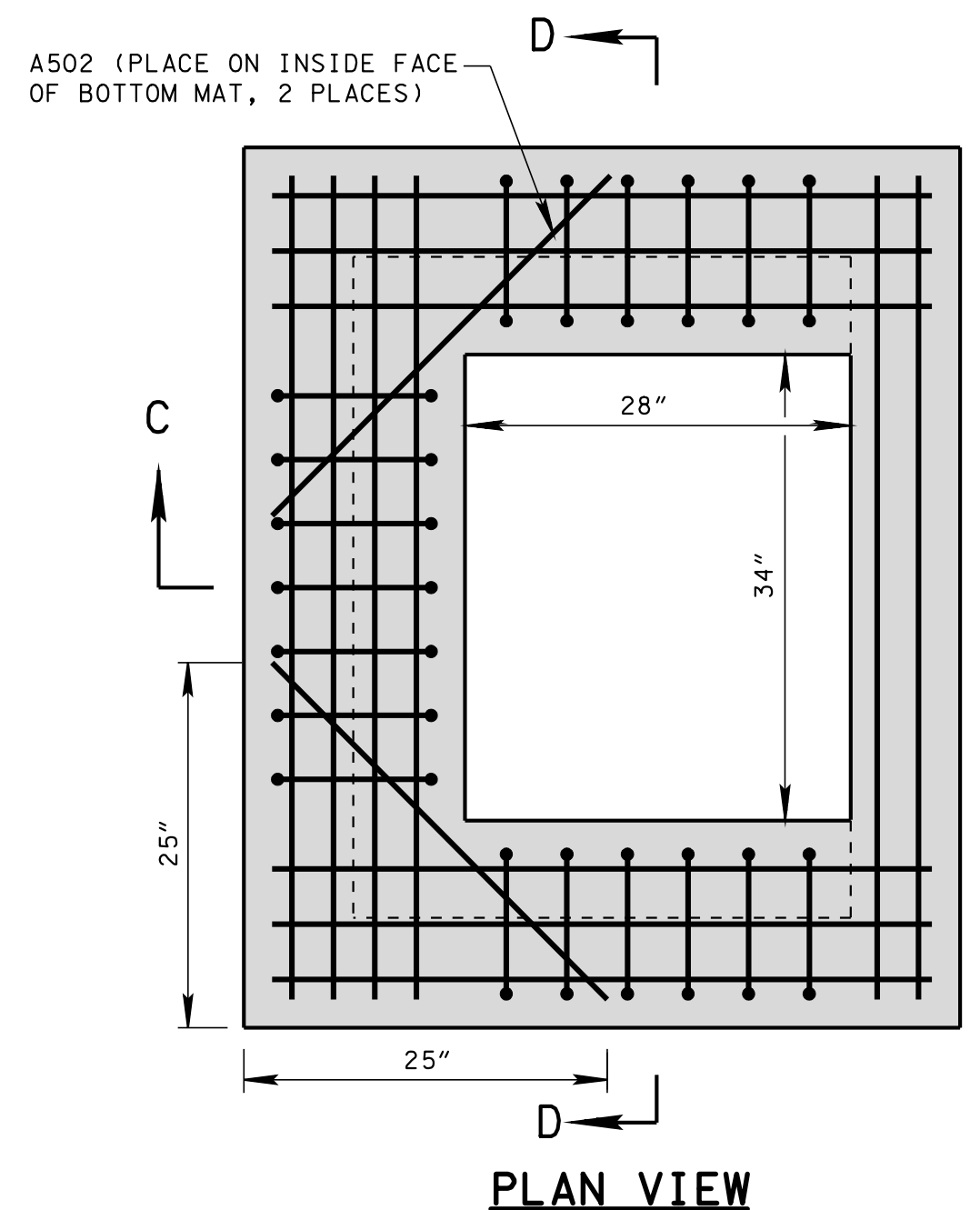
□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

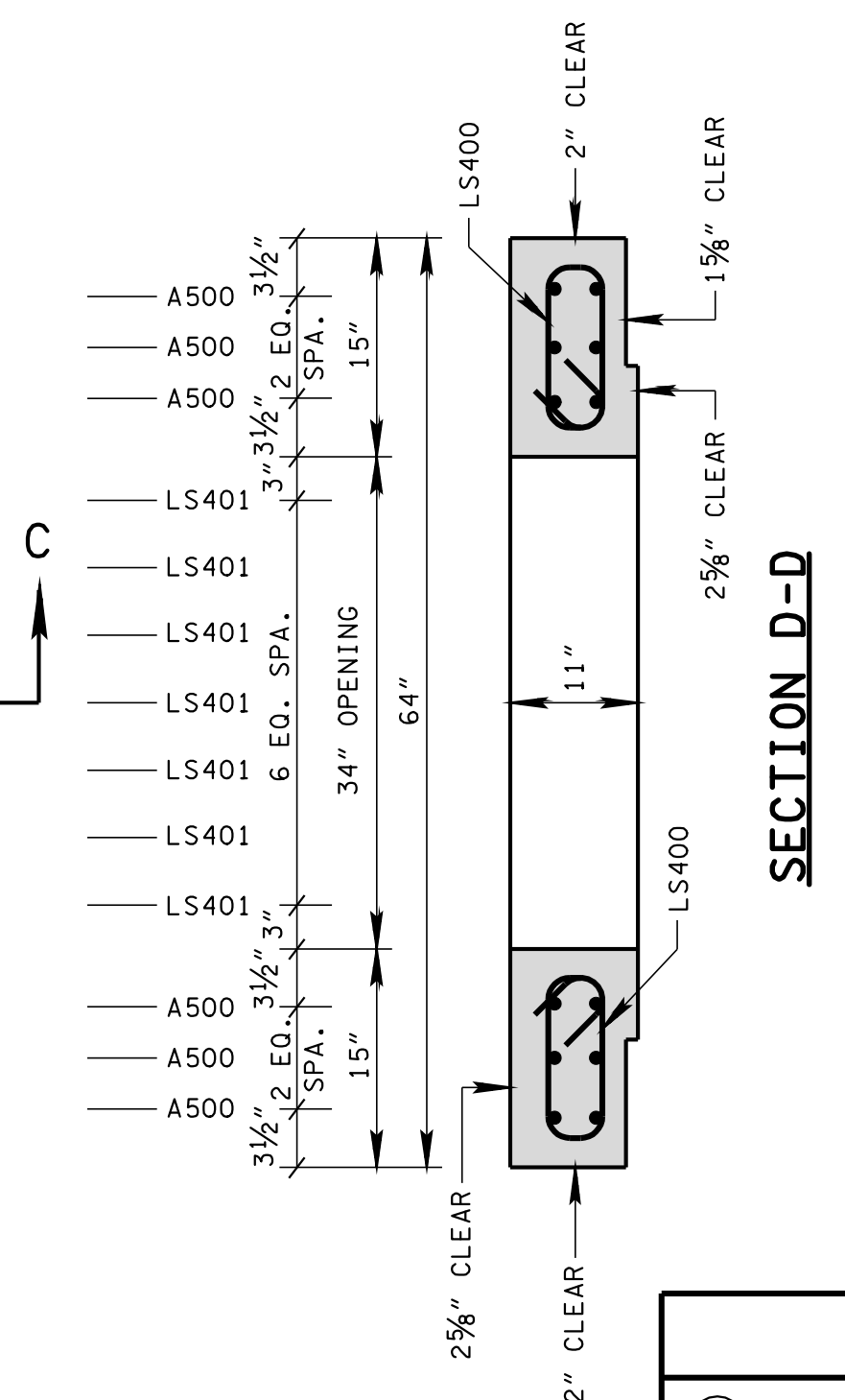
STANDARD 7' X 7' SQUARE CONCRETE NO. 12 CATCH BASIN



PLAN VIEW



PLAN VIEW

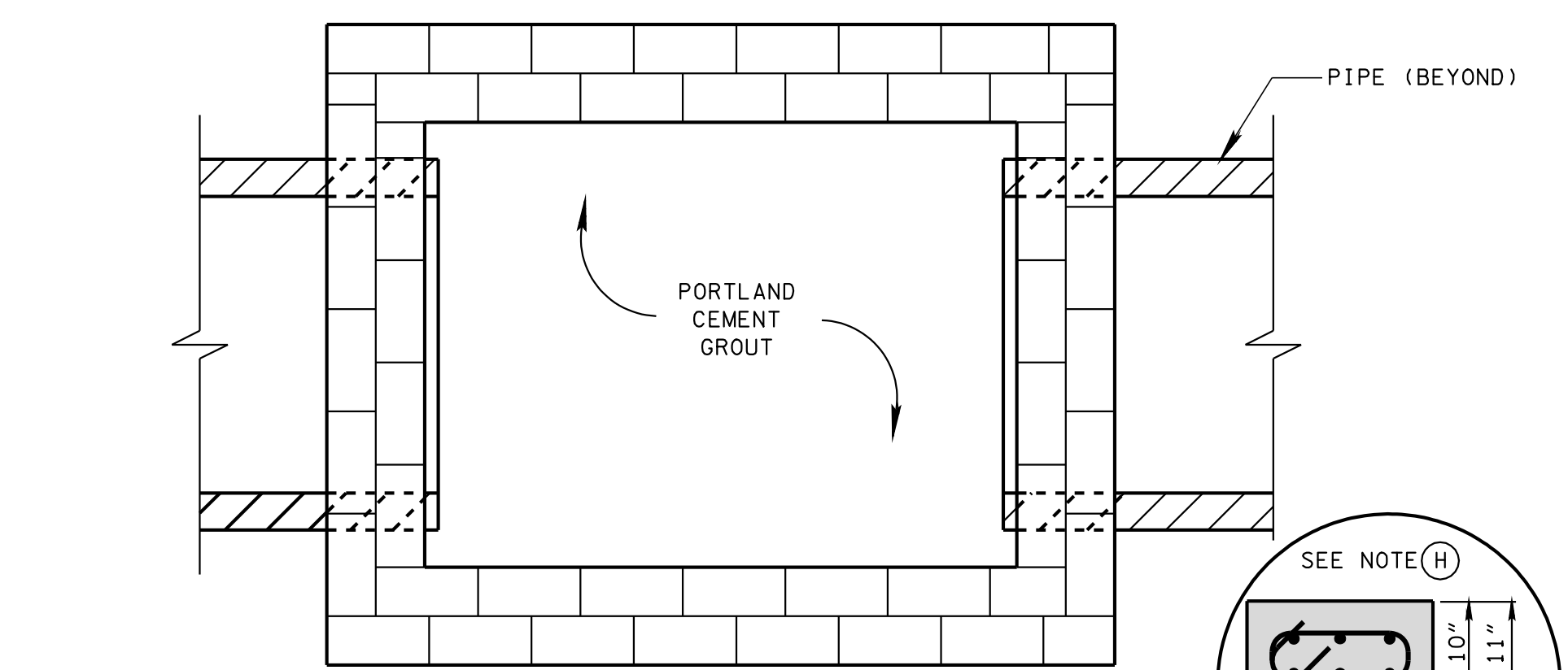


SECTION D-D

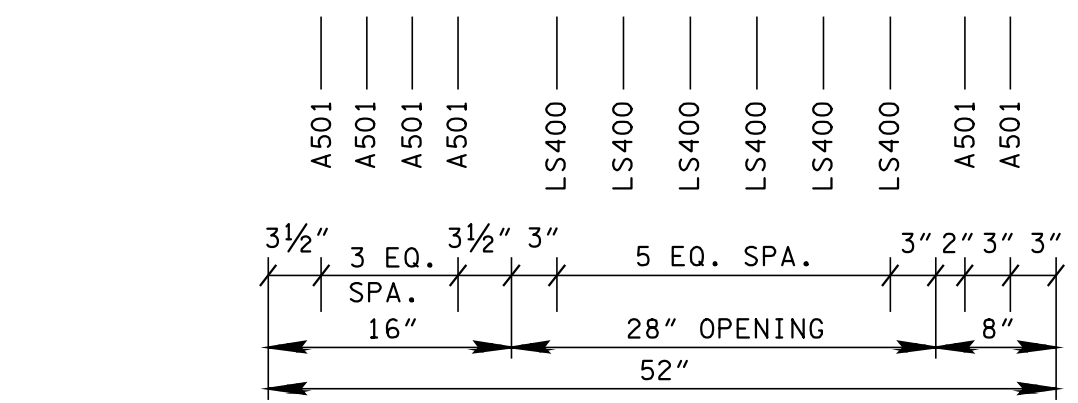
CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 8.00'.

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	2 1/2	25	51	3.88
24	3	32	58	4.42
③ 30	3 1/2	39	65	4.96
③ 36	4	46	72	5.50

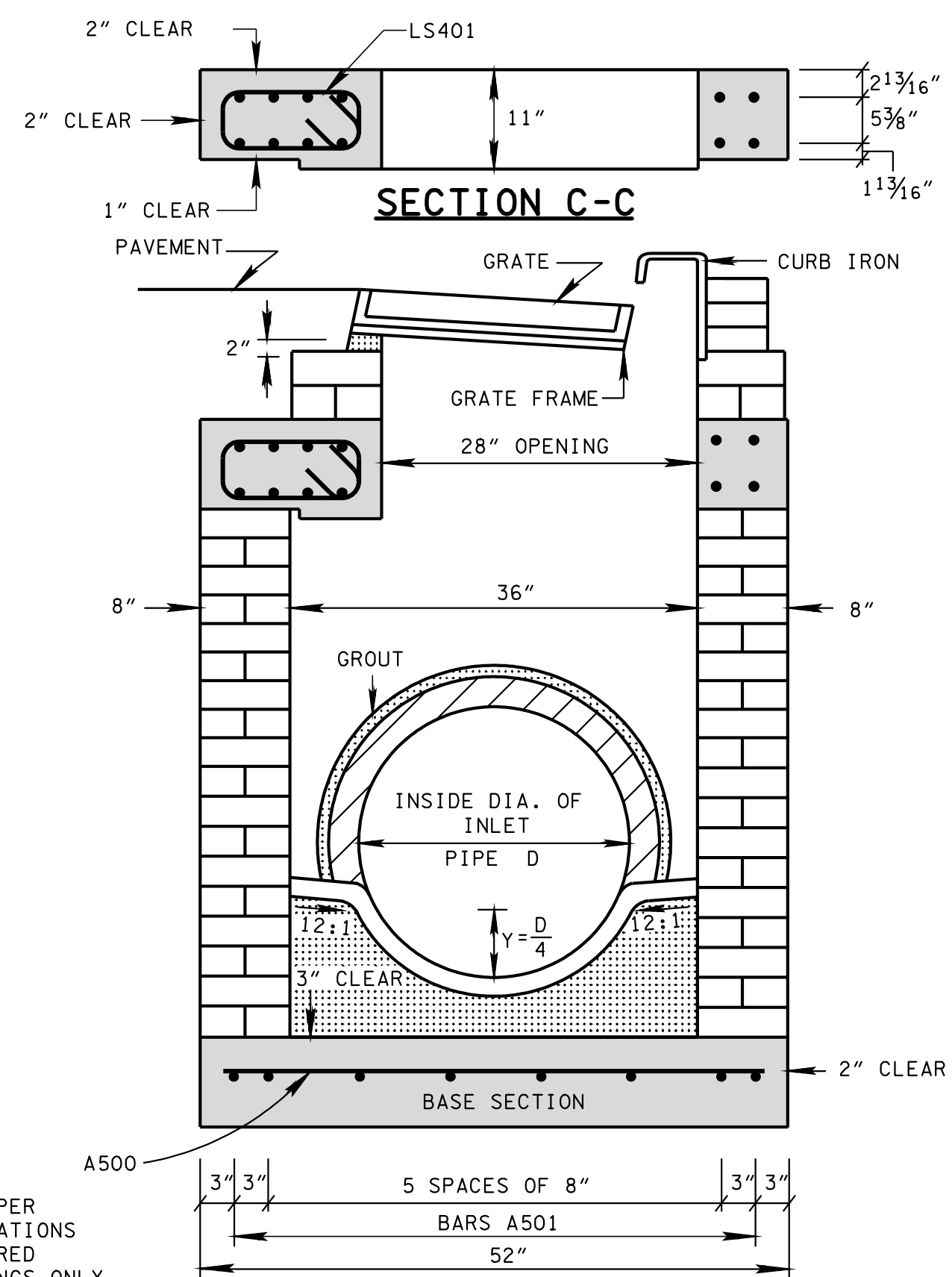
- ① CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ② ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- ③ TO BE USED IN 48 INCH INTERIOR WALLS ONLY.



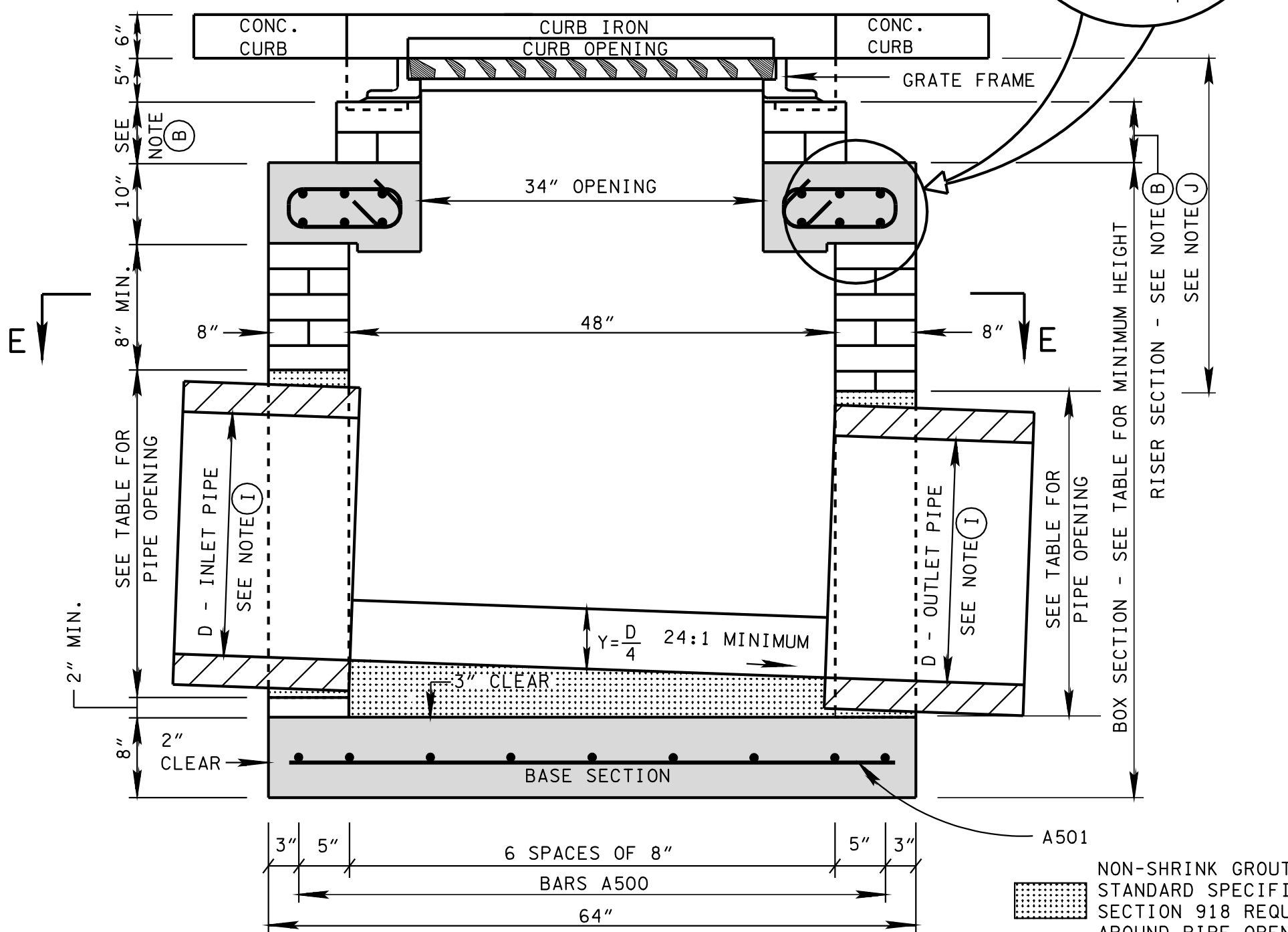
SECTION E-E



SECTION C-C



SECTION B-B



SECTION A-A

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"	11"
A501	60"	LS400
A502	33"	12"
		LS401

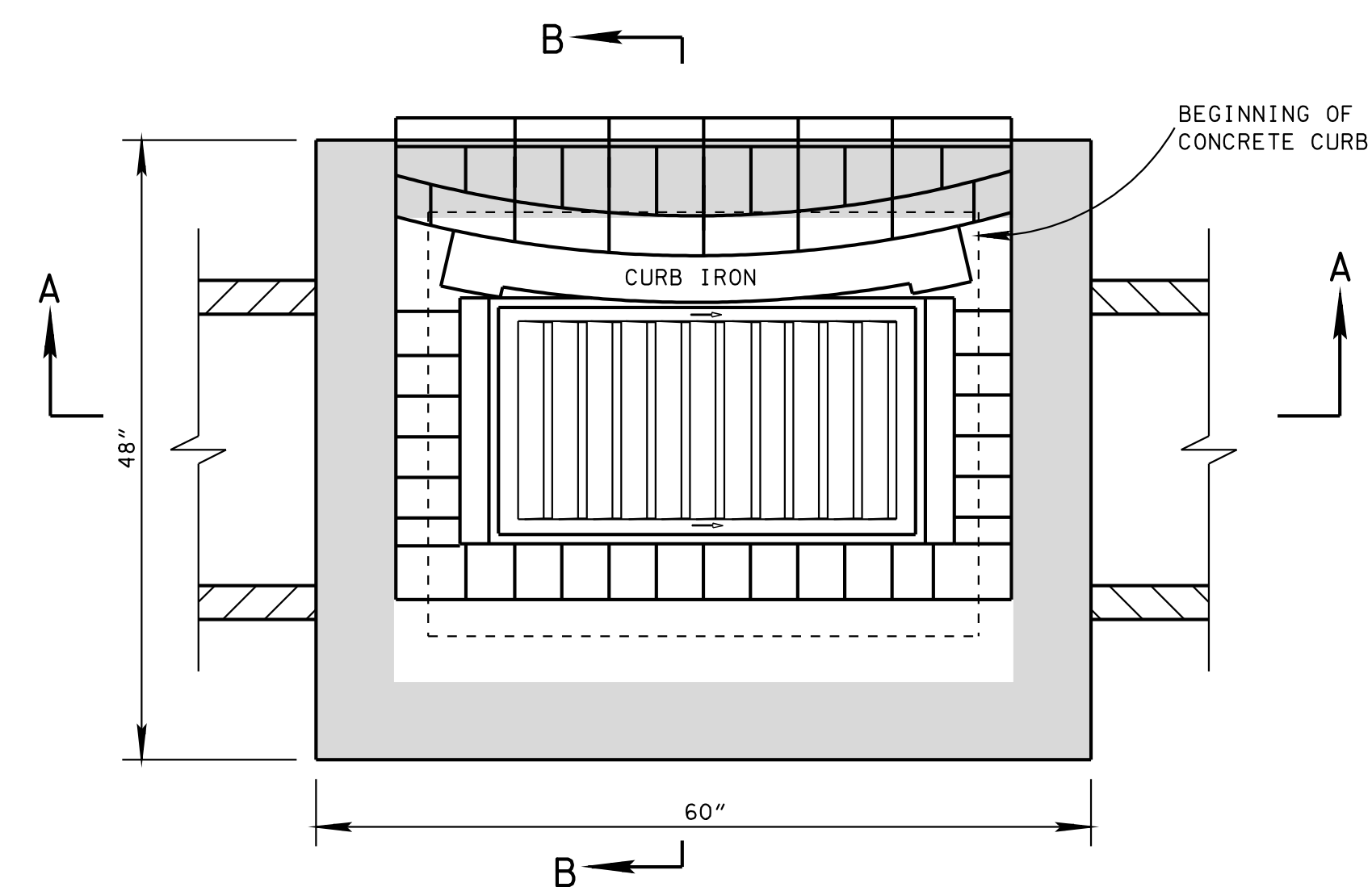
DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

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

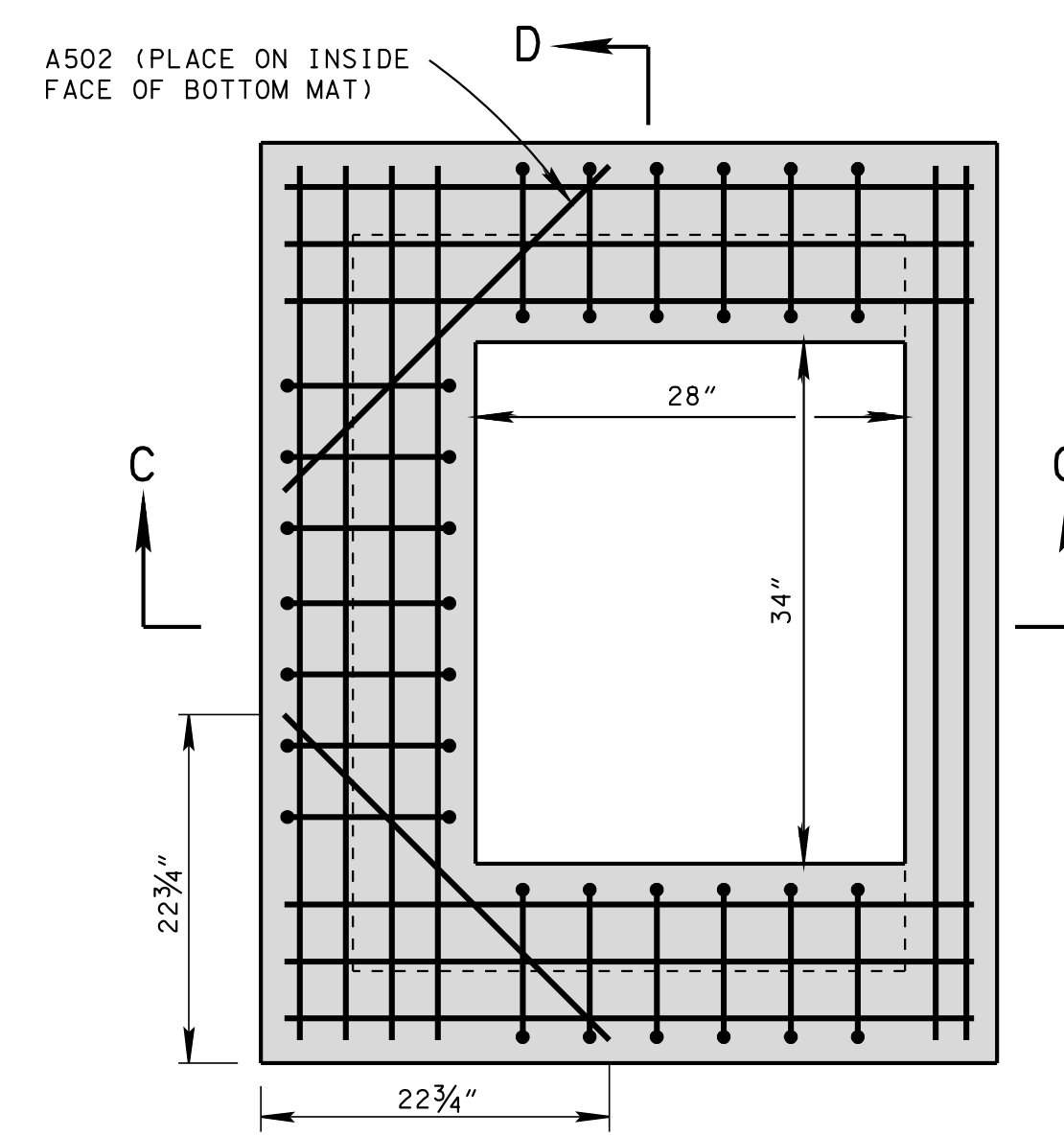
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
**STANDARD
 RECTANGULAR
 BRICK NO. 13
 CATCH BASIN**

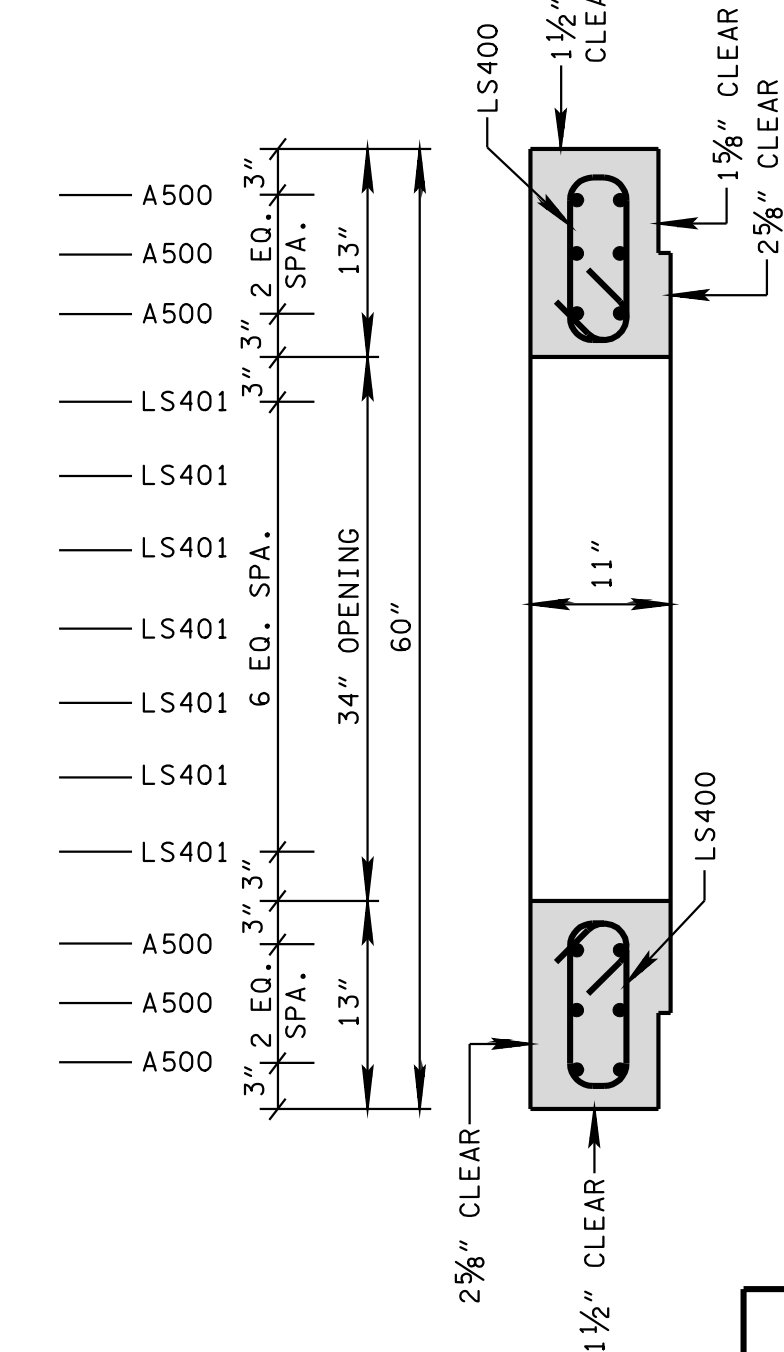
- REV. 12-18-96: MODIFIED DRAWING NO. D-CB-12B BY CHANGING CURB IRON.
- REV. 12-31-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (C) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- REV. 4-15-97: CHANGED LABEL OF BASE SECTION.
- REV. 10-26-97: CHANGED MINIMUM 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 ASHTO 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.



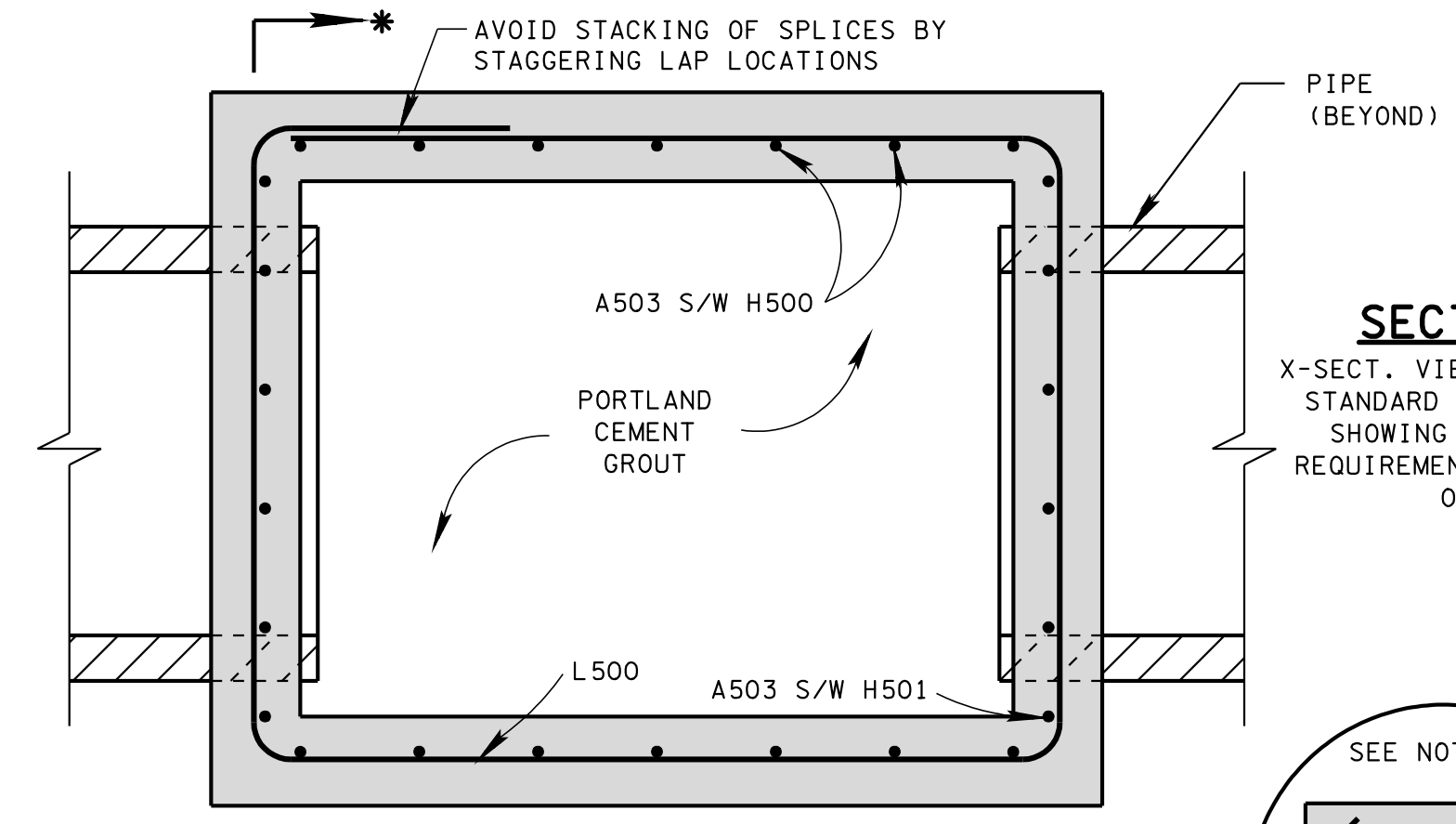
PLAN VIEW



PLAN VIEW



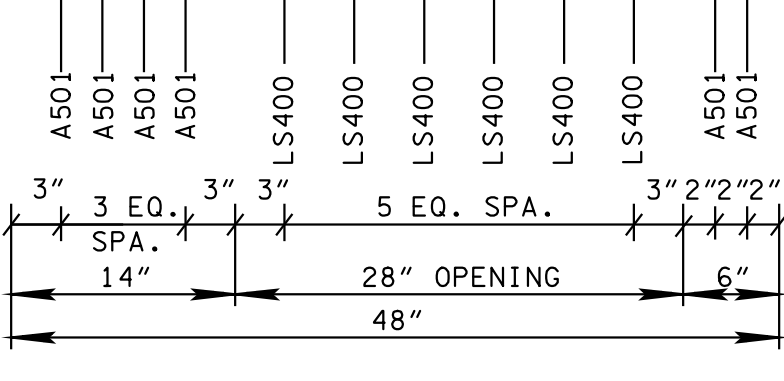
SECTION D-D



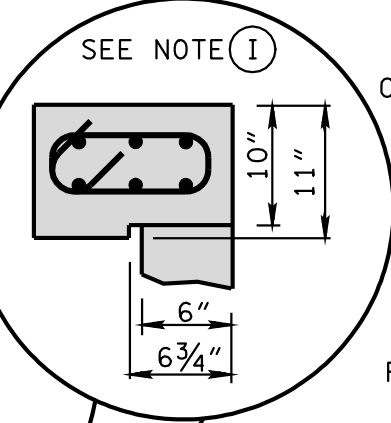
SECTION E-E

SECTION *-*

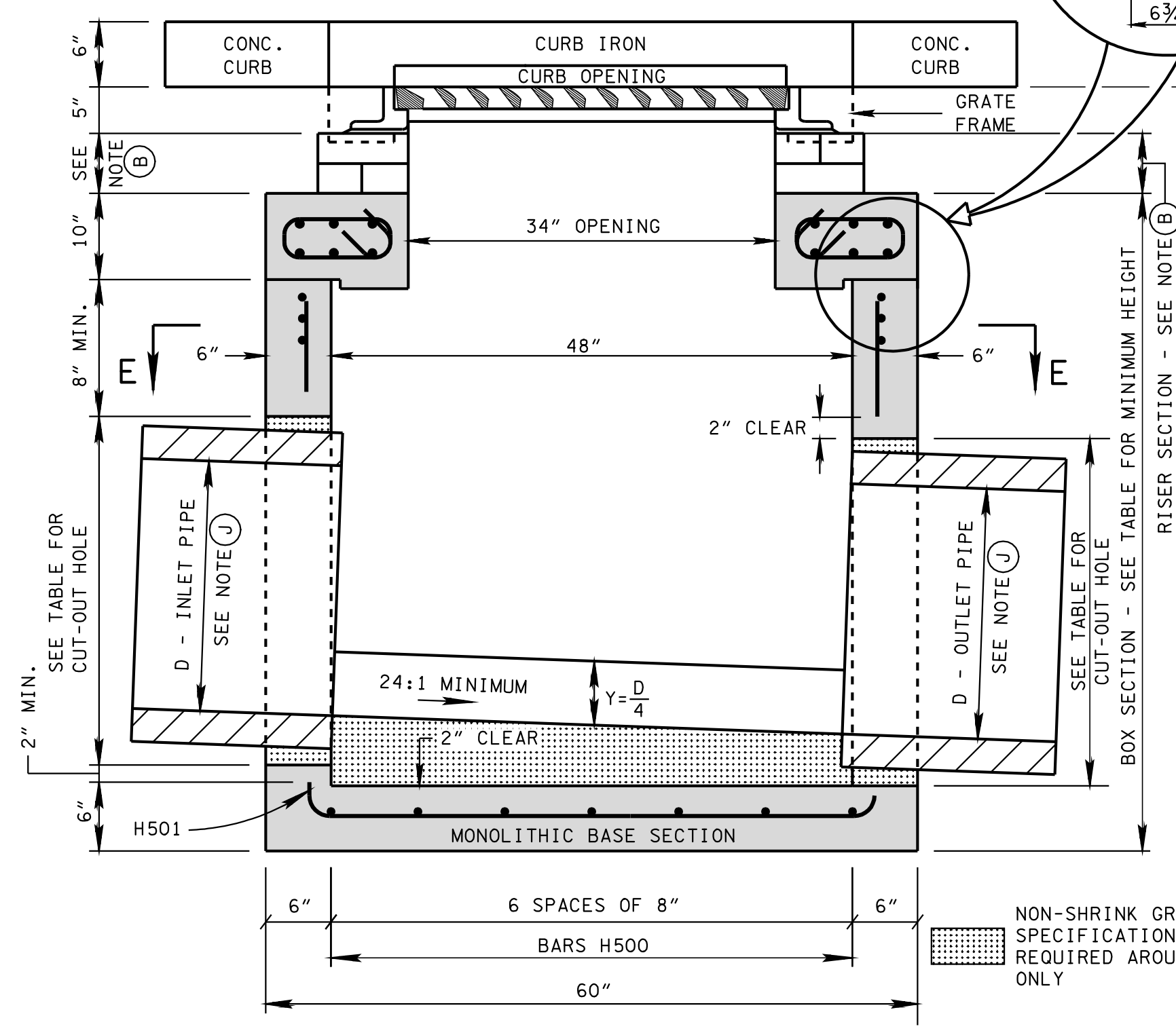
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



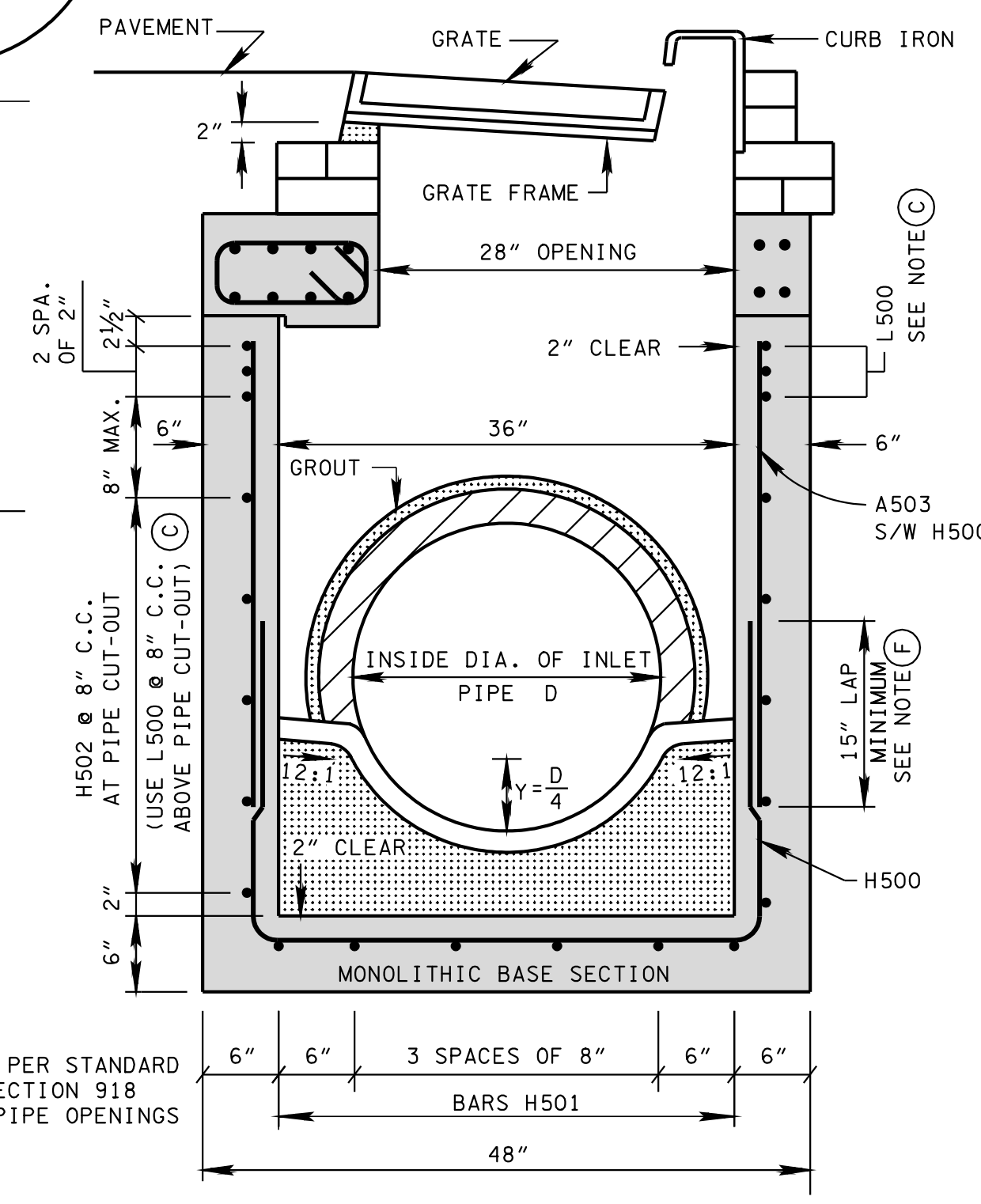
SECTION C-C



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



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
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	2 1/2	25	49	3.88
24	3	32	56	4.42
④ 30	3 1/2	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.

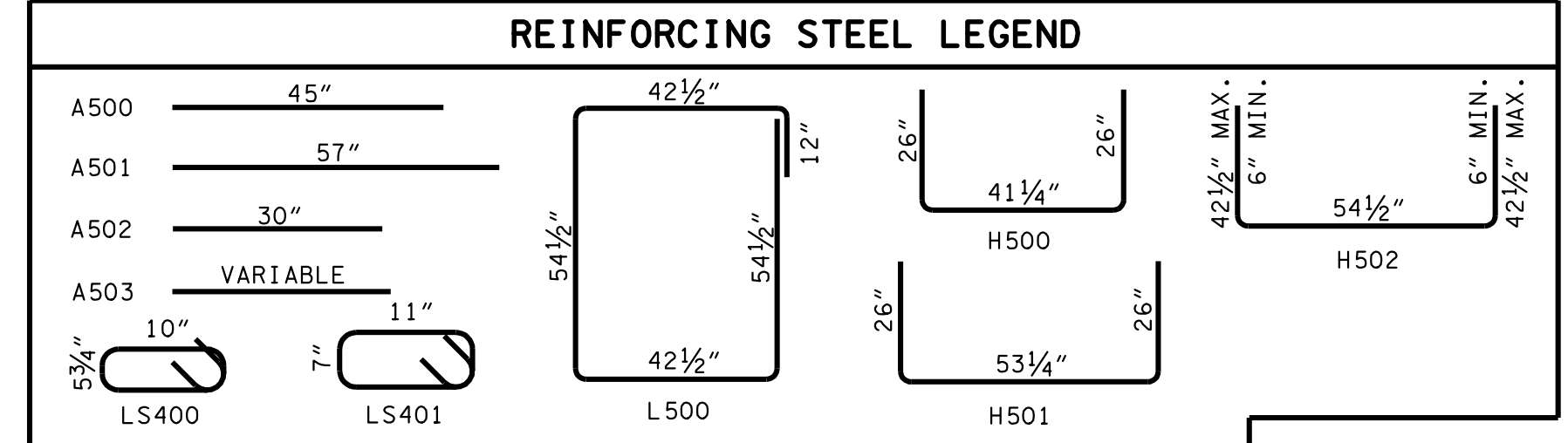
- REV. 12-18-96: MODIFIED DRAWING NO. D-CB-12P BY CHANGING CURB IRON.
- REV. 12-31-96: REMOVED 0.5" PREMOLD FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE ⑥ CHANGED LABEL OF LAST THREE GENERAL NOTES.
- REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- 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 ①
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ⑥
- 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. 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 1 1/2 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.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.



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 PRECAST
RECTANGULAR
CONCRETE NO. 13
CATCH BASIN**

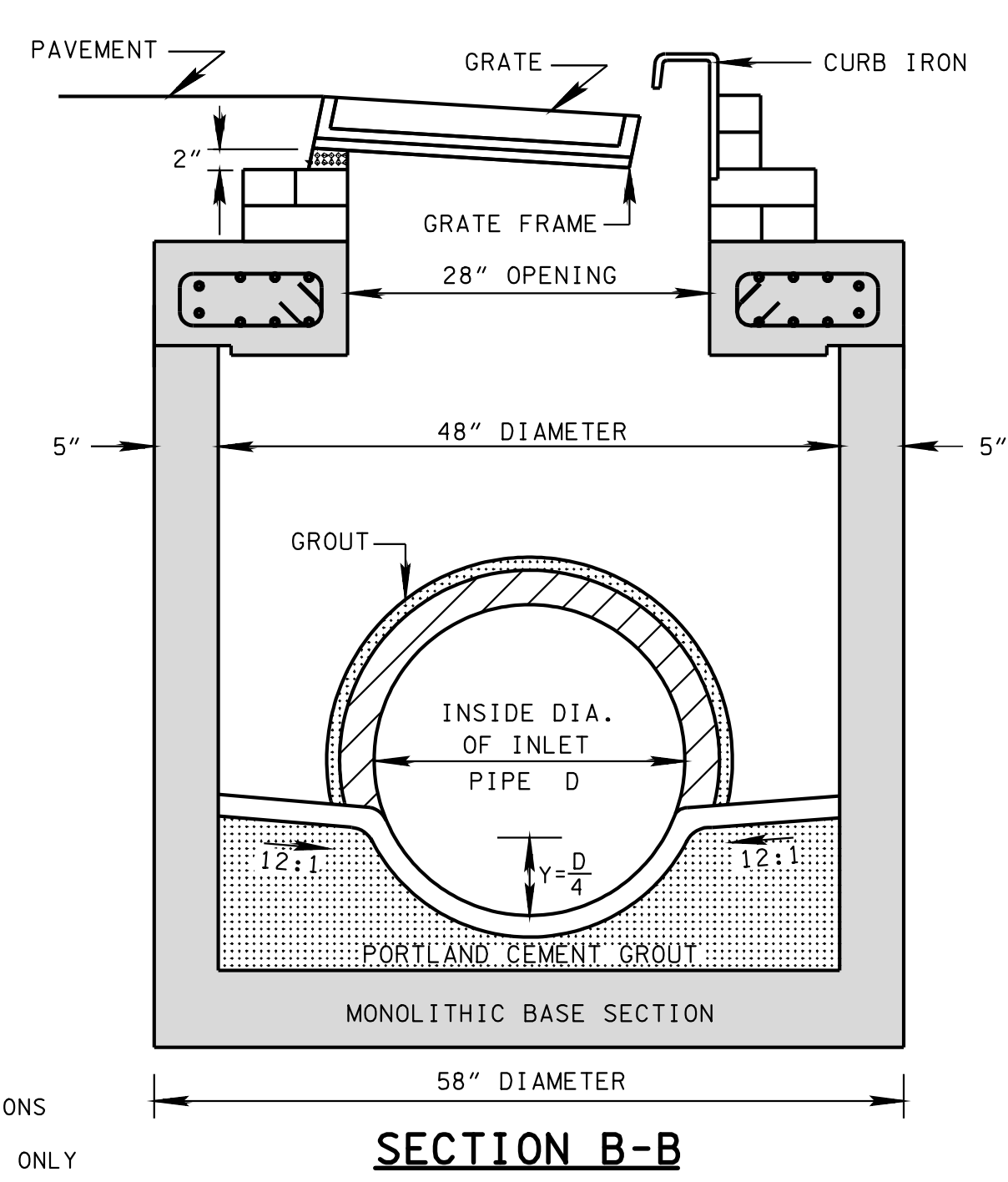
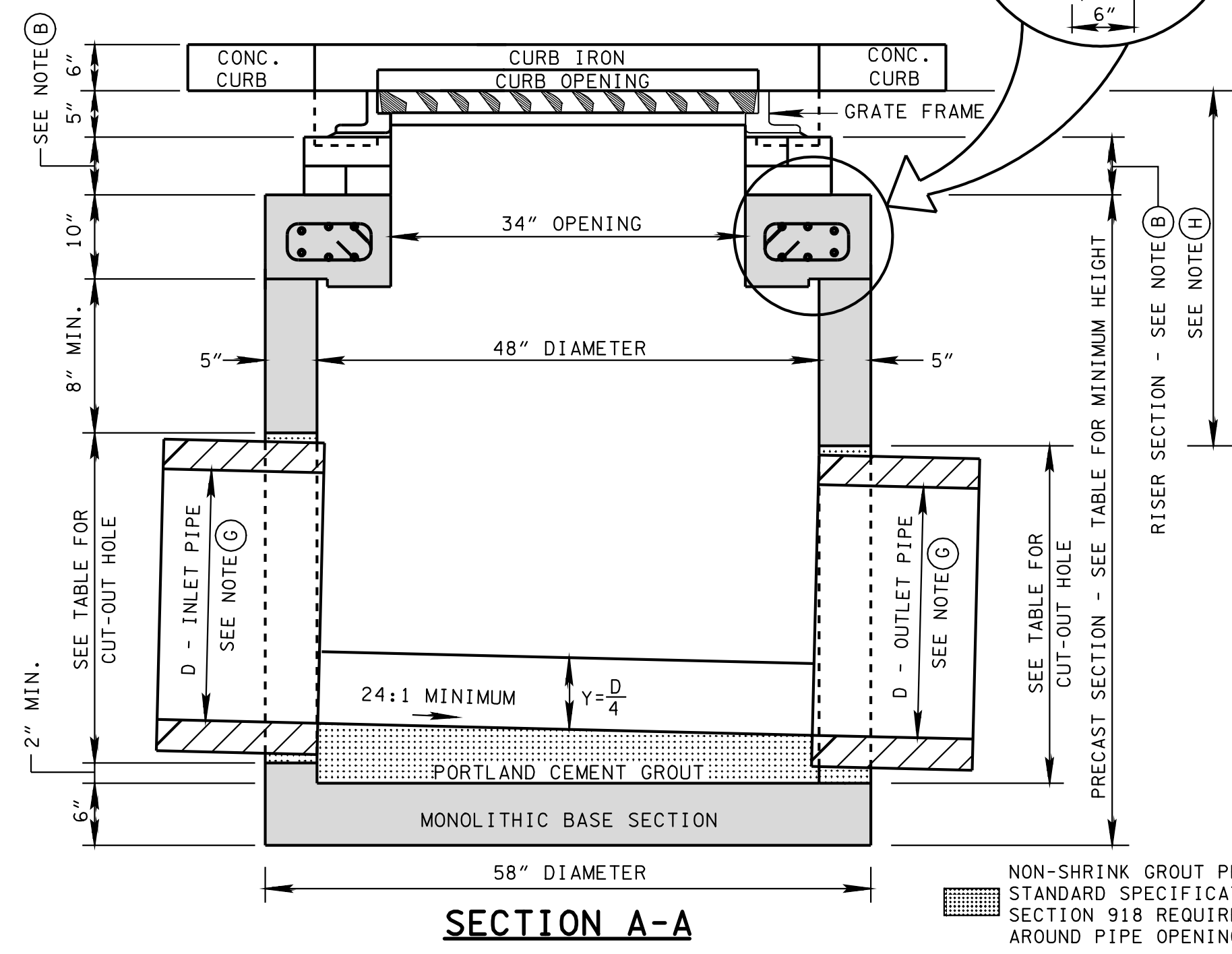
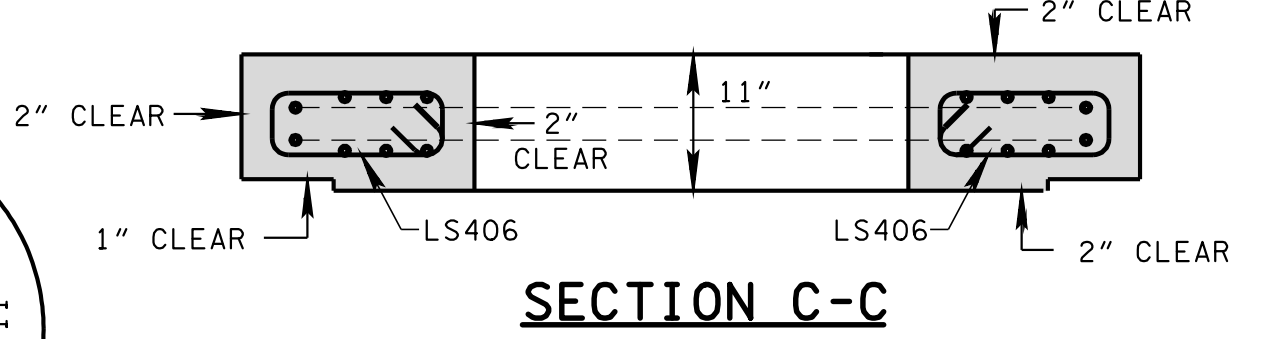
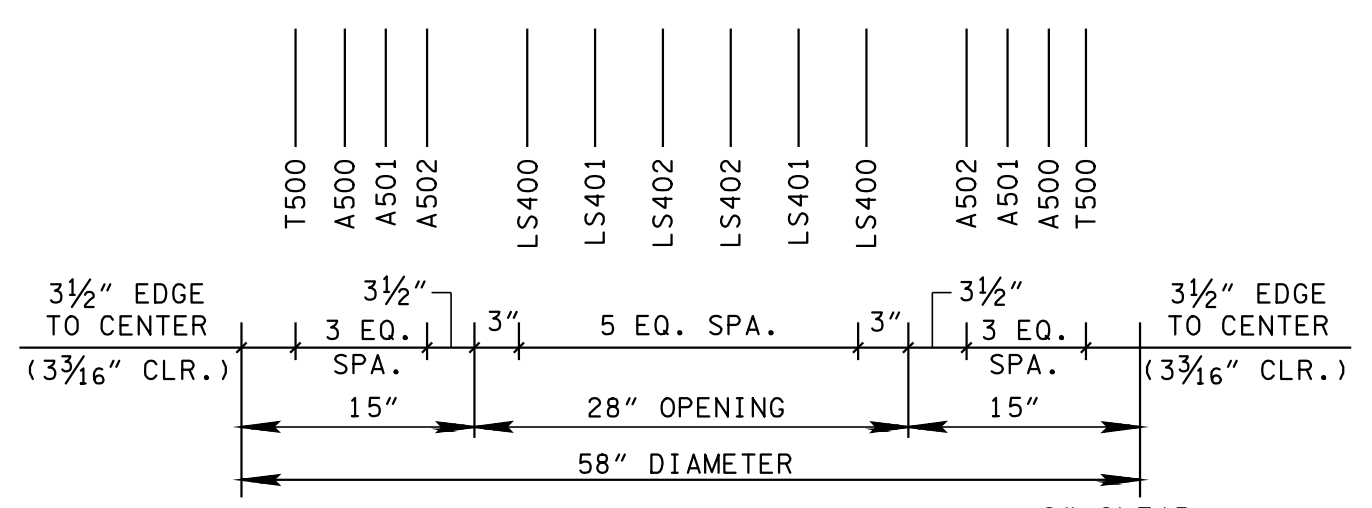
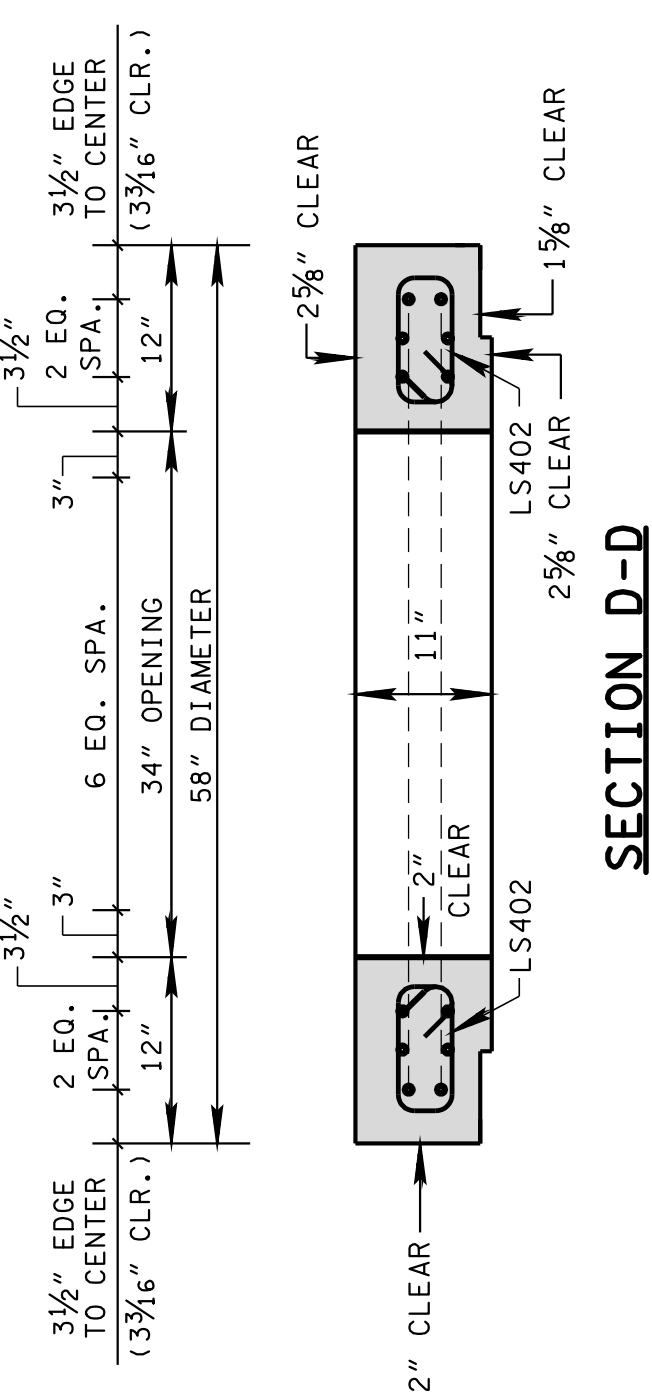
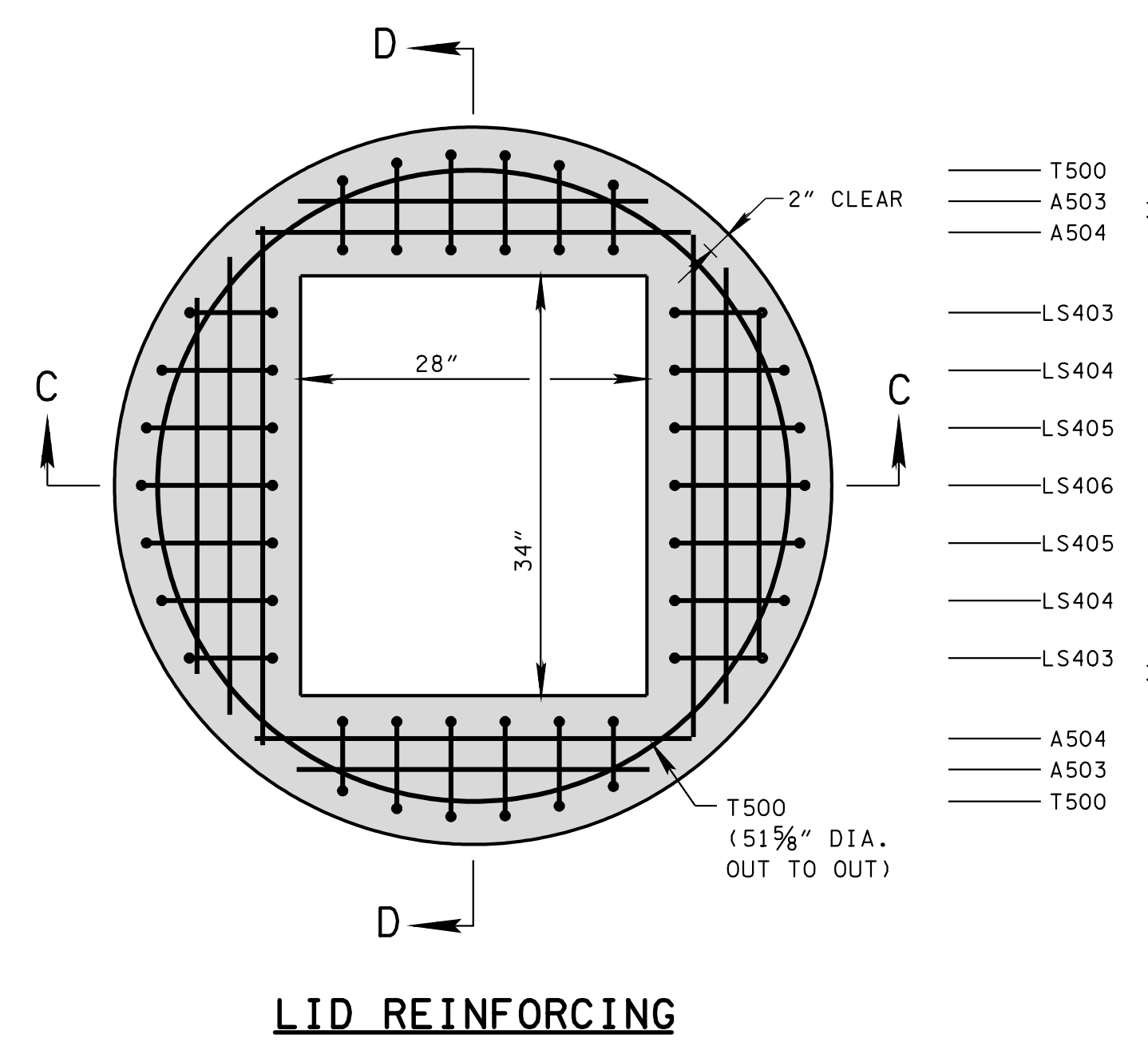
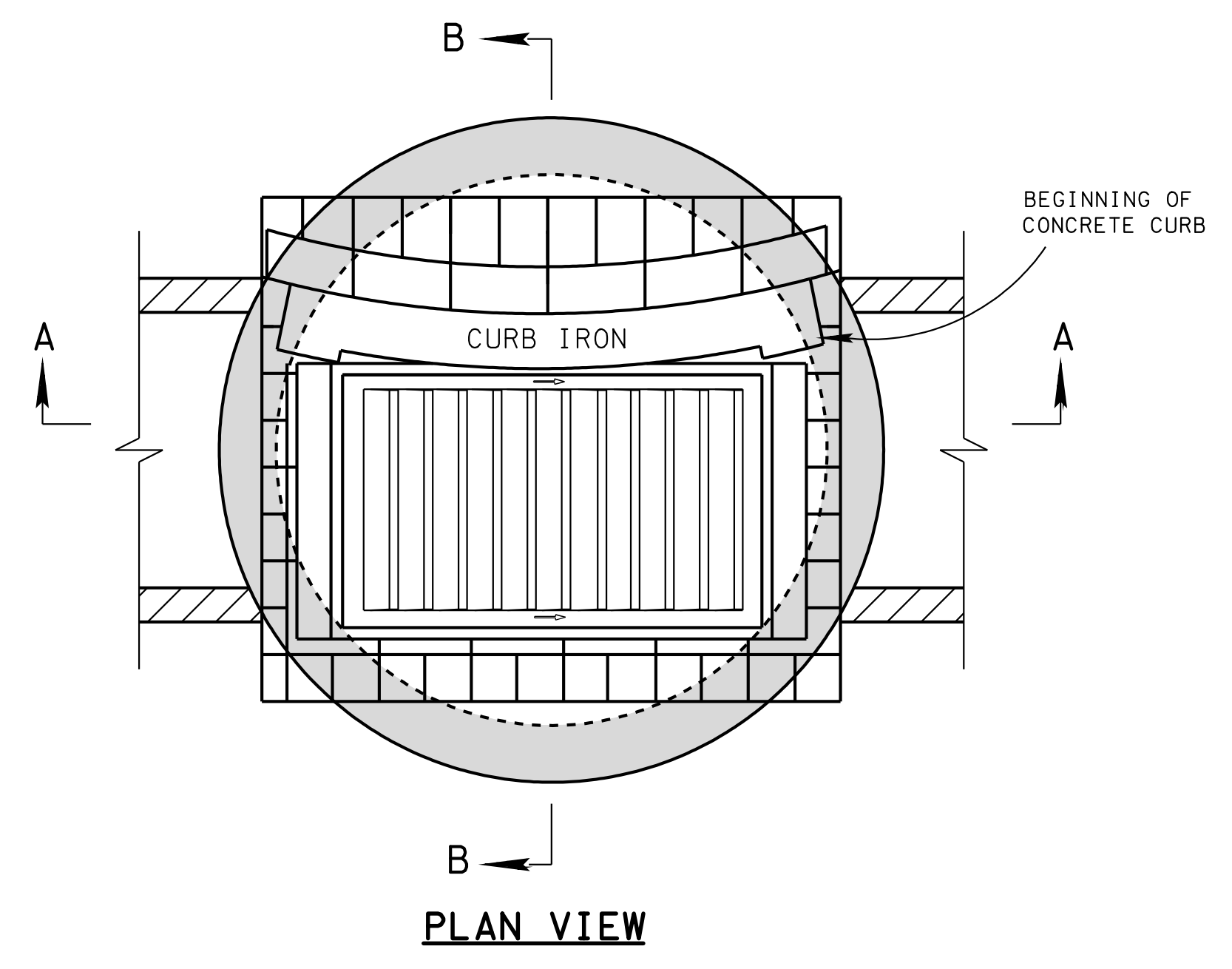
NOT TO SCALE 12-18-96 D-CB-13P

- 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.

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)	PRECAST SECTION MIN. HEIGHTS (INCHES)	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.



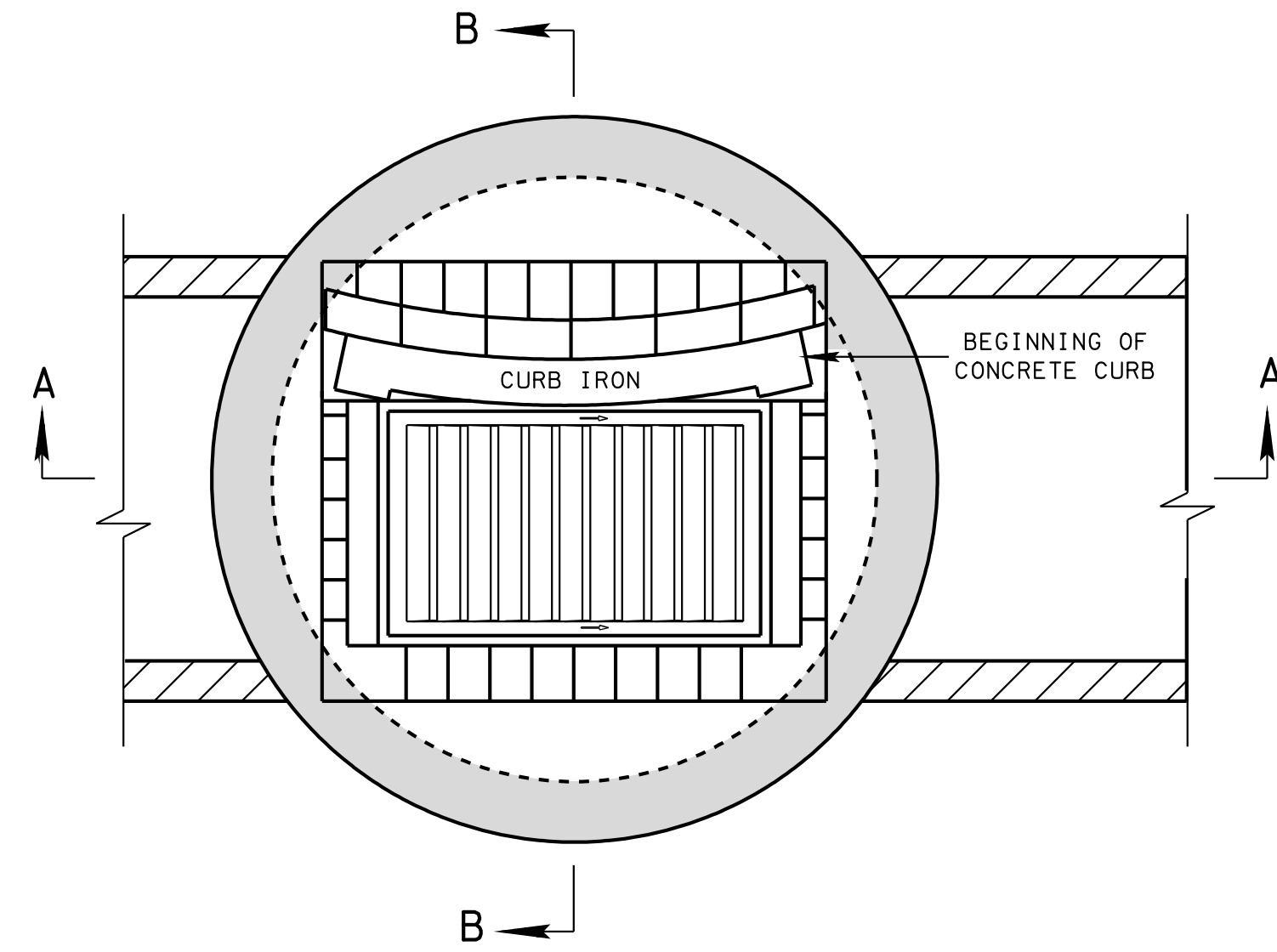
GENERAL NOTES

- (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.

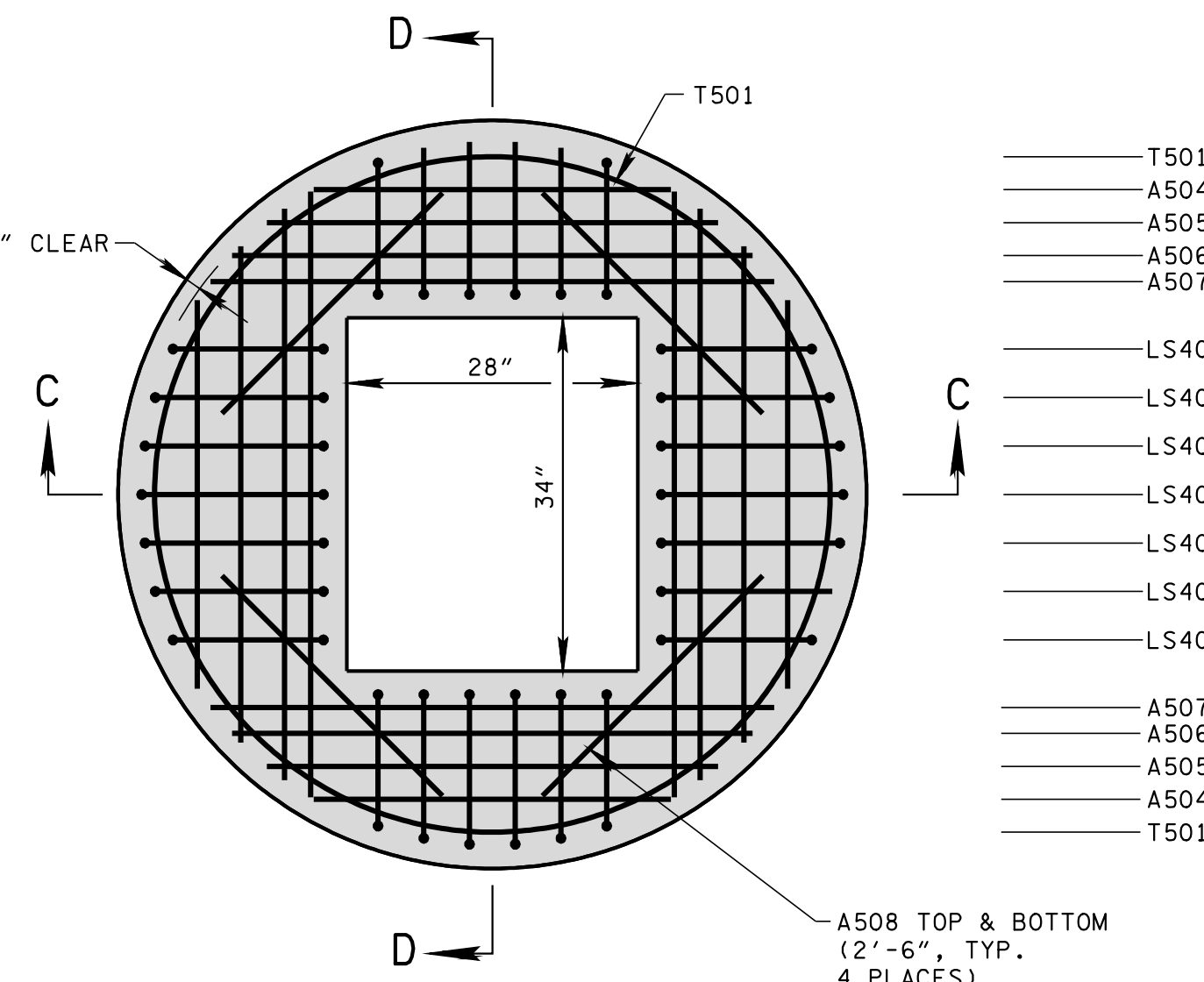
SPECIAL NOTE
 TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
**STANDARD PRECAST
 48" CIRCULAR NO. 13
 CATCH BASIN**
 (FOR USE WITH 6" NONMOUNTABLE CURB)



PLAN VIEW

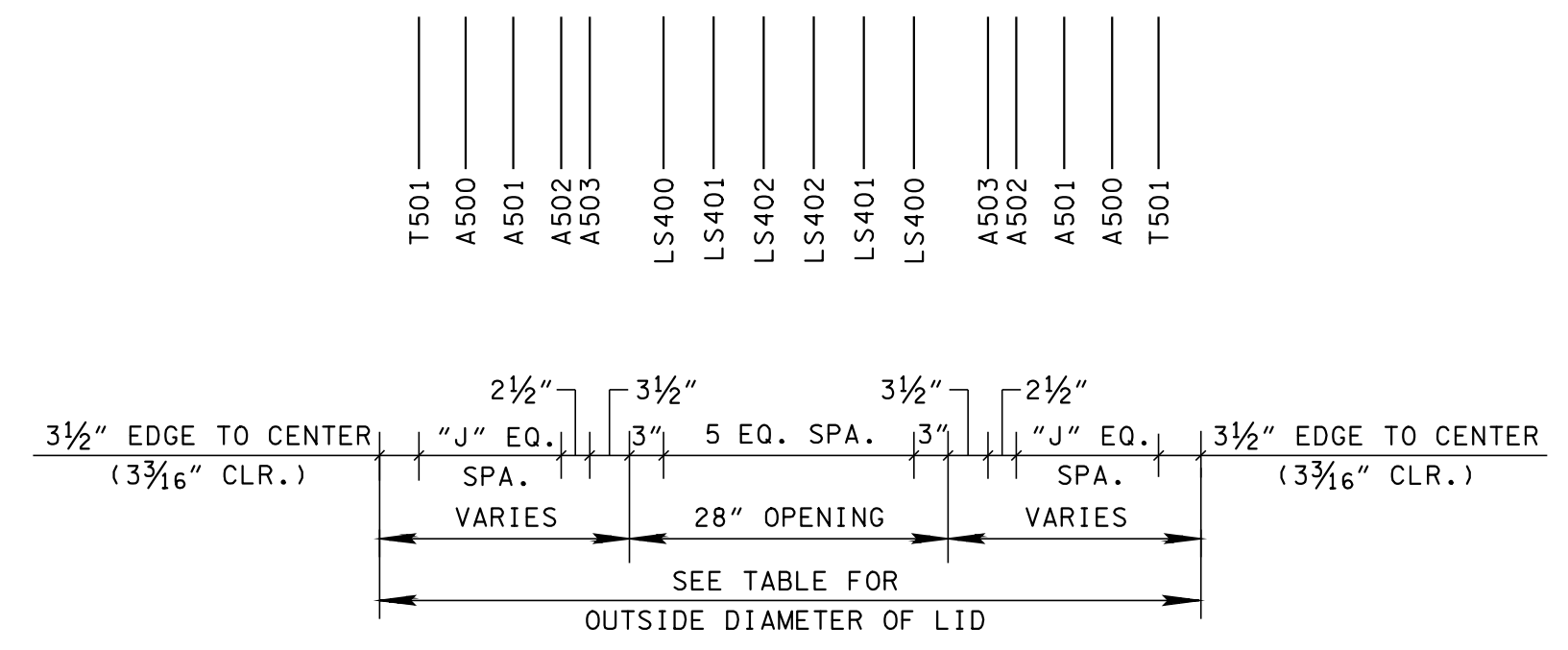


LID REINFORCING

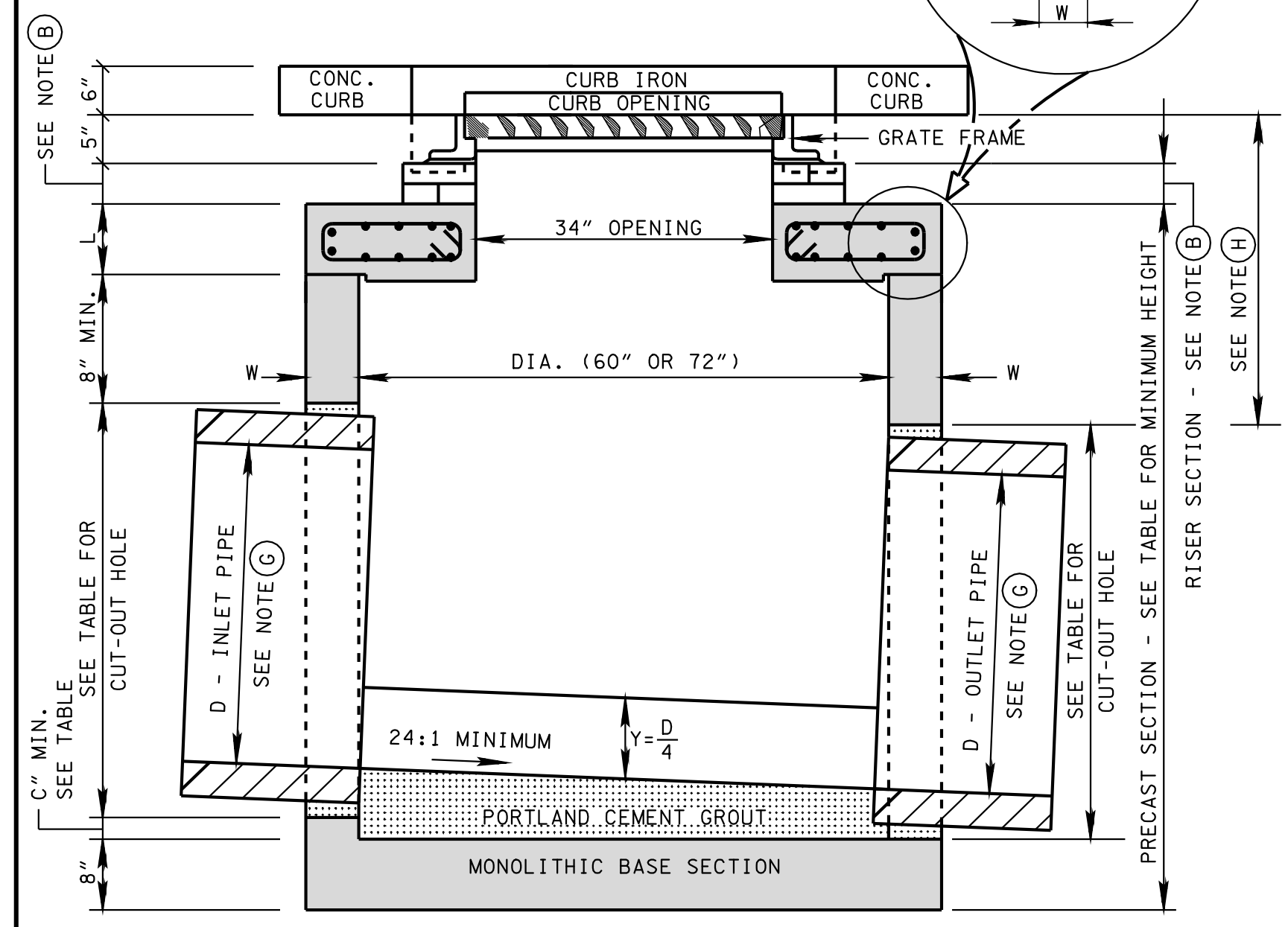
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4

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

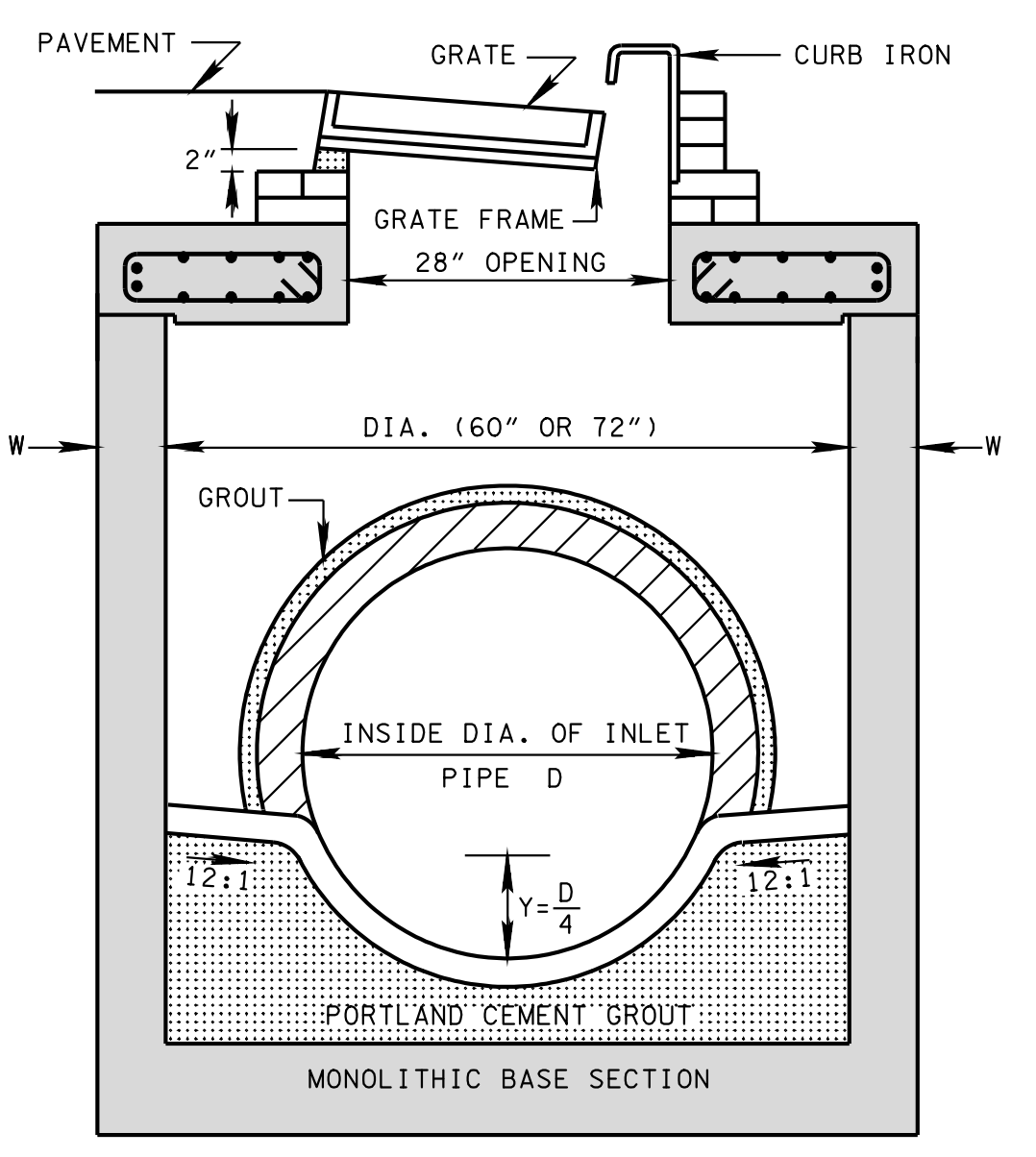
ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE AS INDICATED BY "NO. OF EQ. SPACES 'J'".



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 40.00'.

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	2 1/2	25	51 1/2	53	3.92	3.97
24	3	32	58 1/2	60	4.46	4.51
30	3 1/2	39	65 1/2	67	5.00	5.05
36	4	46	72 1/2	74	5.55	5.59
42	4 1/2	53	79 1/2	81	6.09	6.13
48	5	60	86 1/2	88	6.63	6.67

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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

- 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.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-13 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- SEE STANDARD DRAWING D-CB-13RA FOR DETAILS REGARDING 48" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).
- SEE STANDARD DRAWING D-CB-13RC FOR DETAILS REGARDING 84" THRU 120" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB).
- 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.

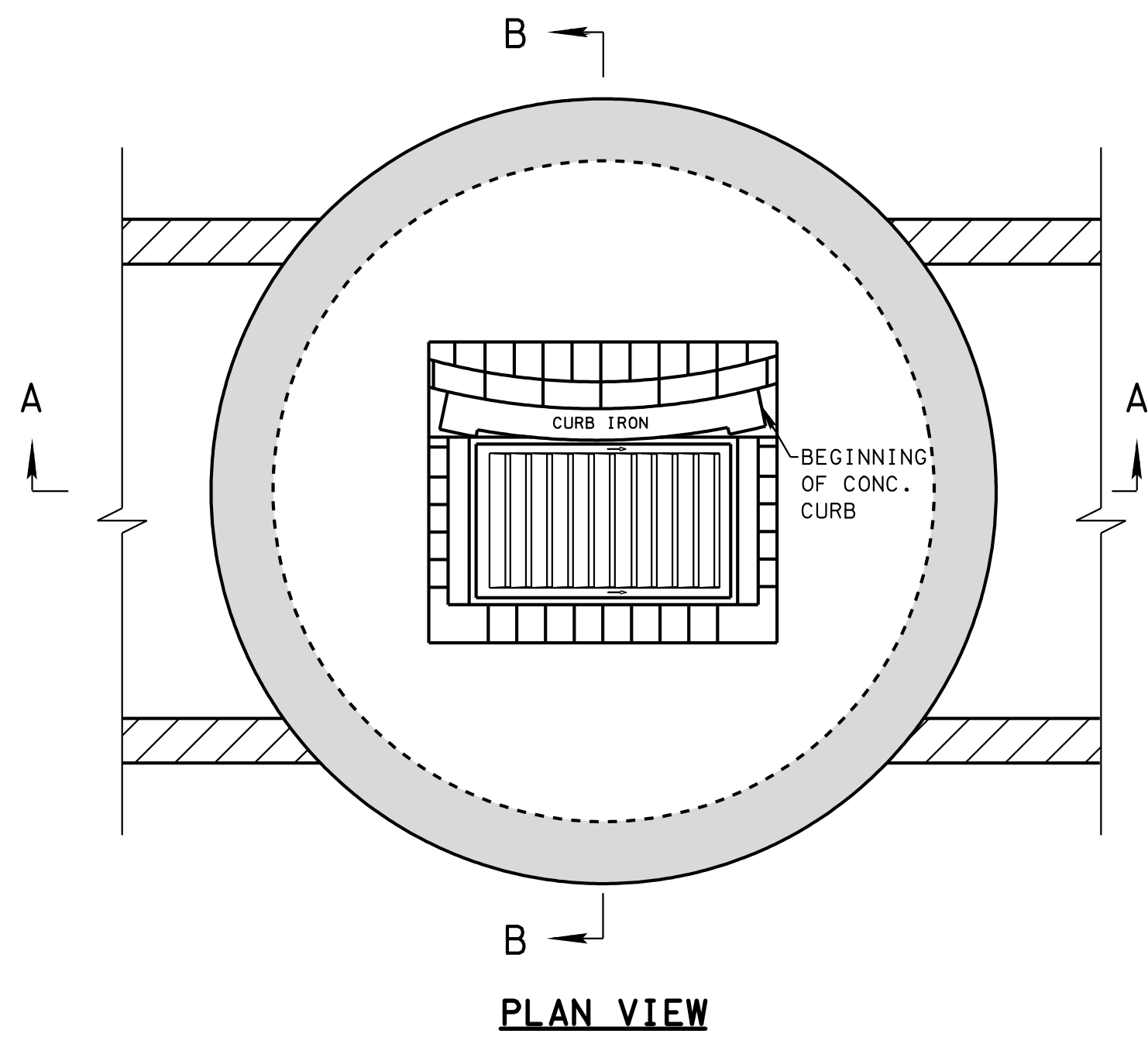
SPECIAL NOTE
TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.

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

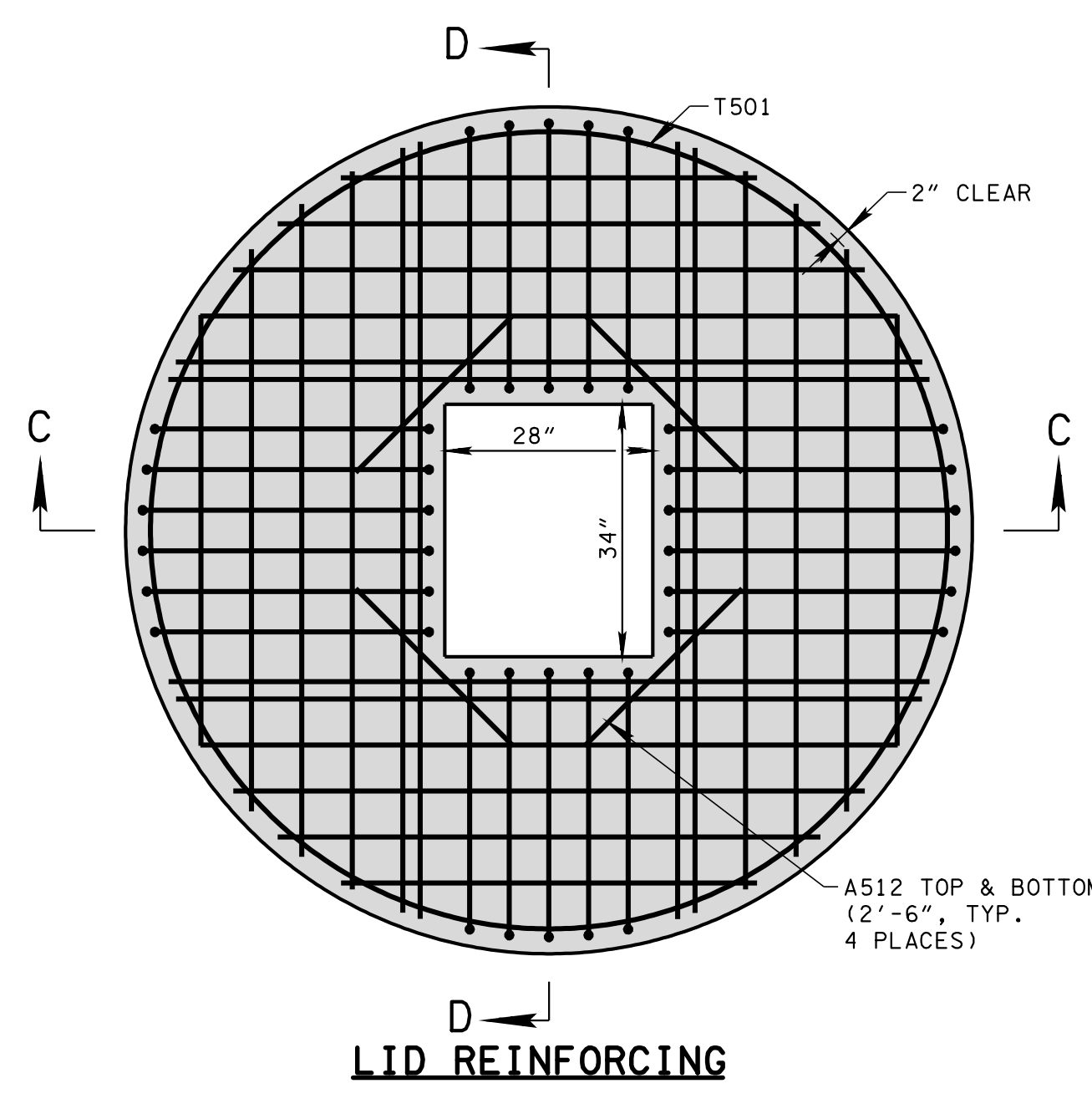
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

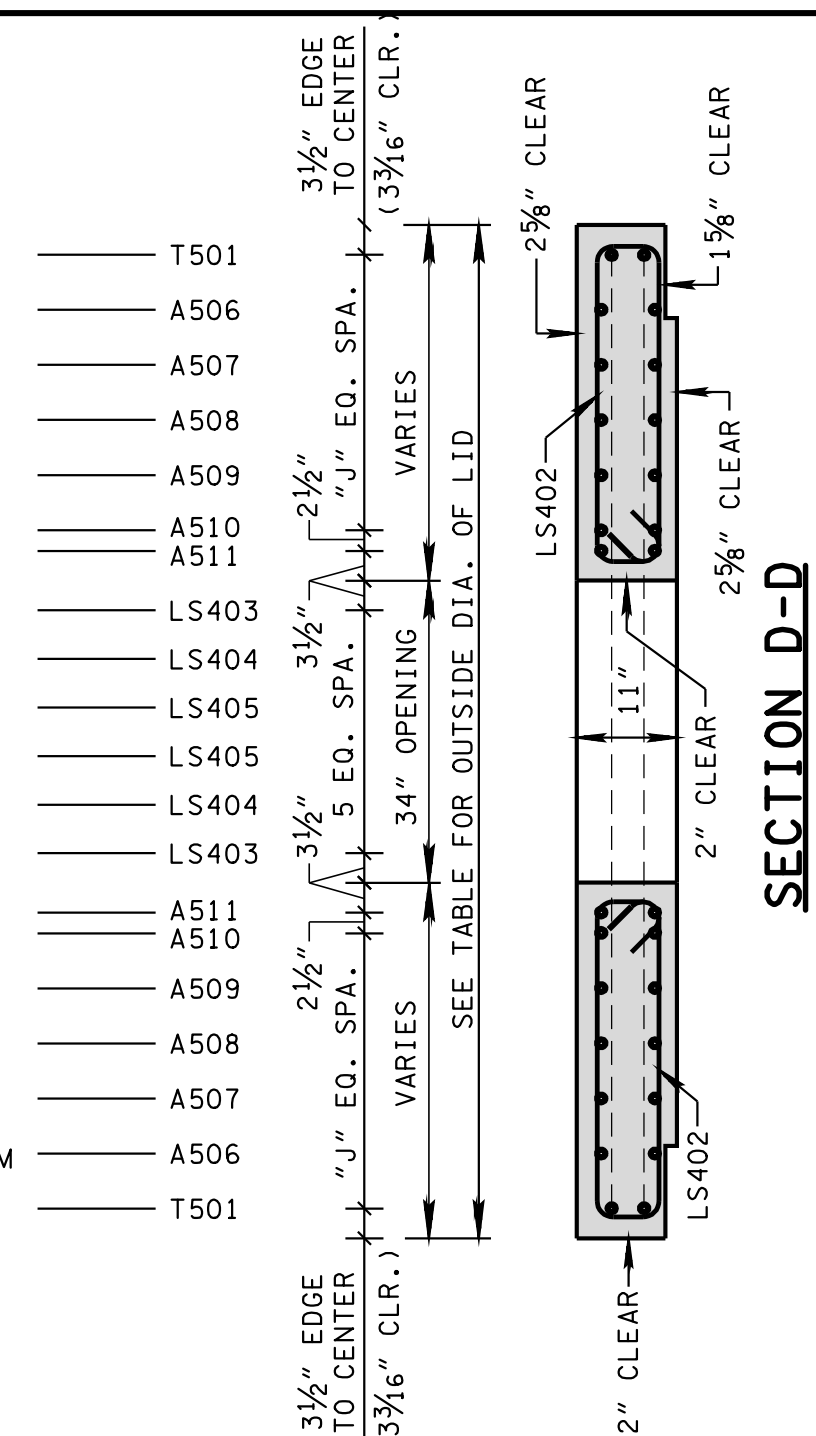
STANDARD PRECAST 60" AND 72" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)



PLAN VIEW



LID REINFORCING



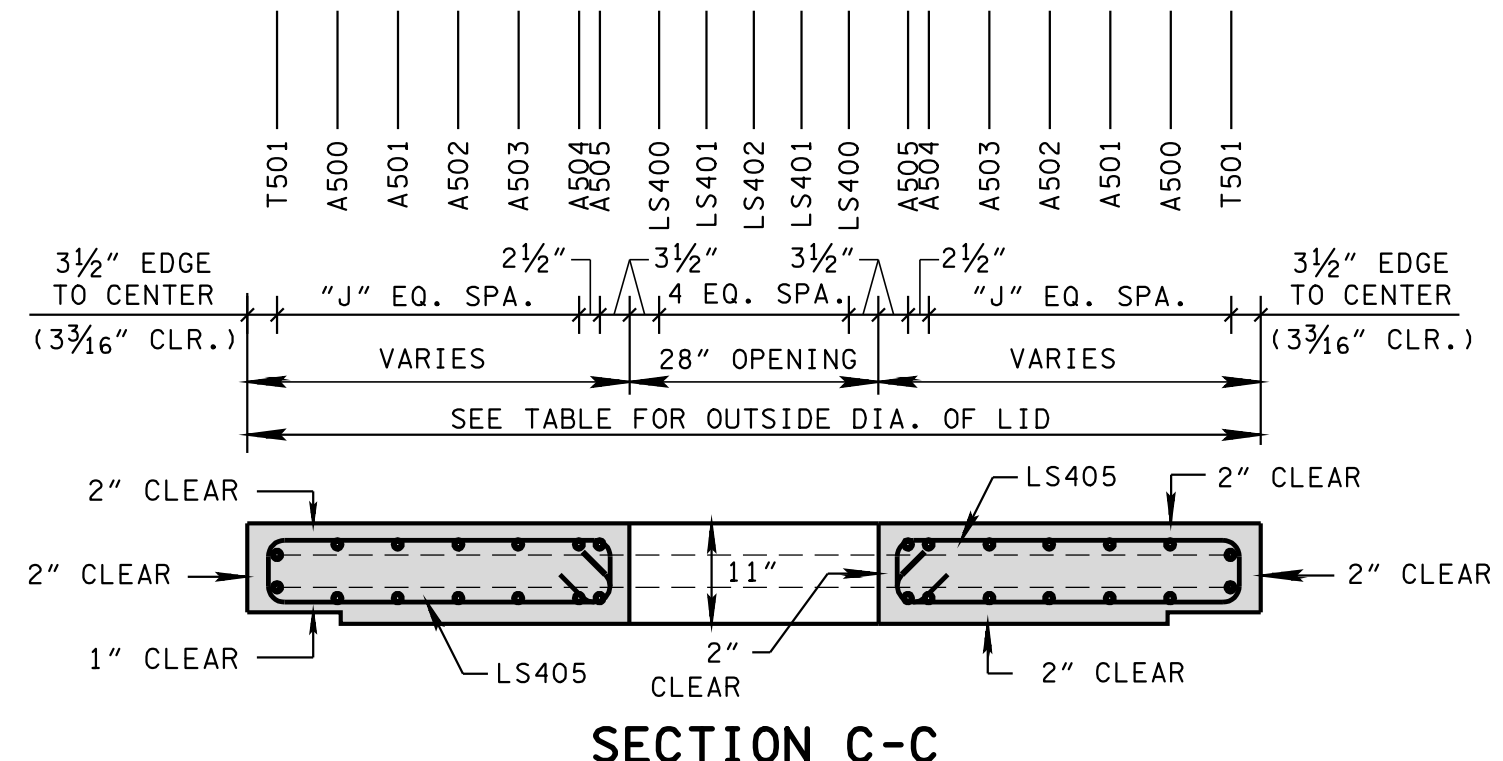
SECTION D-D

VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID

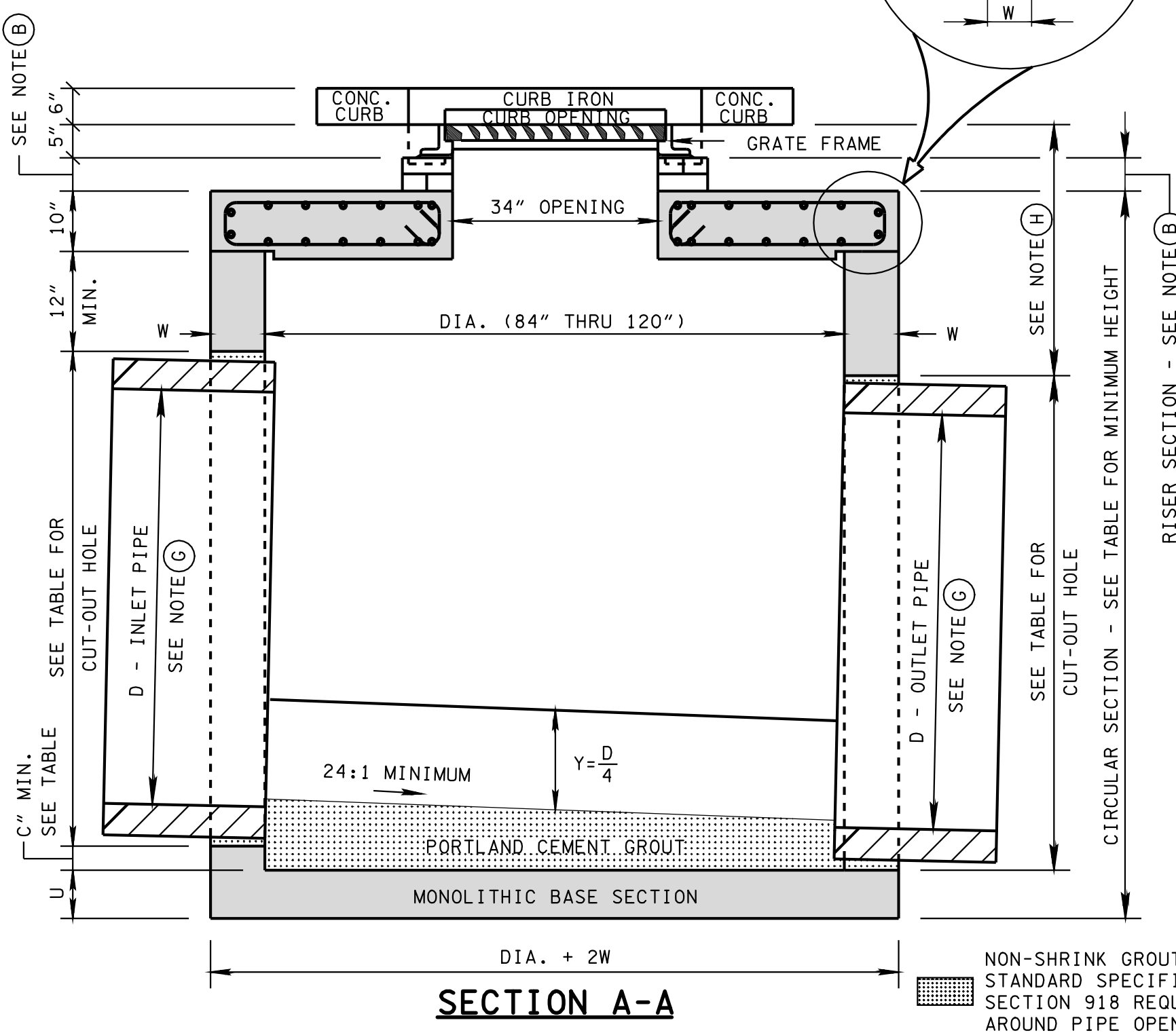
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
84	100	5
96	114	6
108	128	7
120	142	8

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

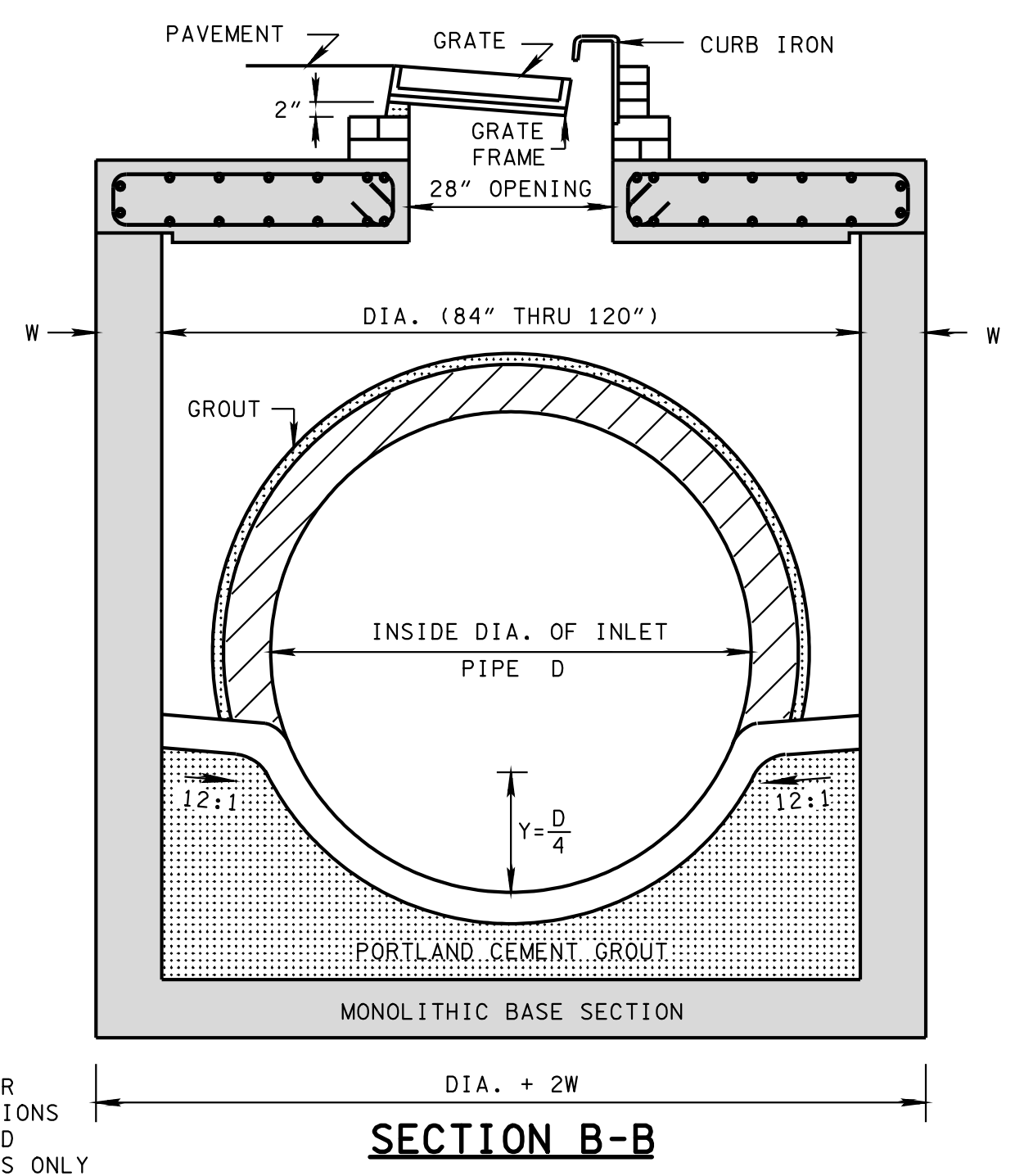
ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURES AS INDICATED BY "NO. OF EQ. SPACES 'J'".



SECTION C-C



SECTION A-A



SECTION B-B

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. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE ① 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	2 1/2	25	57 1/2	59	63 1/2	64	4.34	4.38	4.42	4.46
24	3	32	64 1/2	66	70 1/2	71	4.88	4.92	4.96	5.00
30	3 1/2	39	71 1/2	73	77 1/2	78	5.42	5.46	5.50	5.54
36	4	46	78 1/2	80	84 1/2	85	5.97	6.00	6.04	6.08
42	4 1/2	53	85 1/2	87	91 1/2	92	6.51	6.54	6.58	6.63
48	5	60	92 1/2	94	98 1/2	99	7.05	7.08	7.13	7.17
54	5 1/2	67	99 1/2	101	105 1/2	106	7.59	7.63	7.67	7.71
60	6	74	106 1/2	108	112 1/2	113	8.13	8.17	8.21	8.25
66	6 1/2	81	113 1/2	115	119 1/2	120	8.67	8.71	8.75	8.79
72	7	88	120 1/2	122	126 1/2	127	9.22	9.25	9.29	9.33
78	7 1/2	95	127 1/2	129	133 1/2	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 UN CUT 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.

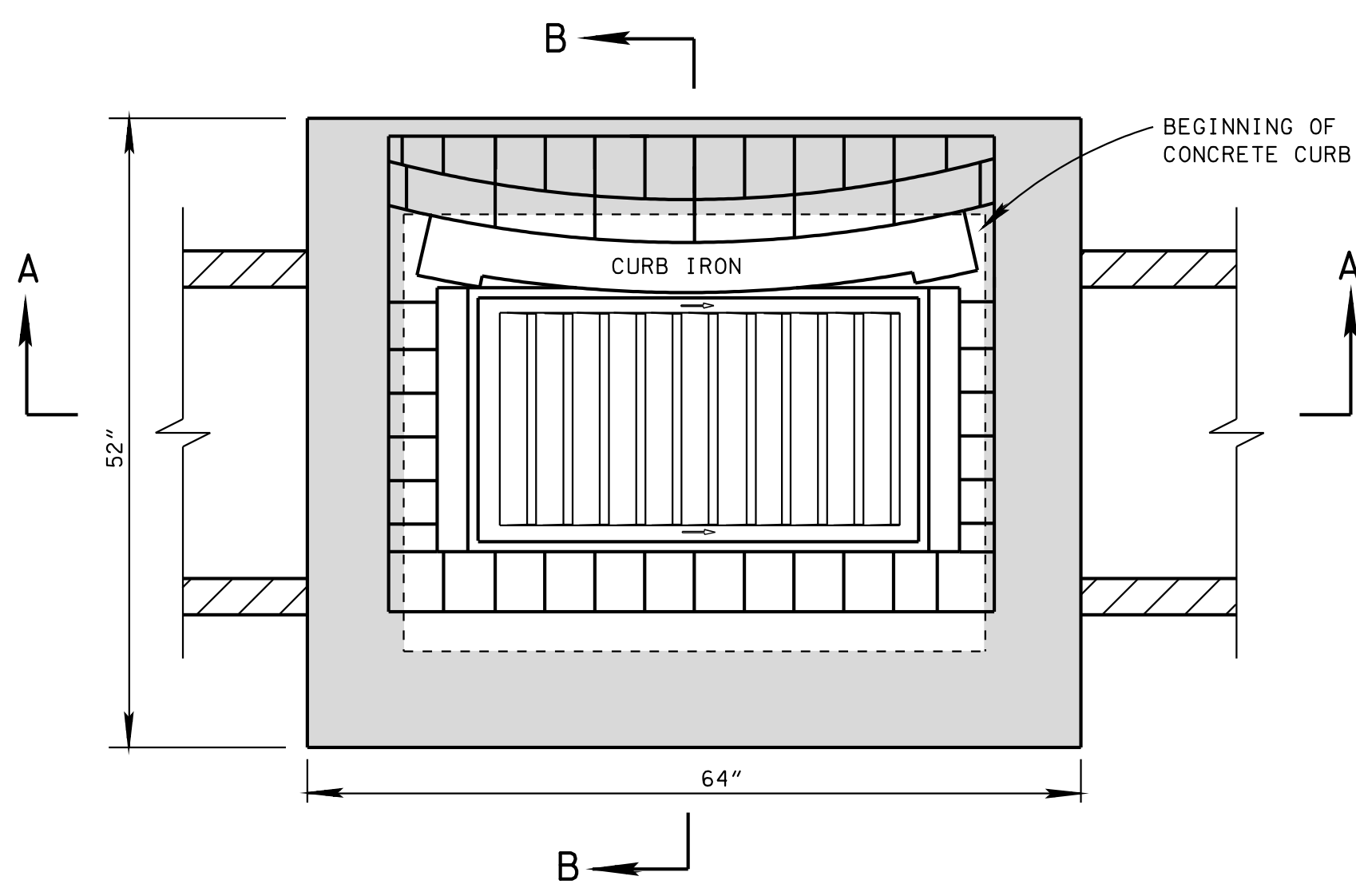
CATCH BASIN DIMENSIONS

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

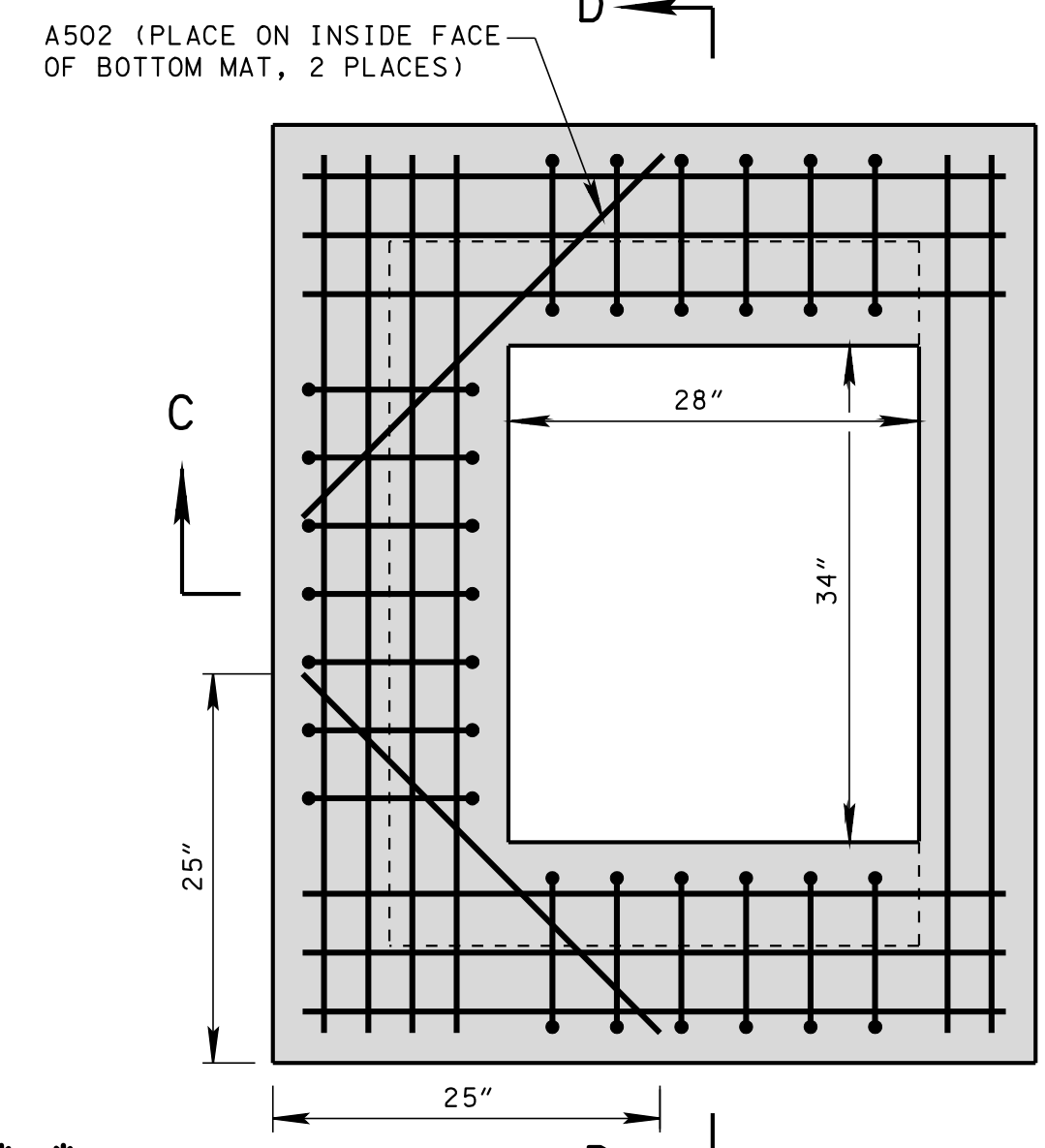
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

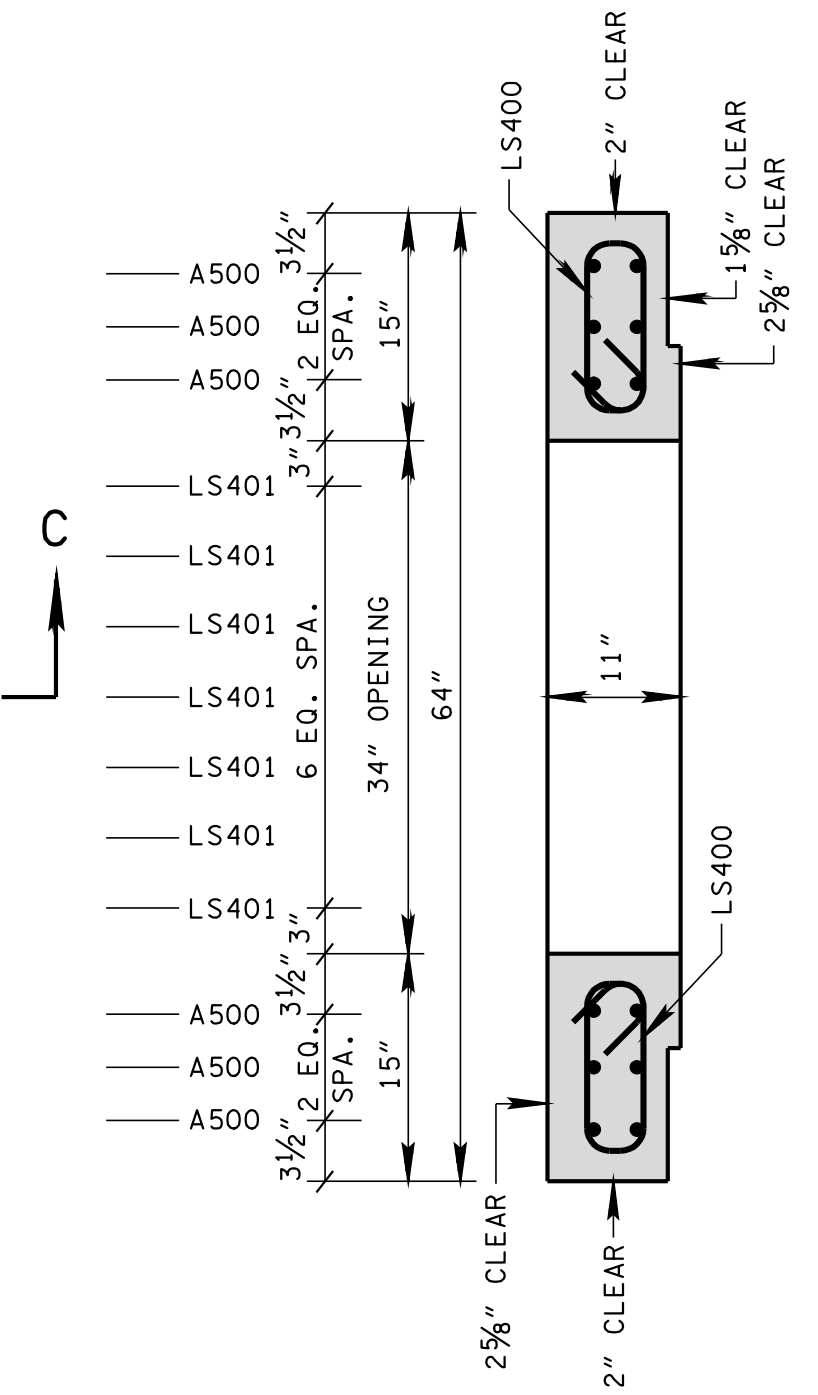
STANDARD PRECAST
84" THRU 120"
CIRCULAR NO. 13
CATCH BASIN
(FOR USE WITH 6" NONMOUNTABLE CURB)



PLAN VIEW



PLAN VIEW



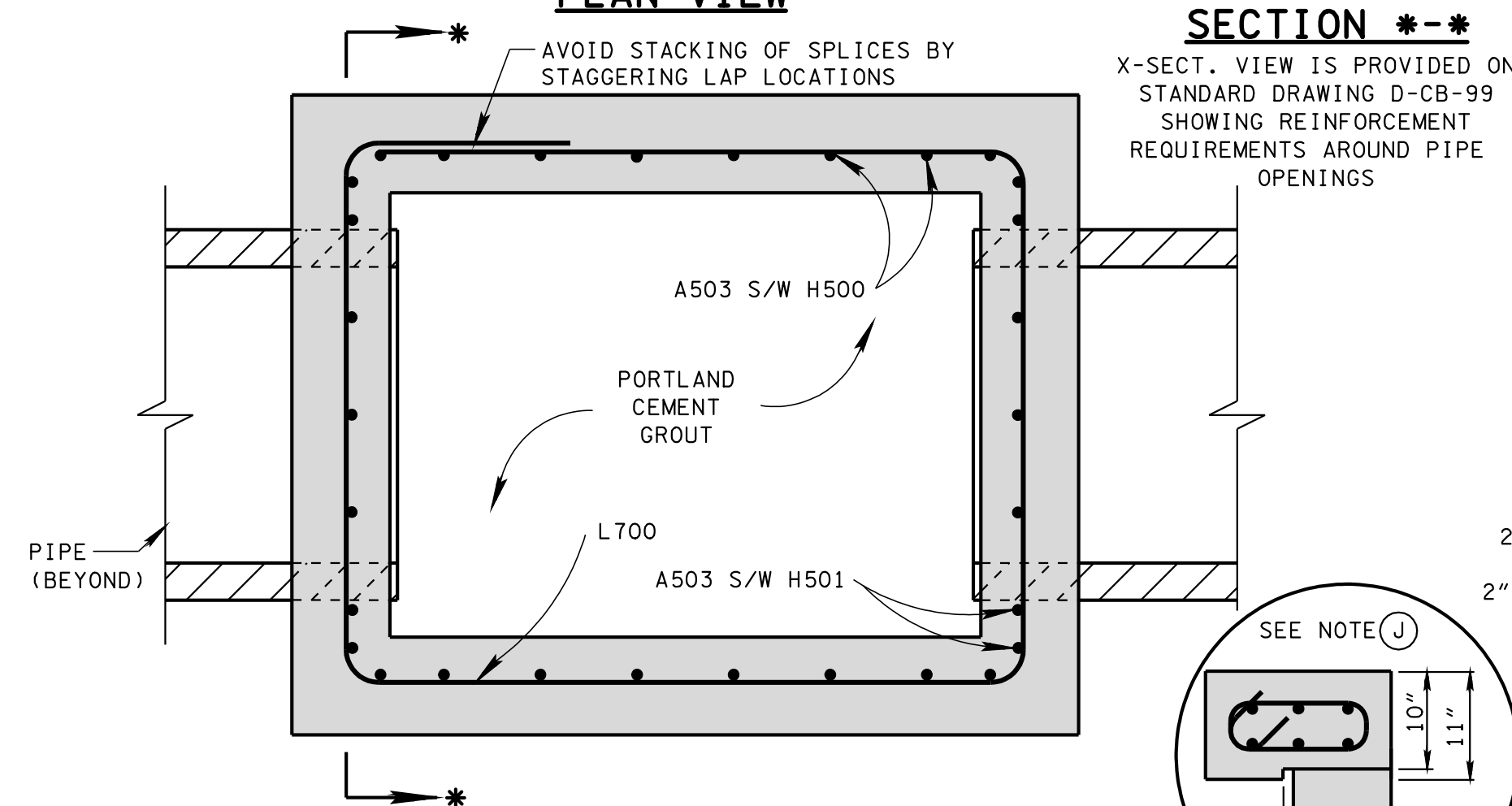
SECTION D-D

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

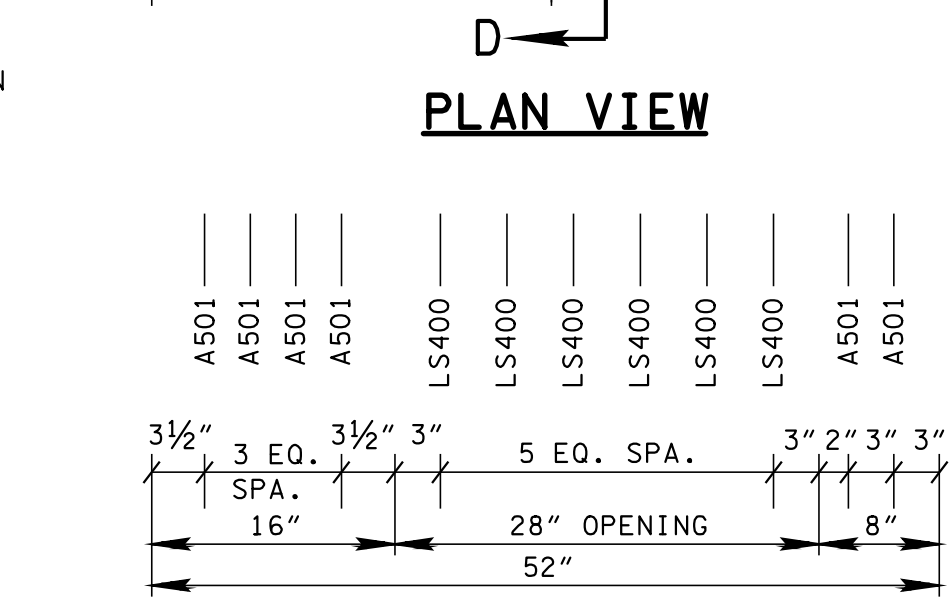
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	51	3.88
24	3	32	58	4.42
30	3 1/2	39	65	4.96
36	4	46	72	5.50

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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 UN CUT WILL NOT BE PERMITTED.
- TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

- REV. 12-18-96: MODIFIED DRAWING NO. D-CB-125 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 (I). 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 E-E

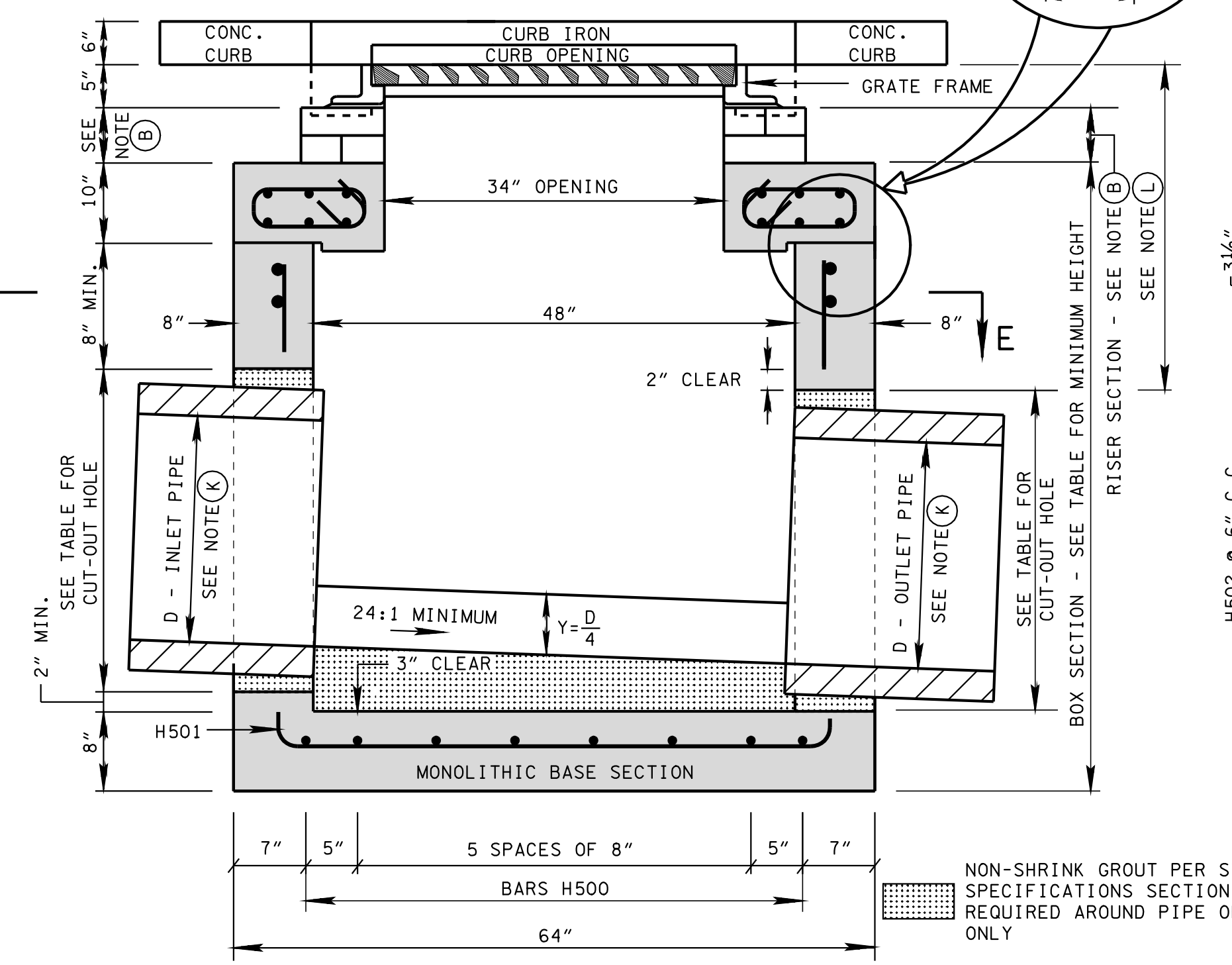


SECTION C-C

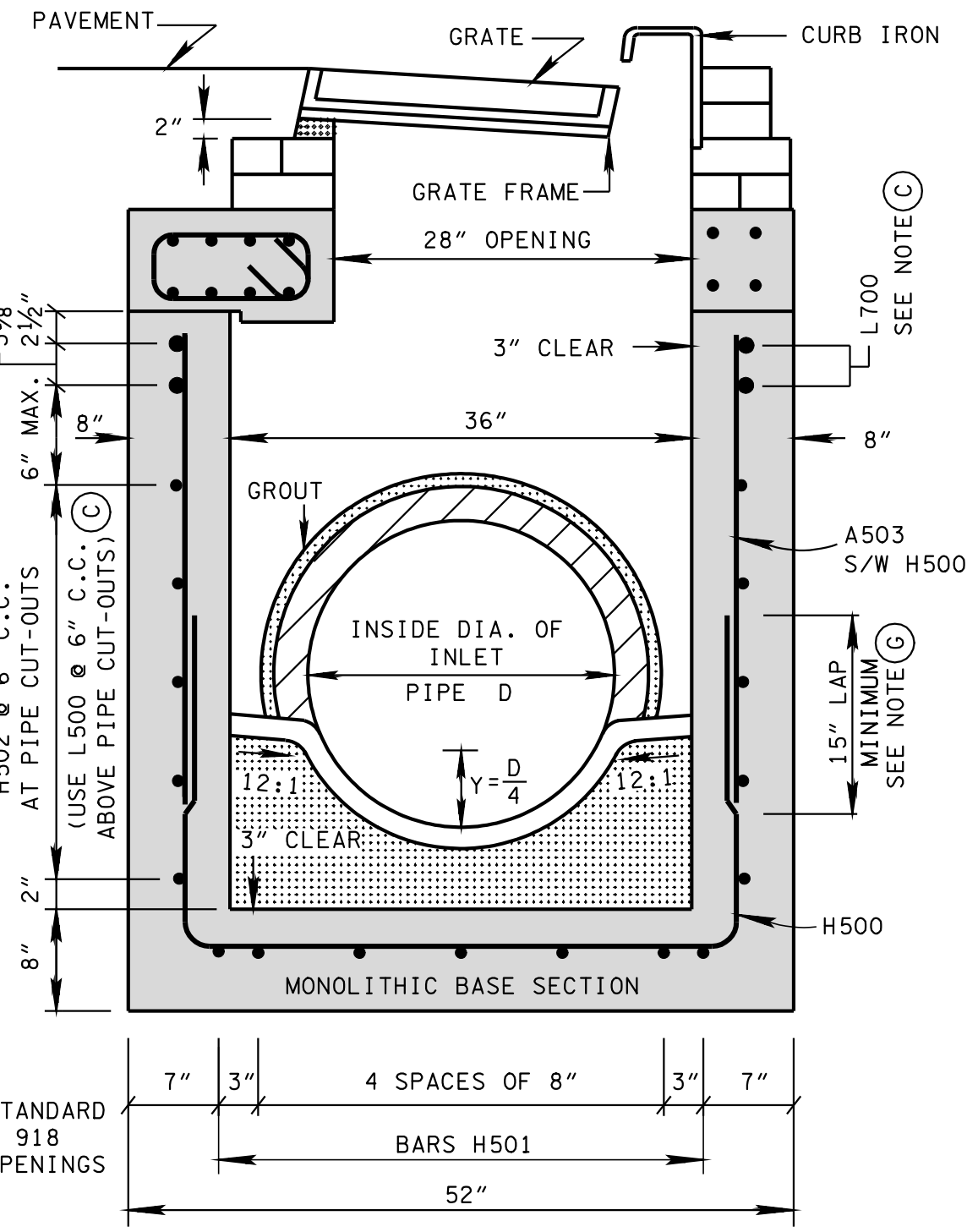
SPECIAL NOTE
 TO BE USED ON RADIUS LESS THAN 25 FEET. FOR RADIUS 25 FEET AND GREATER USE TYPE 12 CATCH BASIN.

GENERAL NOTES

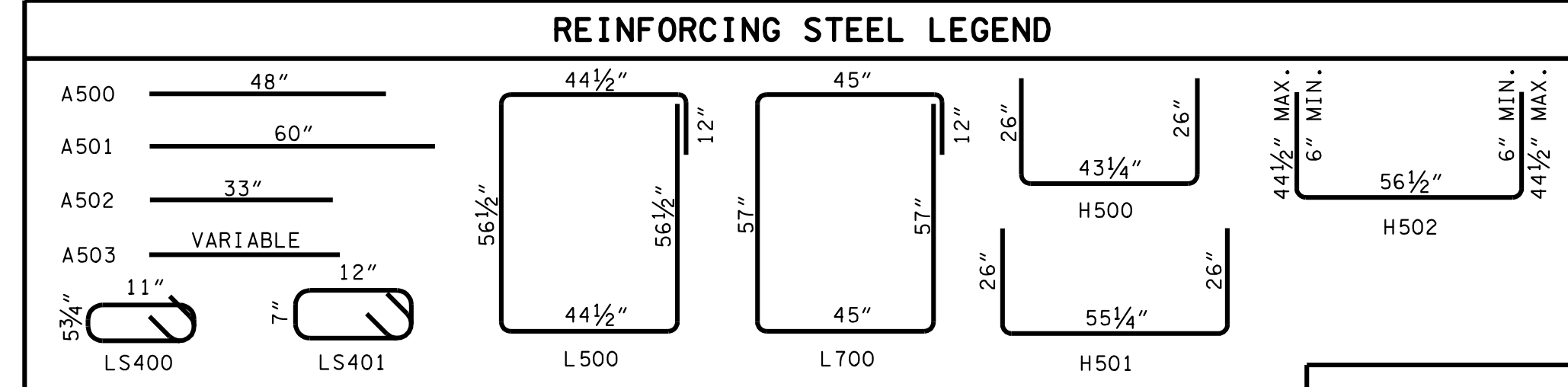
- DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 13 CONCRETE CATCH BASINS AND ALL PRECAST NO. 13 CONCRETE CATCH BASINS THAT ARE GREATER THAN TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-13P FOR DETAILS OF PRECAST NO. 13 CONCRETE CATCH BASINS TWELVE FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.
- 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.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-13 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- 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.



SECTION A-A



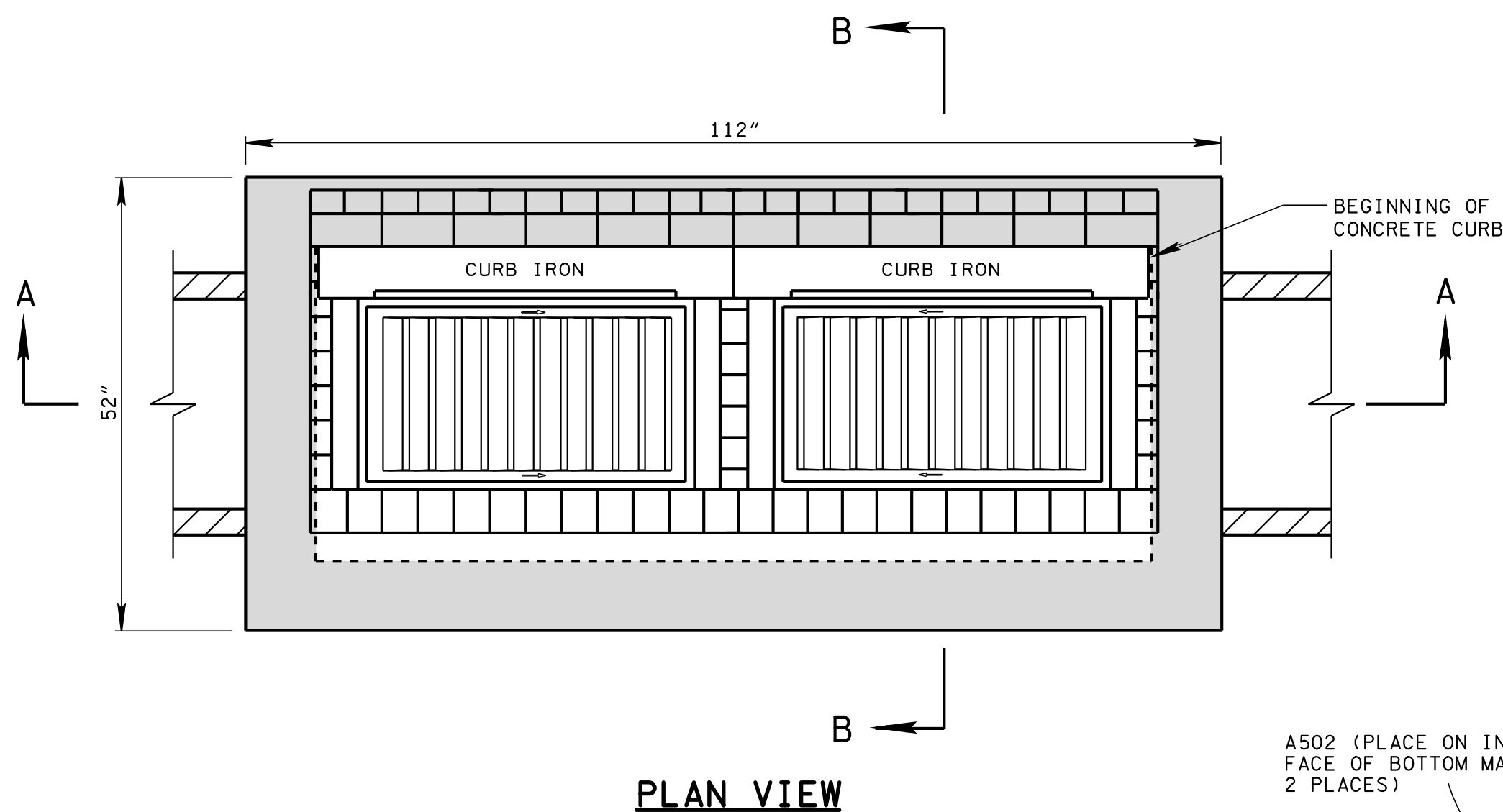
SECTION B-B



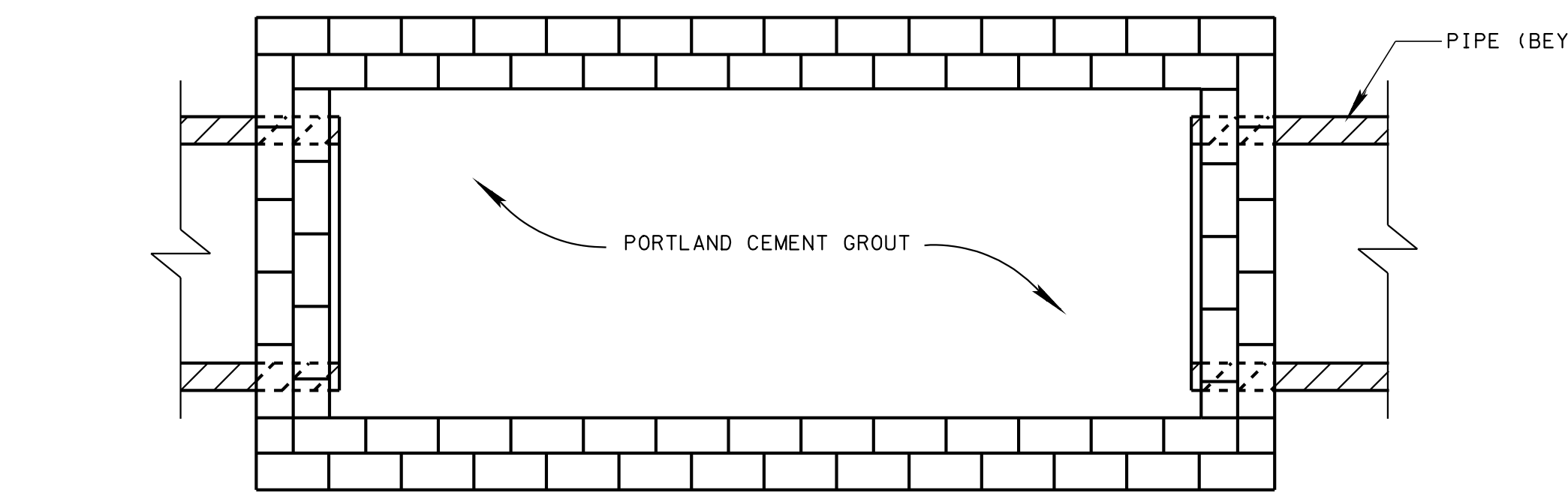
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

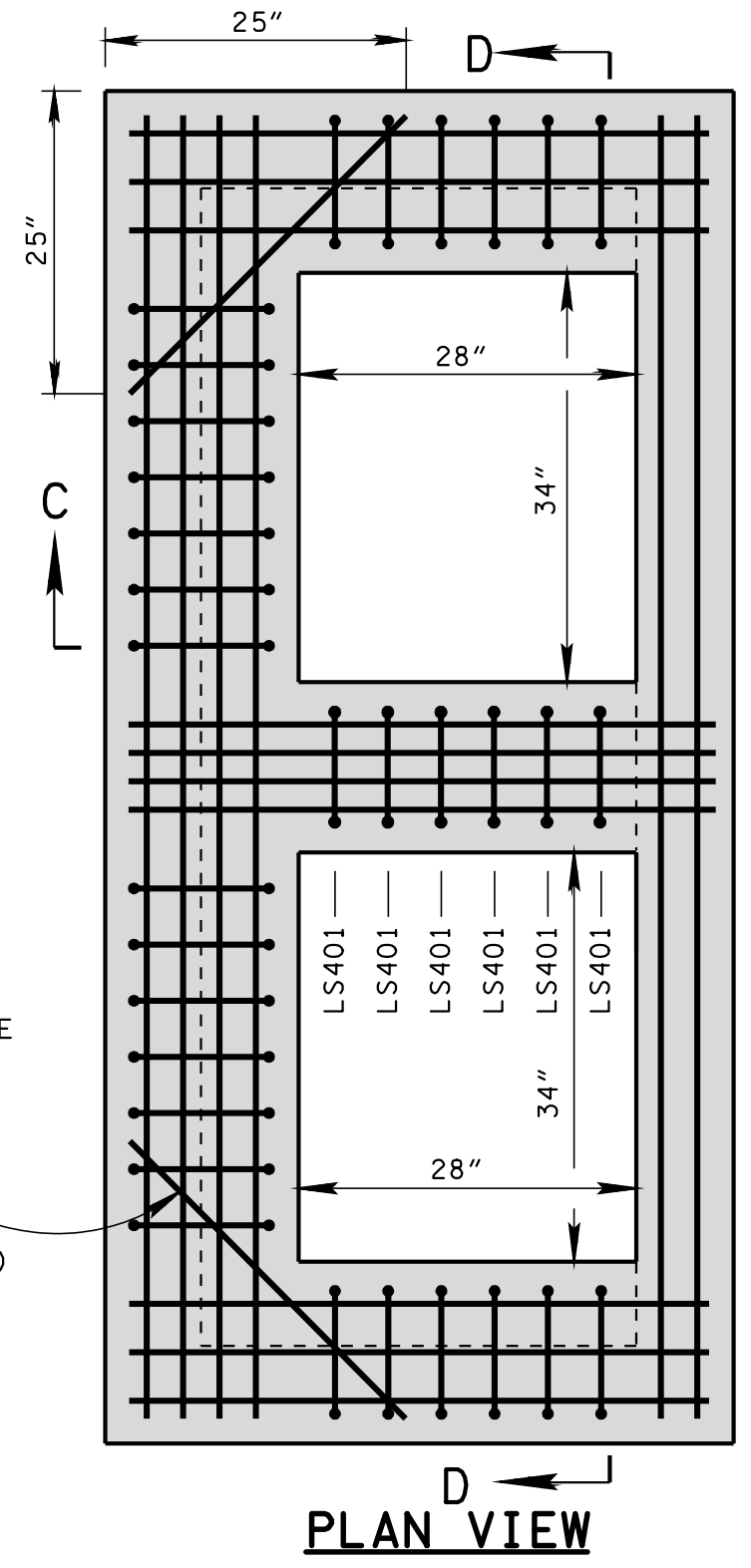
**STANDARD
 RECTANGULAR
 CONCRETE NO.13
 CATCH BASIN**



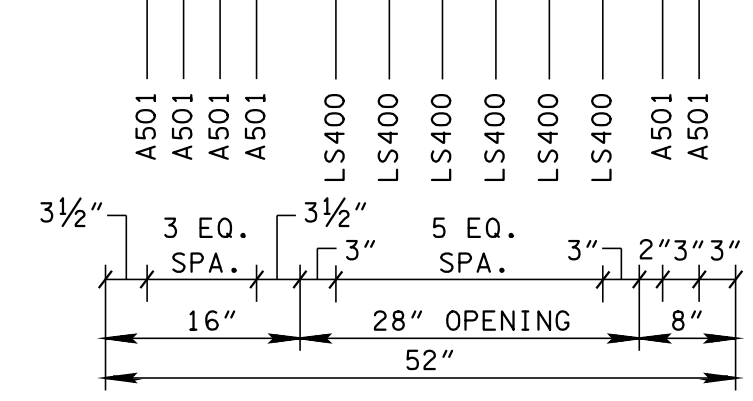
PLAN VIEW



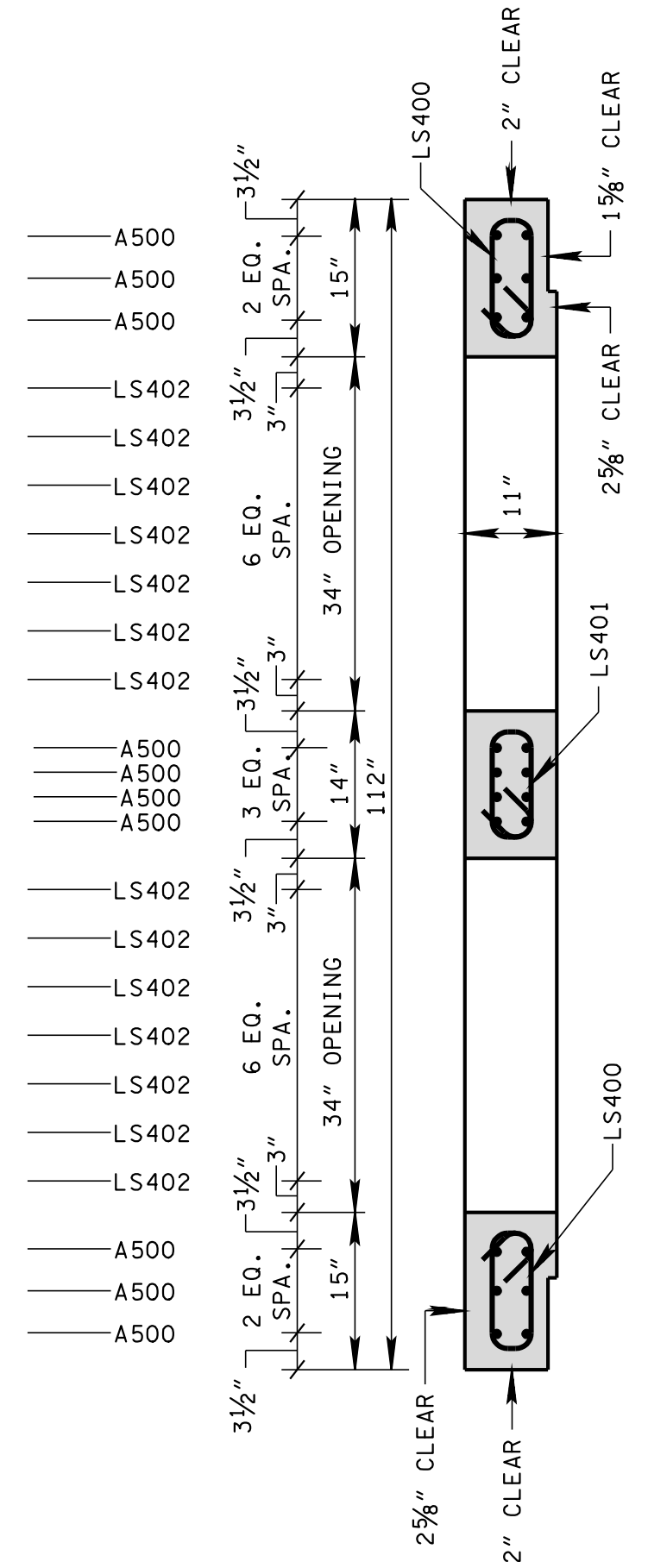
SECTION E-E



PLAN VIEW



SECTION C-C



SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 6.00'.

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	2 1/2	25	56	4.05
24	3	32	63	4.59
30	3 1/2	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"	
A501	108"	
A502	33"	
LS400	5 3/4" x 11"	
LS401	5 3/4" x 10"	
LS402	7" x 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.

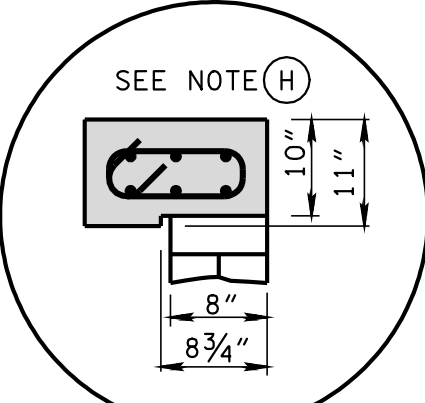
GENERAL NOTES

- (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.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

STANDARD
 RECTANGULAR
 BRICK NO. 14
 CATCH BASIN



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

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

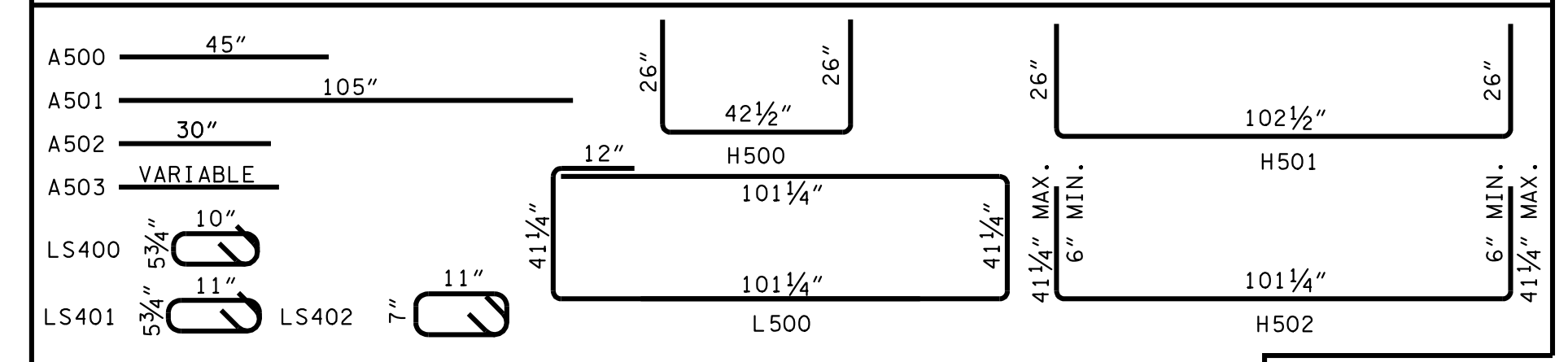
- ❑ REV. 12-18-95: MODIFIED DRAWING NO. D-CB-14S BY CHANGING WALL AND FLOOR THICKNESSES FROM EIGHT TO SIX INCHES FOR PRECAST CATCH BASIN BETWEEN MINIMUM DEPTH AND TEN FEET.
- ❑ REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE ③ CHANGED LABEL OF 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 ①
- ❑ REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ③
- 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.

- 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.

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



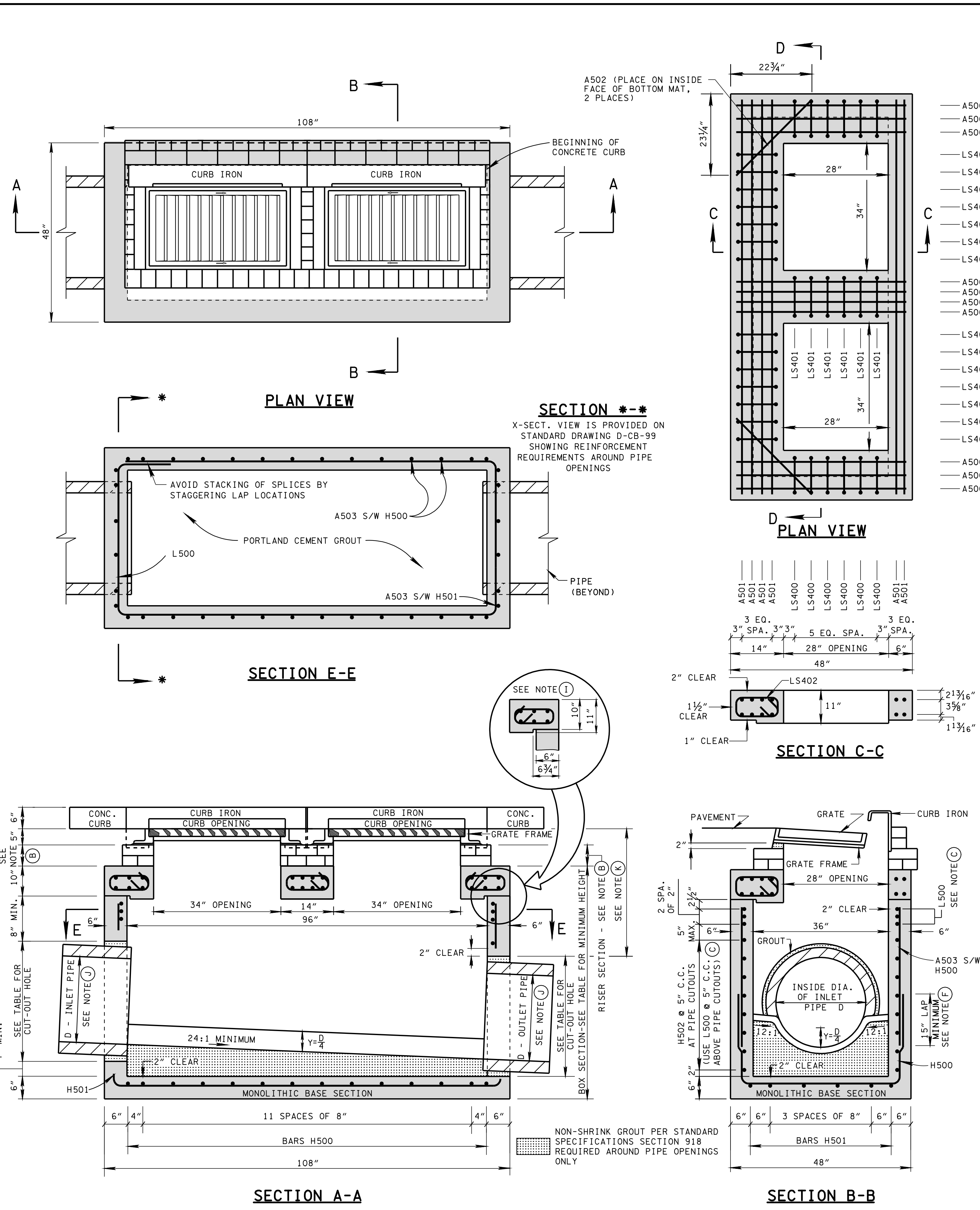
DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

❑ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**STANDARD PRECAST
 RECTANGULAR
 CONCRETE NO.14
 CATCH BASIN**

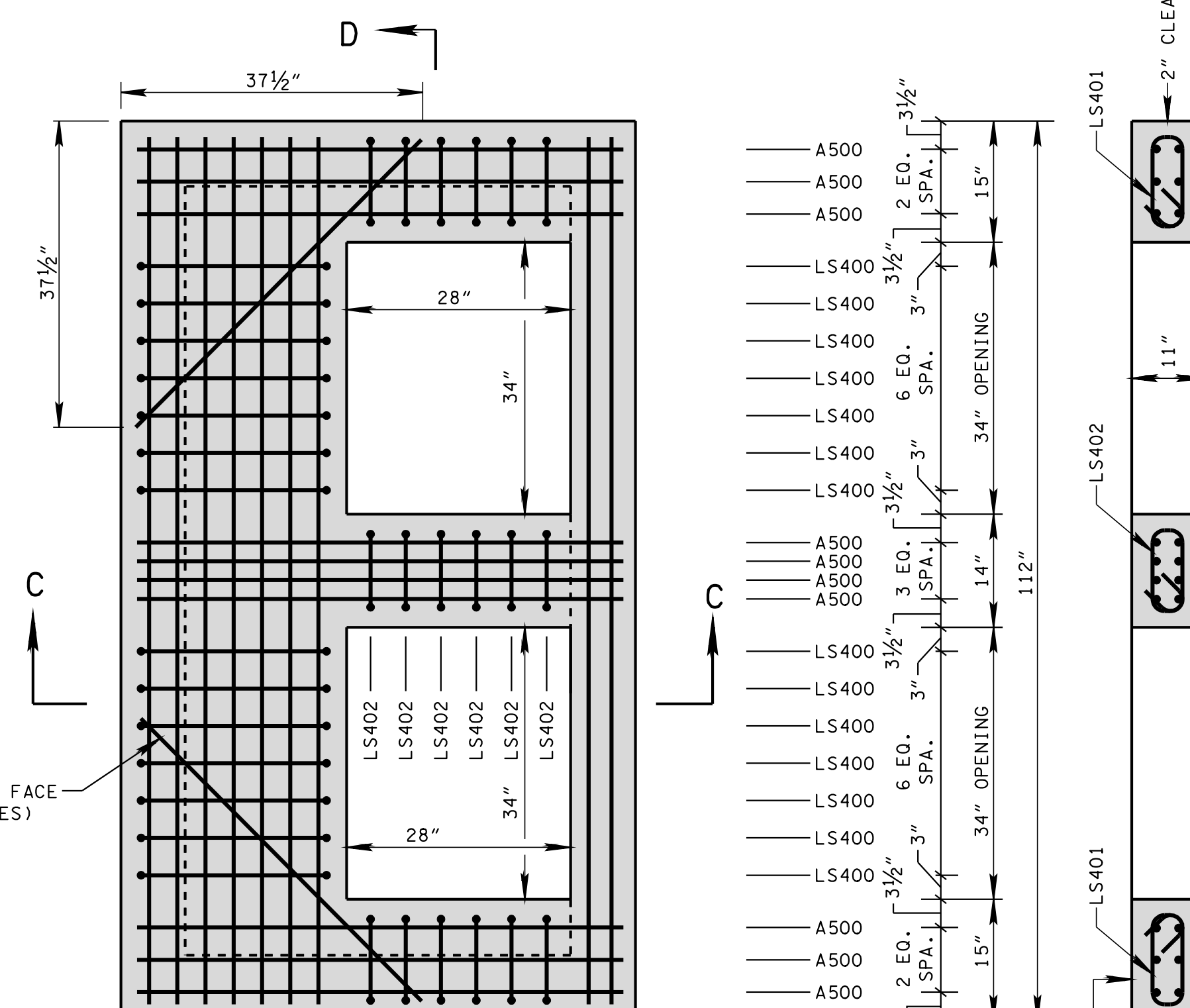
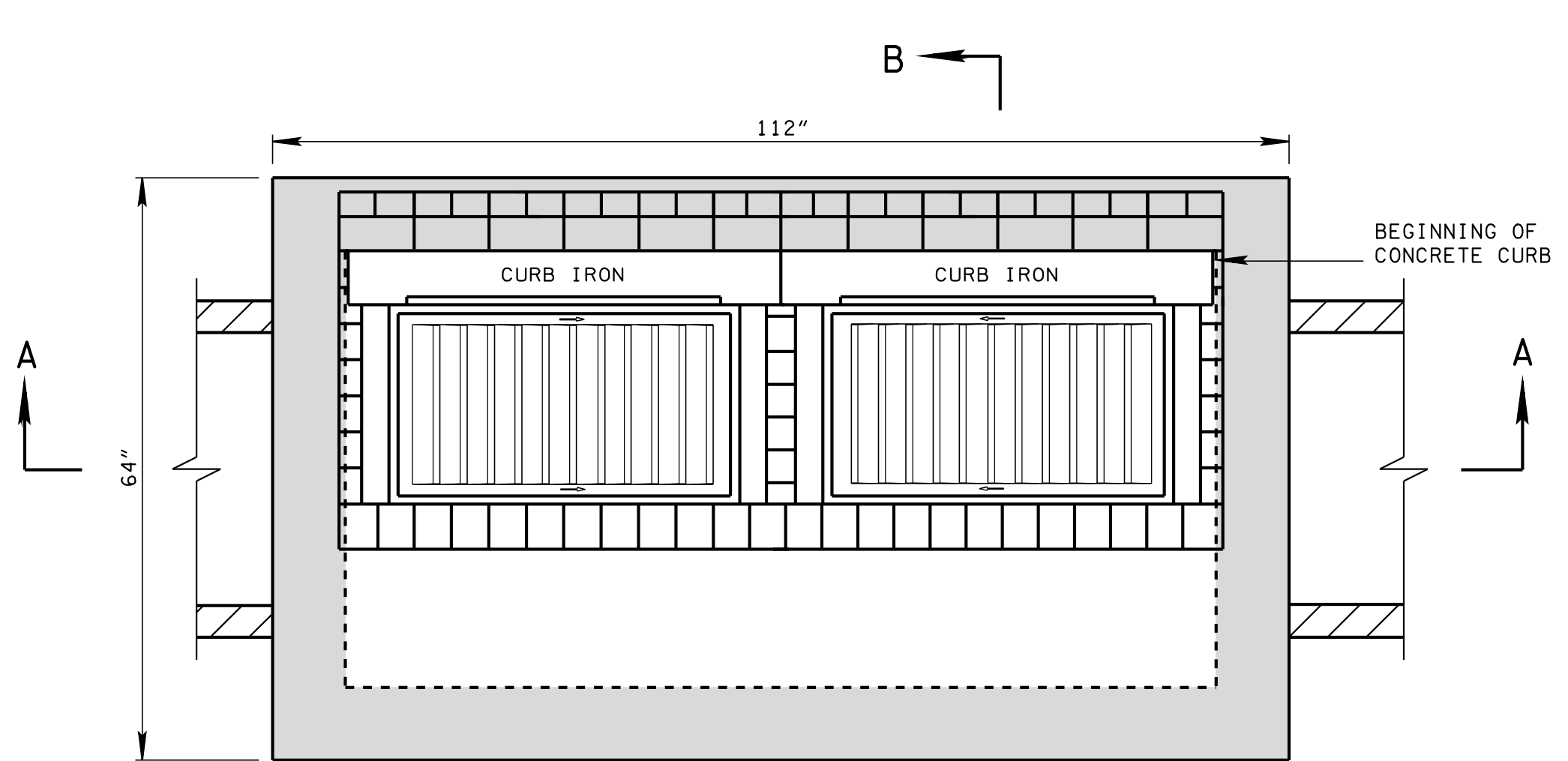
12-18-95 D-CB-14P



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

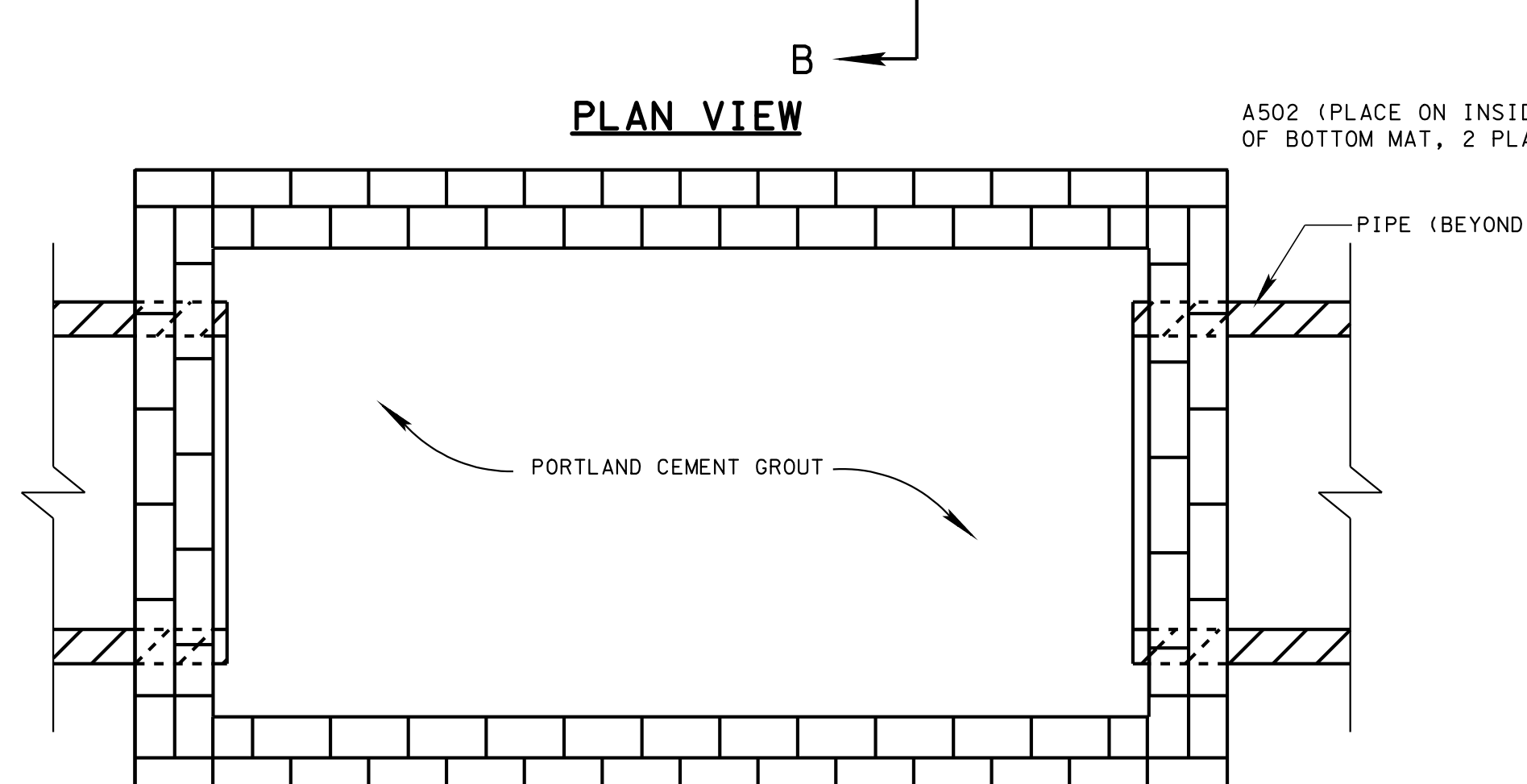
NOT TO SCALE

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

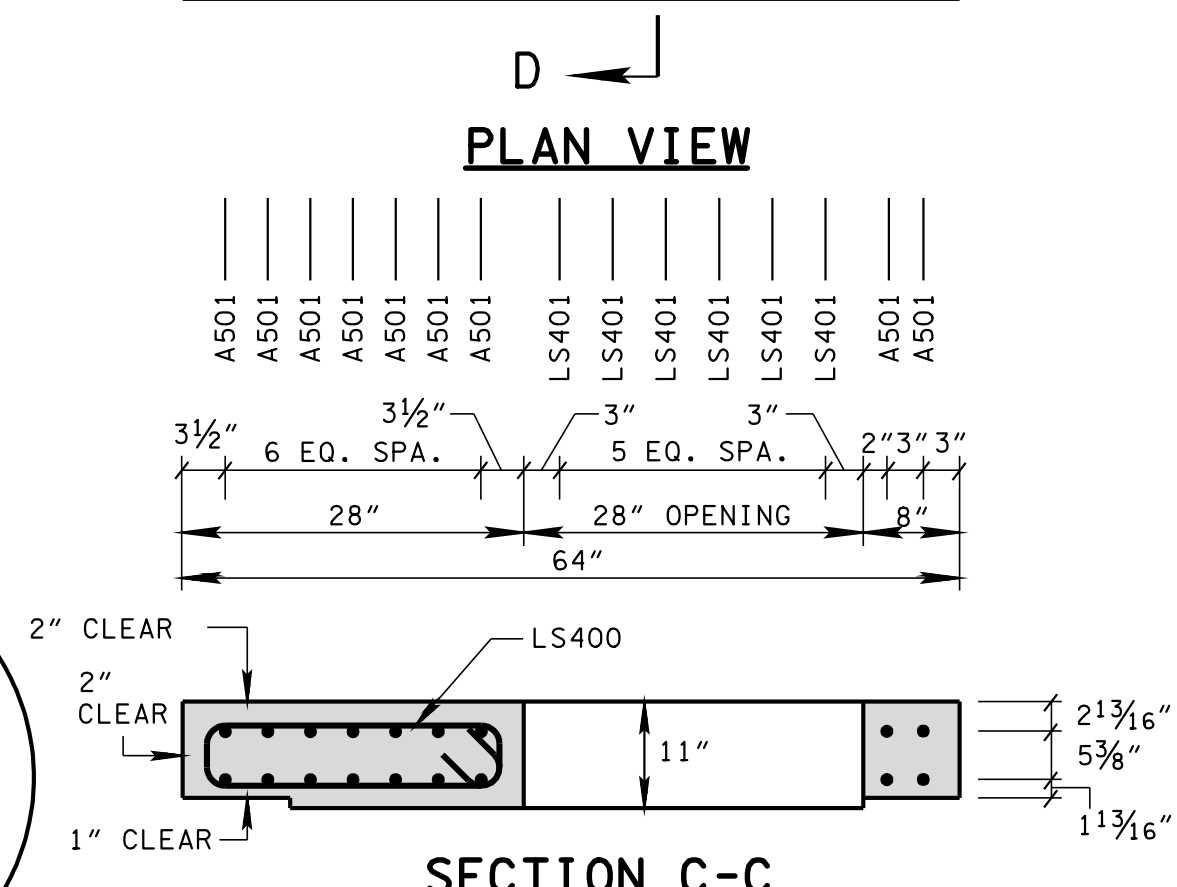


SECTION D-D

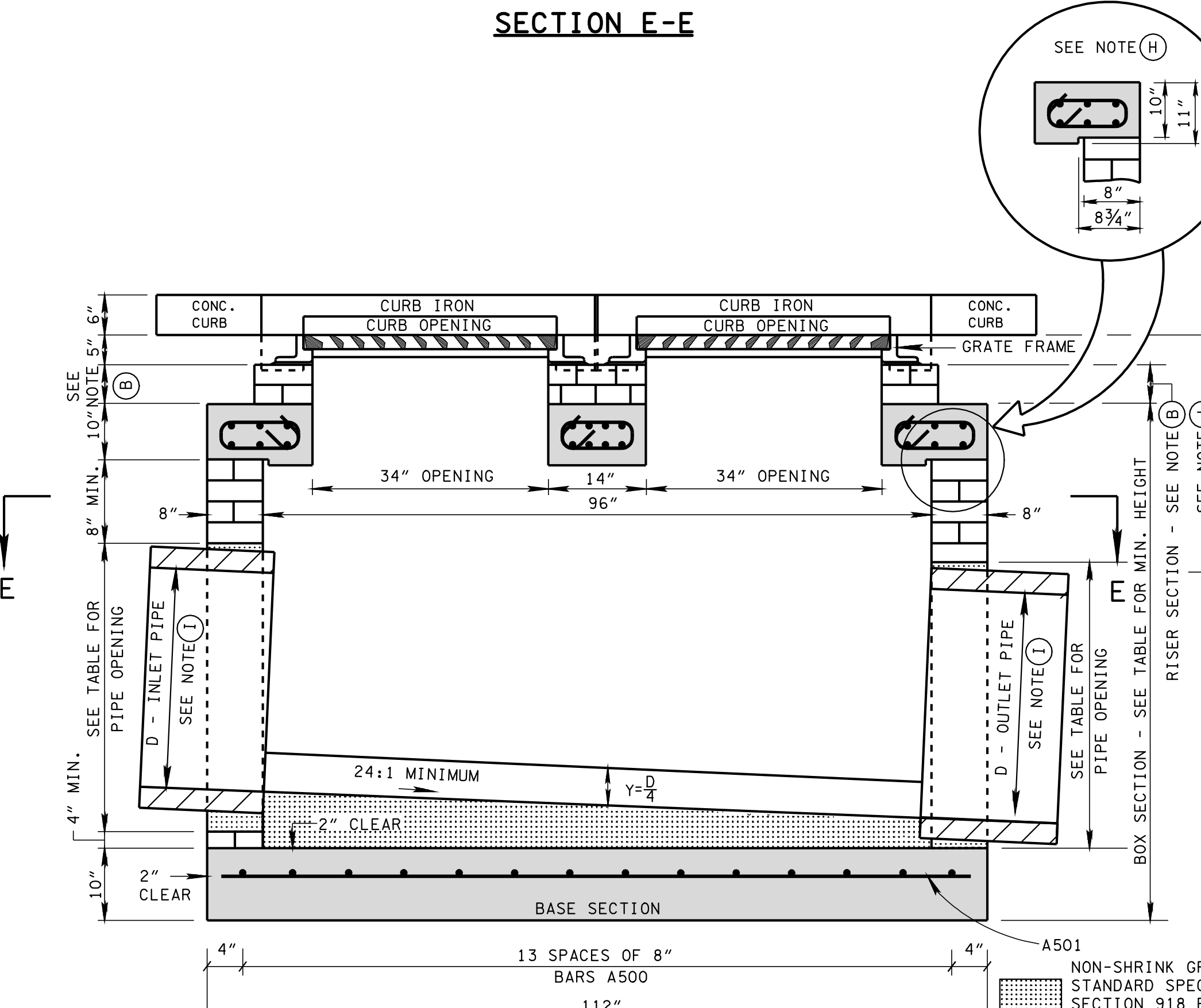
- ### GENERAL NOTES
- (A) DRAWING TO BE USED FOR NO. 16 BRICK CATCH BASINS THAT ARE SIX FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-16S FOR DETAILS OF NO. 16 CONCRETE CATCH BASINS THAT ARE MORE THAN SIX FEET IN DEPTH.
 - (B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 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.



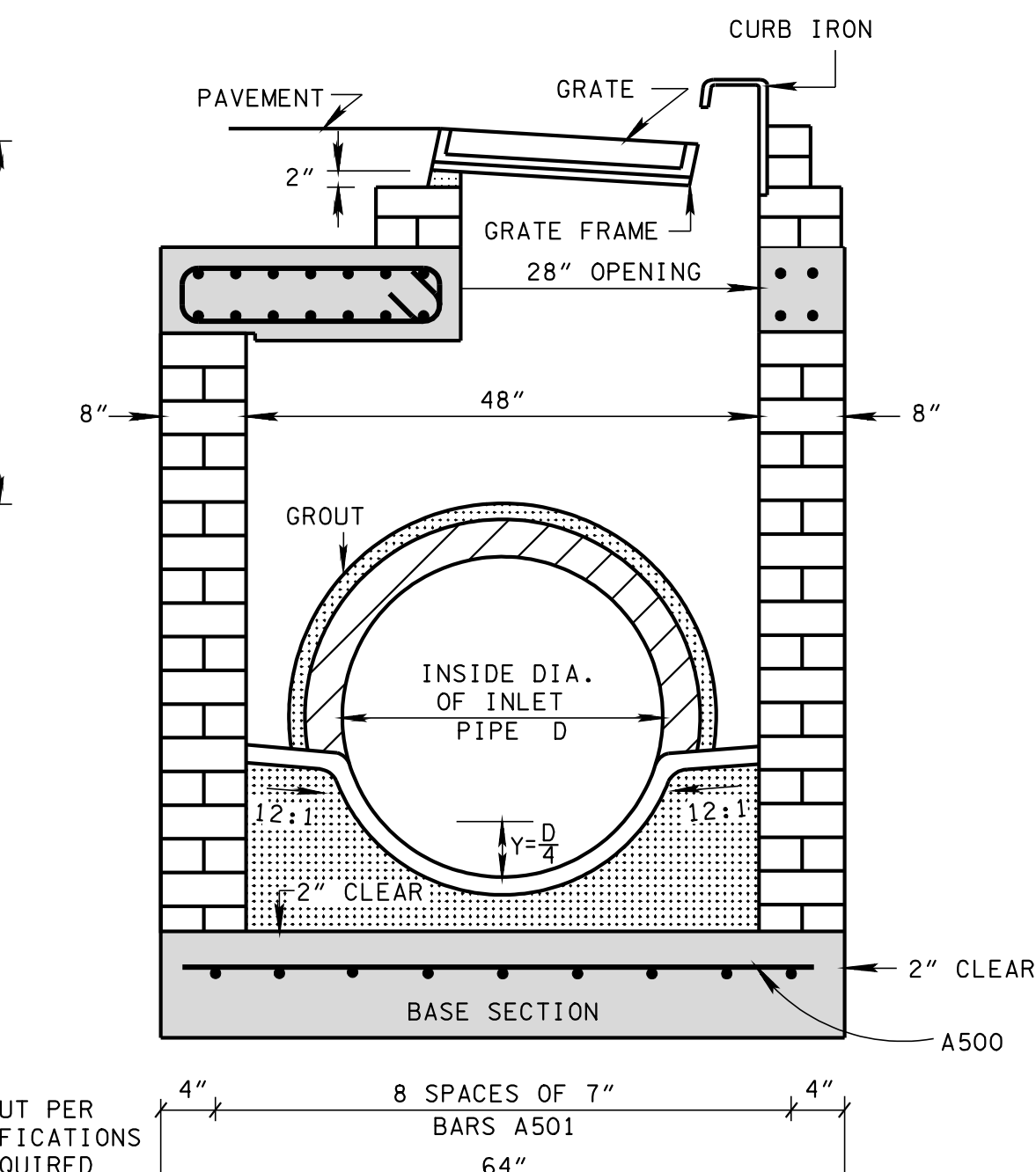
SECTION E-E



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				FOR DESIGN USE ONLY MINIMUM CATCH BASIN DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF PIPE OPENING (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2 1/2	25	55	4.05
24	3	32	62	4.58
30	3 1/2	39	69	5.13

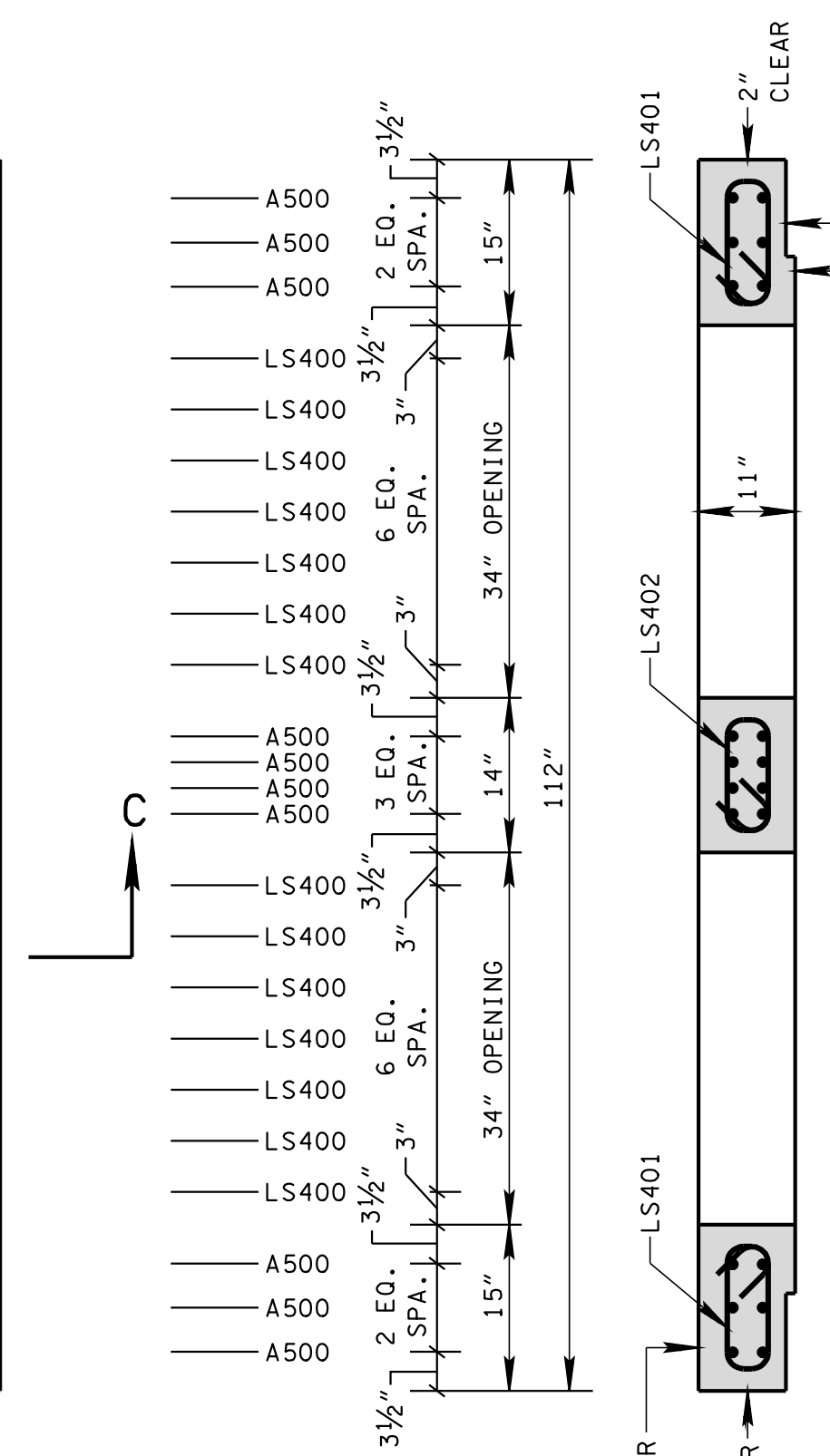
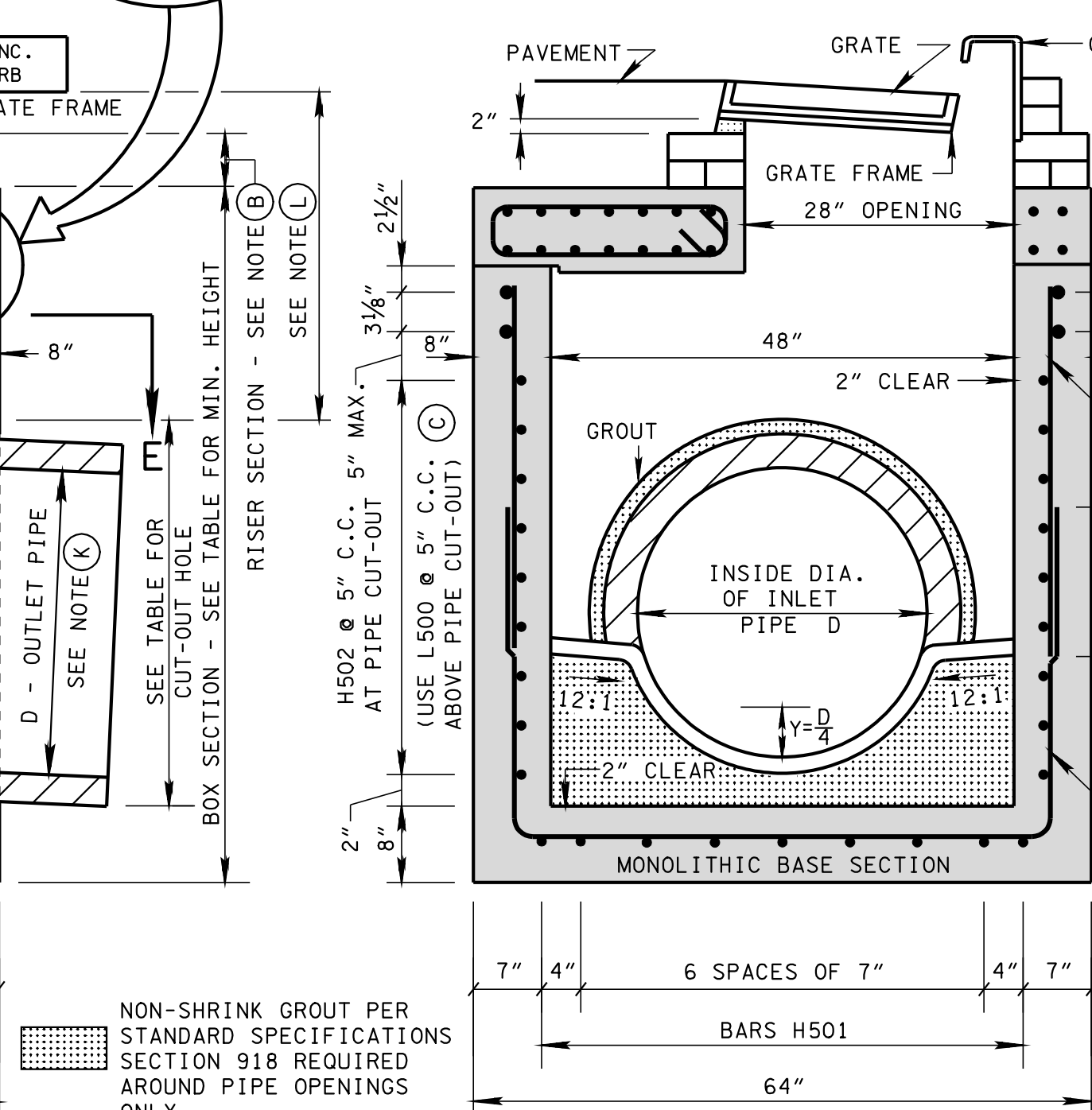
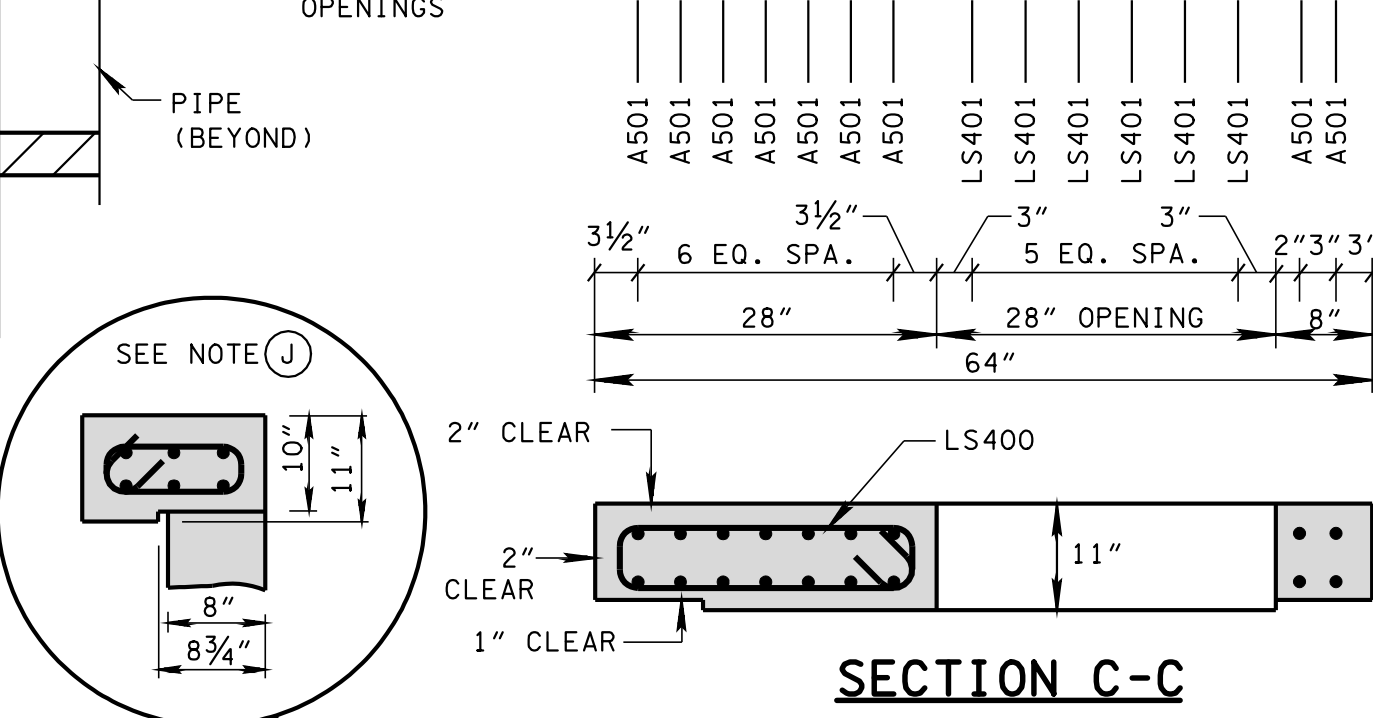
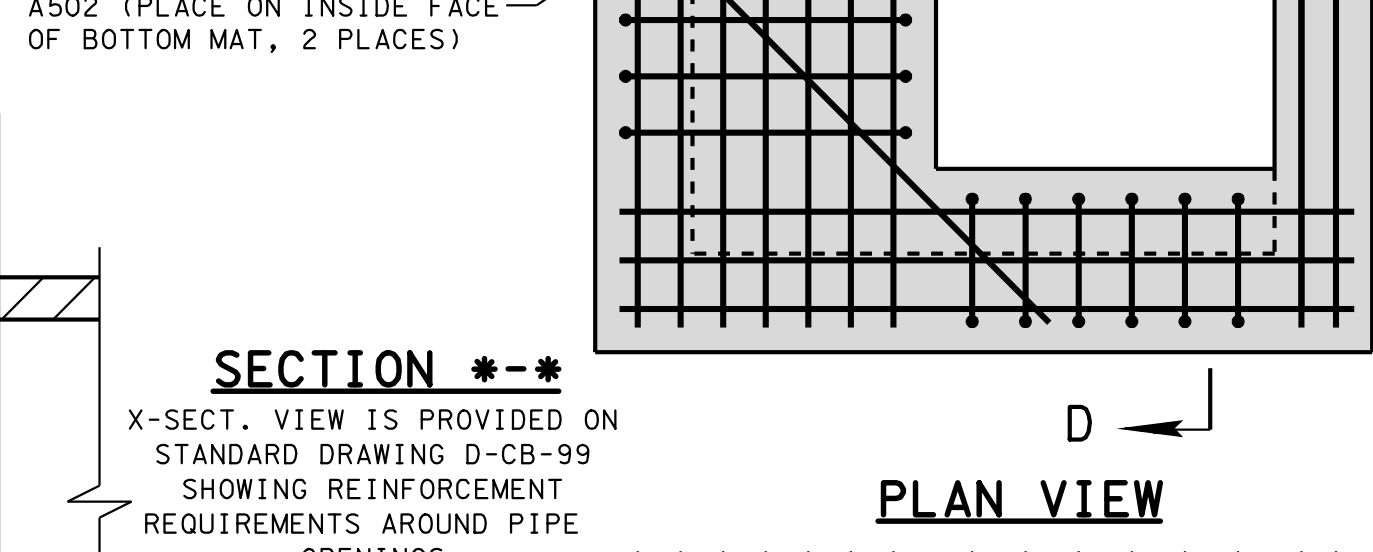
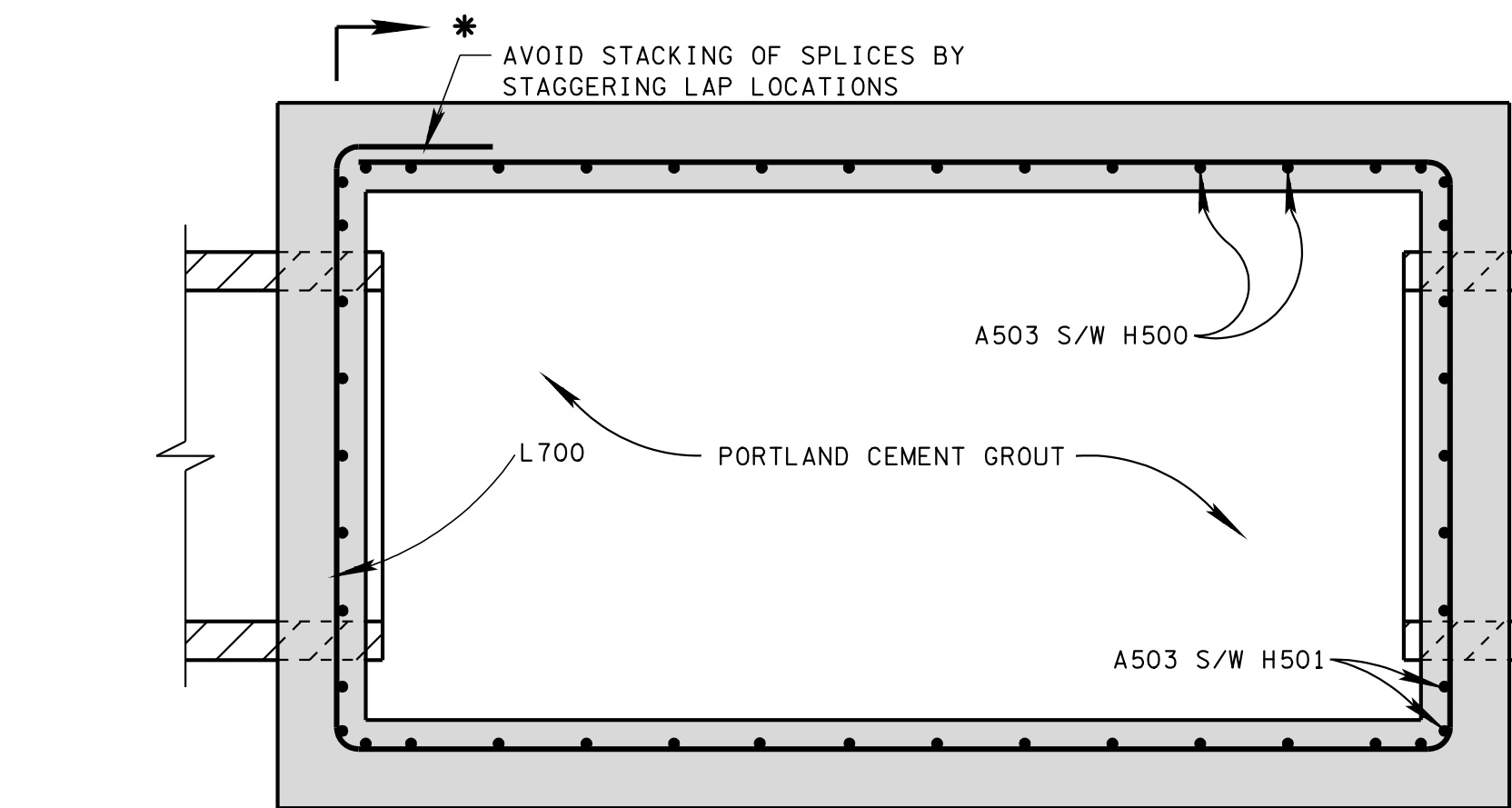
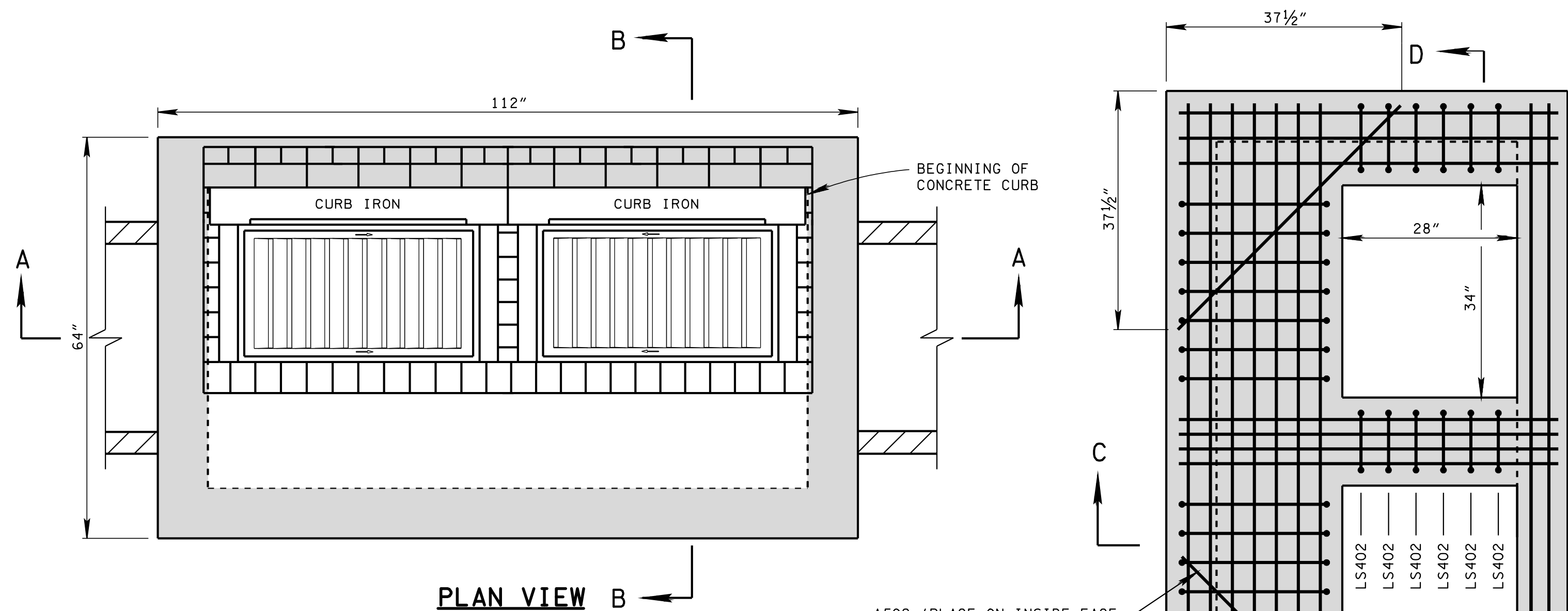
REINFORCING STEEL LEGEND	
A500 — 60"	LS401 5/8" 11"
A501 — 108"	LS402 5/8" 10"
A502 — 50"	
LS400 — 24"	

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

- 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.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**STANDARD
 RECTANGULAR
 BRICK NO.16
 CATCH BASIN**



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

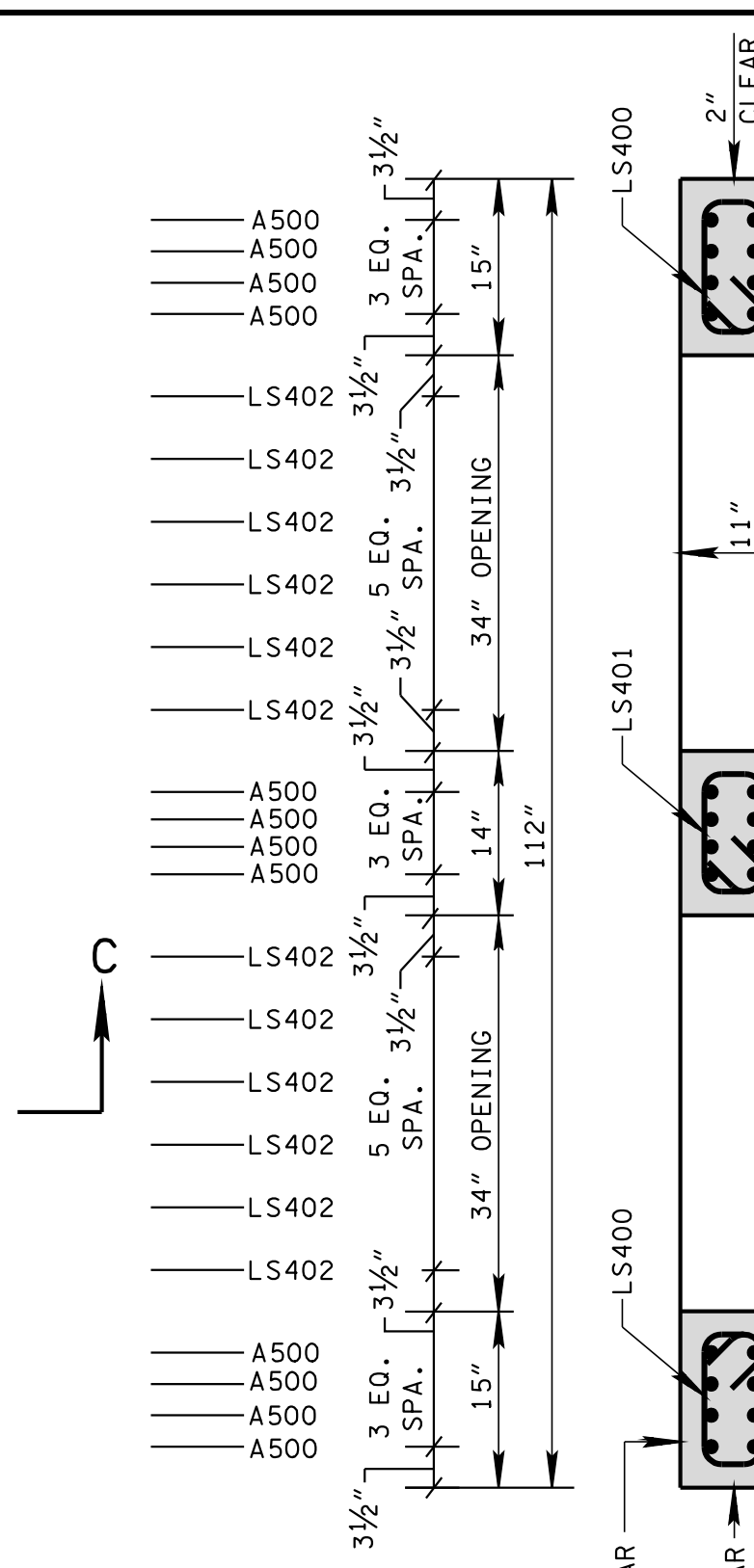
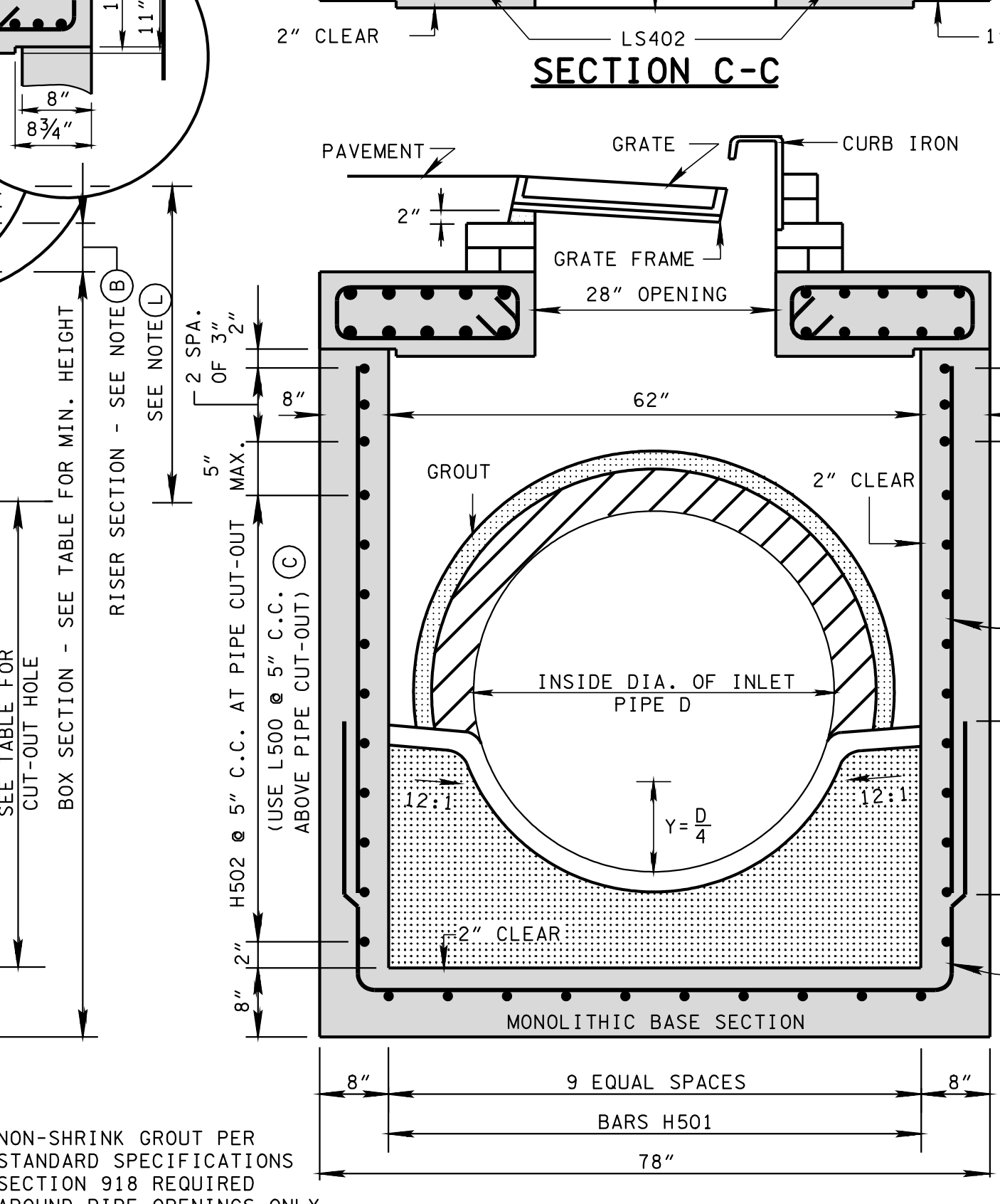
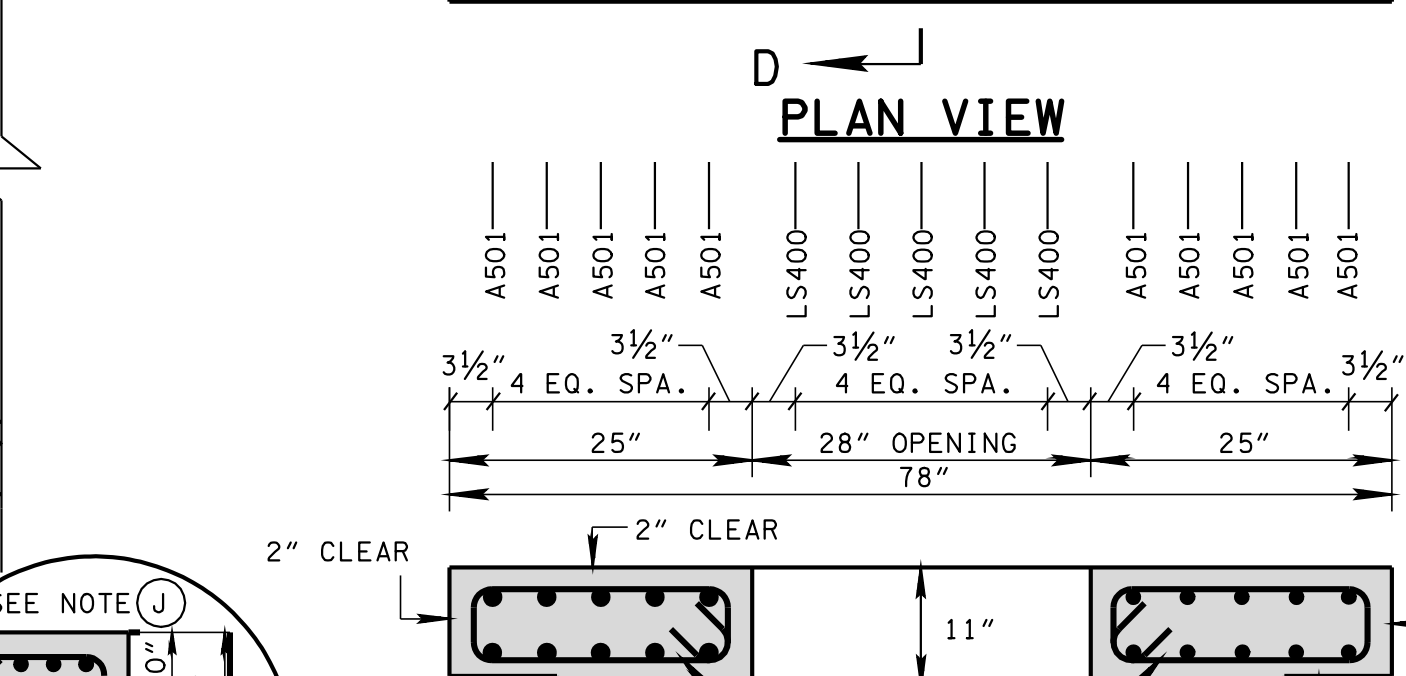
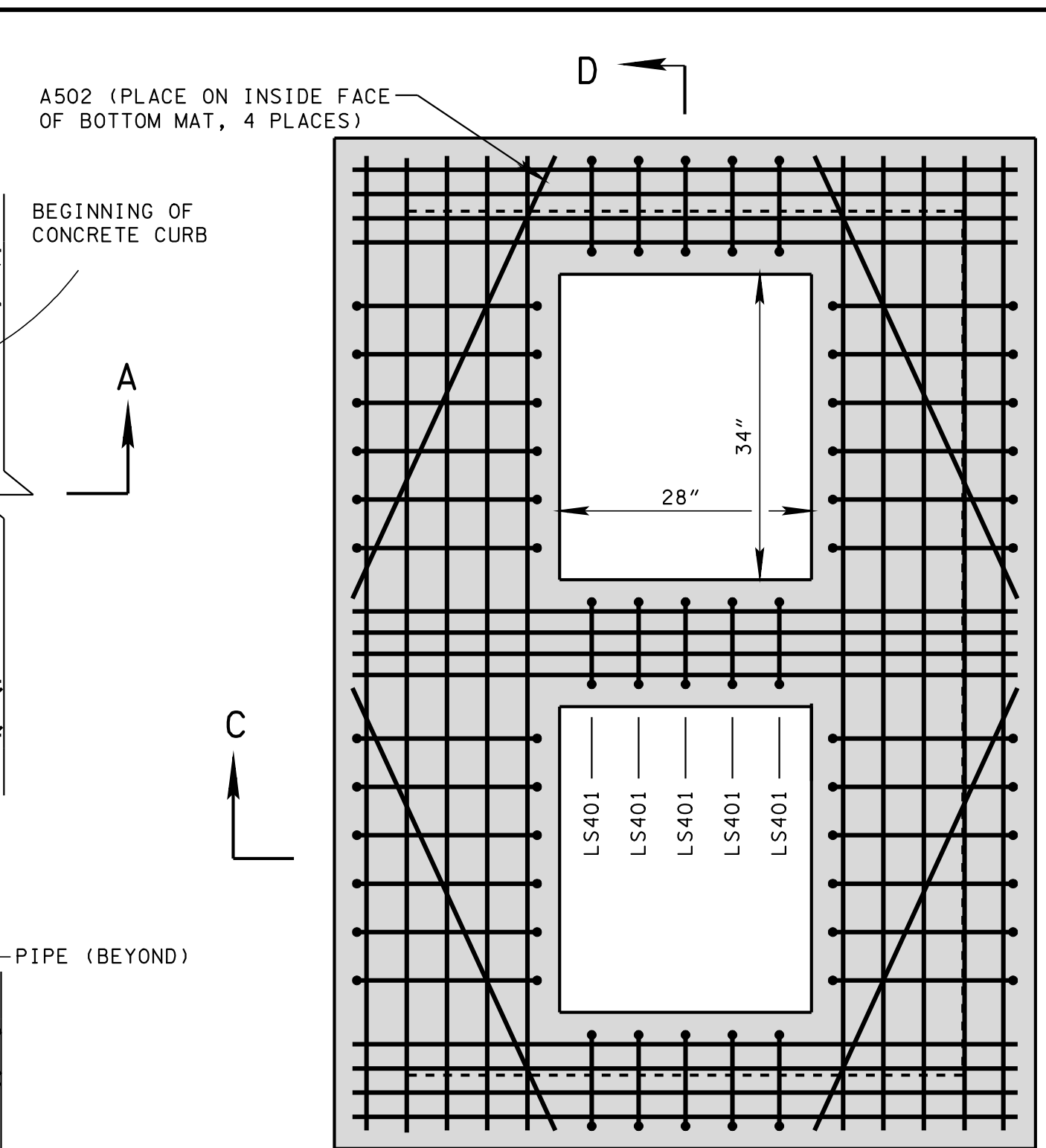
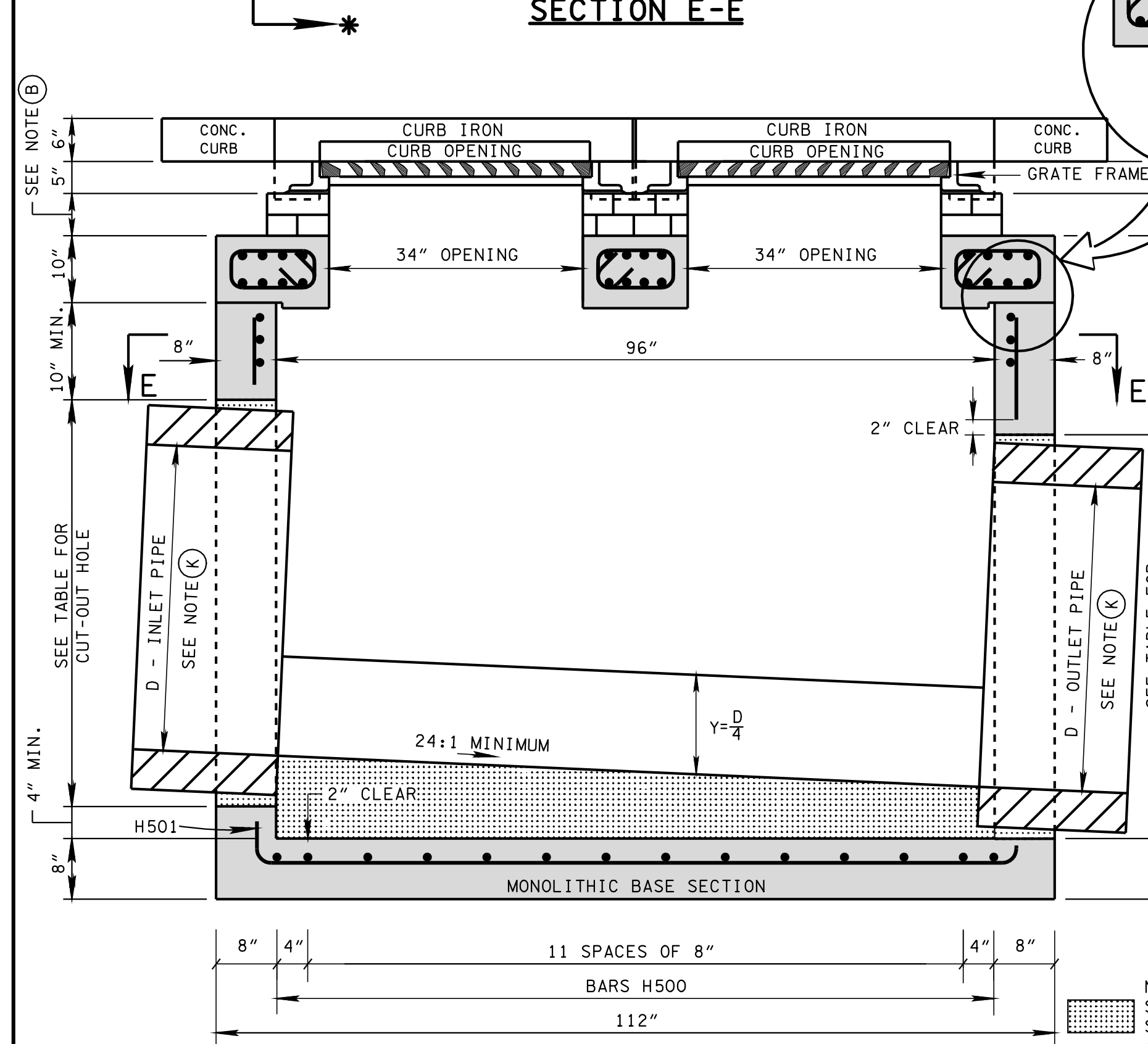
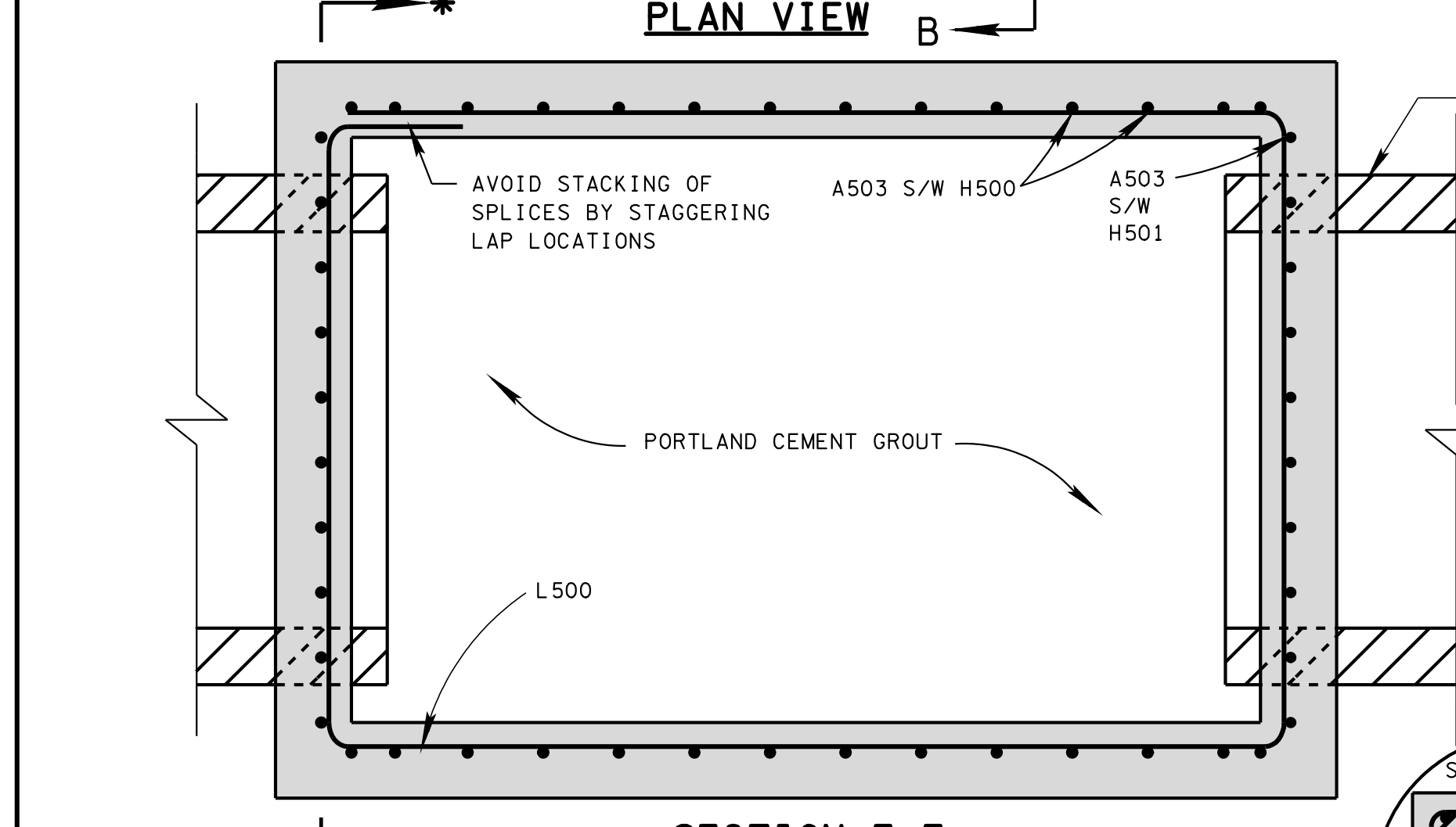
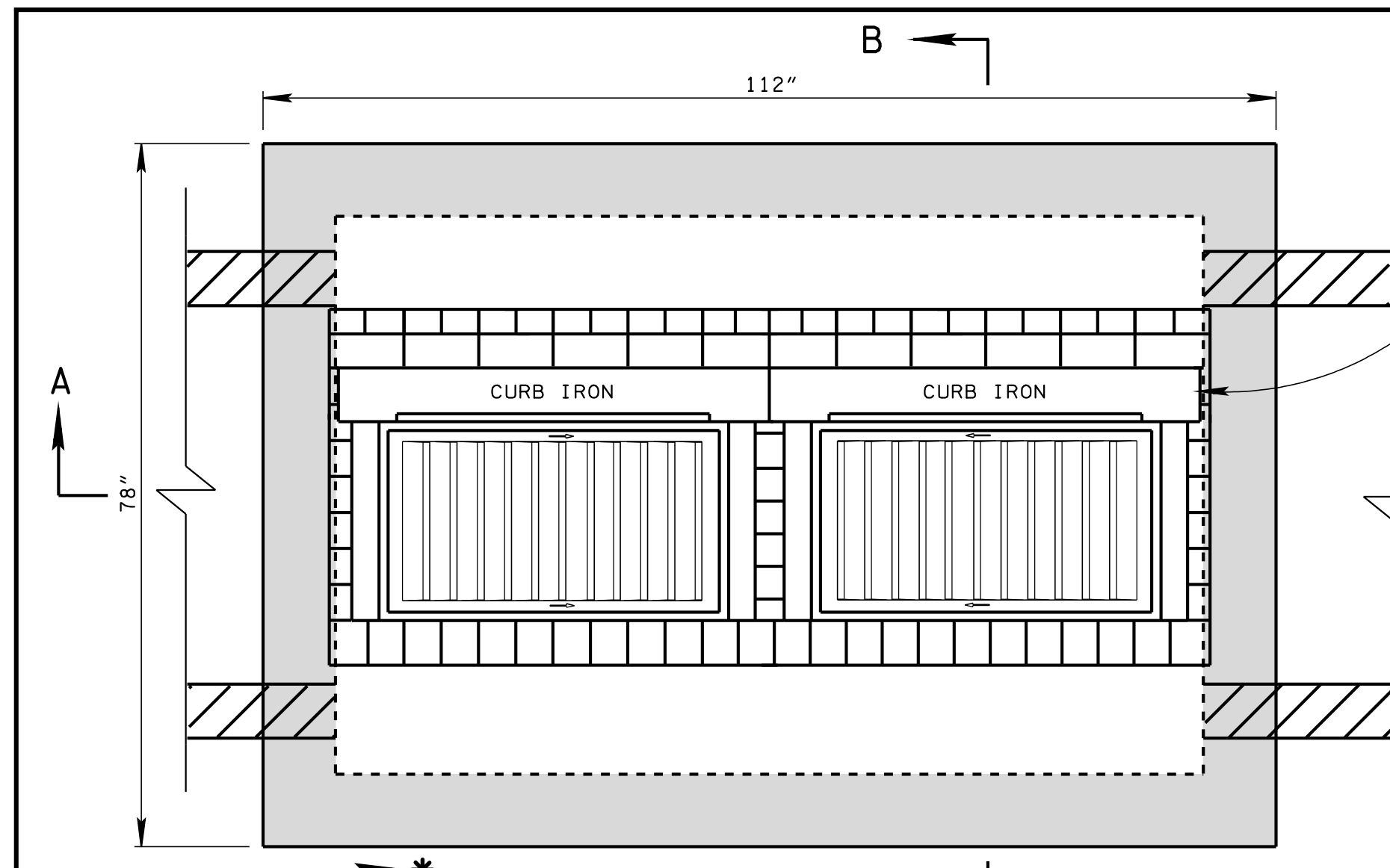
- ### GENERAL NOTES
- (A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 16 CONCRETE CATCH BASINS AND ALL PRECAST NO. 16 CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.
 - (B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS 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 $1\frac{1}{2}$ 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
42	4½	53	81	6.21
48	5	60	88	6.75
54	5½	67	95	7.30
60	6	74	102	7.84

REINFORCING STEEL LEGEND				
A500	60"			
A501	108"	H501	26"	102½"
A502	50"			
A503	VARIABLE	H502	53½" MAX. 6" MIN.	101¼"
H500	26"			
		L500	53¼"	101¼"
		L700	56¼"	101¼"
		L500	53¼"	56¼"
		L700	56¼"	56¼"
		LS400	7"	24"
		LS401	5½"	11"
		LS402	5½"	10"

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

- 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.
- 4 TO BE USED IN 96 INCH INTERIOR WALL ONLY.



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

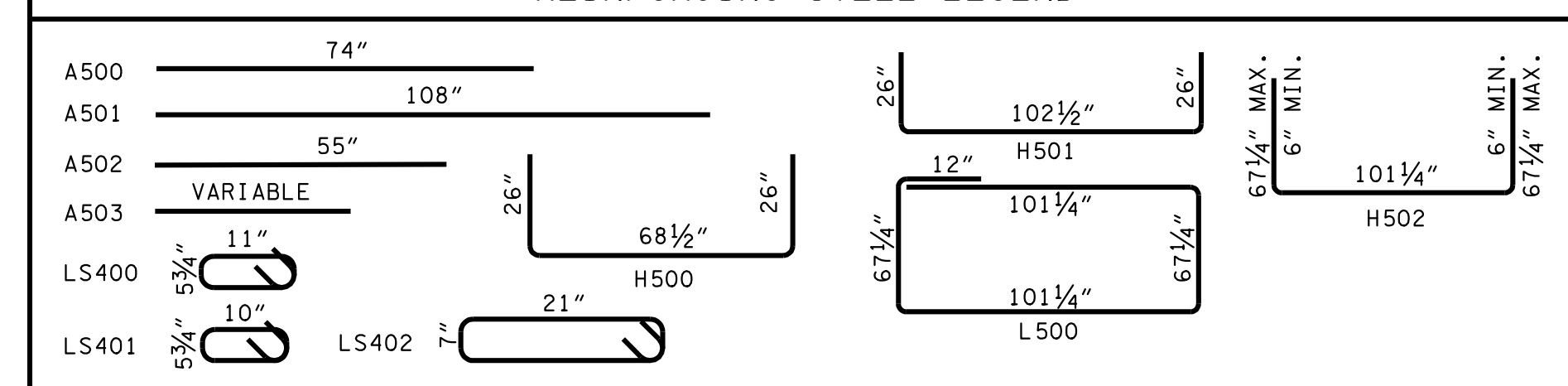
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	56	4.22
24	3	32	63	4.76
30	3 1/2	39	70	5.30
36	4	46	77	5.84
42	4 1/2	53	84	6.38
48	5	60	91	6.92
④ 54	5 1/2	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.

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 1 1/2 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.

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

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.

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 8.00'.

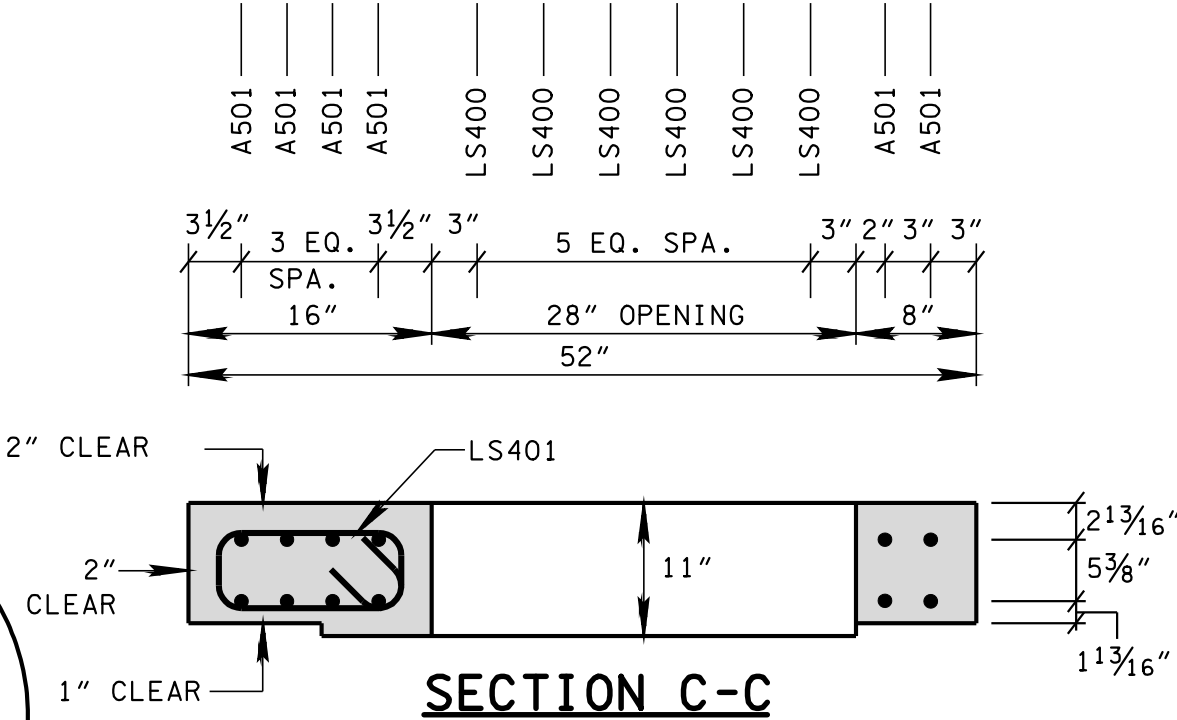
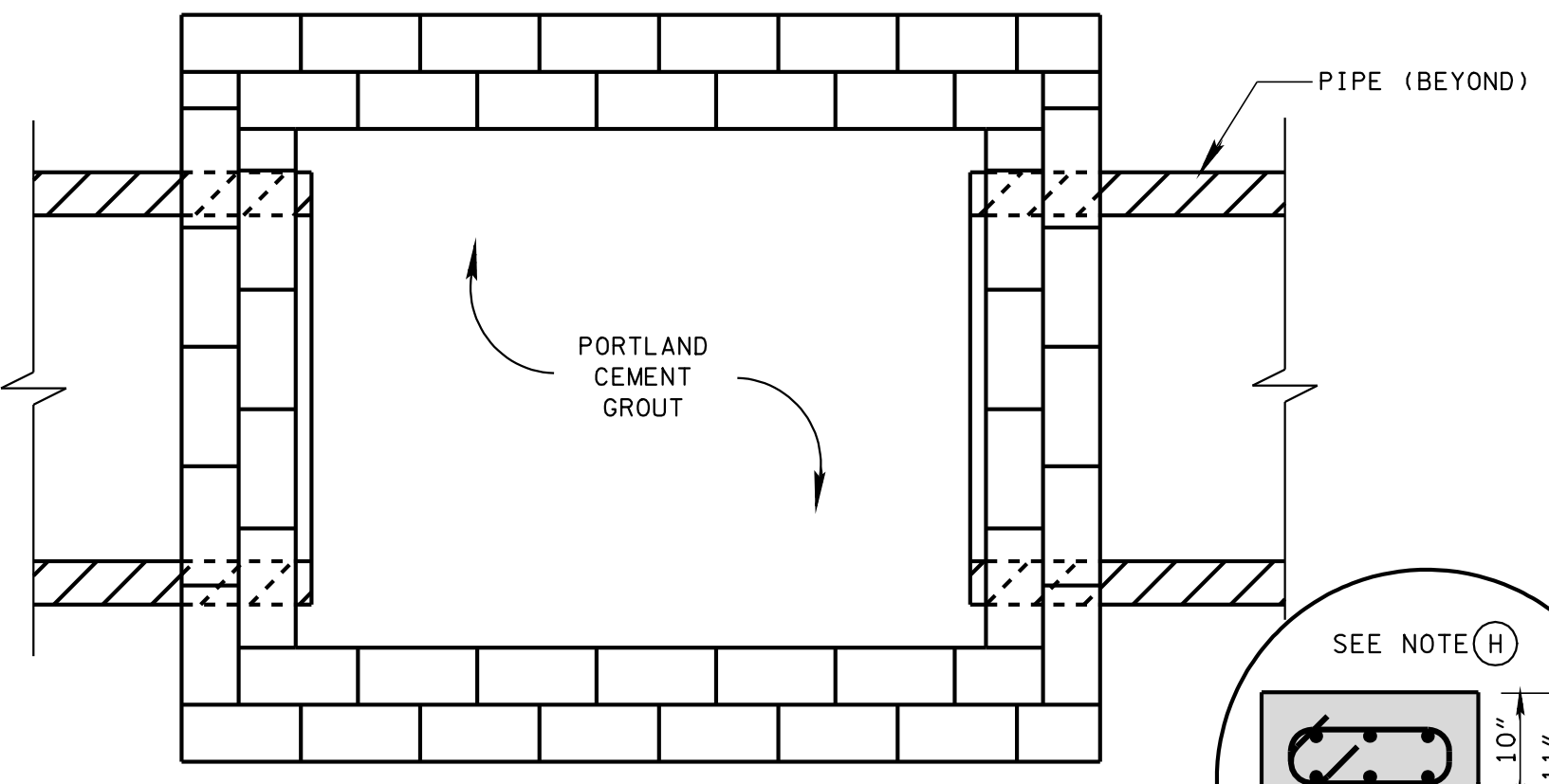
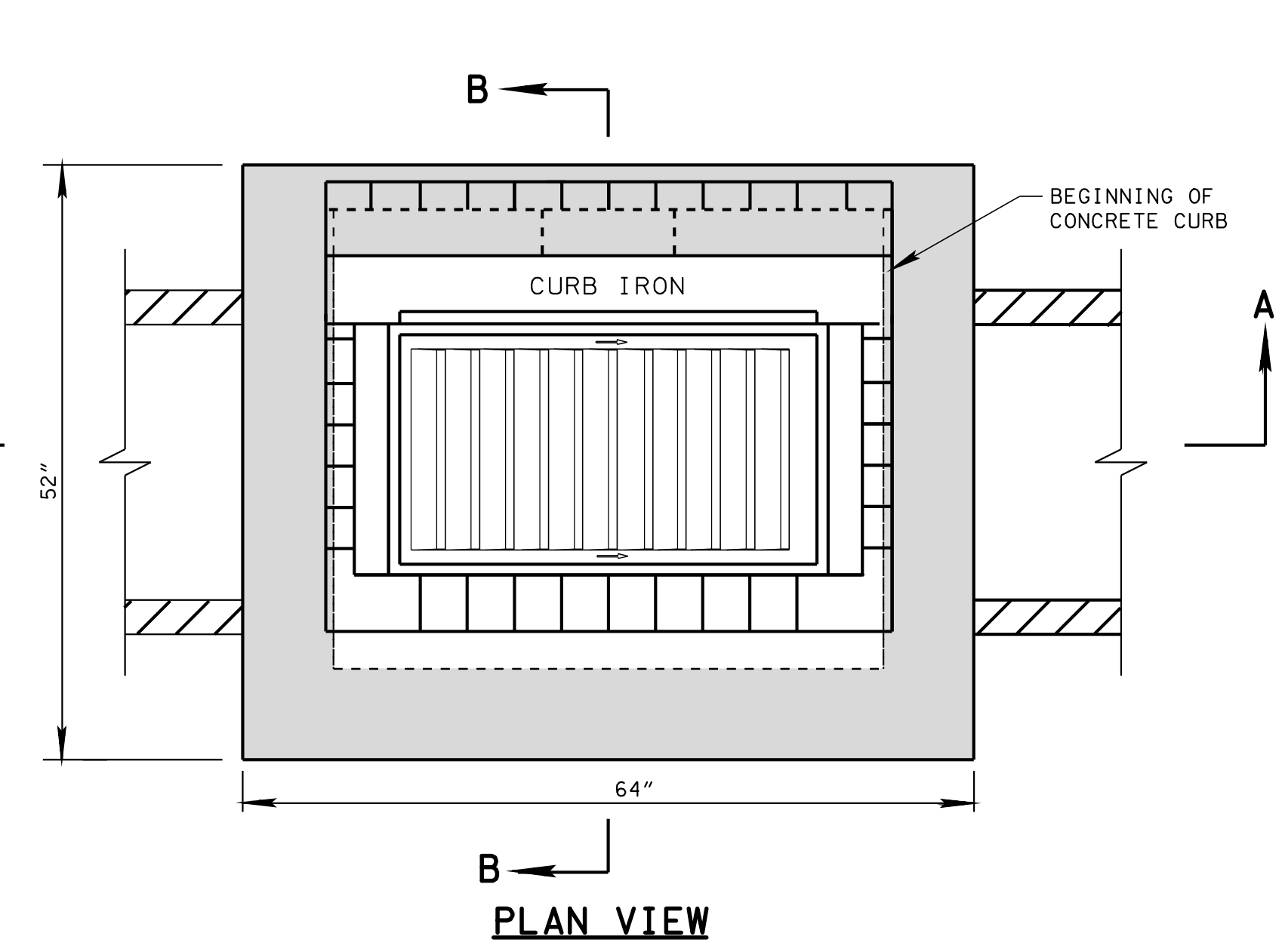
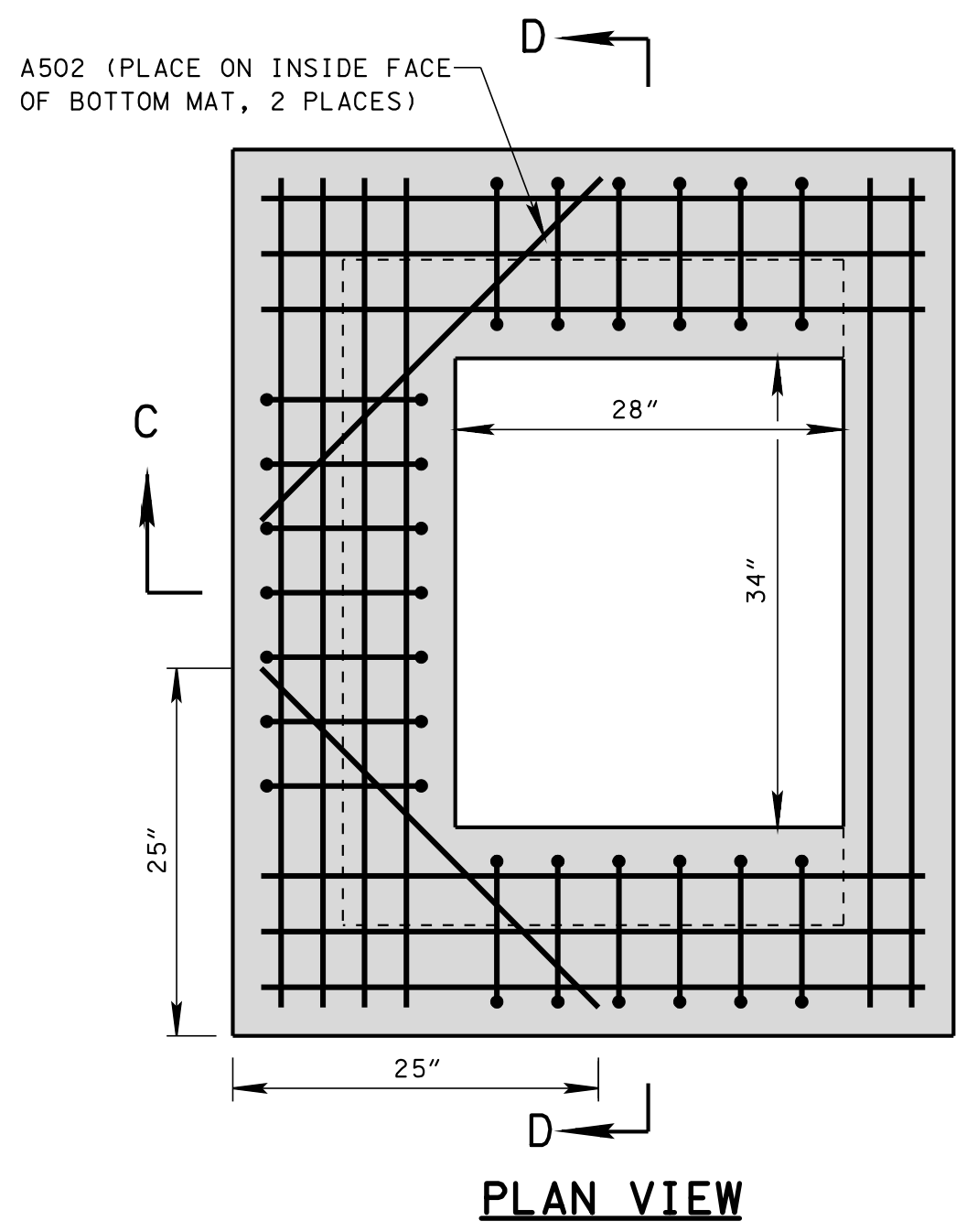
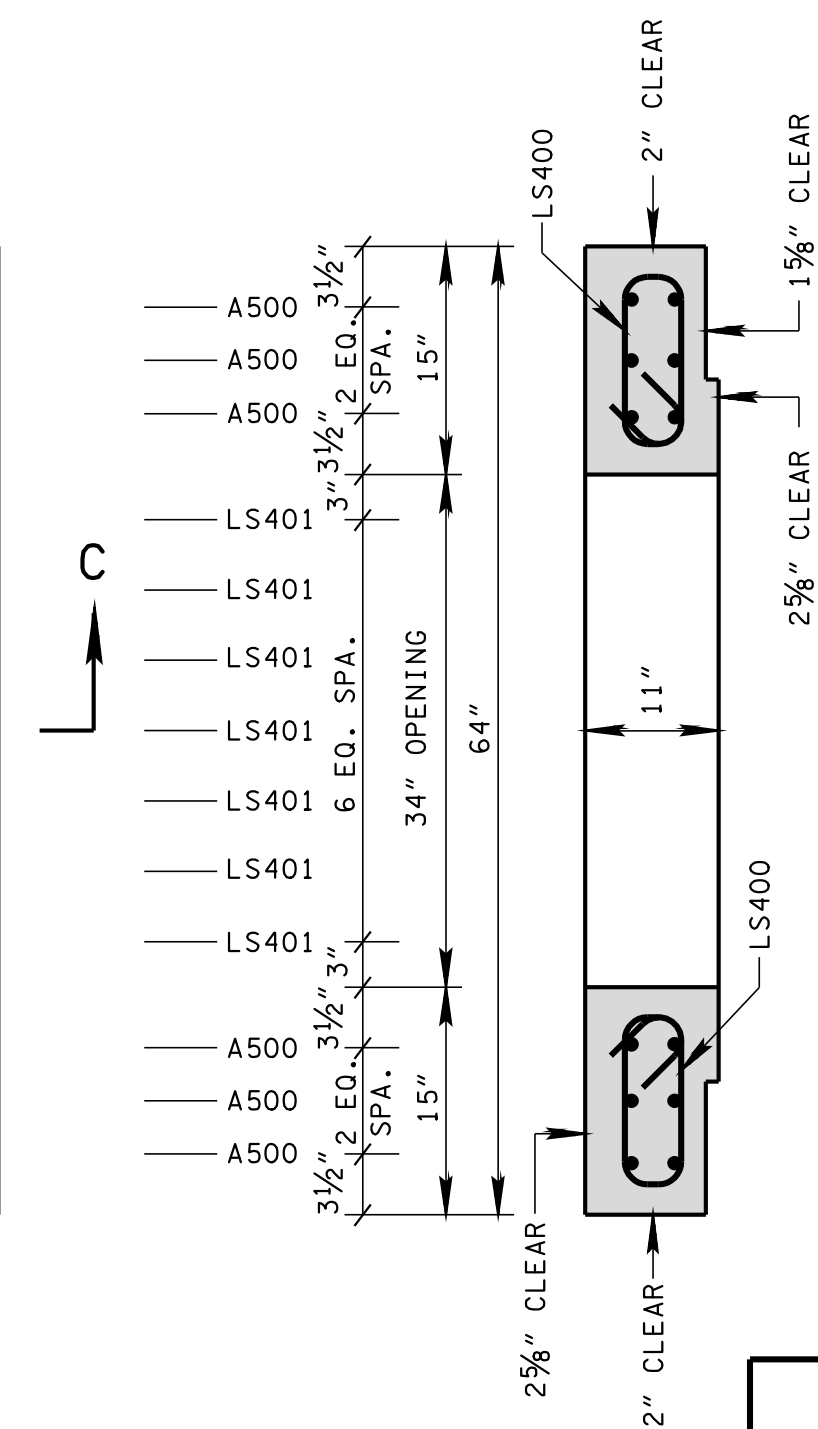
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF PIPE OPENING (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	51	3.88
24	3	32	58	4.42
(3) 30	3½	39	65	4.96
(3) 36	4	46	72	5.50

(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.

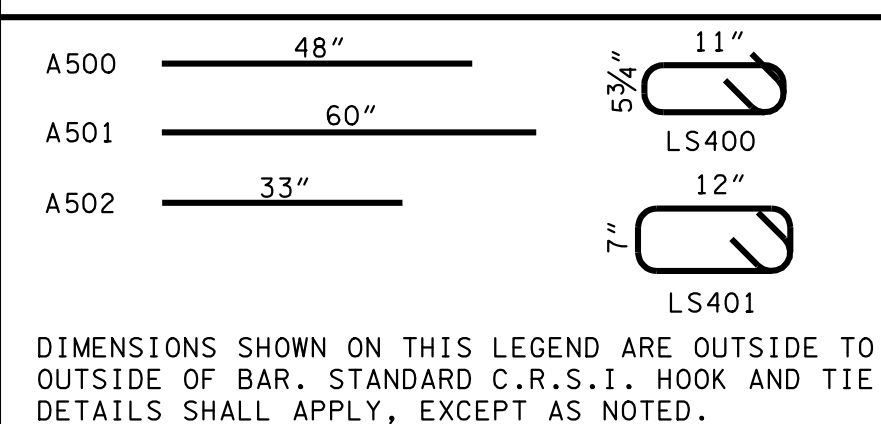
SECTION D-D



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.

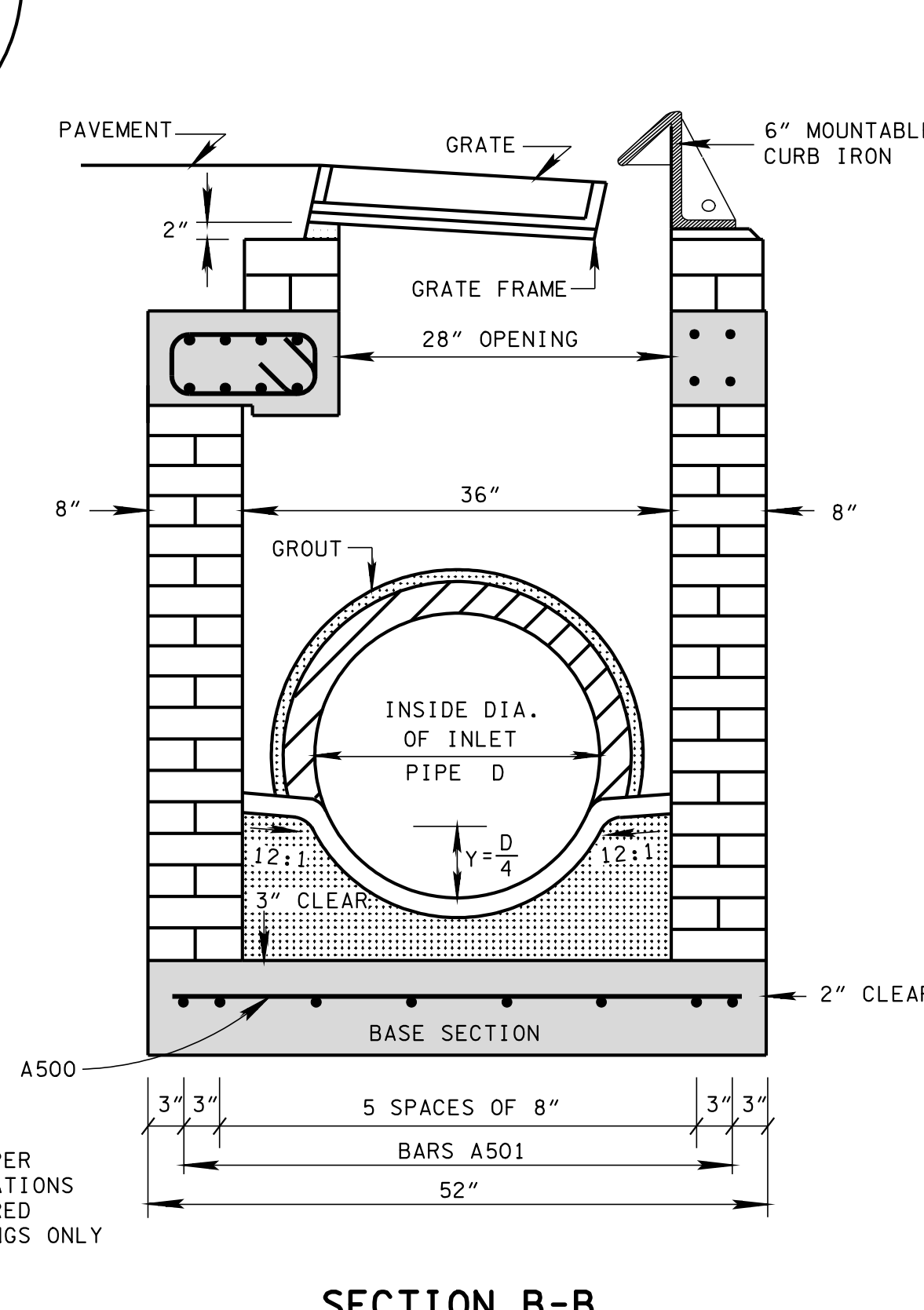
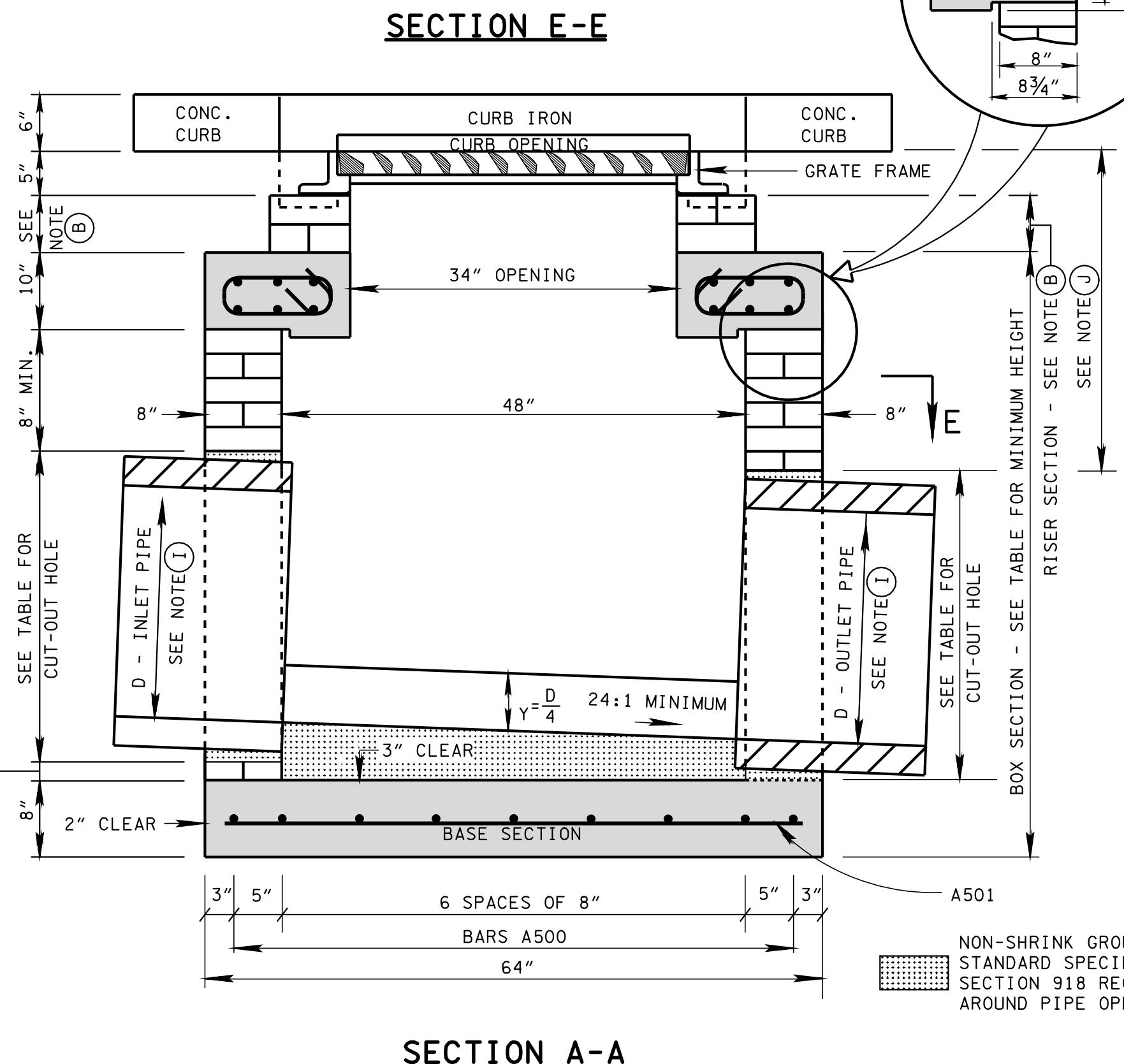
REINFORCING STEEL LEGEND



MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

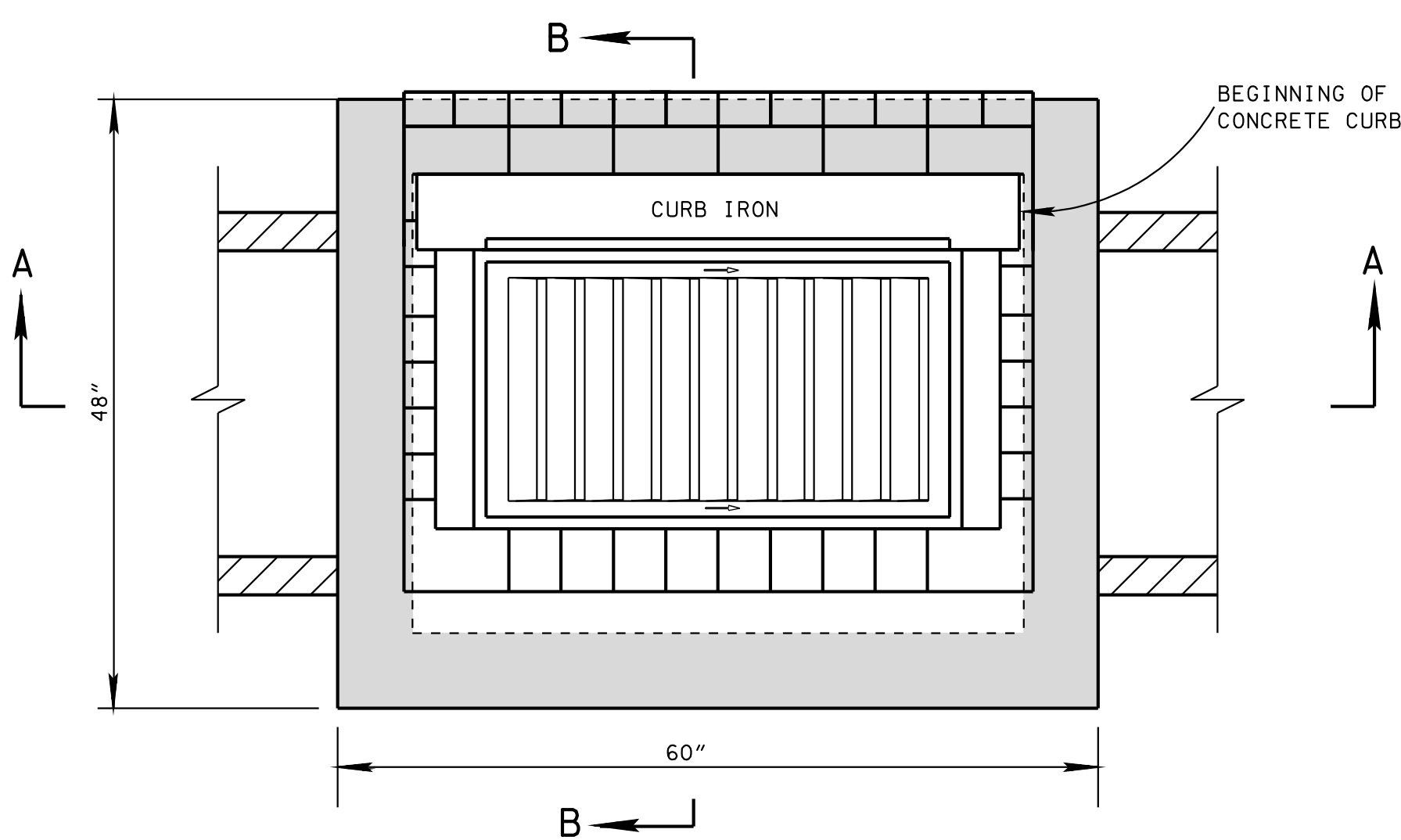
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**STANDARD
RECTANGULAR BRICK
NO. 25
CATCH BASIN**
(FOR USE WITH 6" MOUNTABLE CURB)

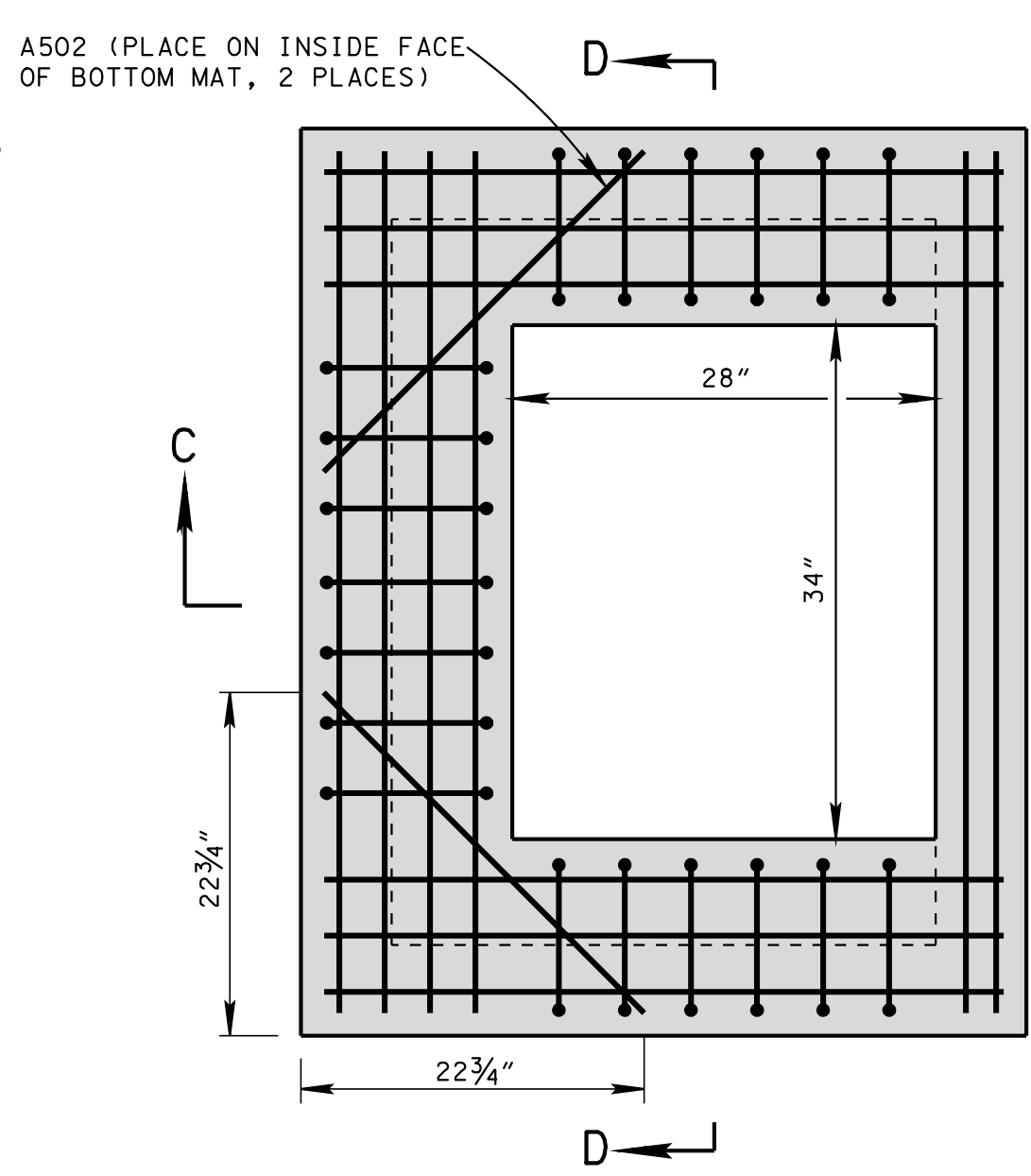


SECTION A-A

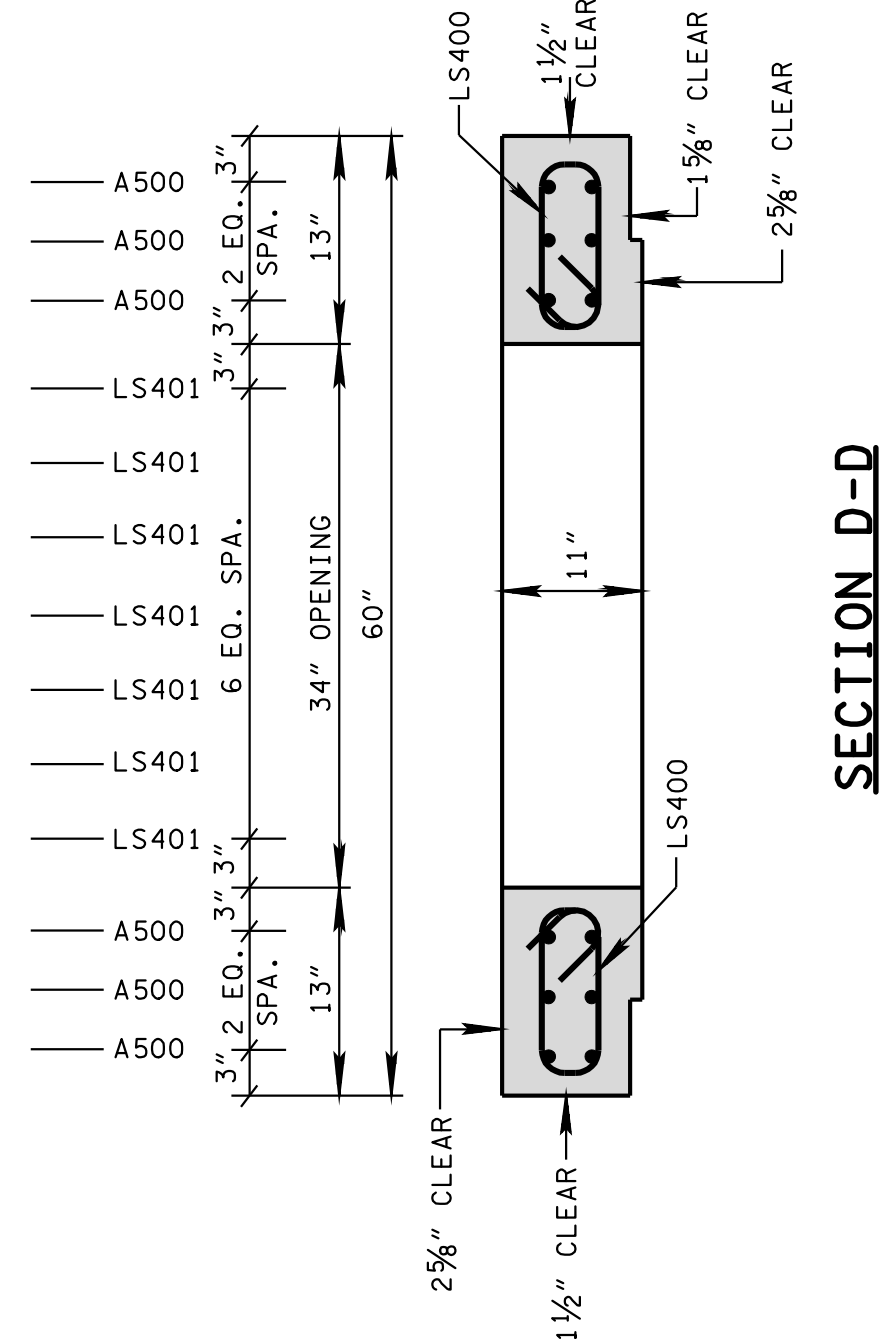
SECTION B-B



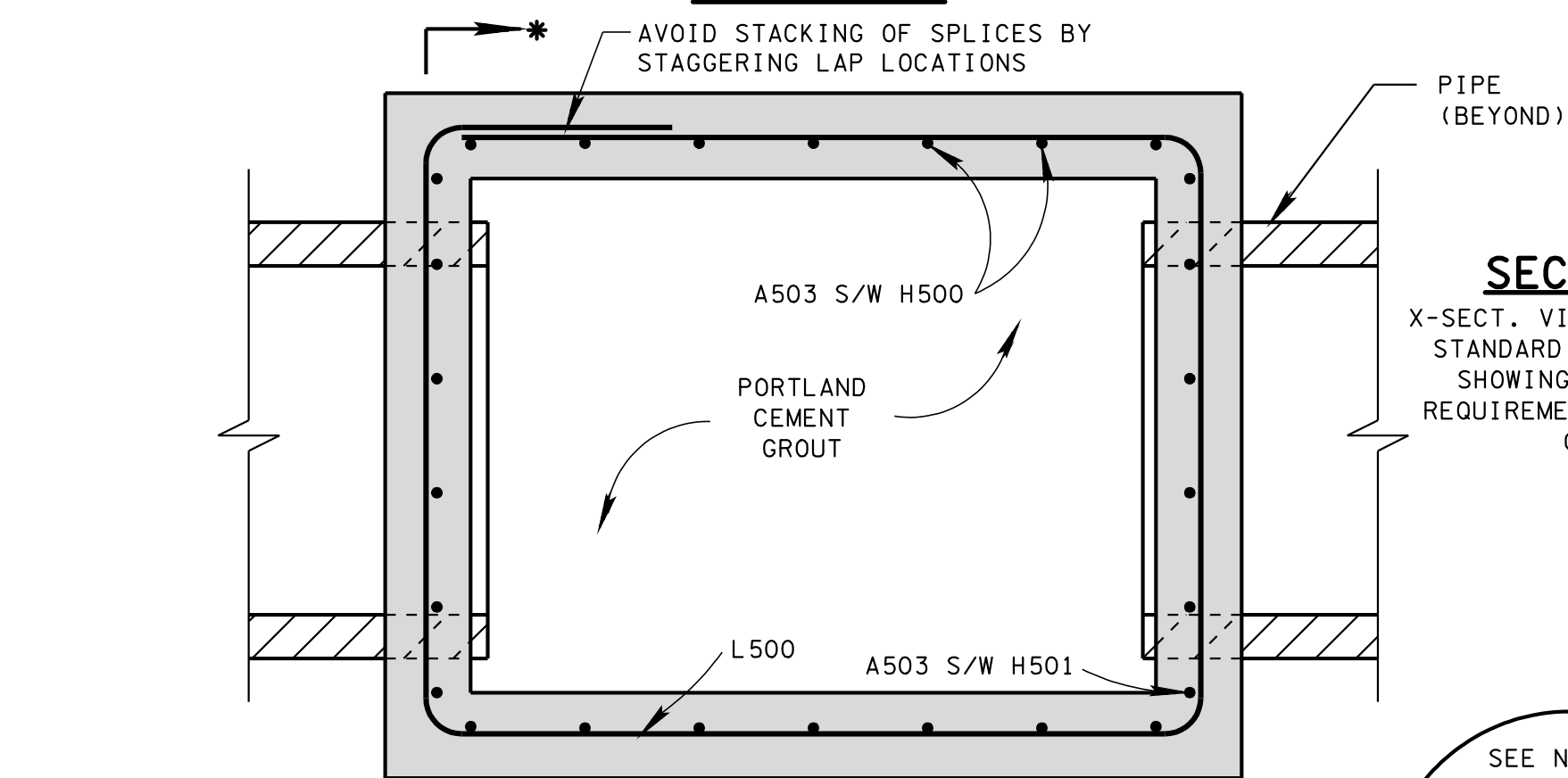
PLAN VIEW



PLAN VIEW



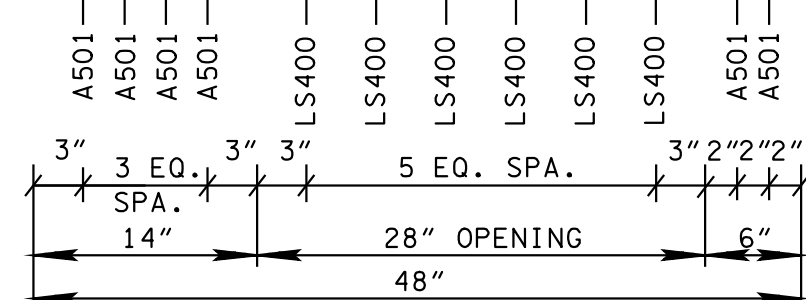
SECTION D-D



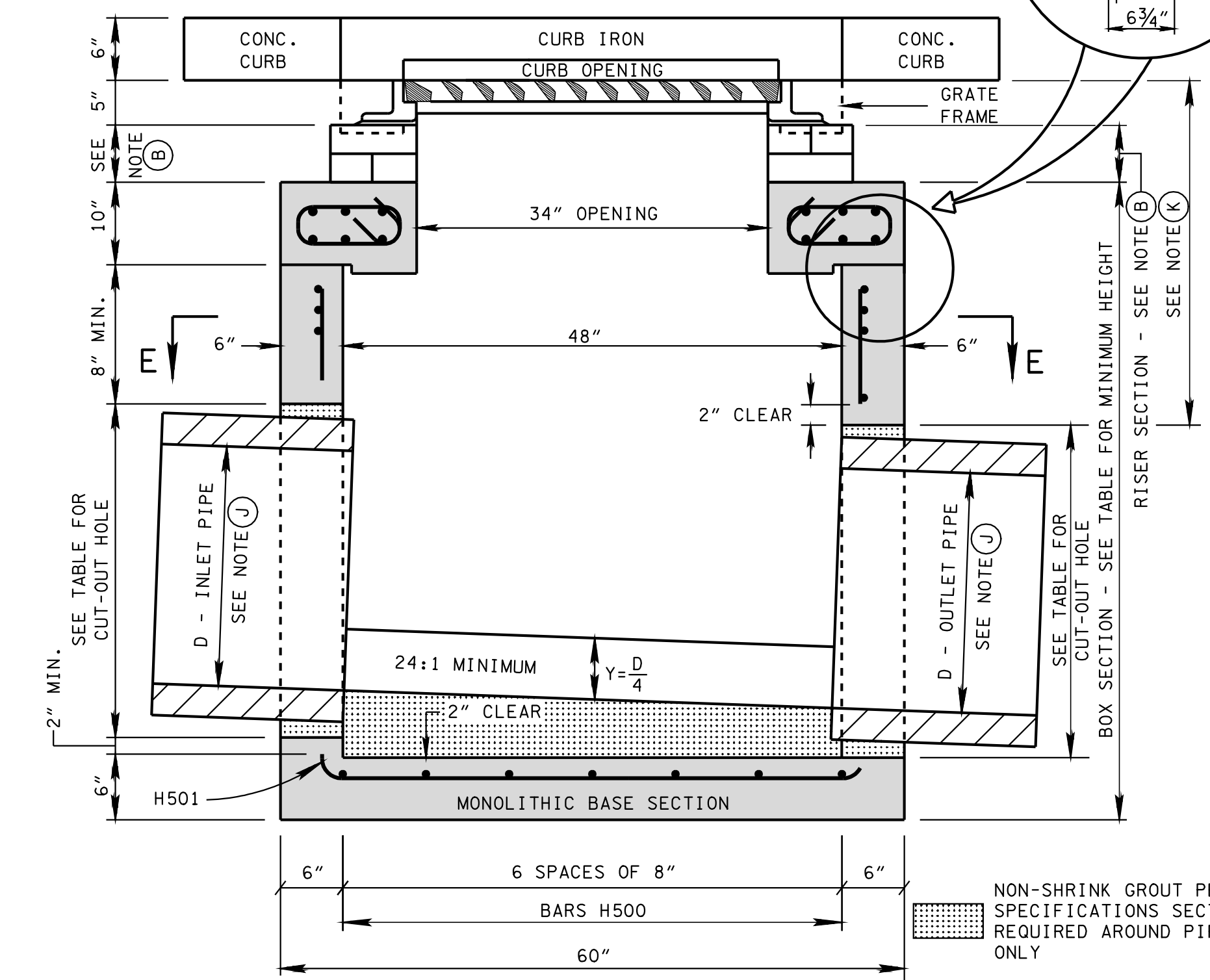
SECTION E-E

SECTION *-*

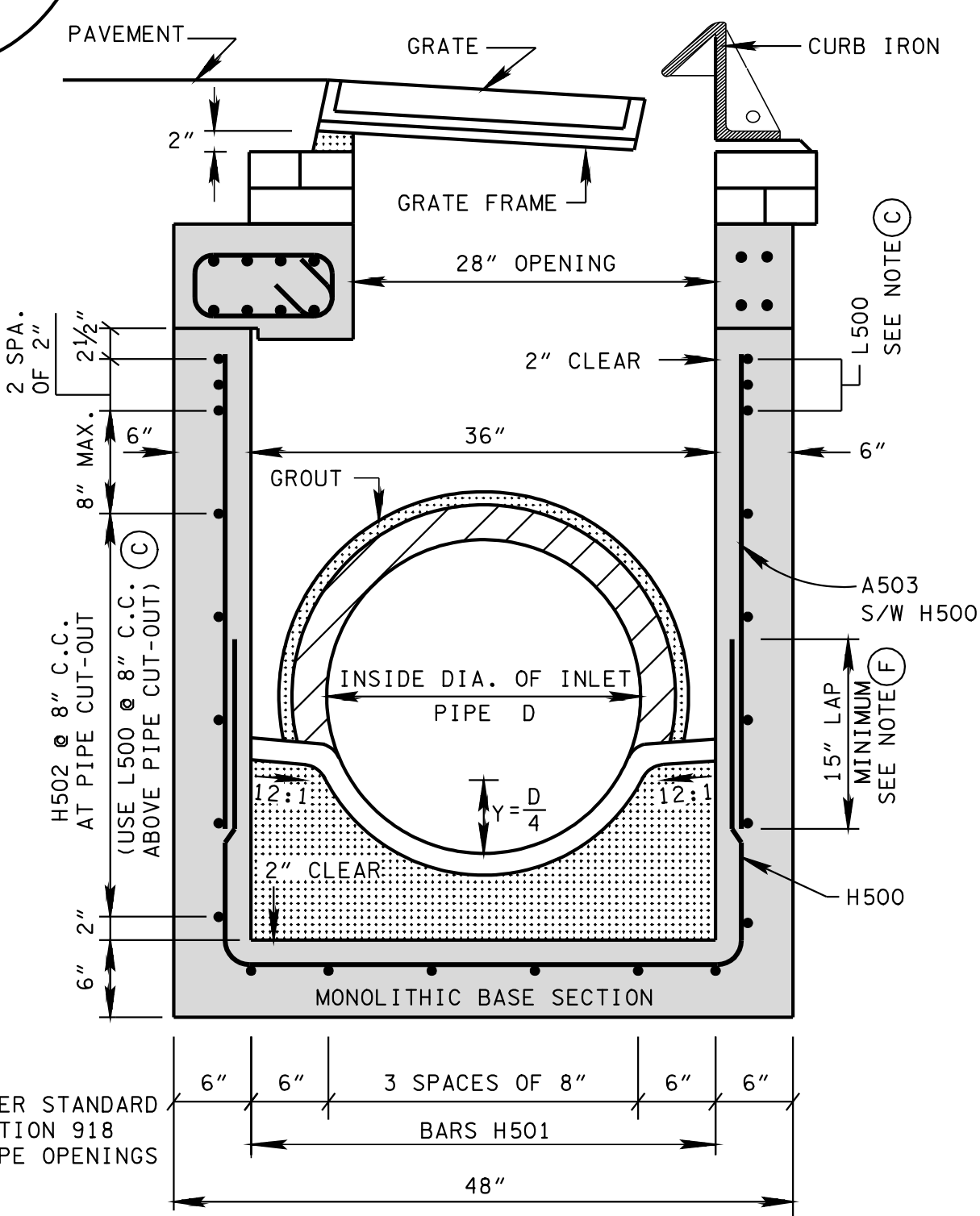
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



SECTION A-A



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'.

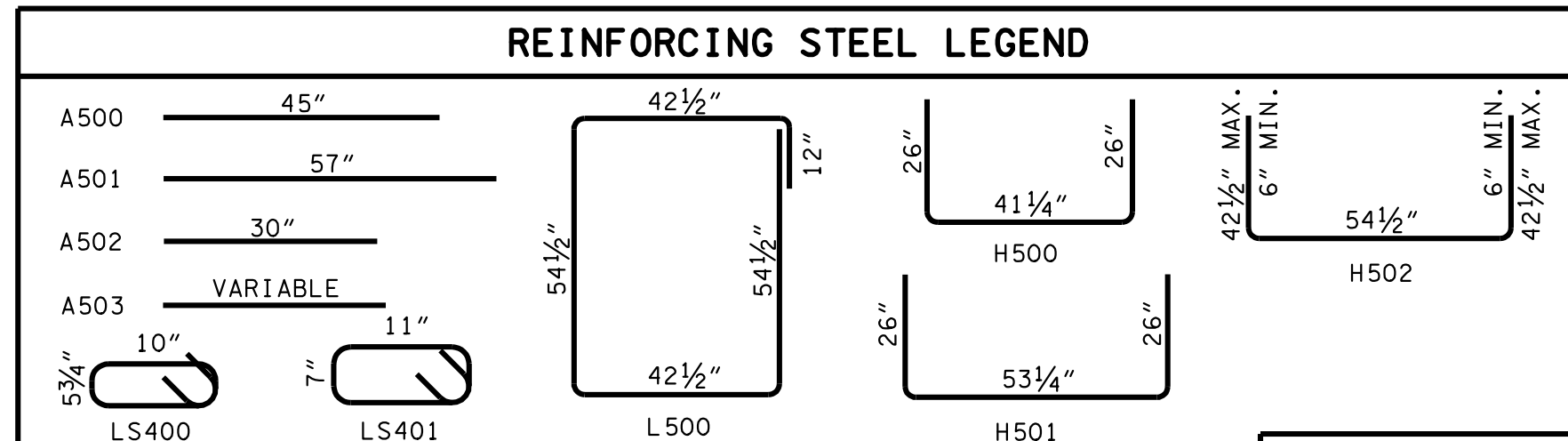
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	49	3.88
24	3	32	56	4.42
④ 30	3 1/2	39	63	4.96
④ 36	4	46	70	5.50

- 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 UN-CUT 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 ②
- 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. 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 1 1/2 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.



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

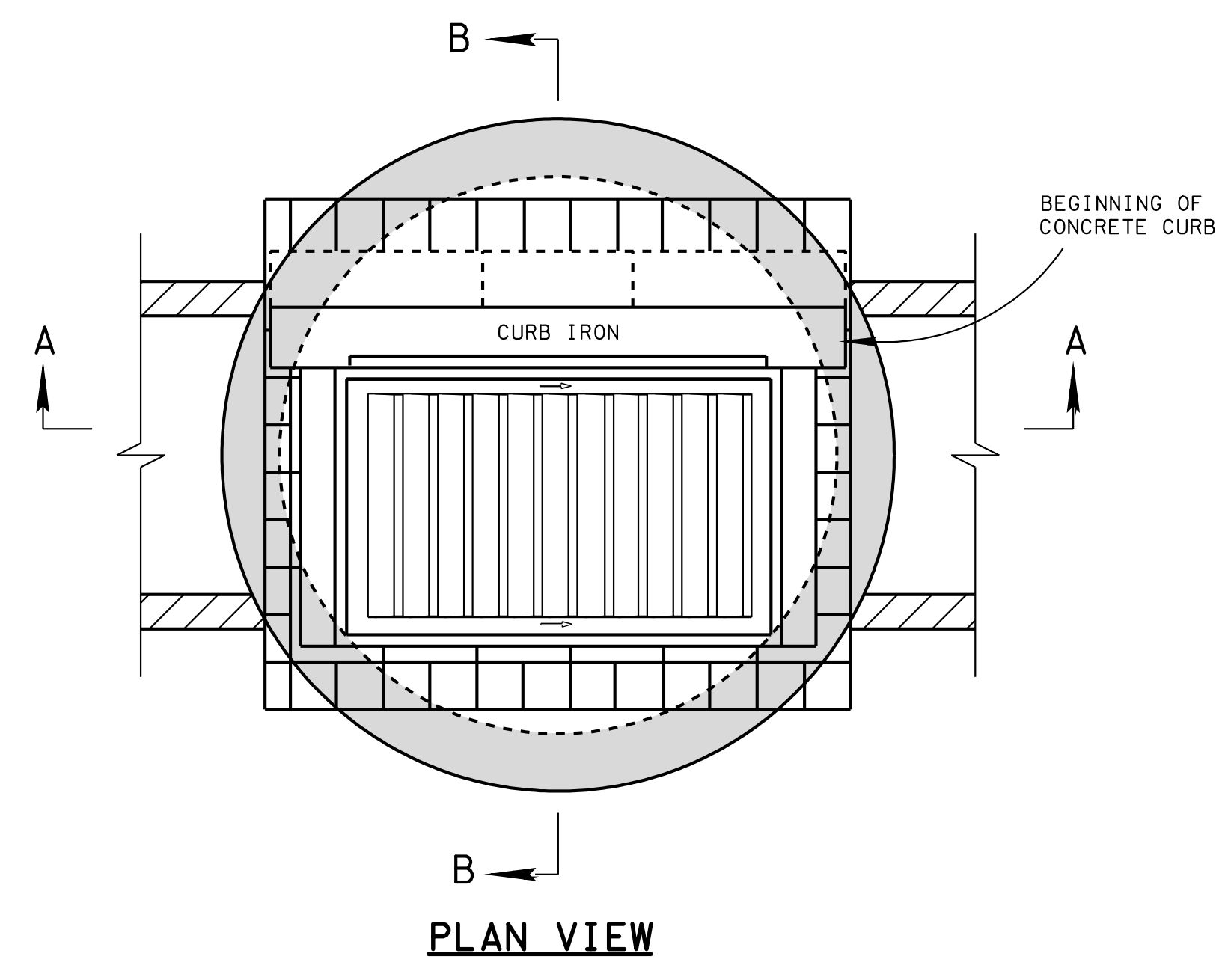
**STANDARD PRECAST
RECTANGULAR
CONCRETE NO. 25
CATCH BASIN**
(FOR USE WITH 6" MOUNTABLE CURB)

- 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 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 (K) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFID 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.

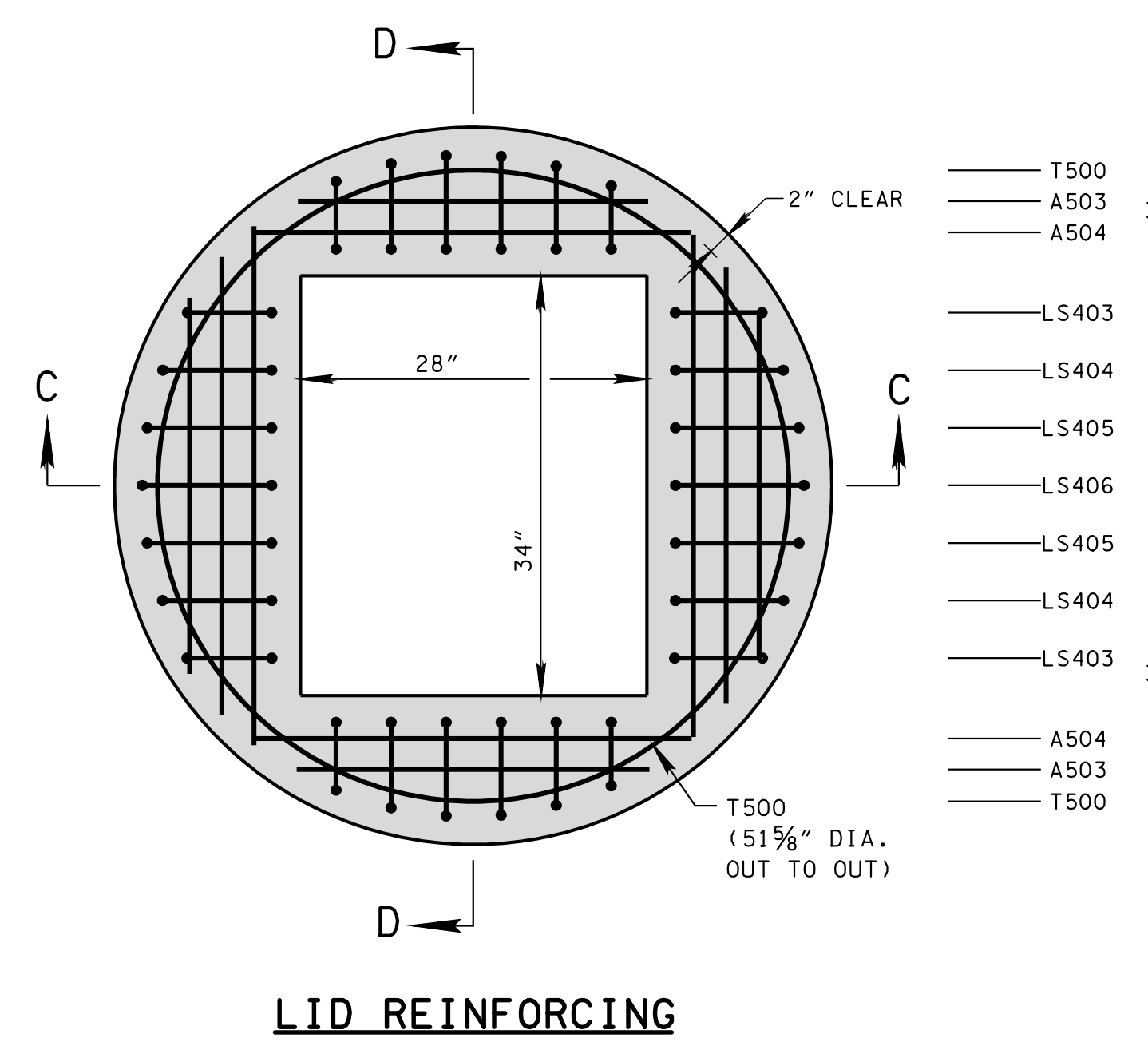
CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

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

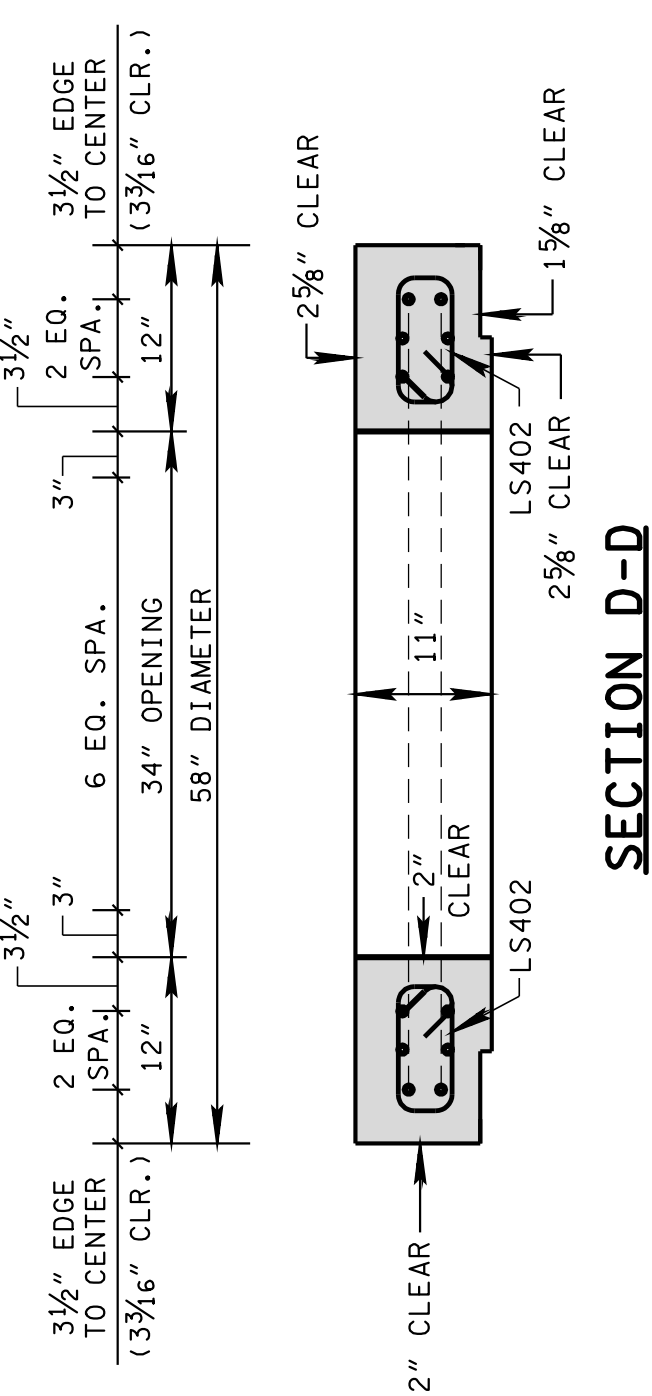
- (1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- (2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- (3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN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



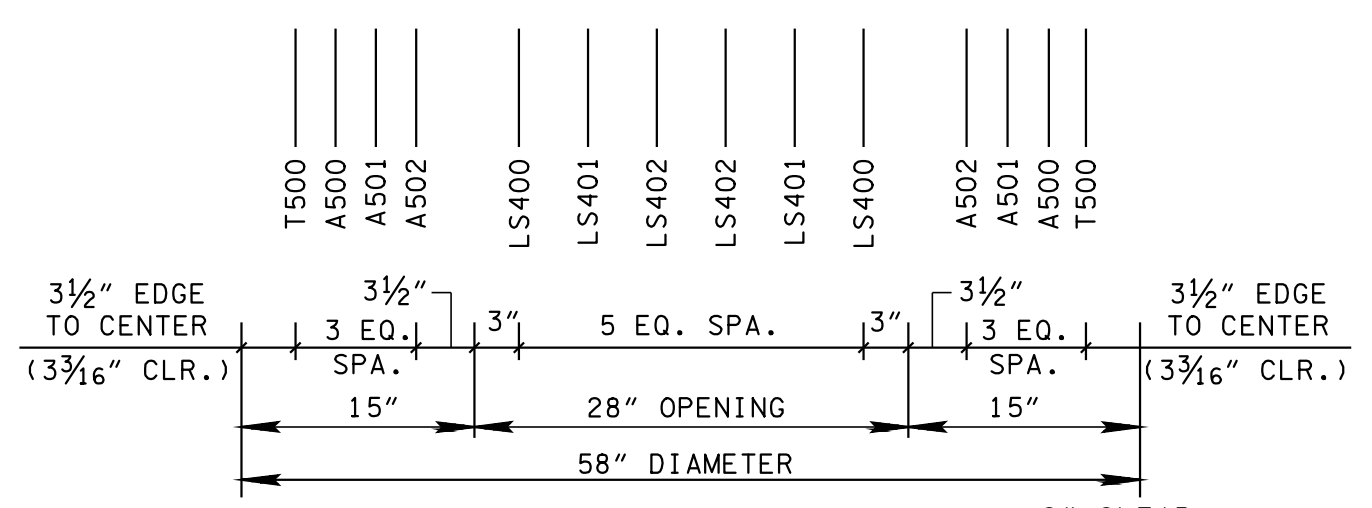
PLAN VIEW



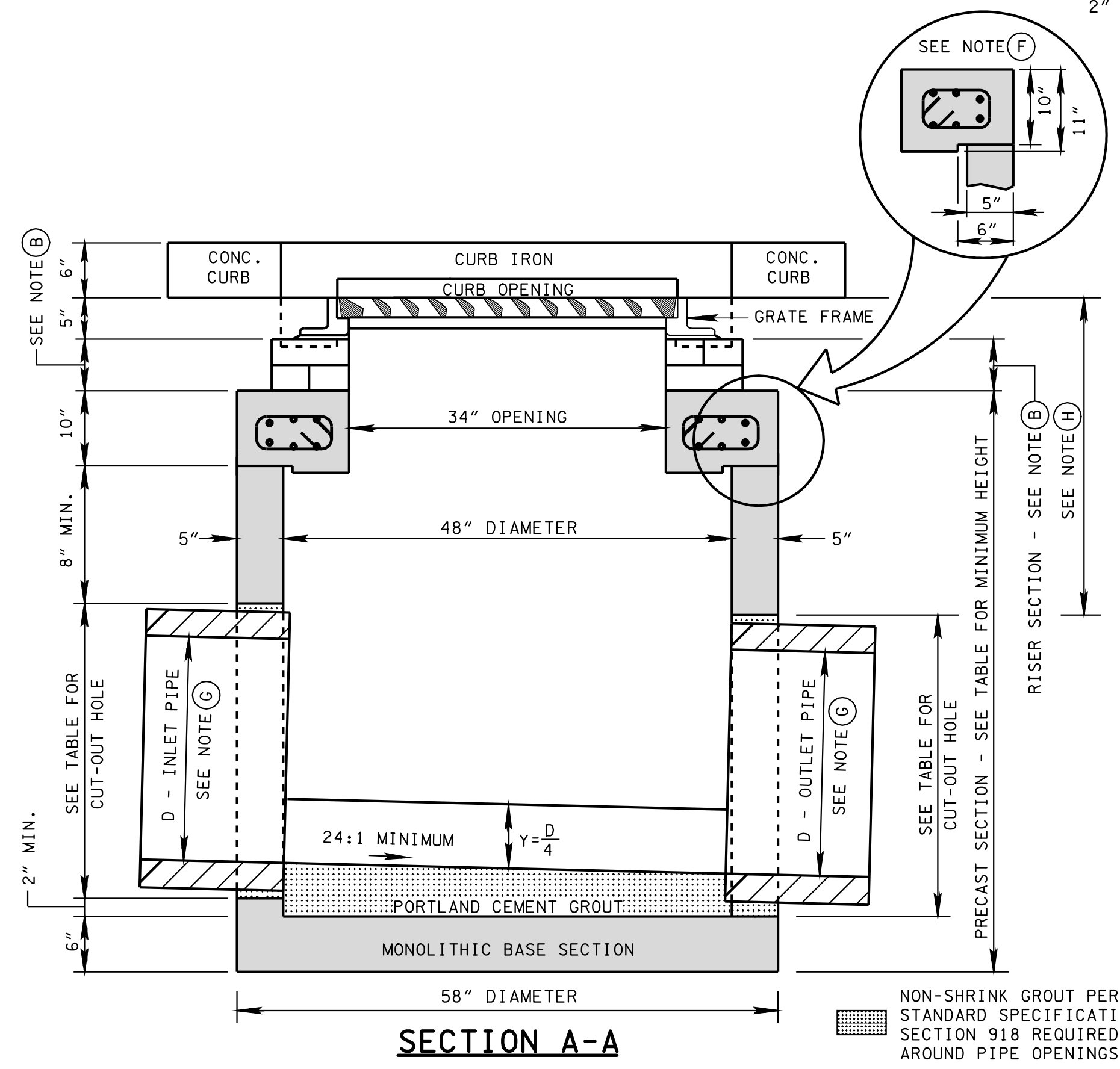
LID REINFORCING



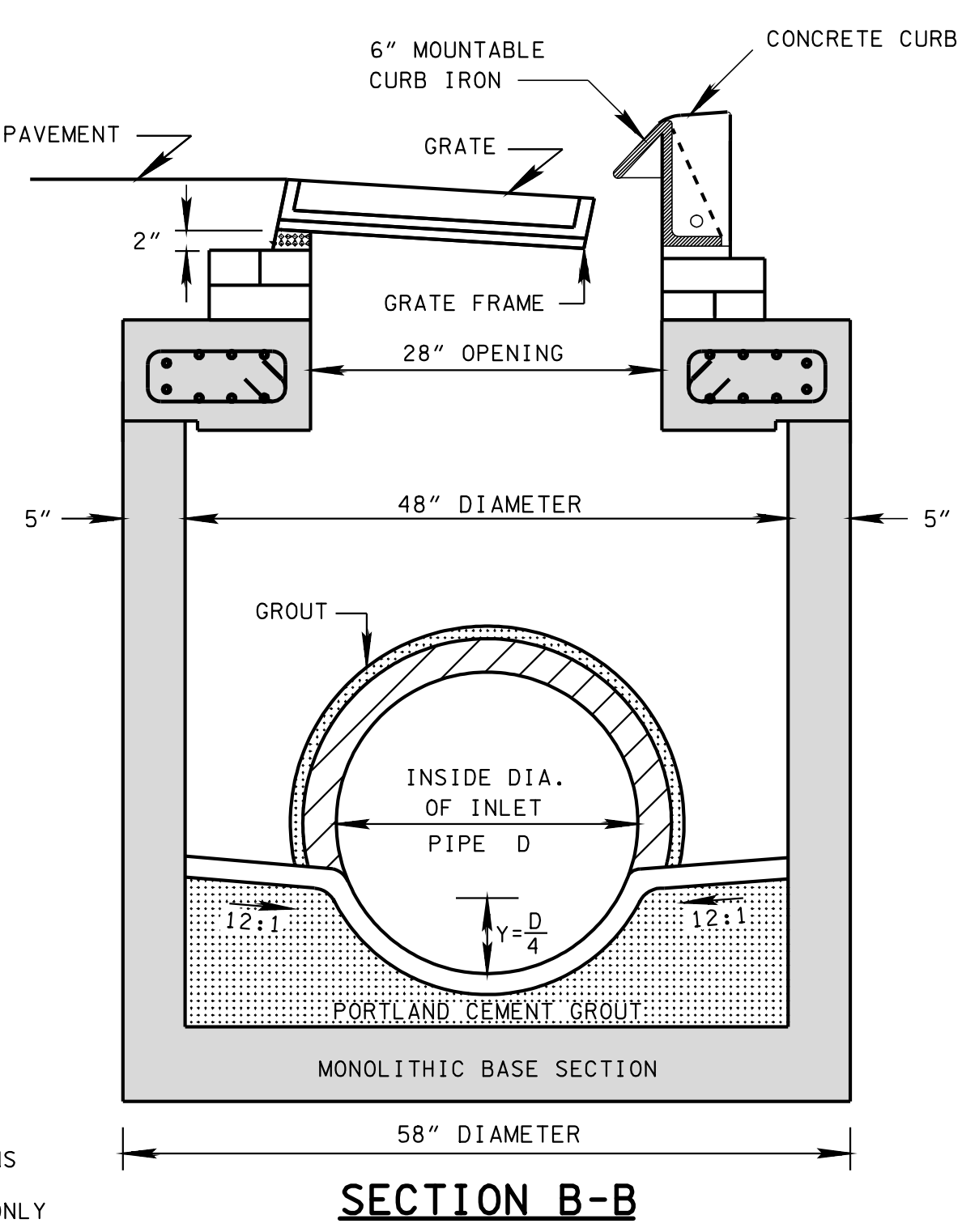
SECTION D-D



SECTION C-C



SECTION A-A



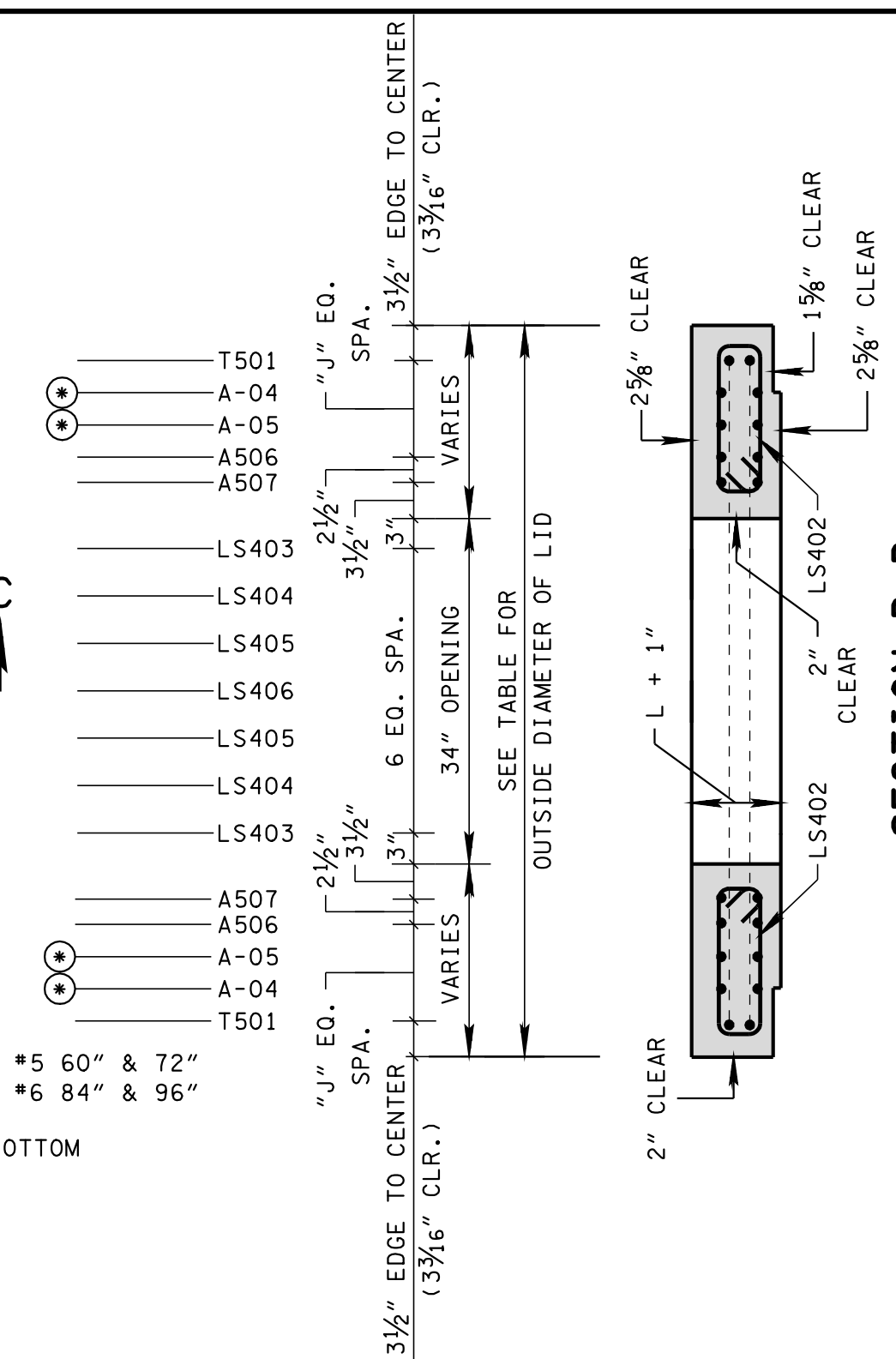
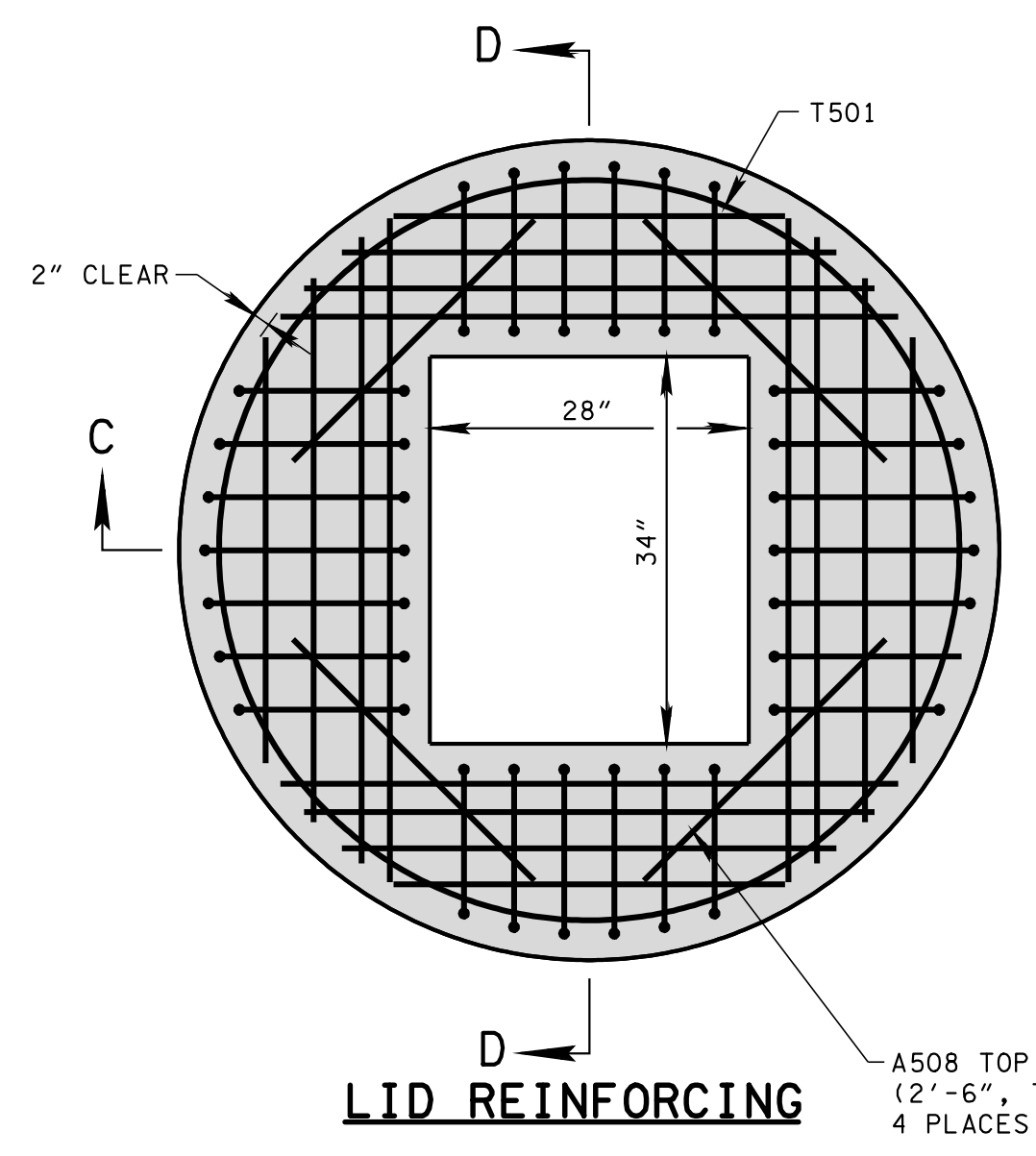
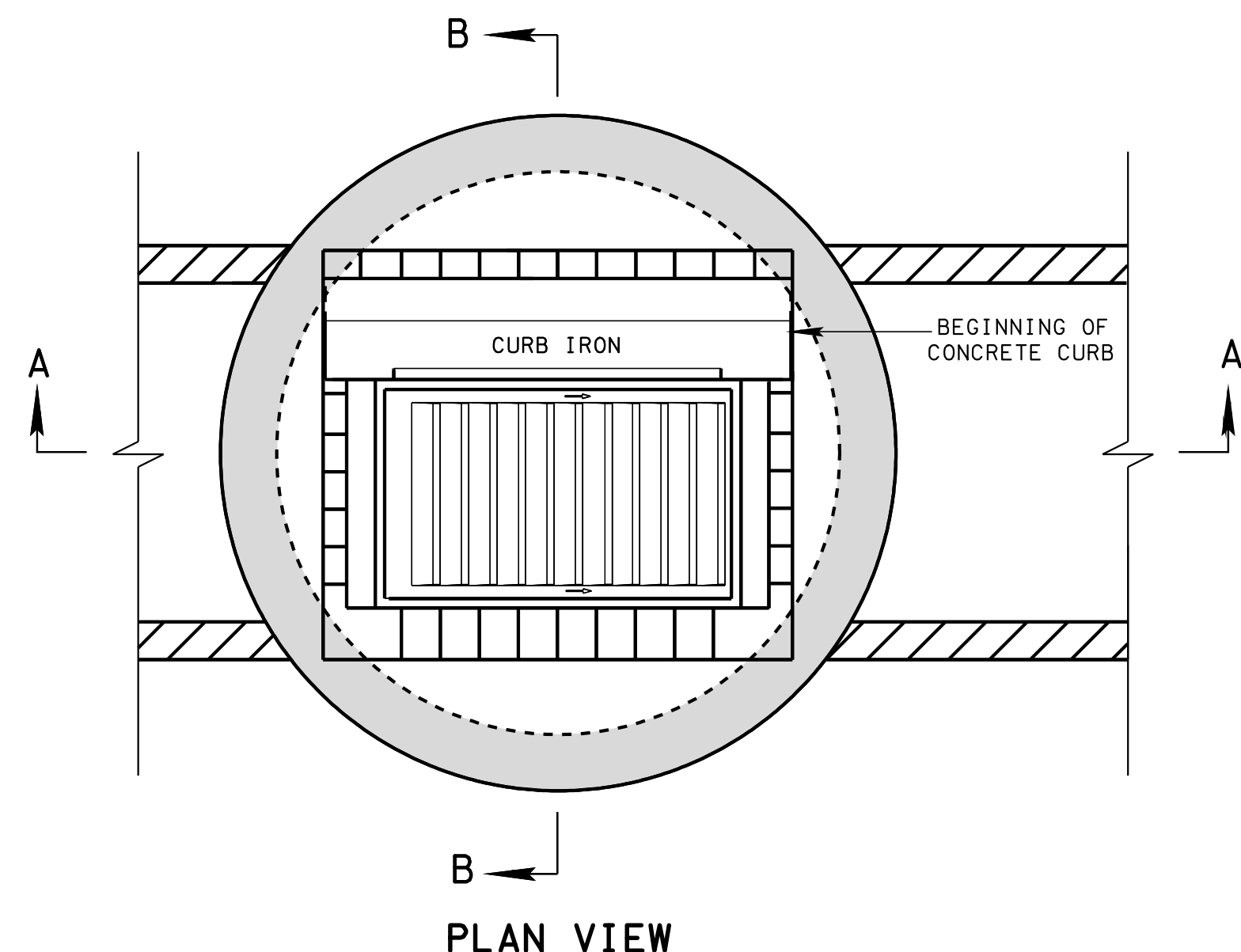
SECTION B-B

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)

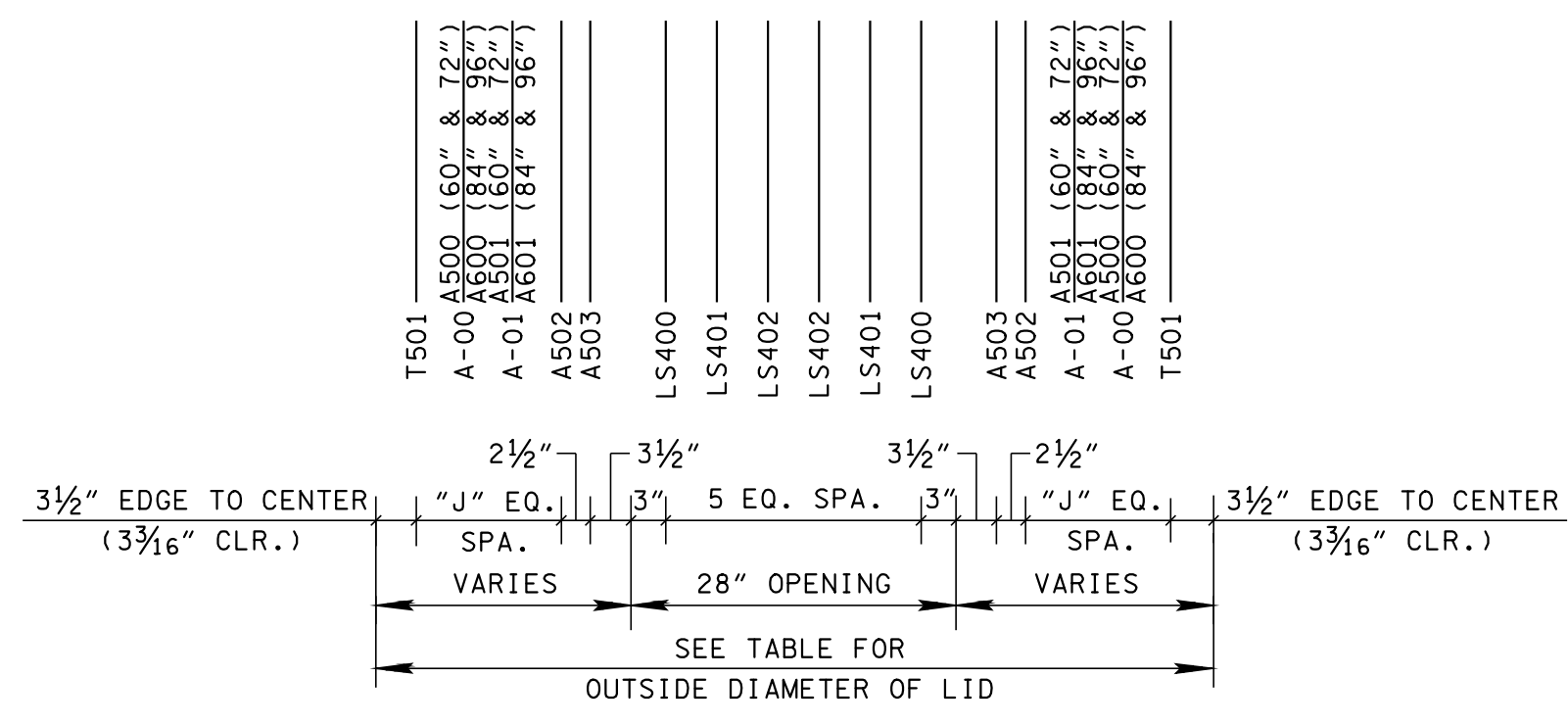


CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'

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

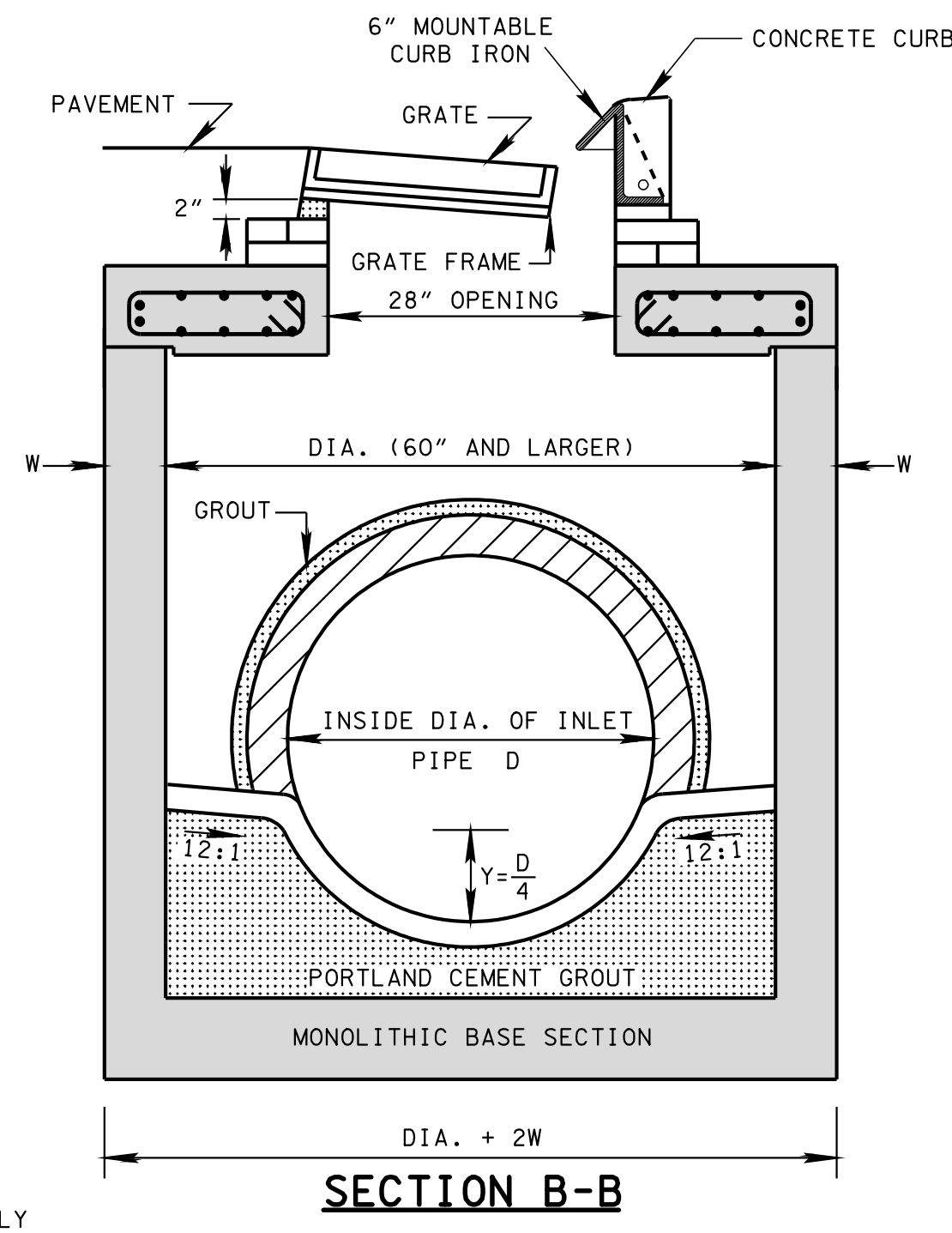
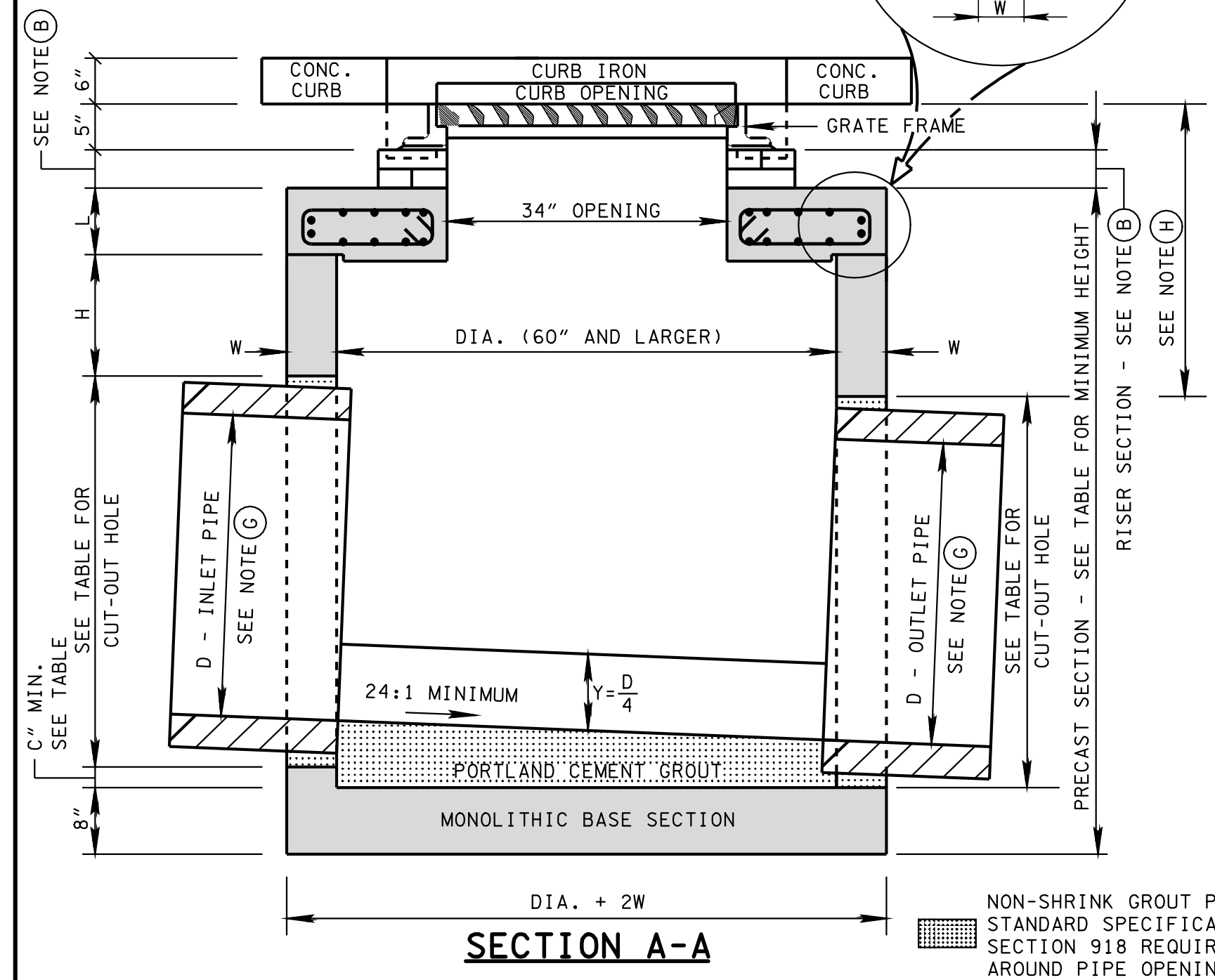
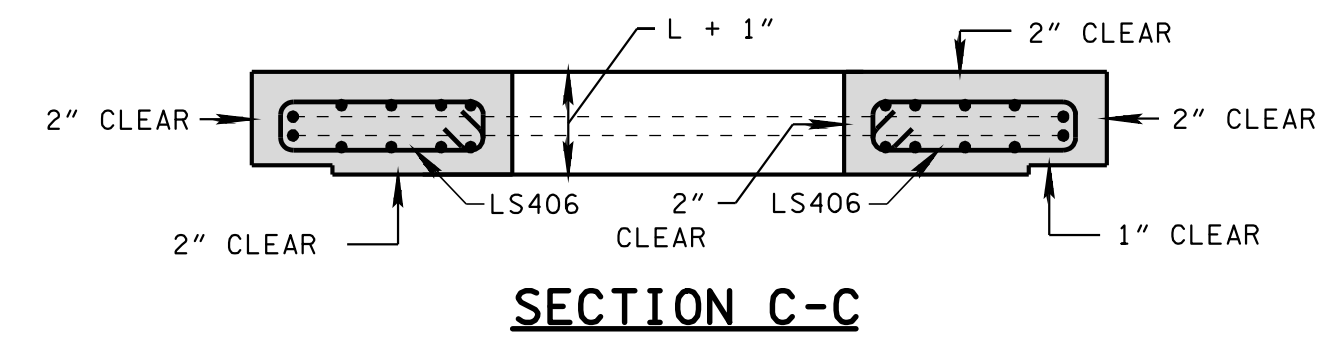
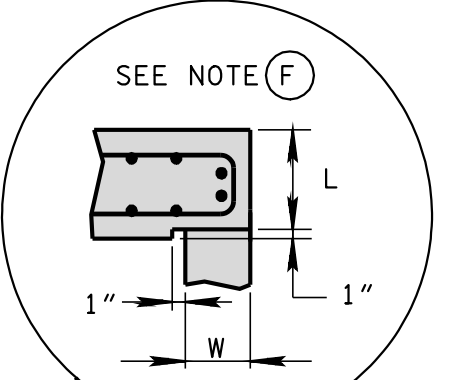
VARIABLE REINFORCING DIMENSIONS AND SPACING IN CONCRETE LID

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 6¾ 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'".



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.

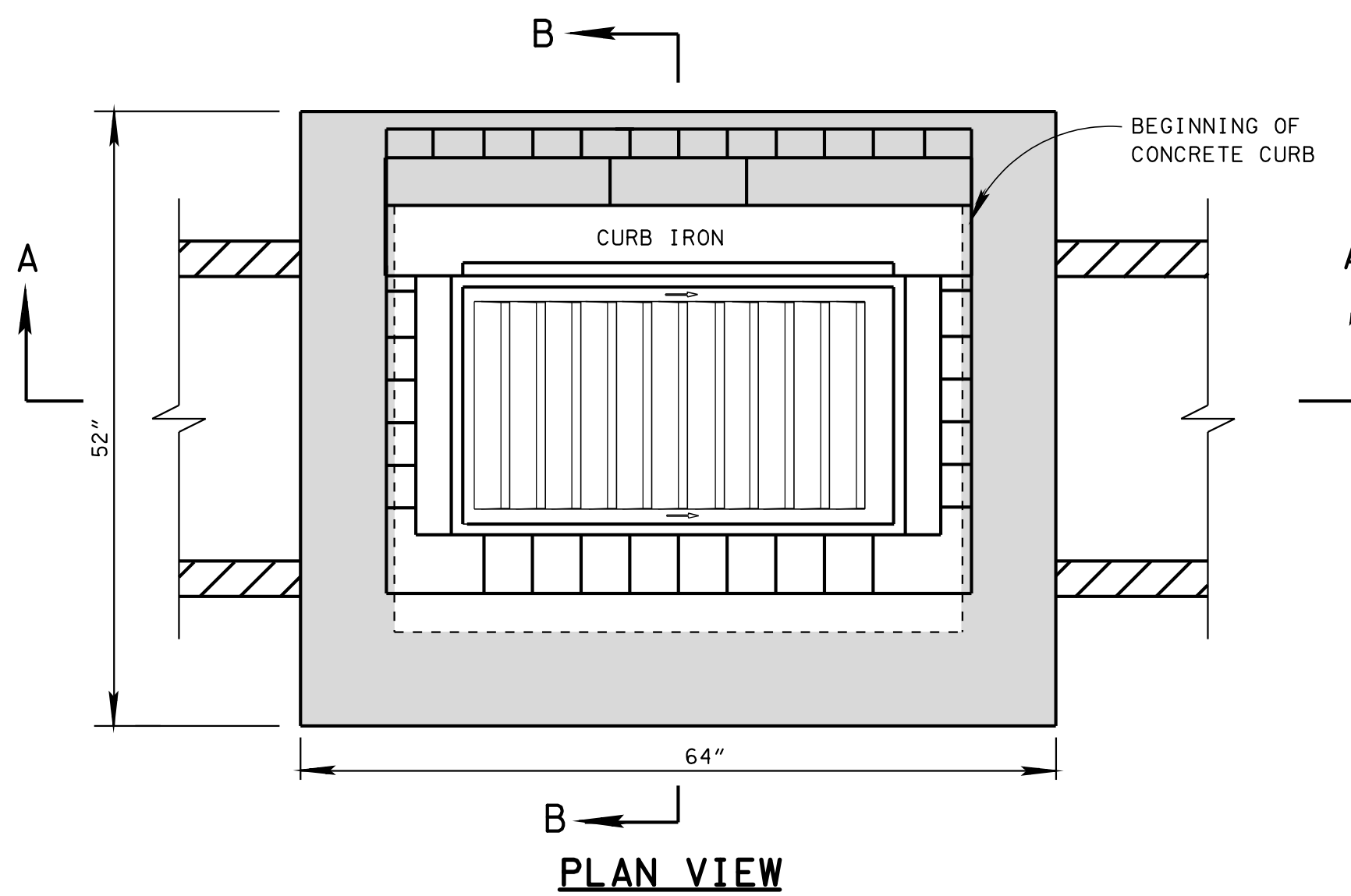
CATCH BASIN DIMENSIONS

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

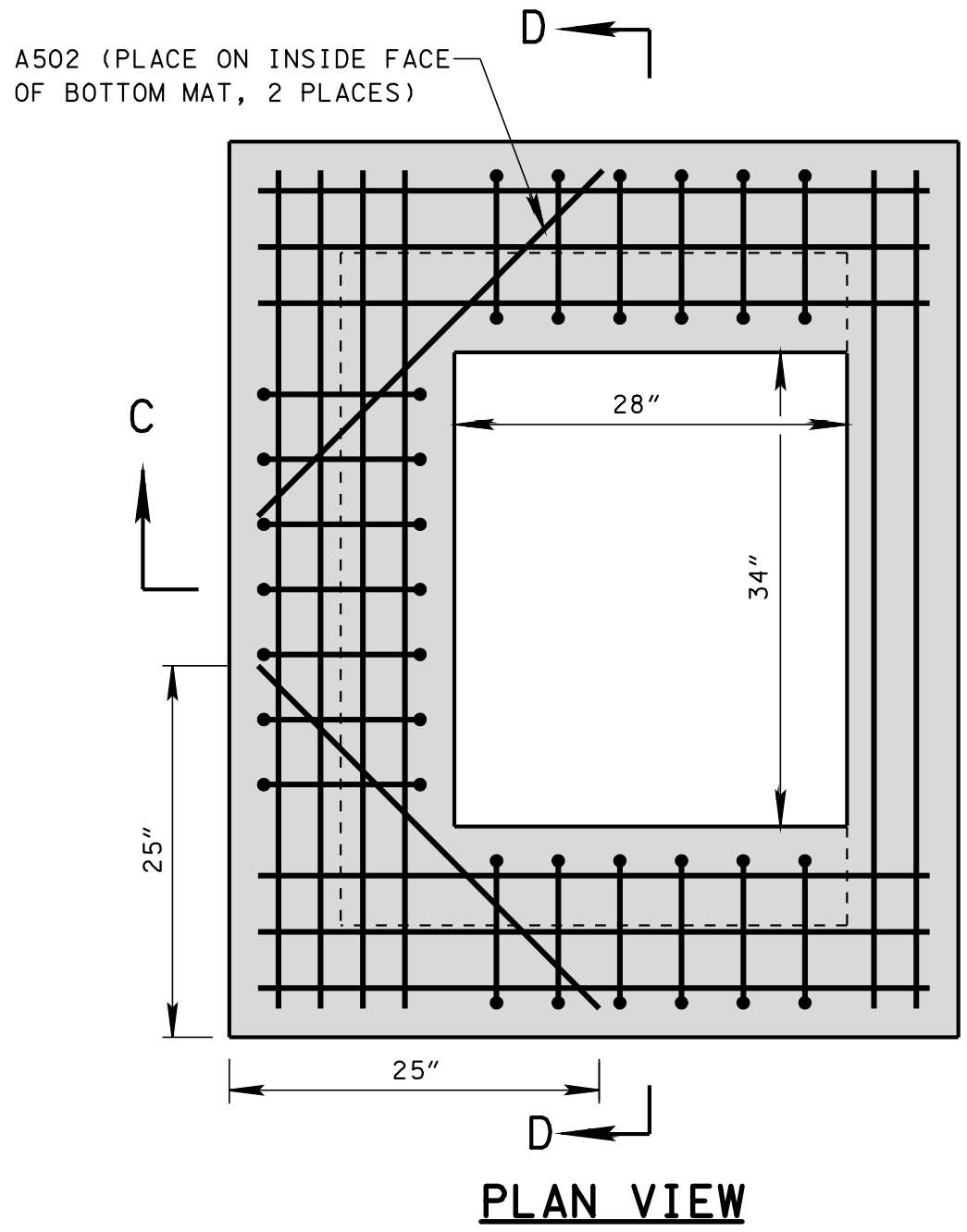
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

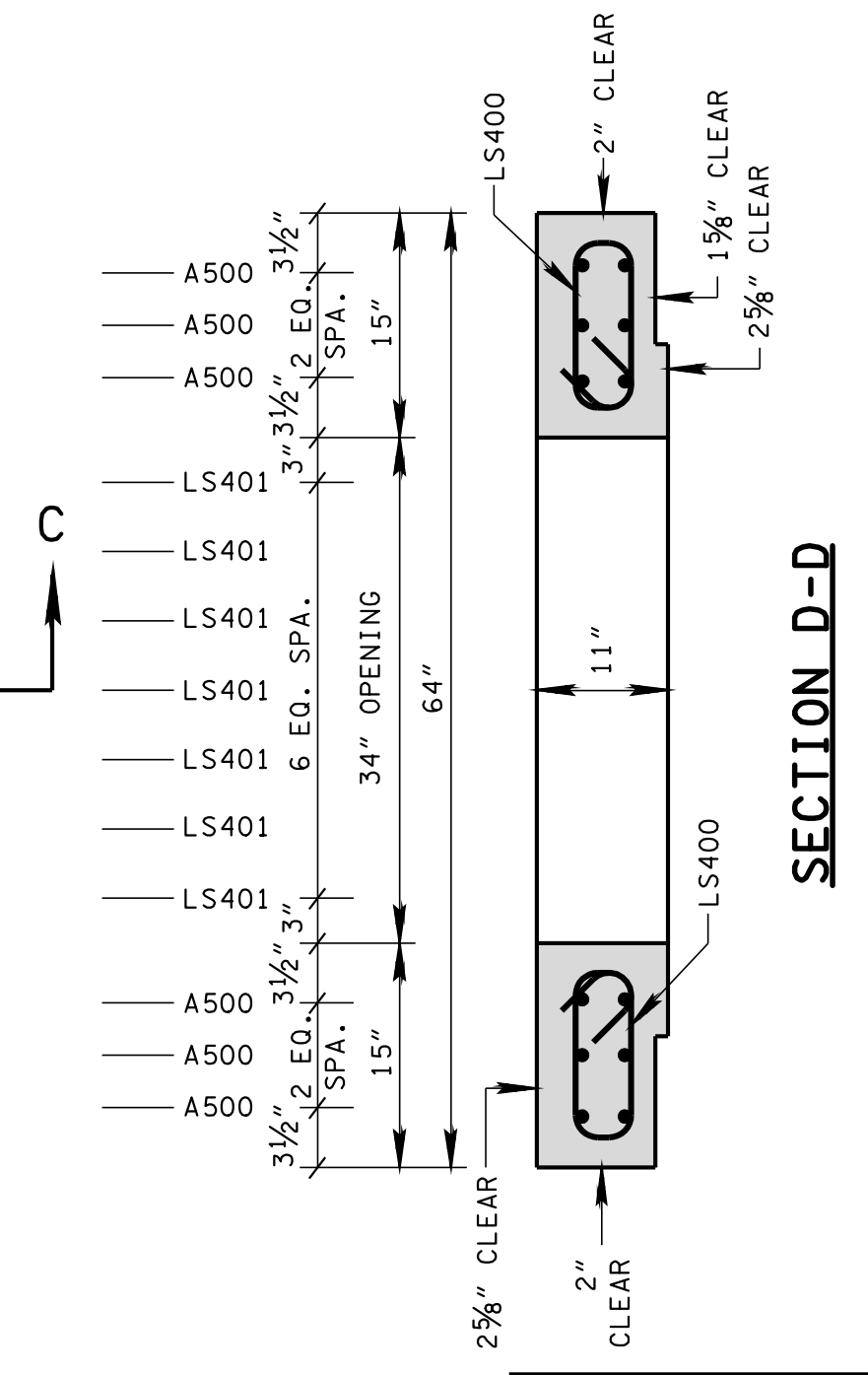
STANDARD PRECAST CIRCULAR NO. 25 CATCH BASIN
 (FOR USE WITH 6" MOUNTABLE CURB)



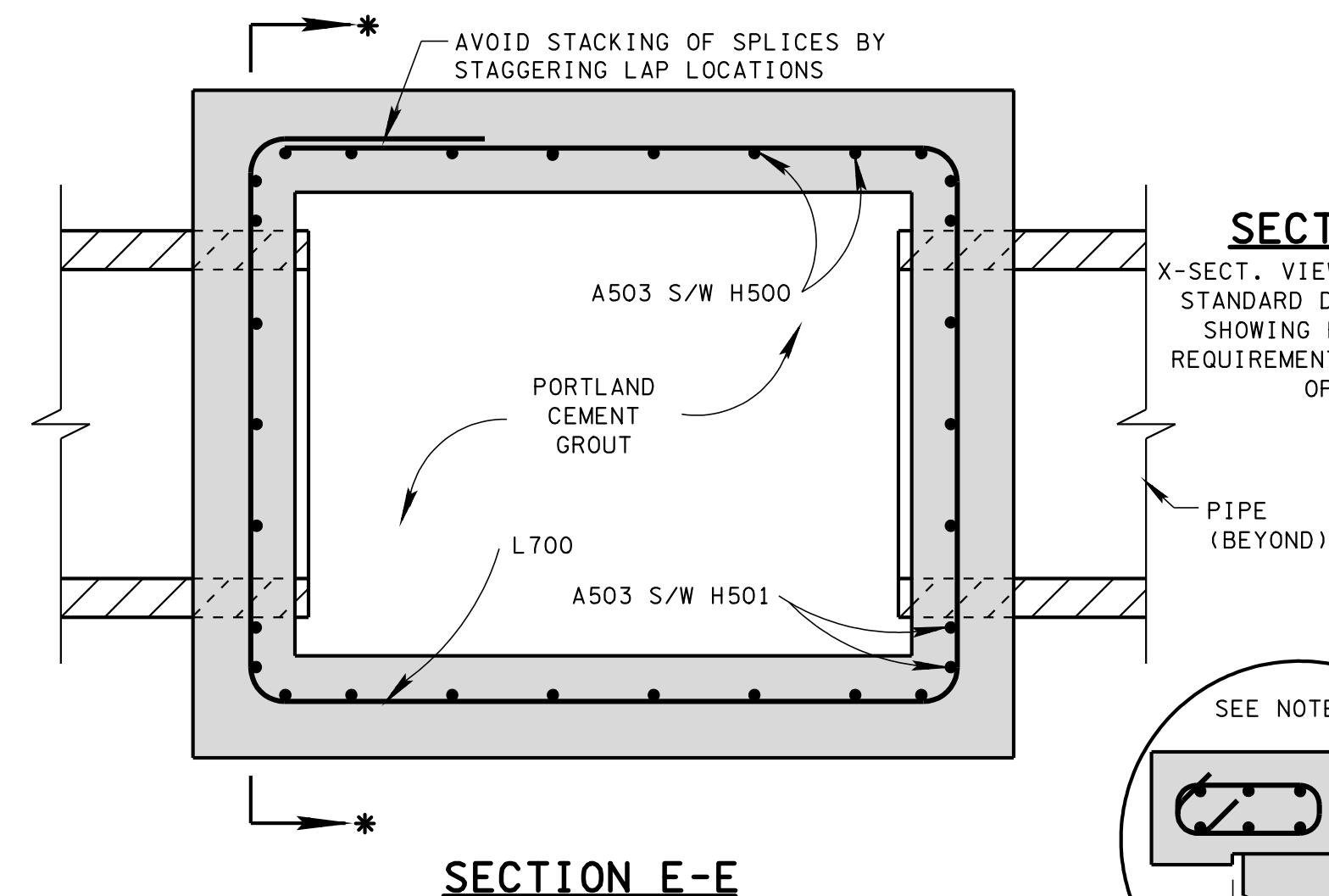
PLAN VIEW



PLAN VIEW

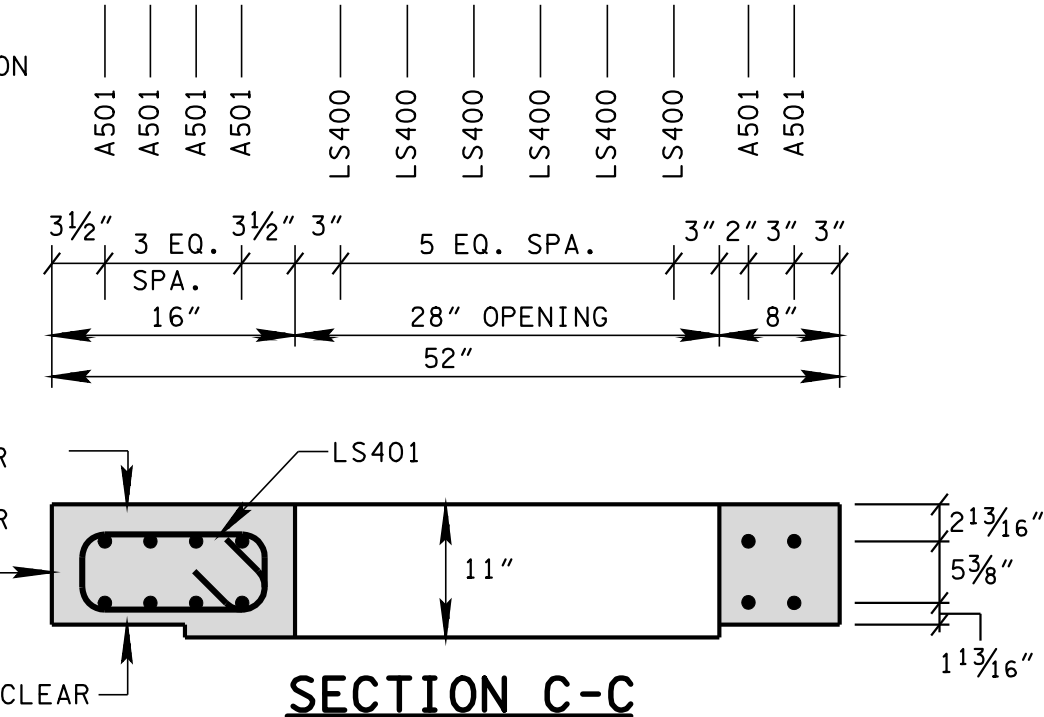


SECTION D-D

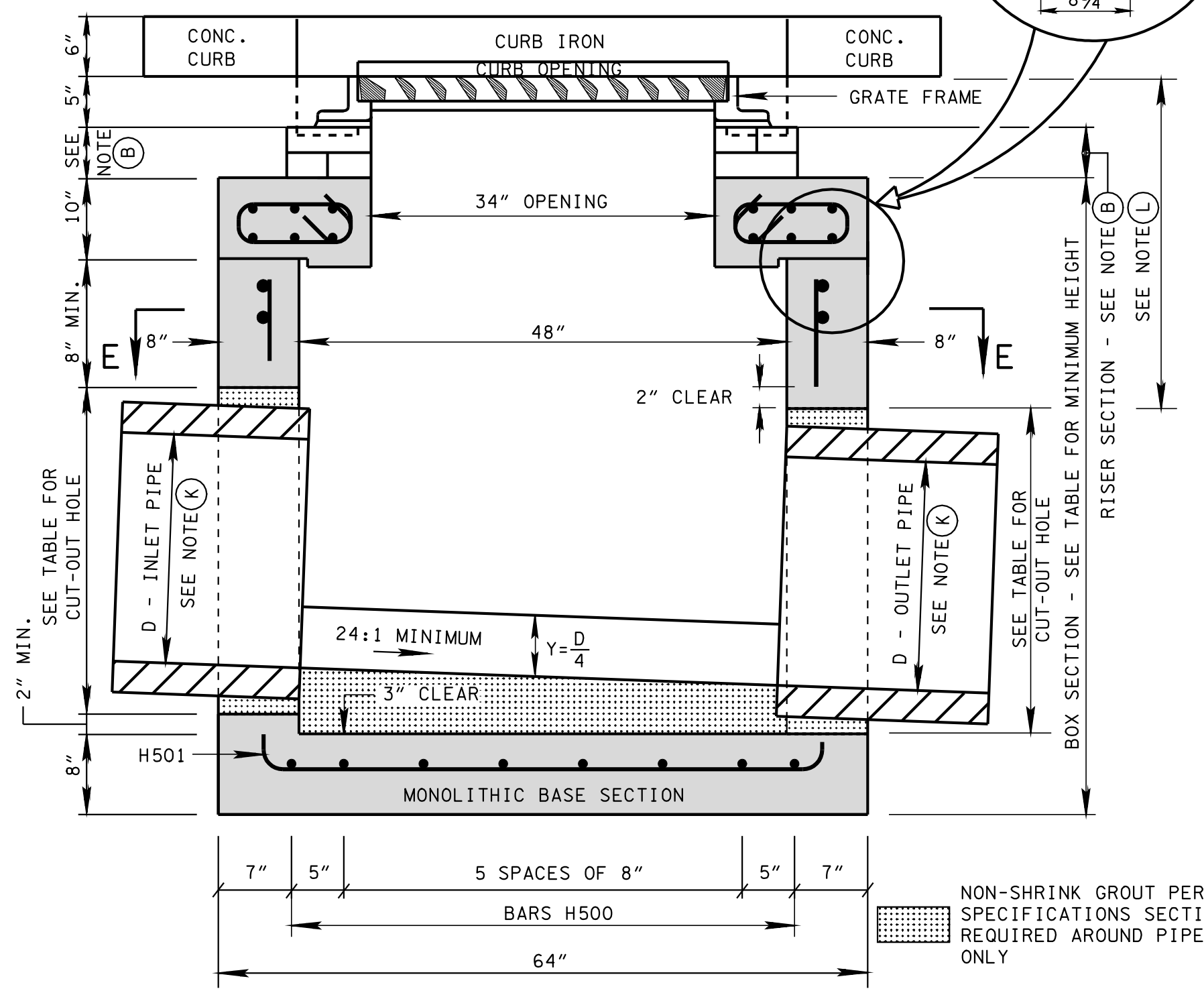


SECTION E-E

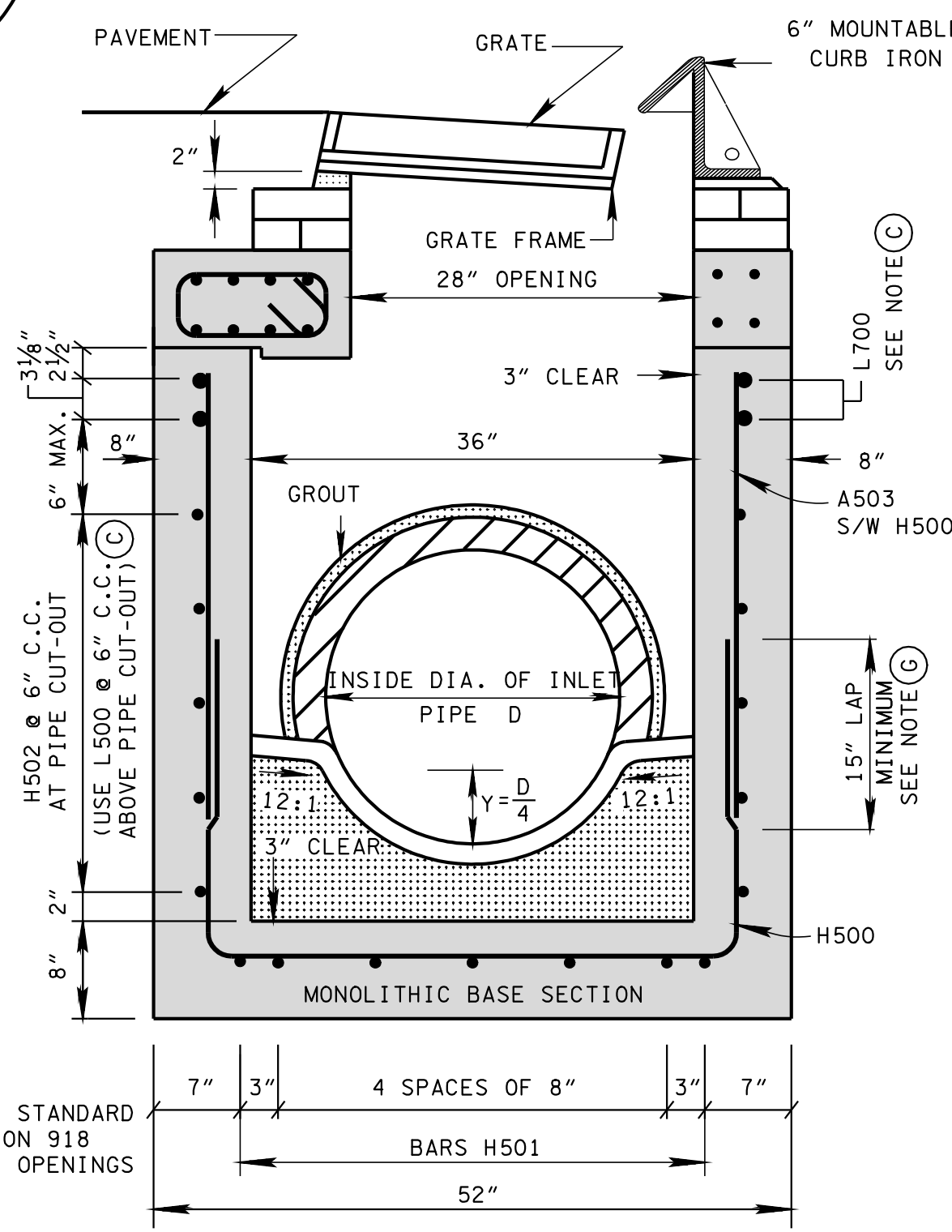
SECTION *-*-
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



SECTION A-A



SECTION B-B

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

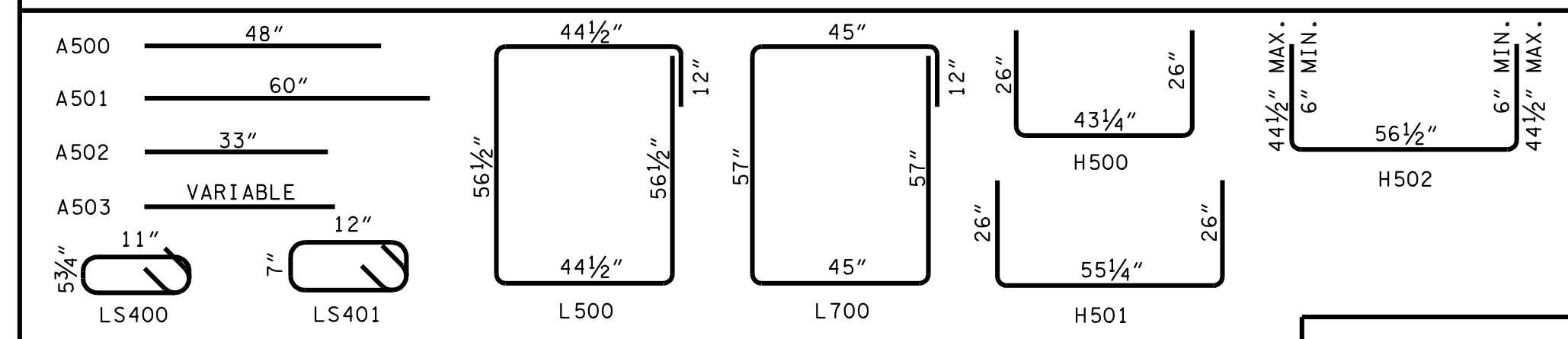
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	51	3.88
24	3	32	58	4.42
④ 30	3 1/2	39	65	4.96
④ 36	4	46	72	5.50

- 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.

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 1 1/2 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.

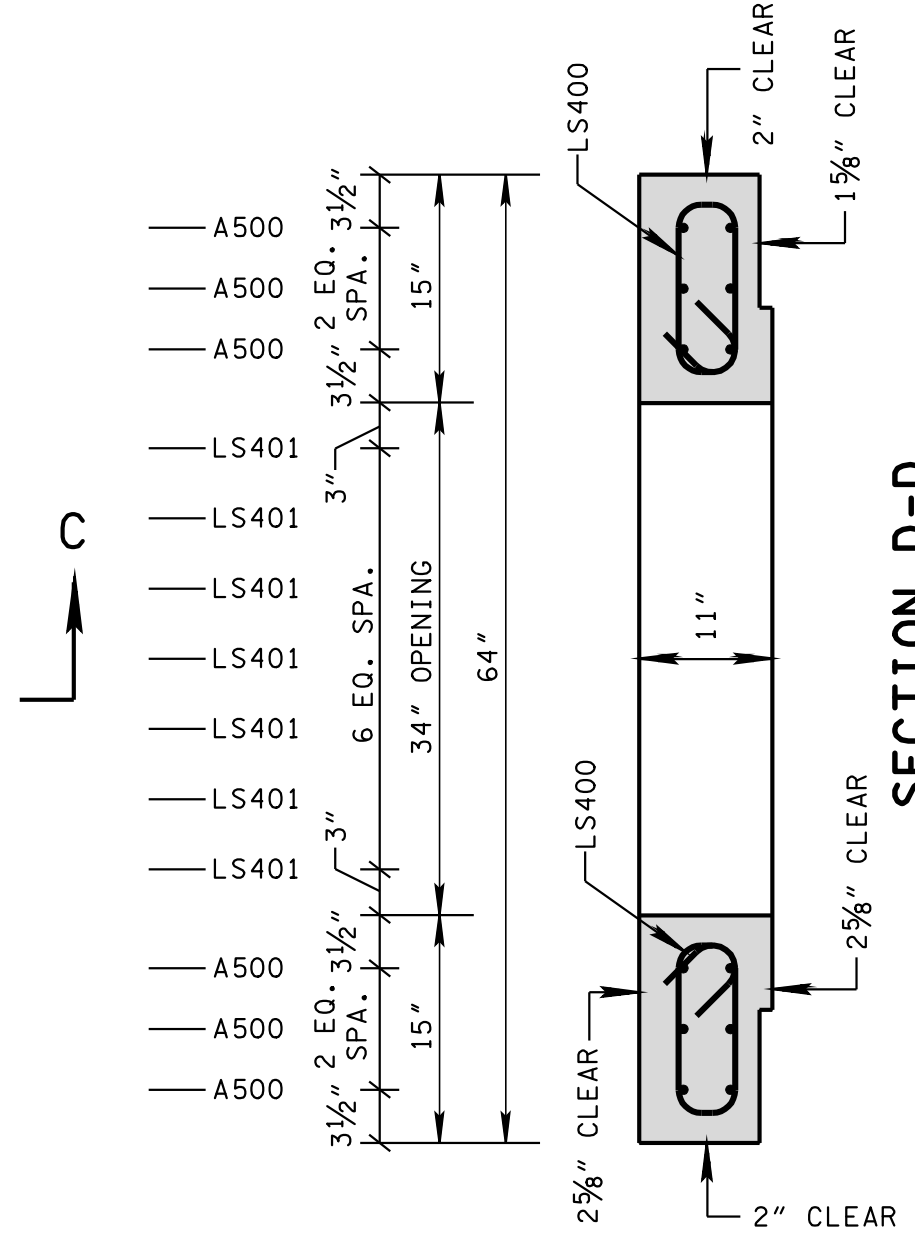
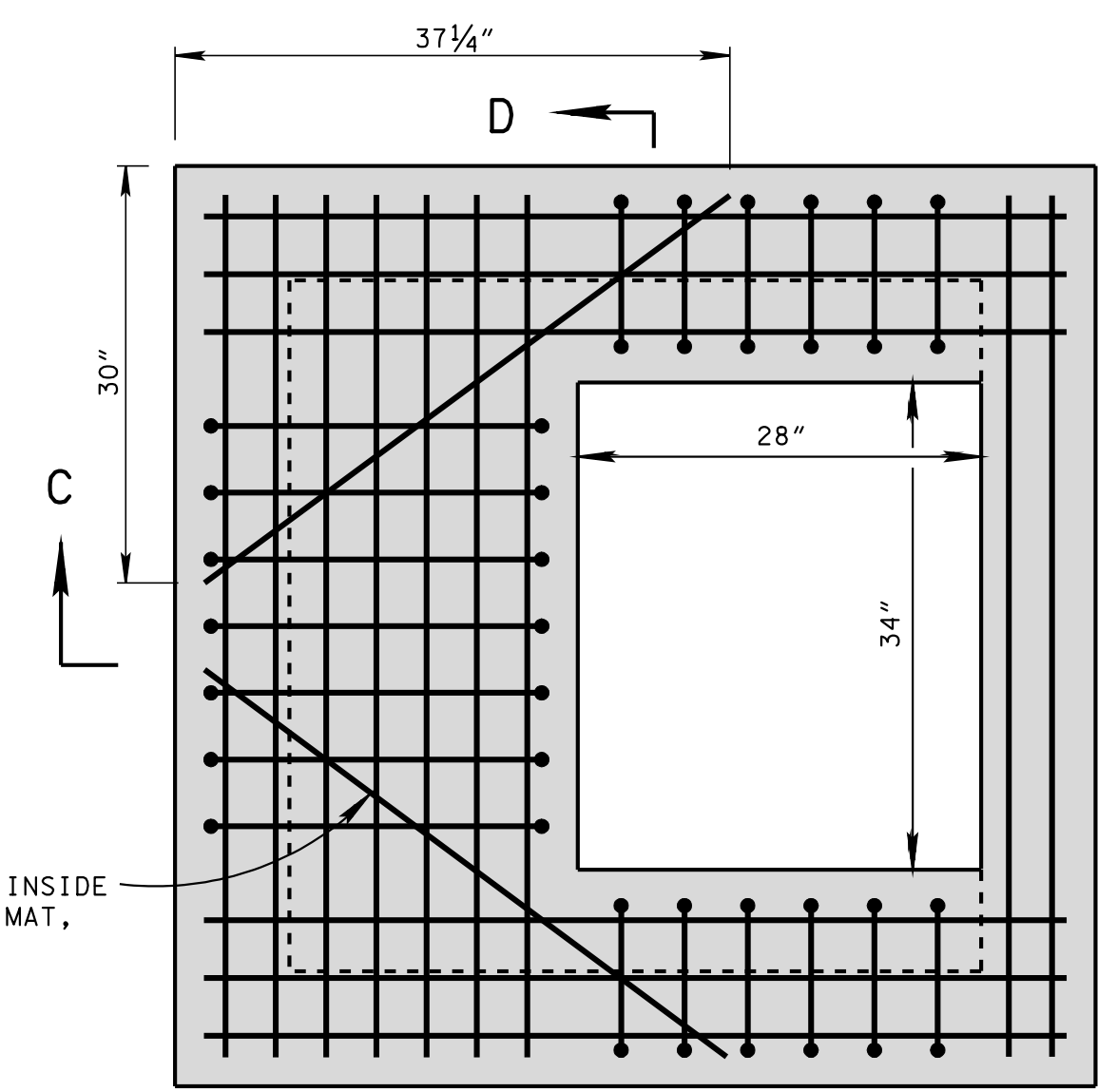
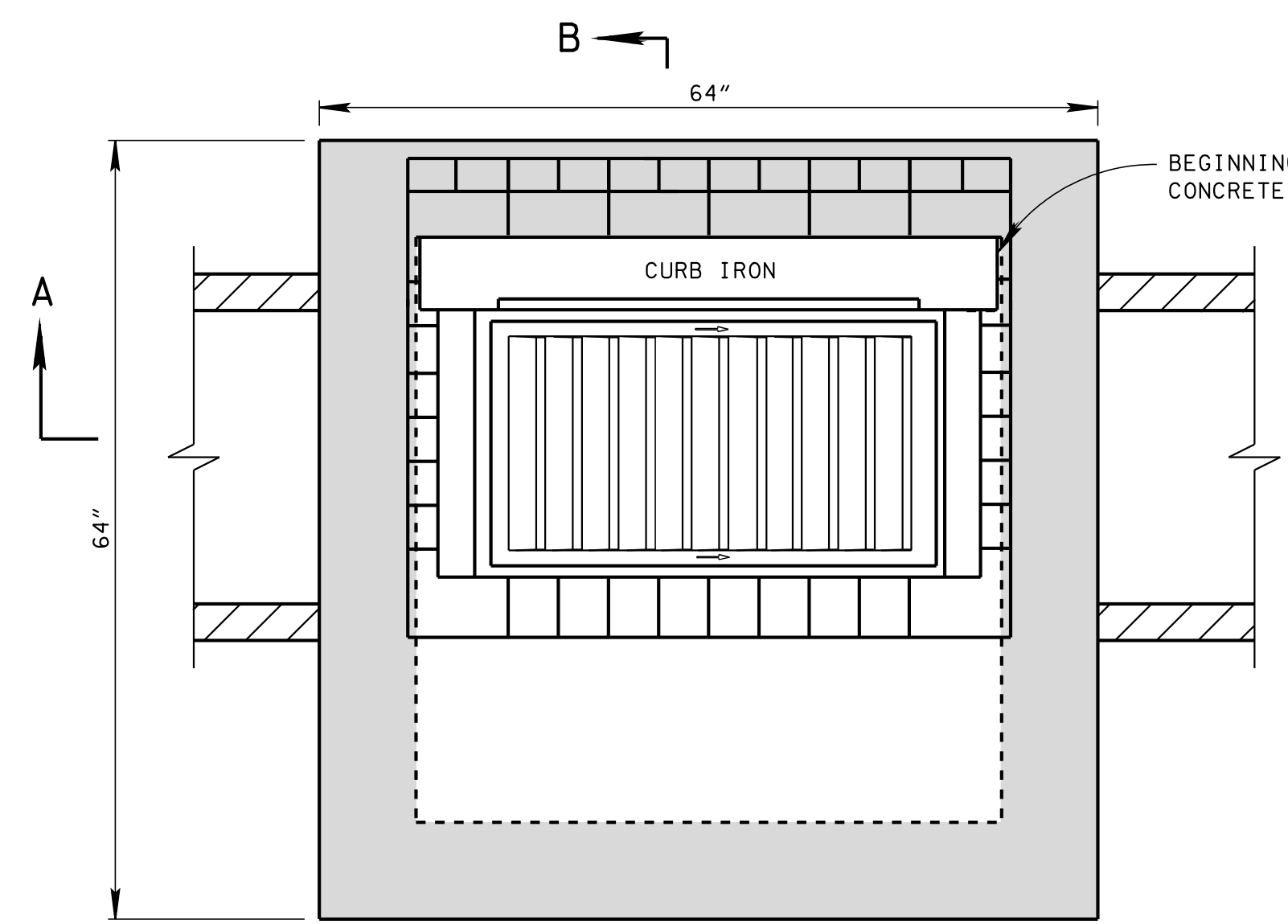
REINFORCING STEEL LEGEND



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.

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)

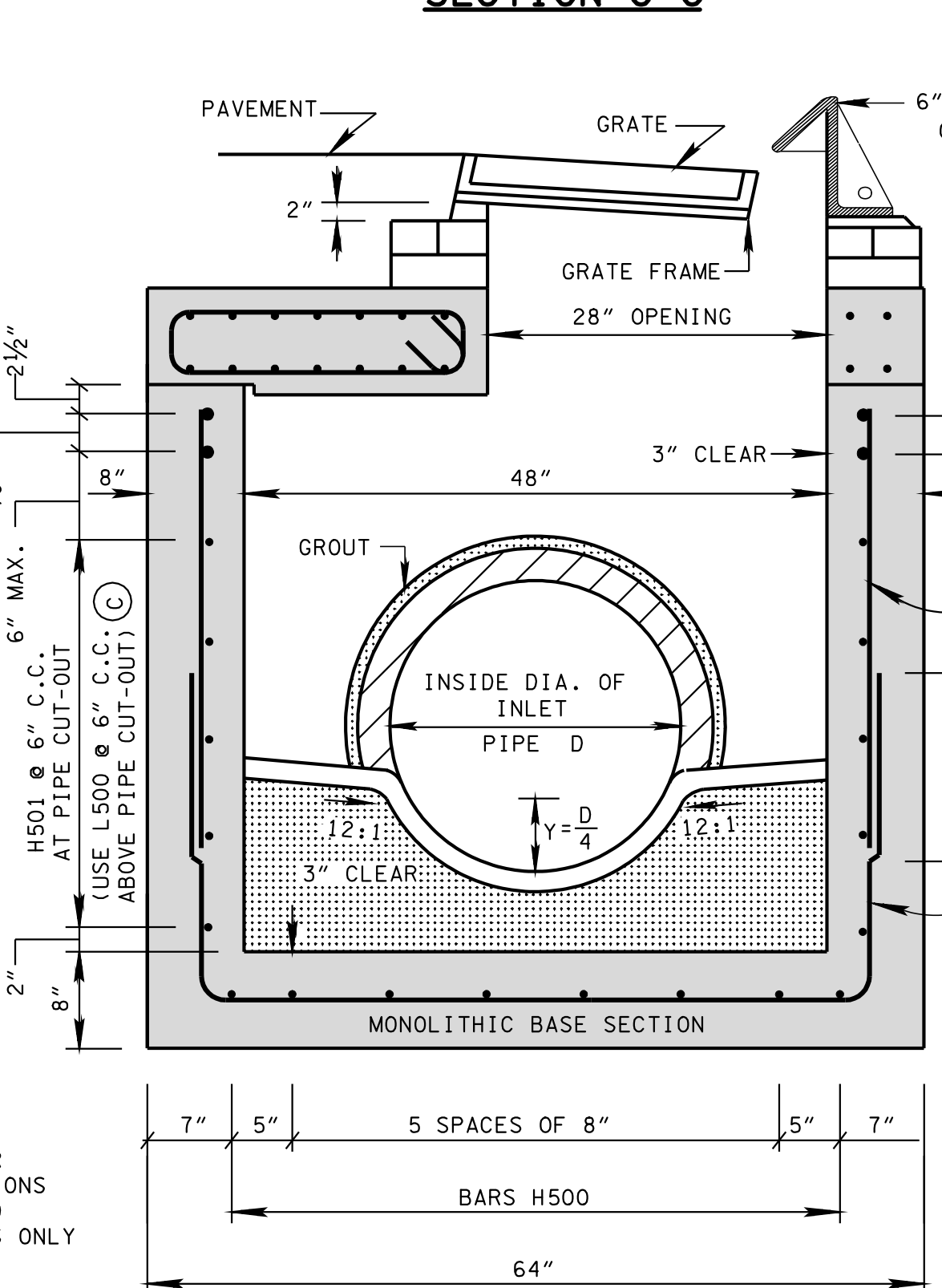
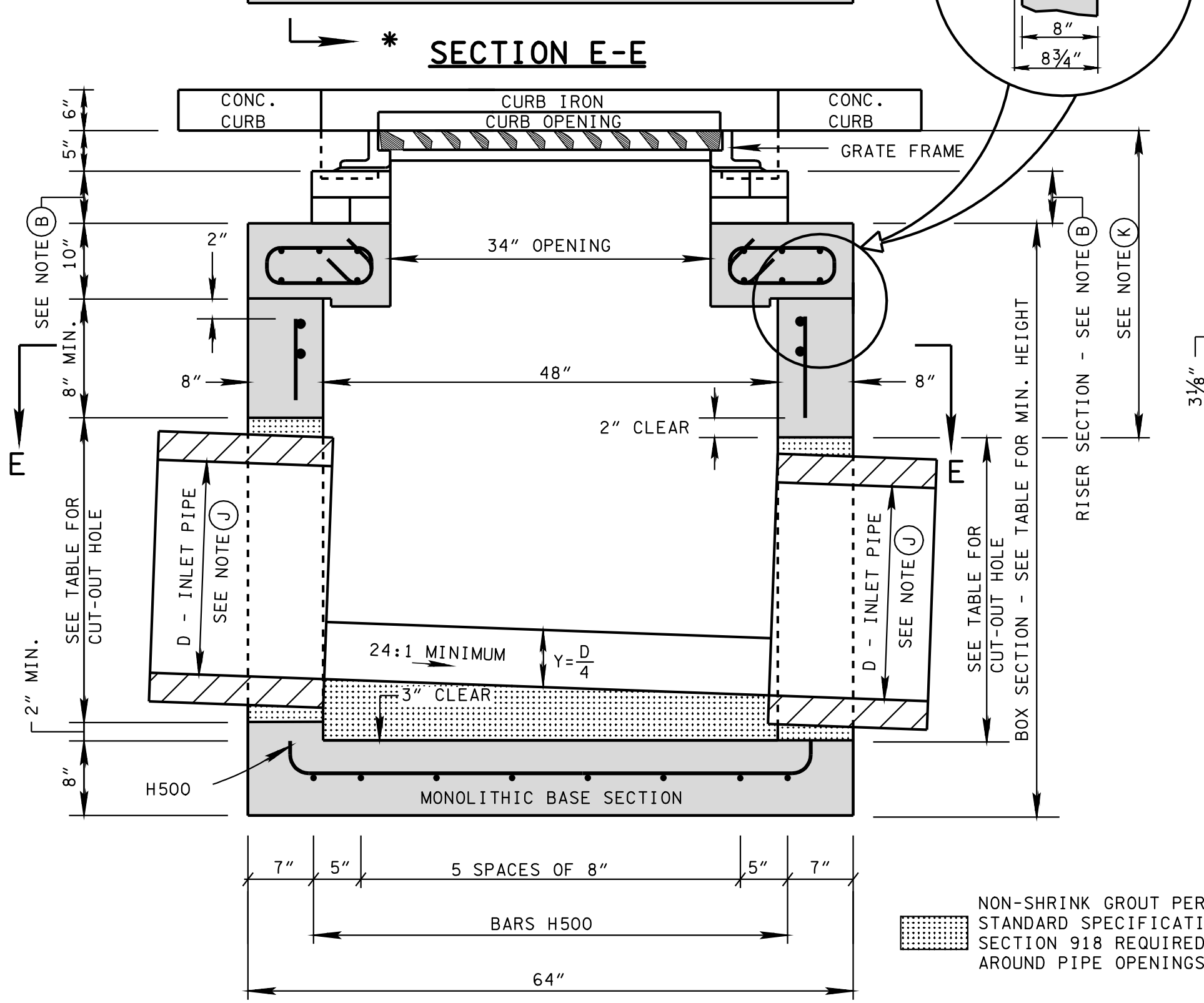
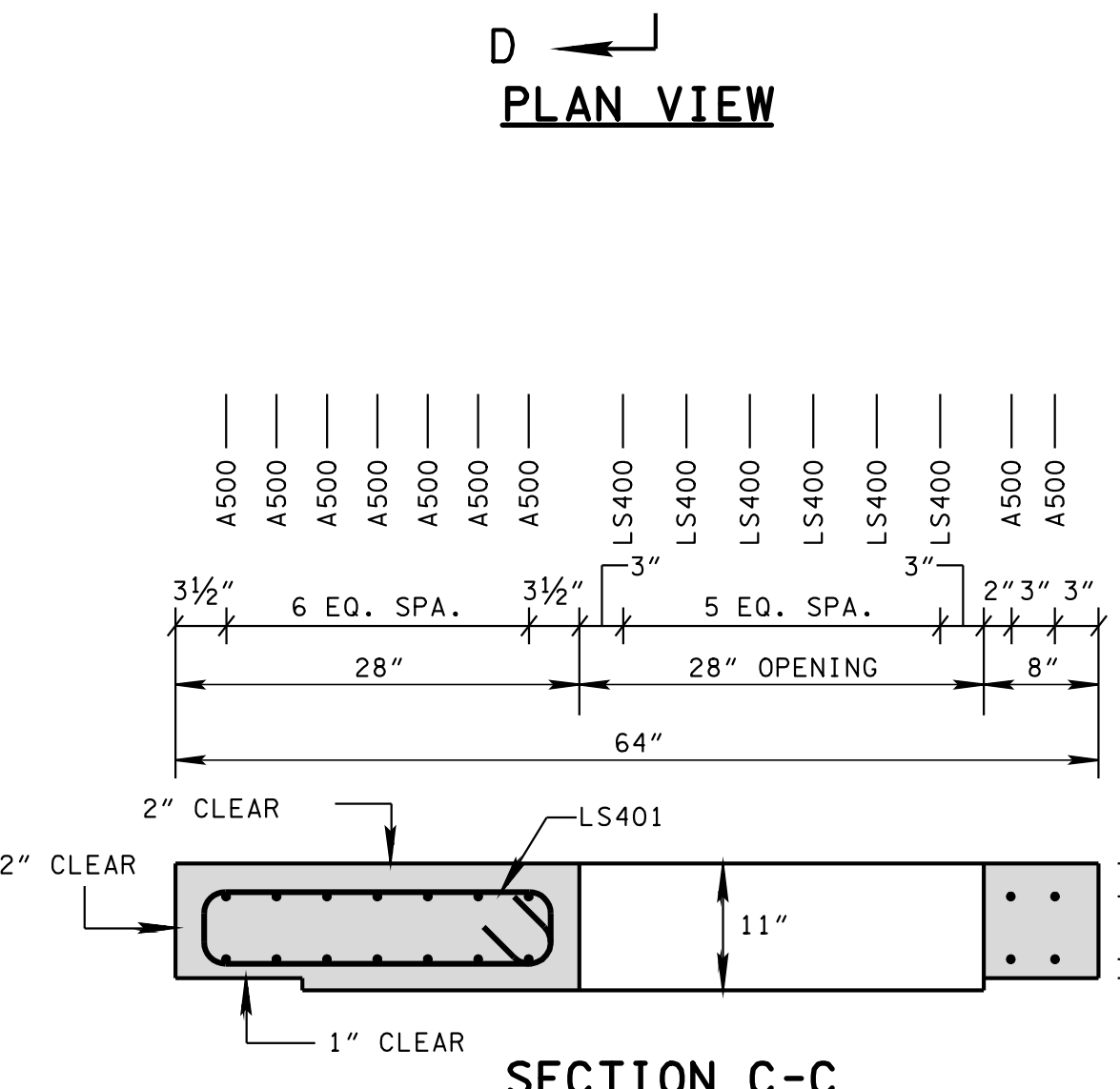
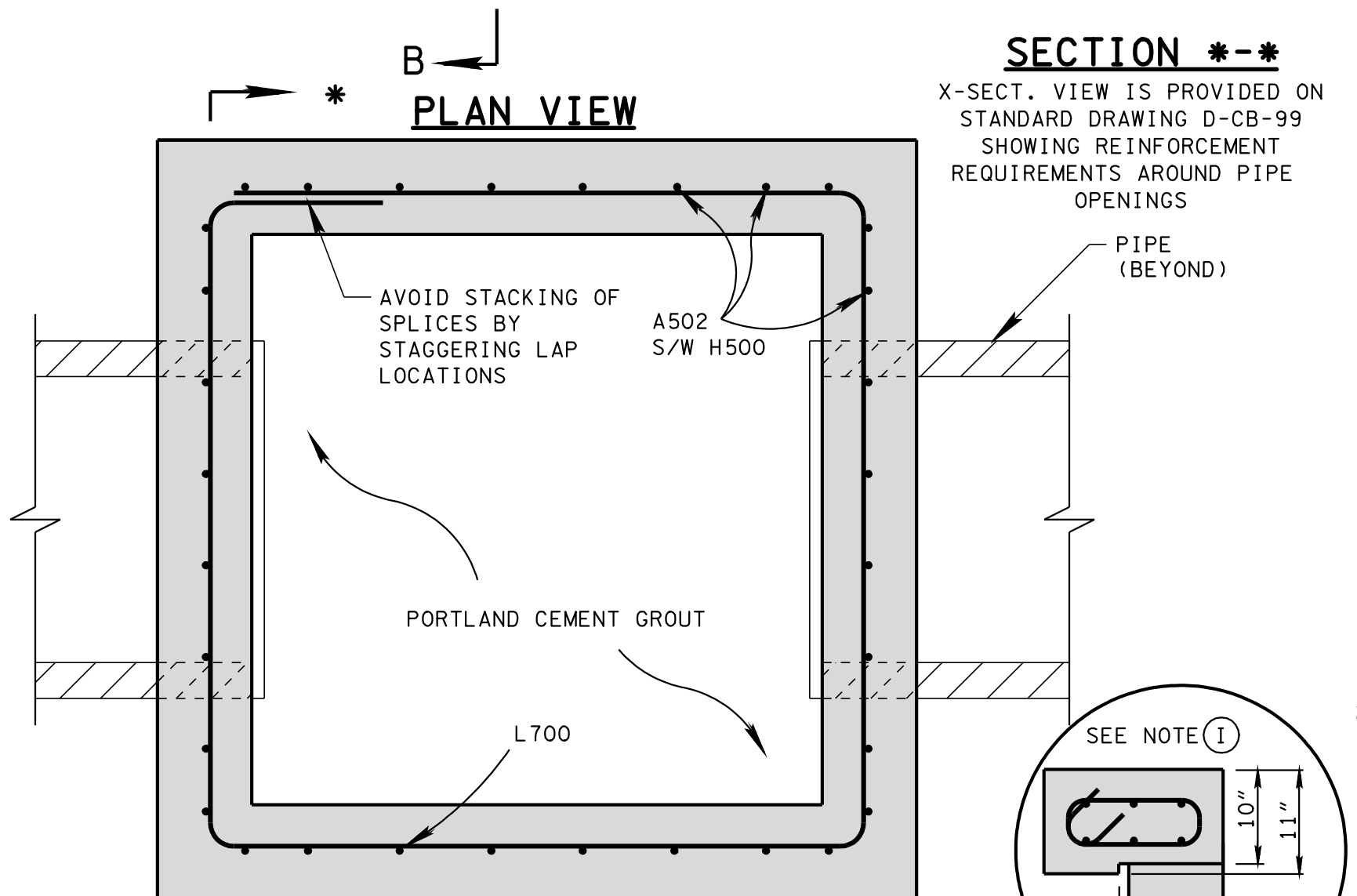


CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

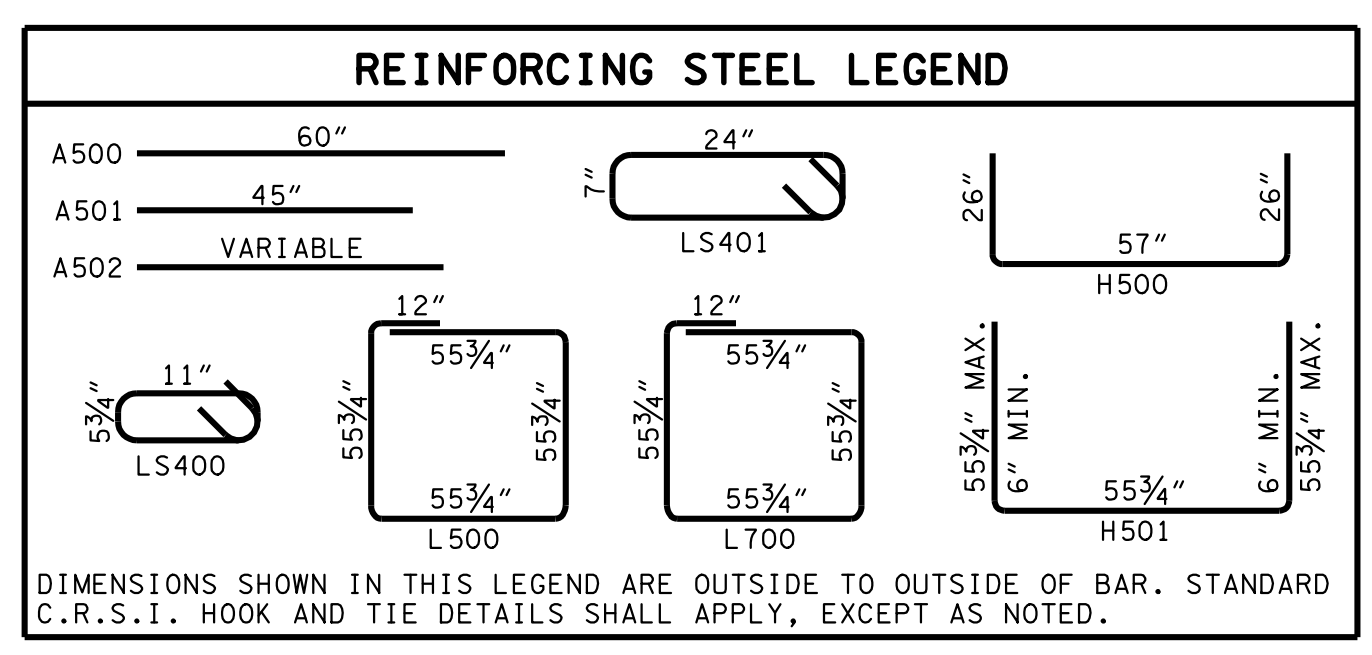
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	51	3.88
24	3	32	58	4.42
30	3 1/2	39	65	4.96
36	4	46	72	5.50

- 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 (N) 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.



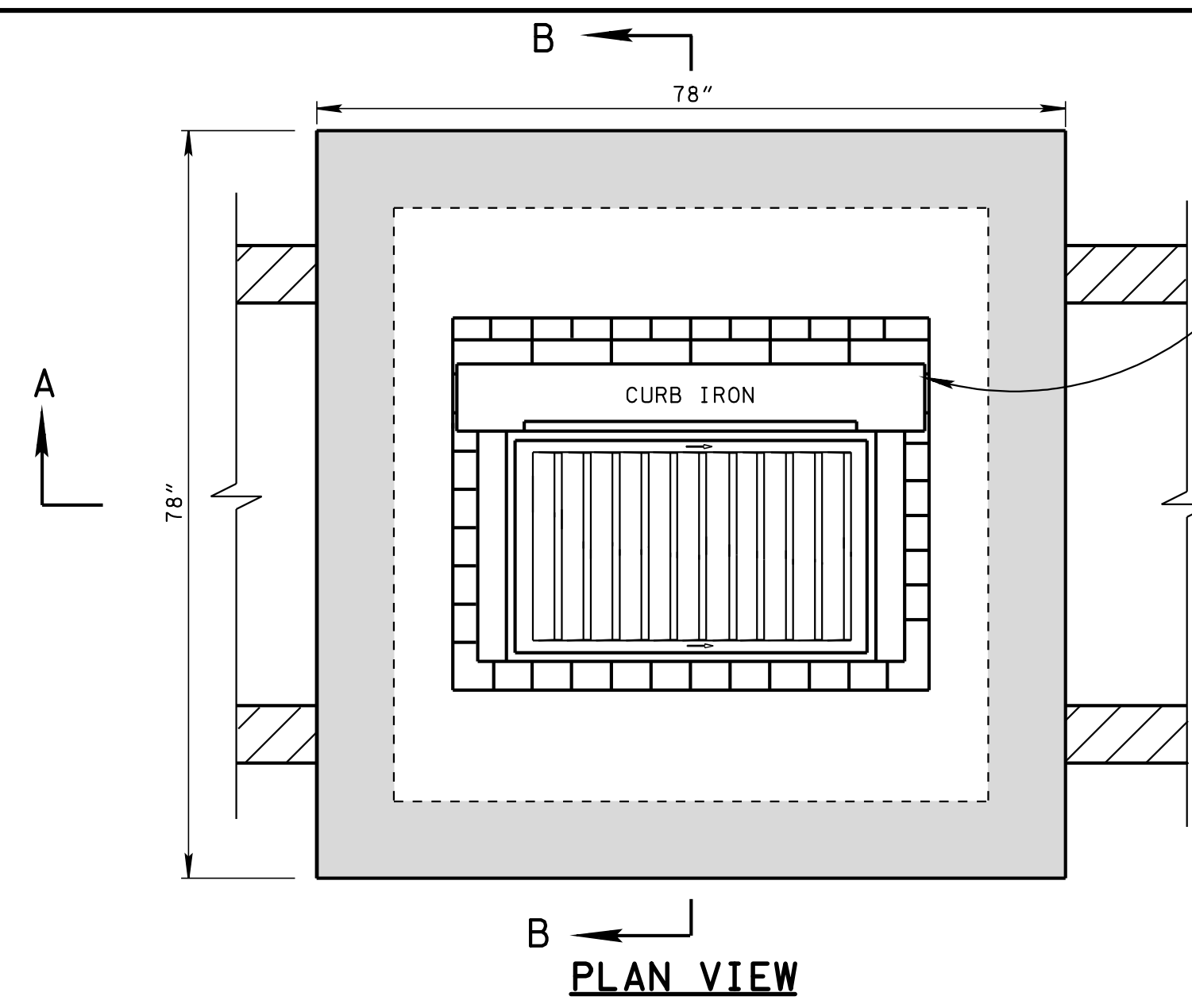
- GENERAL NOTES**
- (A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 25SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 25SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.
 - (B) THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES 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 1 1/2 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.



□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

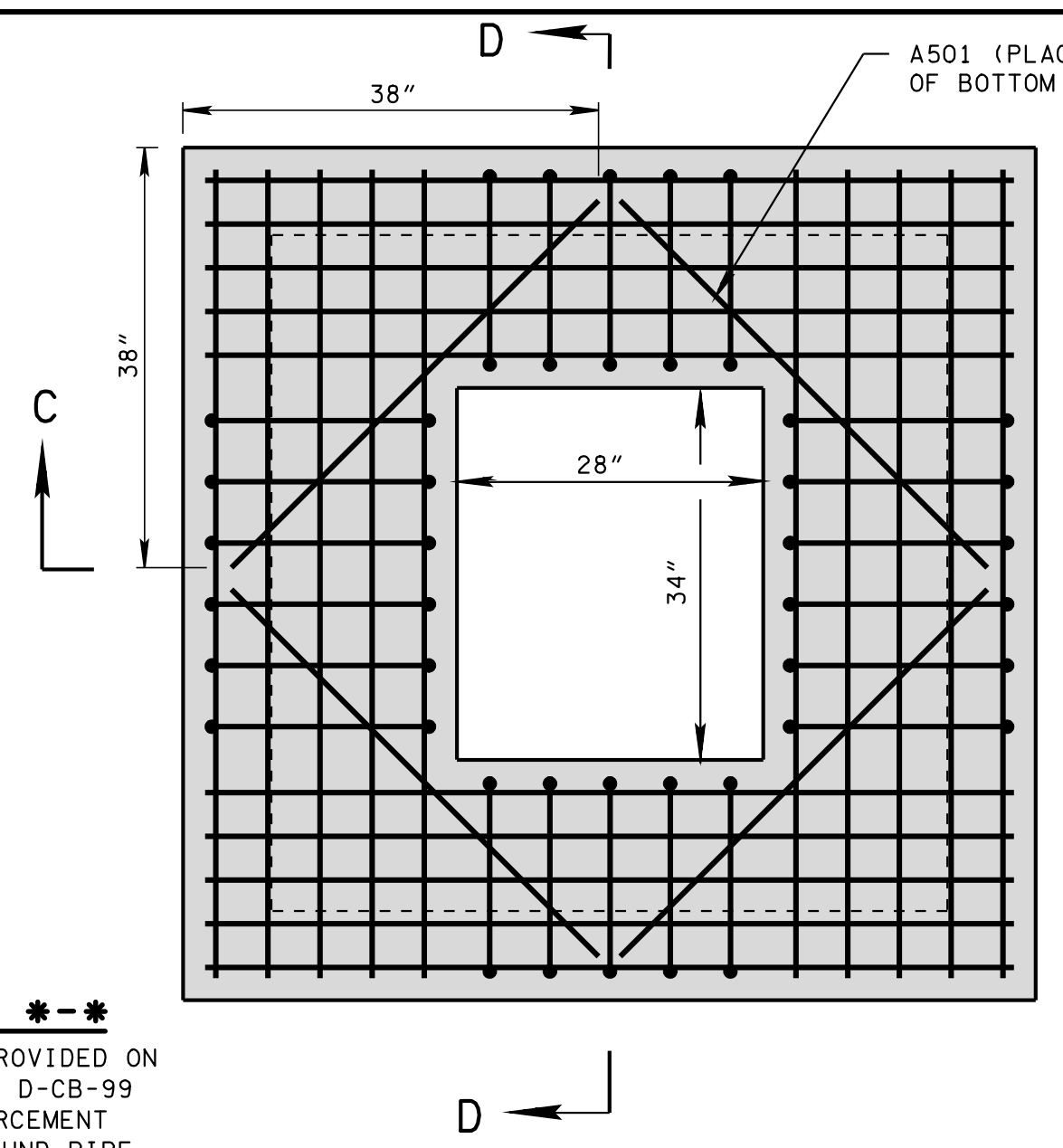
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**STANDARD
 4' X 4' SQUARE
 CONCRETE NO.25
 CATCH BASIN**
 (FOR USE WITH 6" MOUNTABLE CURB)

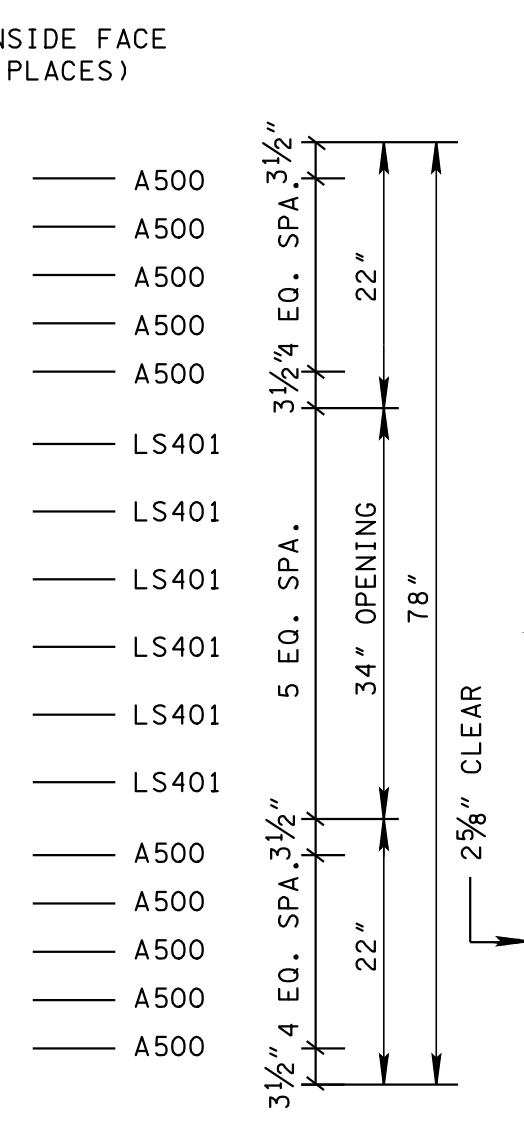


PLAN VIEW

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



PLAN VIEW



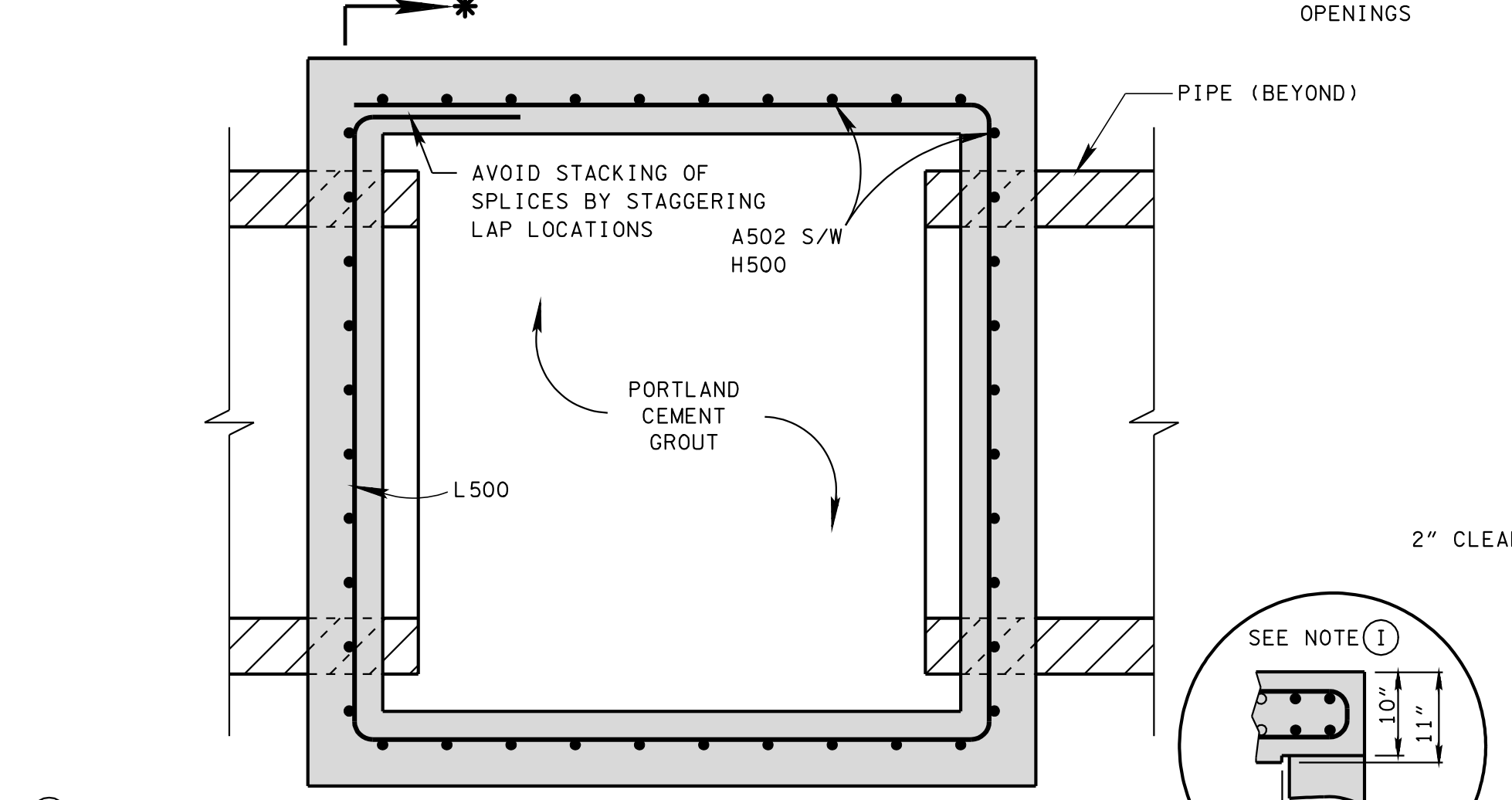
SECTION D-D

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

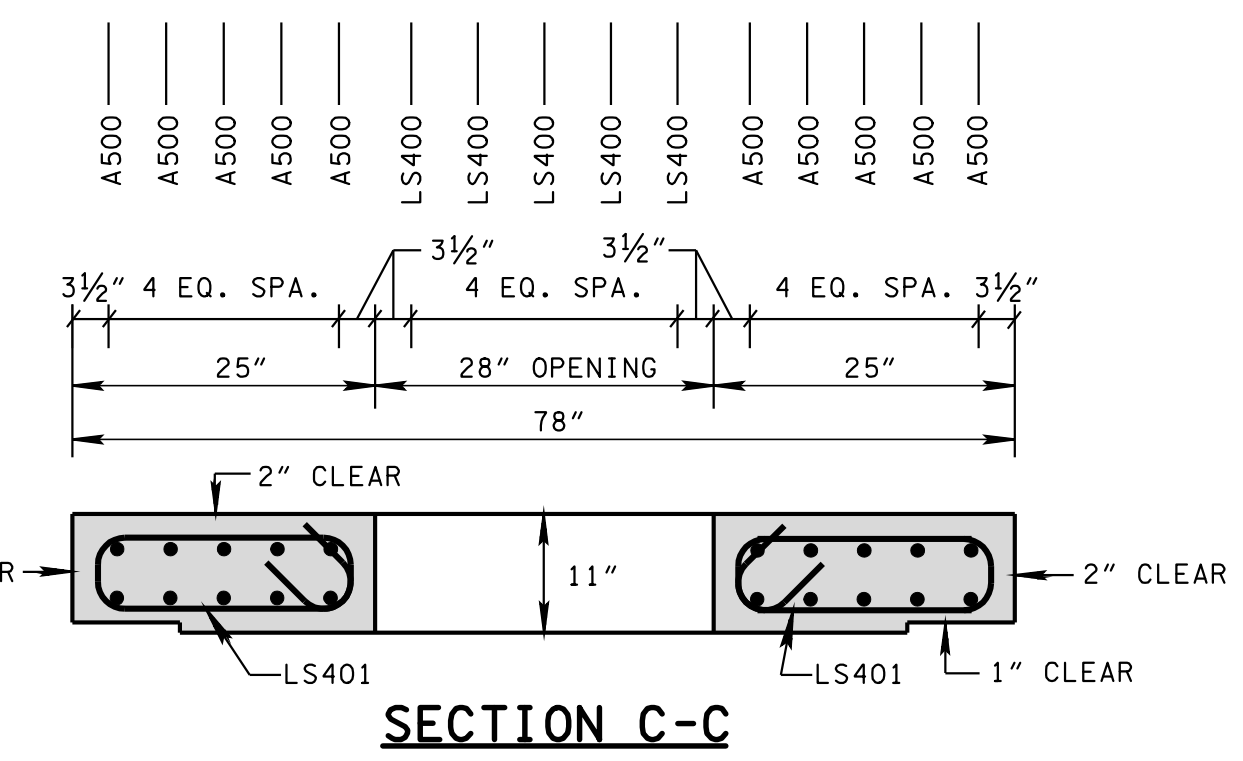
CATCH BASIN DIMENSIONS				
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	55	4.13
24	3	32	62	4.67
30	3 1/2	39	69	5.22
36	4	46	76	7.76
42	4 1/2	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 UN CUT WILL NOT BE PERMITTED.

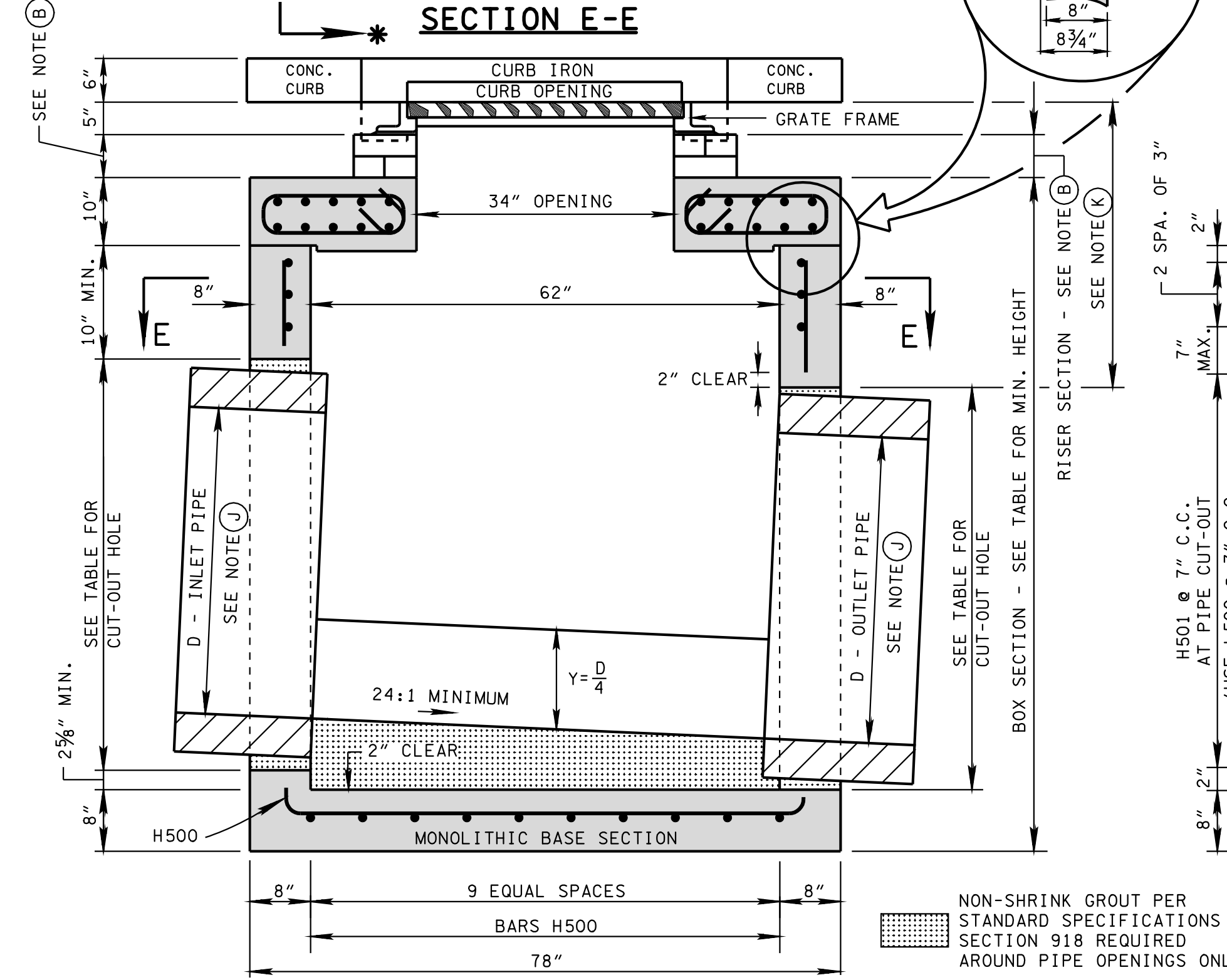
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE ① ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ①
- REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.



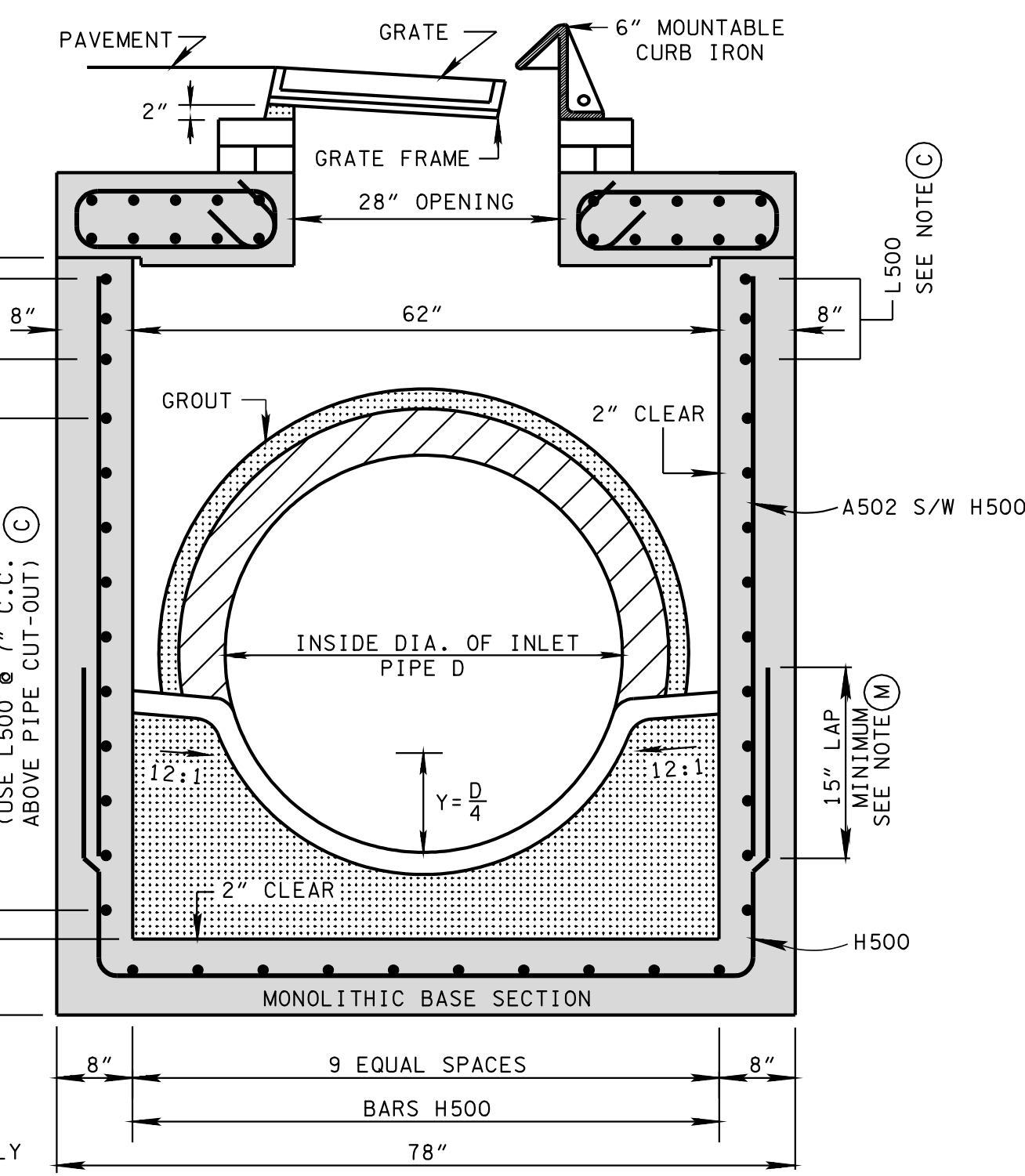
SECTION E-E



SECTION C-C



SECTION A-A

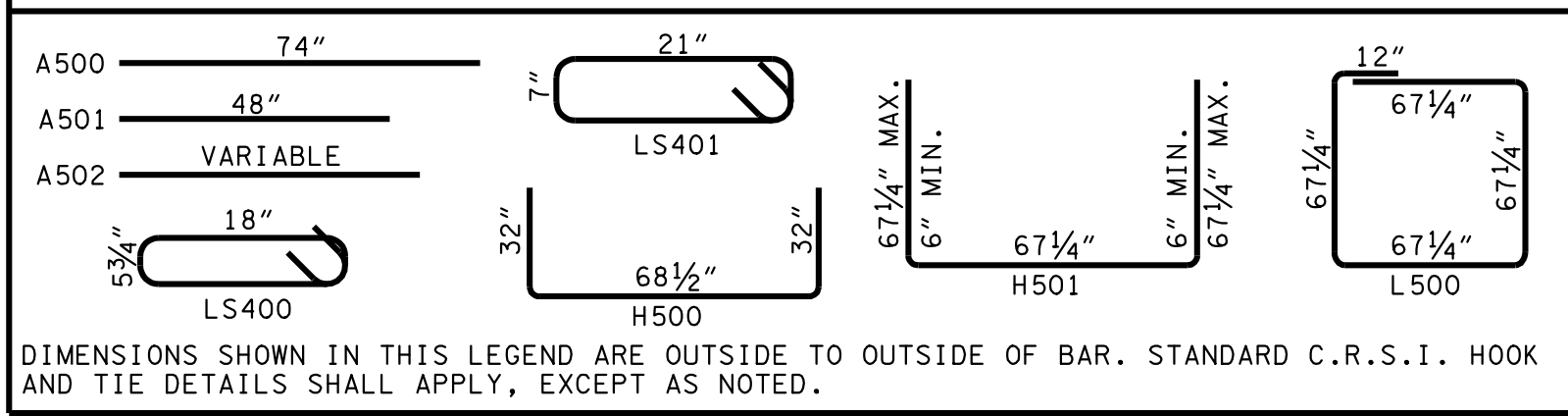


SECTION B-B

GENERAL NOTES

- (A) 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 1 1/2 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.

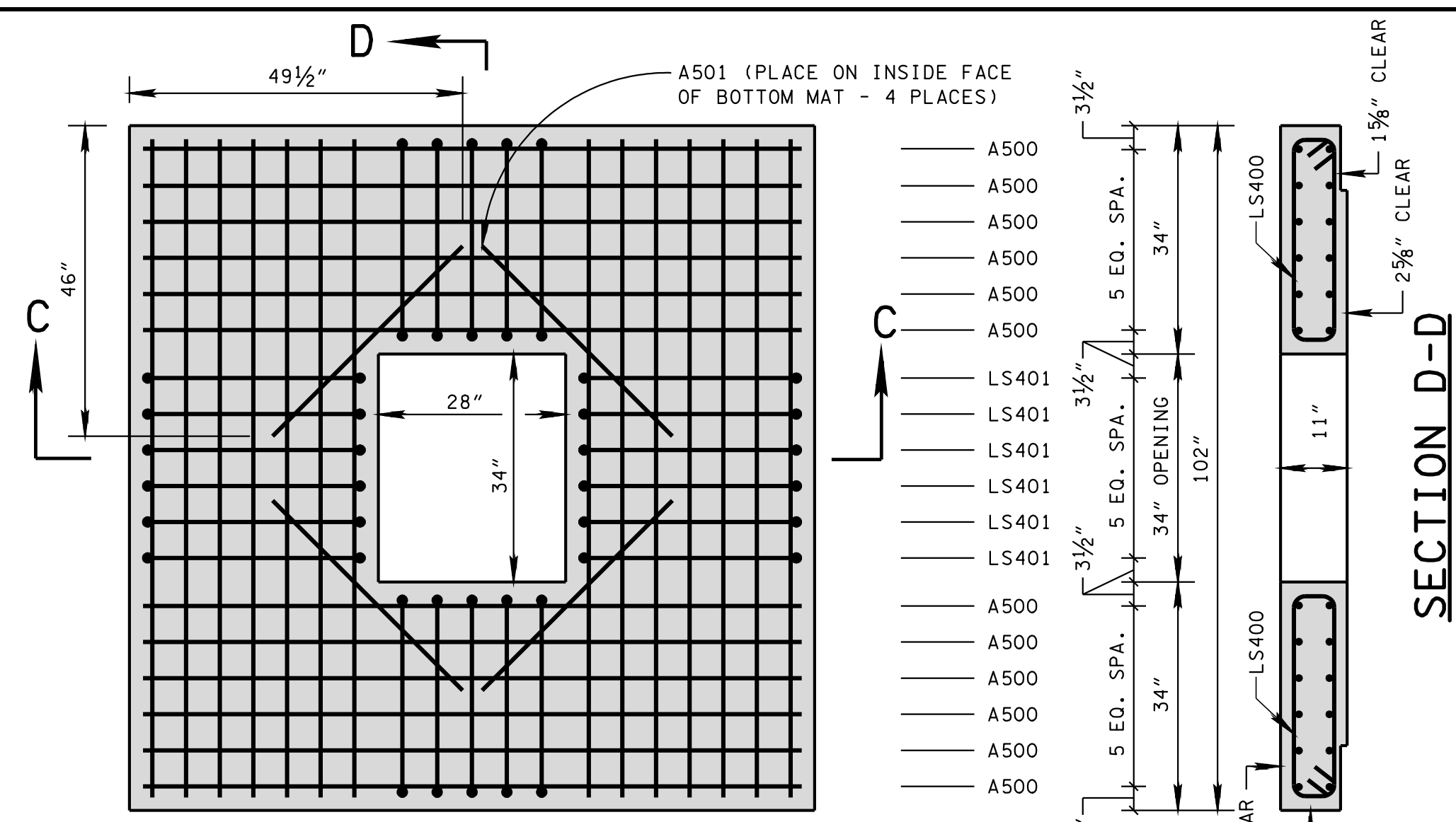
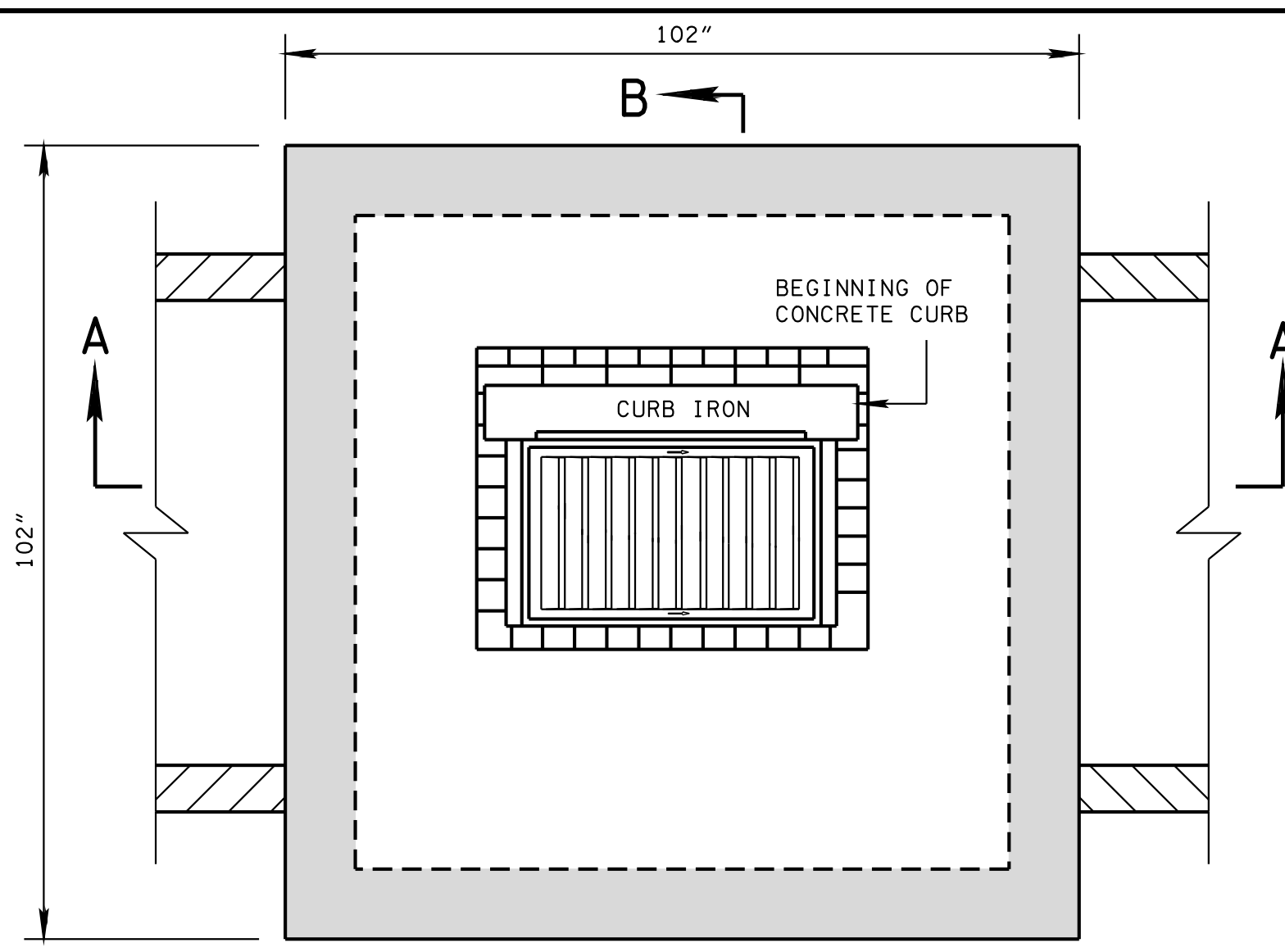
REINFORCING STEEL LEGEND



DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE OF 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)



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	2 1/2	25	55 1/2	4.17
24	3	32	62 1/2	4.72
30	3 1/2	39	69 1/2	5.26
36	4	46	76 1/2	5.80
42	4 1/2	53	83 1/2	6.34
48	5	60	90 1/2	6.88
54	5 1/2	67	97 1/2	7.42
60	6	74	104 1/2	7.97
66	6 1/2	81	111 1/2	8.51

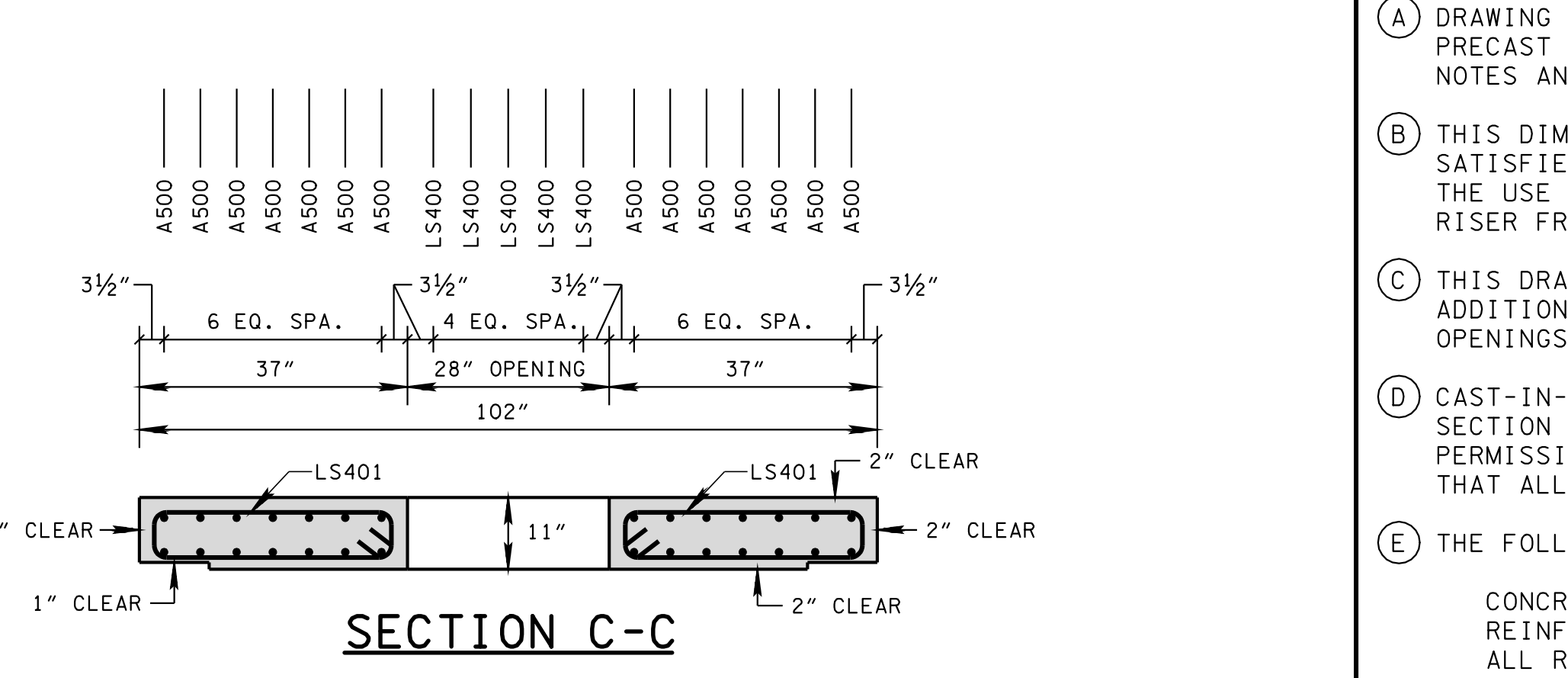
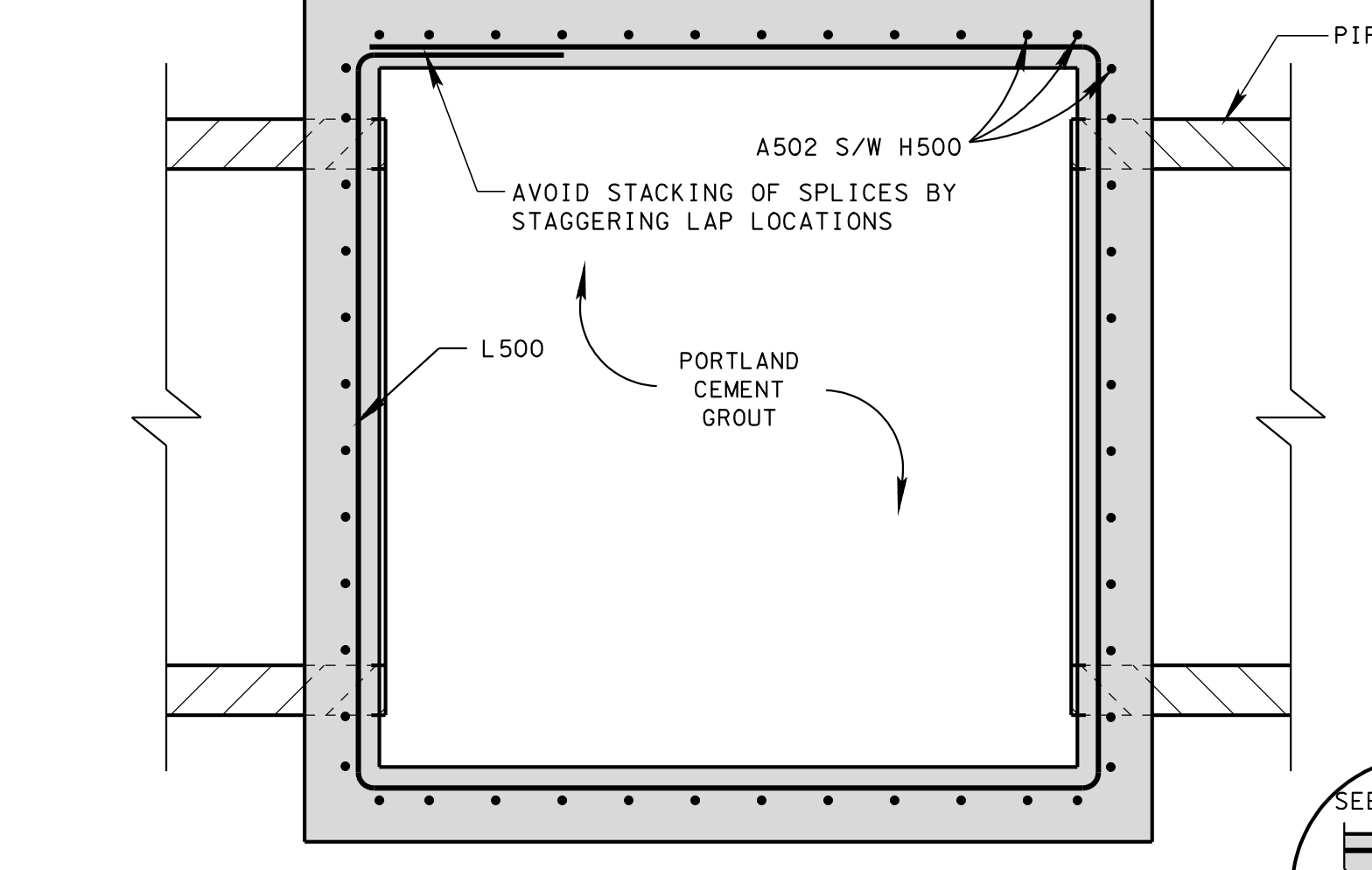
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (C) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 5-30-02: MODIFIED REINFORCING STEEL.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE (C).
- REV. 9-11-02: CHANGED REINFORCING STEEL IN BASE SECTION.
- REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE 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.

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

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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 UNCUPT WILL NOT BE PERMITTED.

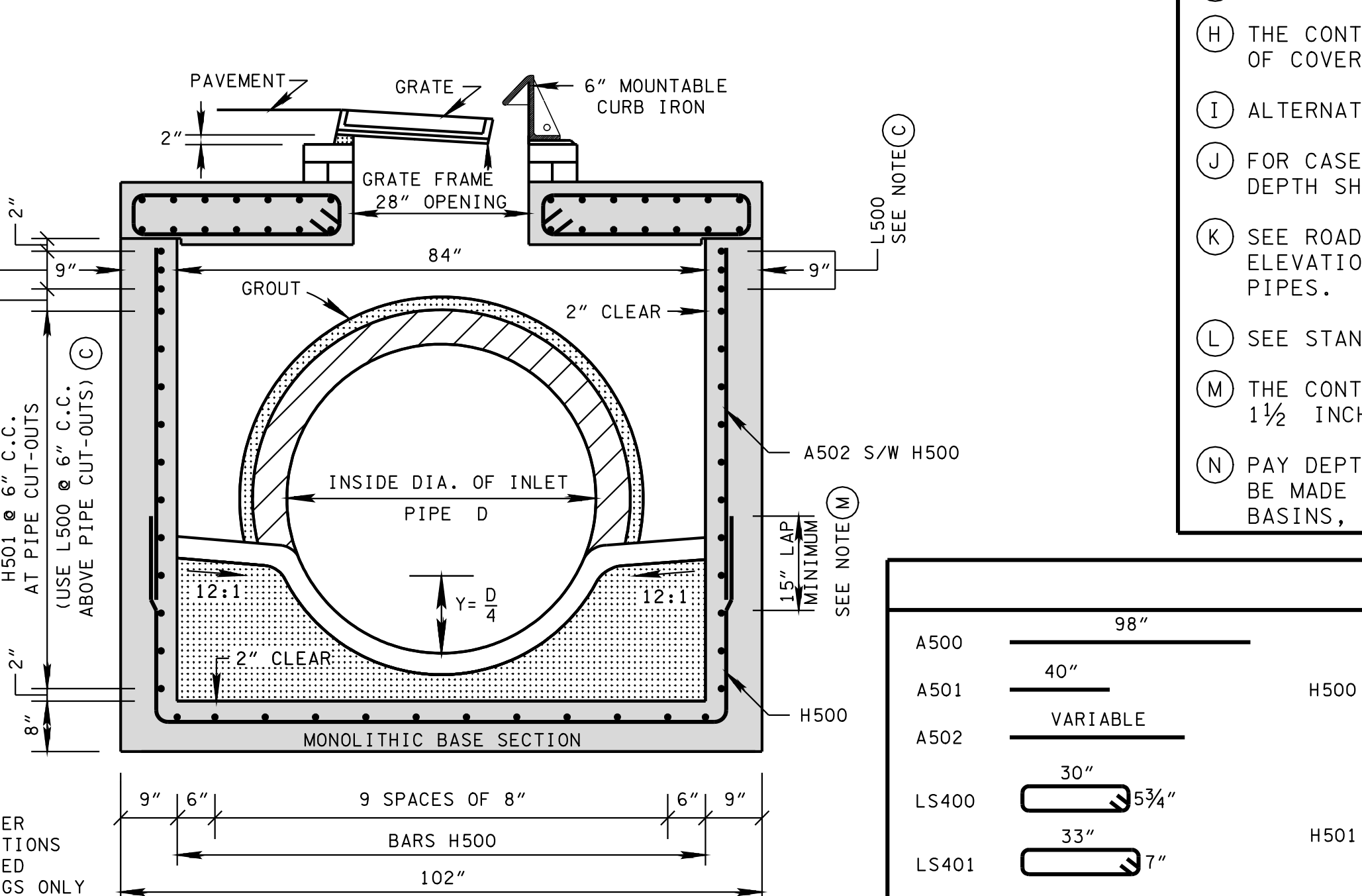
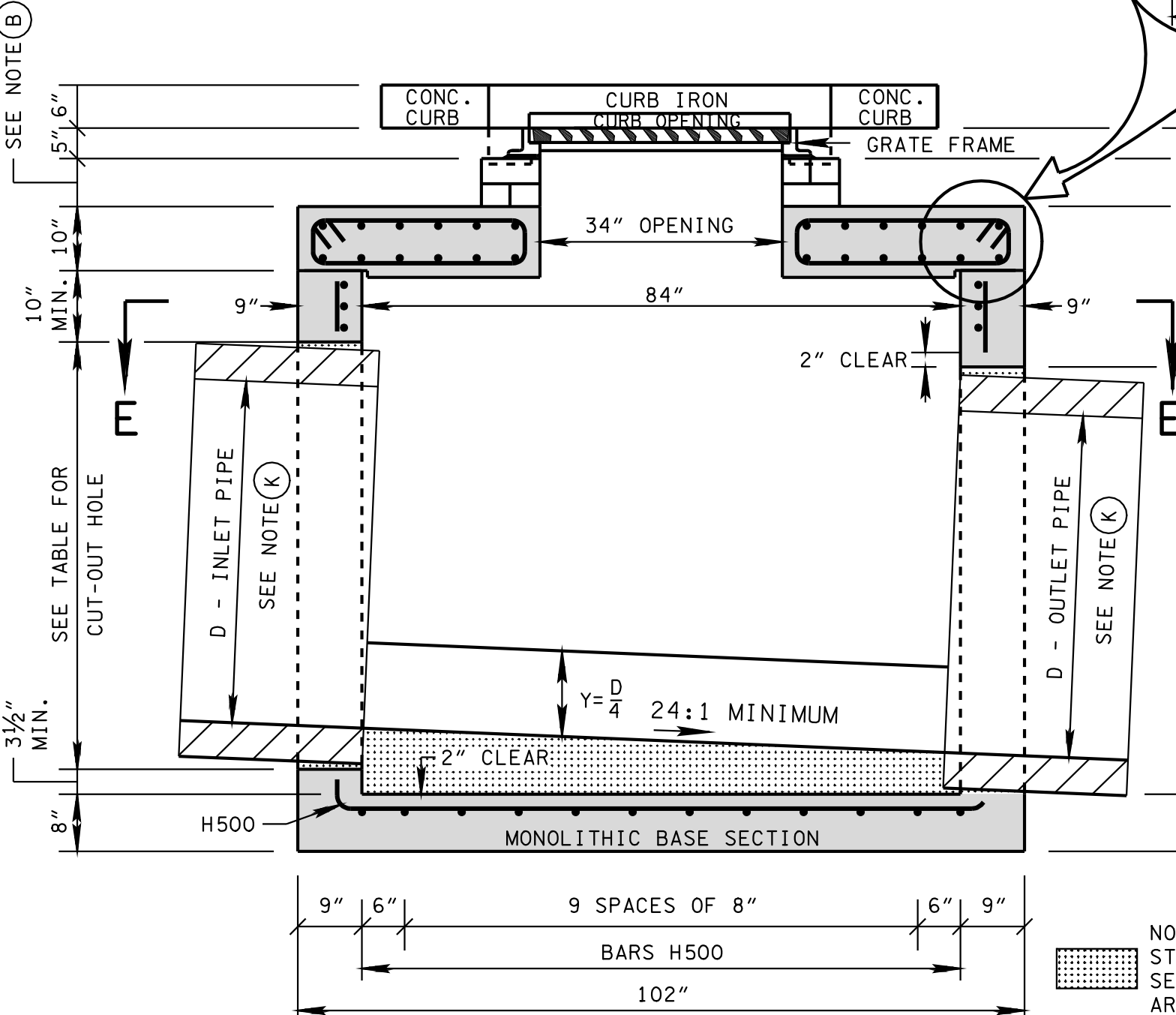
SECTION *-*
 X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

PLAN VIEW



SECTION E-E

SECTION C-C



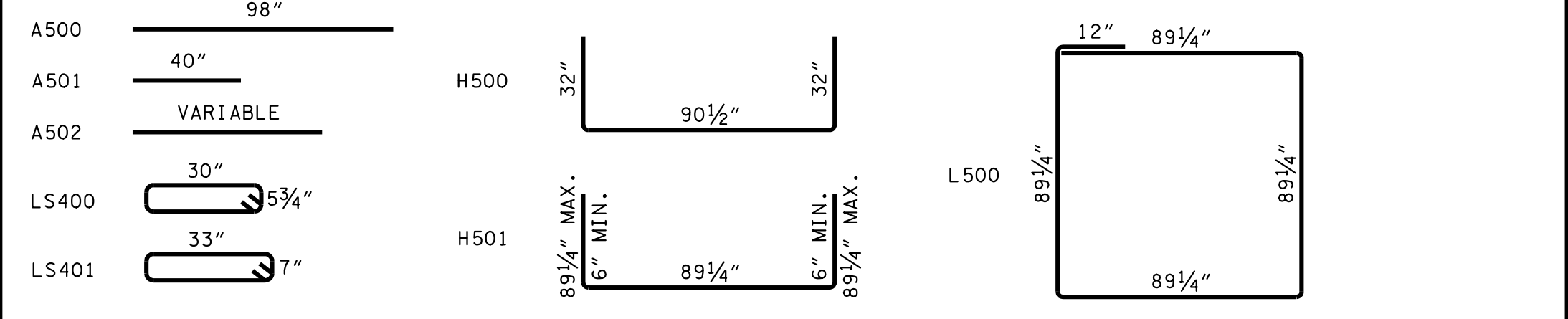
SECTION A-A

SECTION B-B

GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-12B FOR DETAILS REGARDING CAST IRON GRATES AND FRAMES.
- THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
- 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



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)

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.

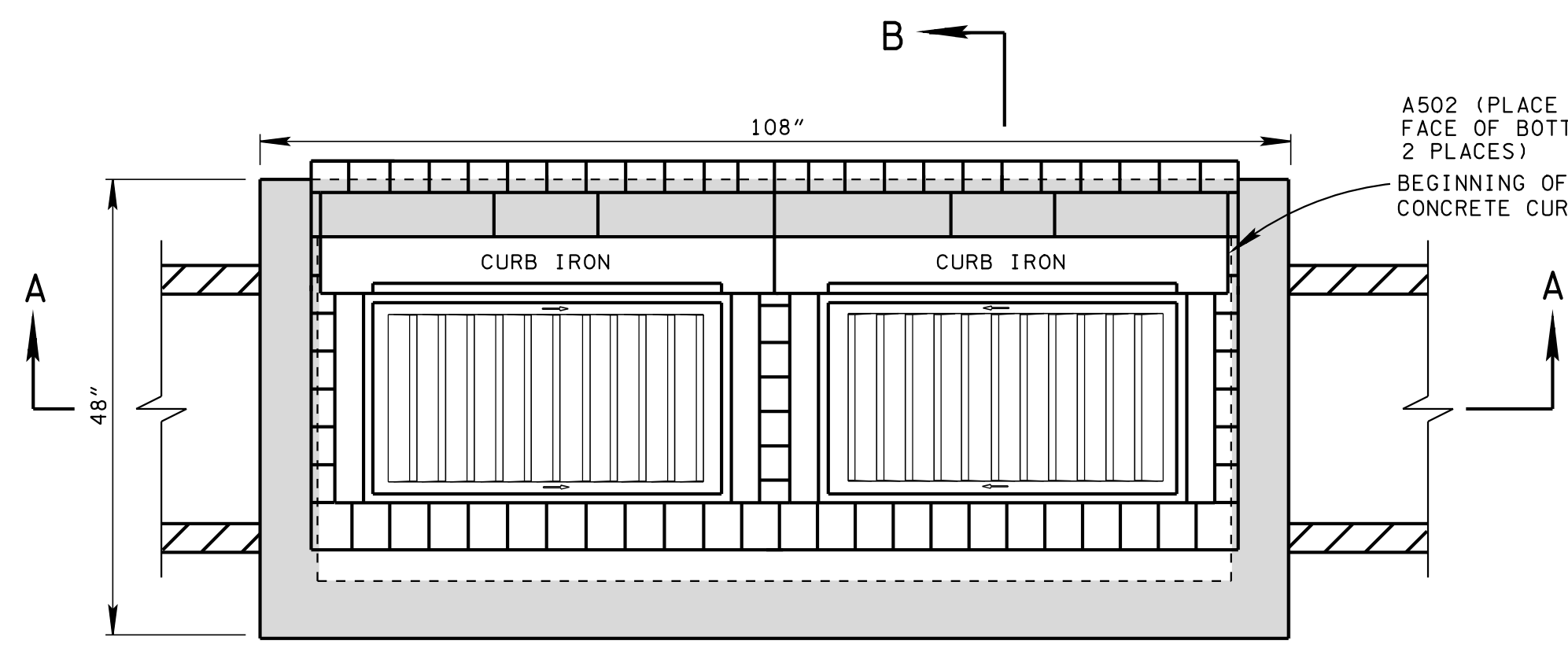
NOT TO SCALE

6-30-00 D-CB-25SD

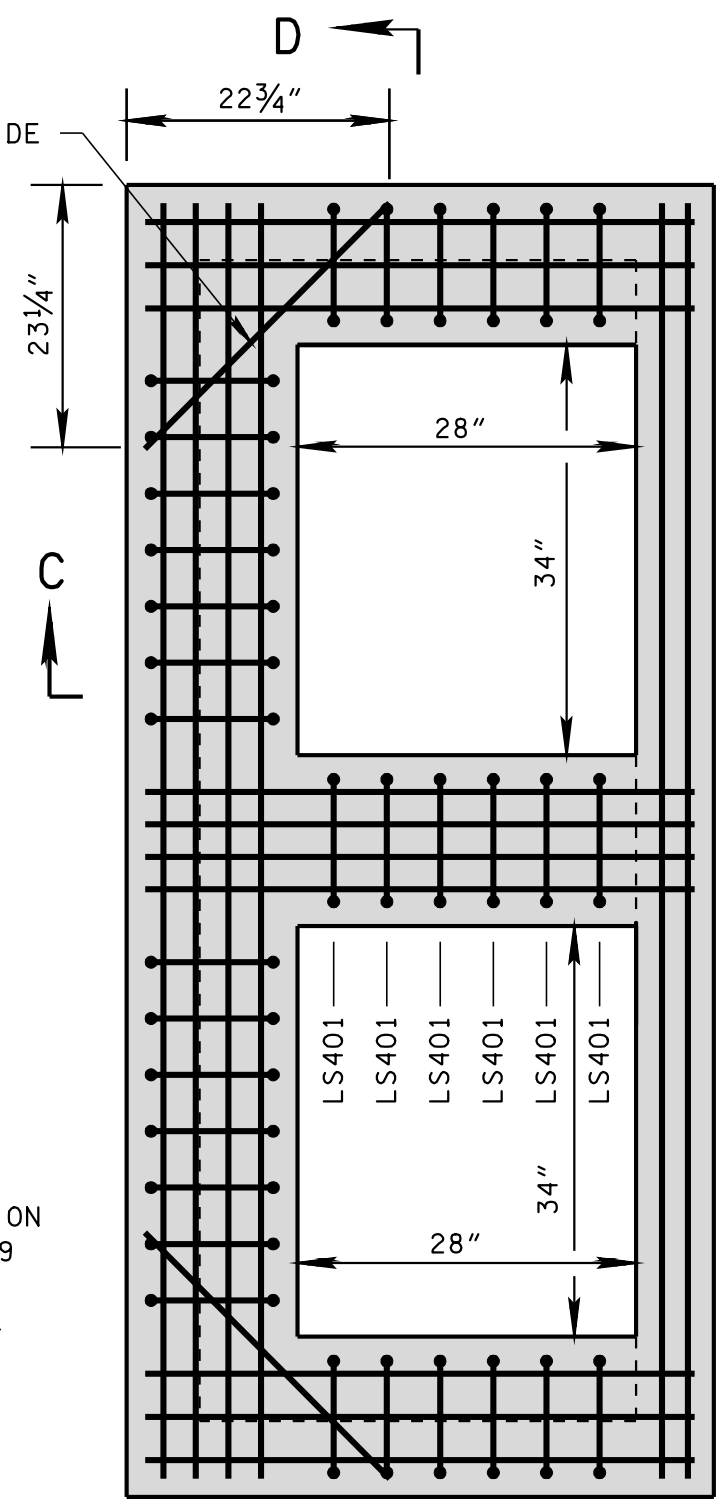
CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 10.00'.

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	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

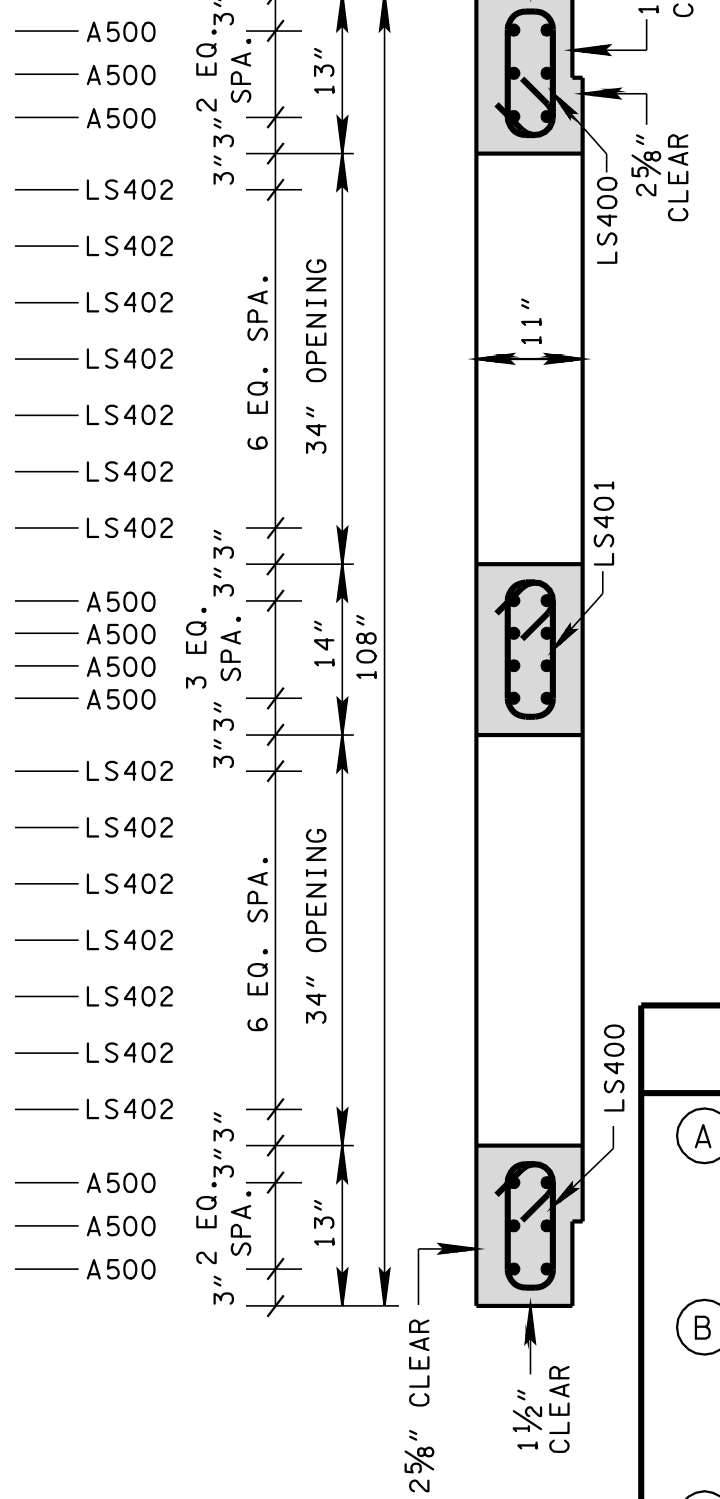
- REV 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED STEEL IN BASE SECTION.
- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE ①
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ②
- REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE 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.



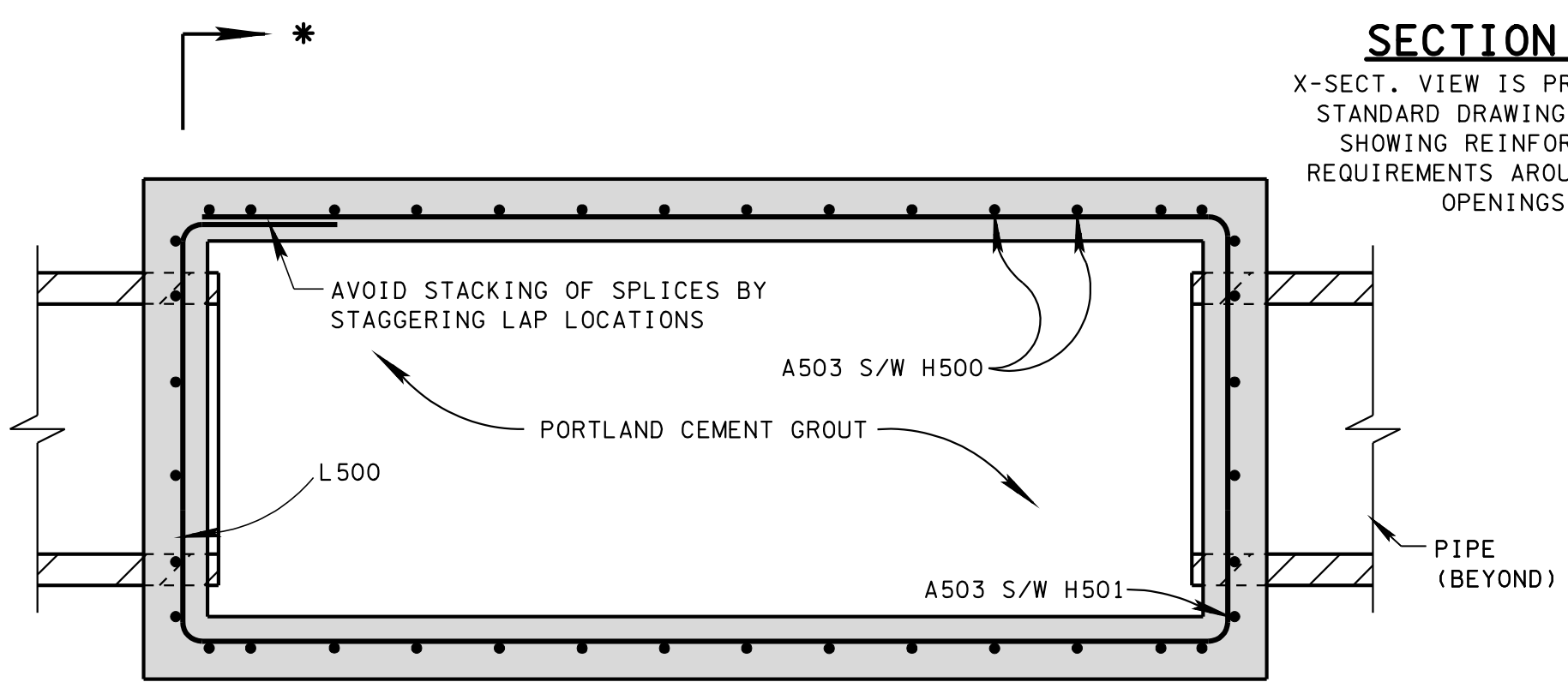
PLAN VIEW



PLAN VIEW

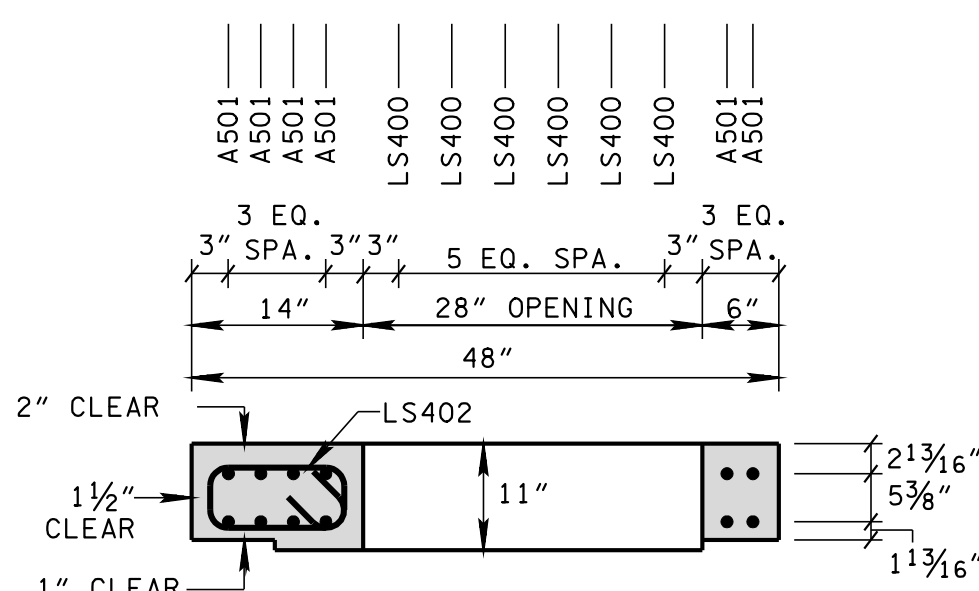


SECTION D-D

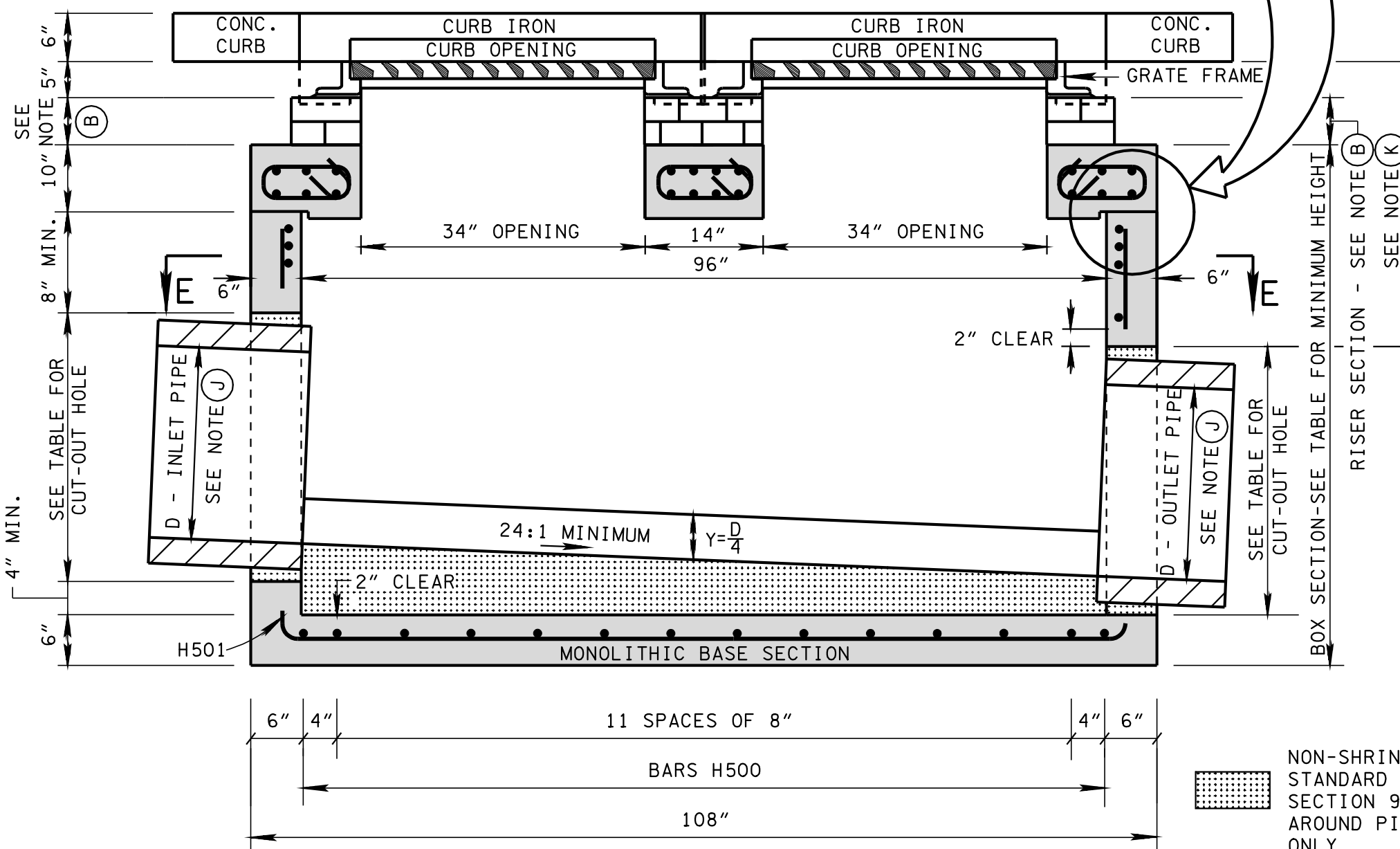


SECTION E-E

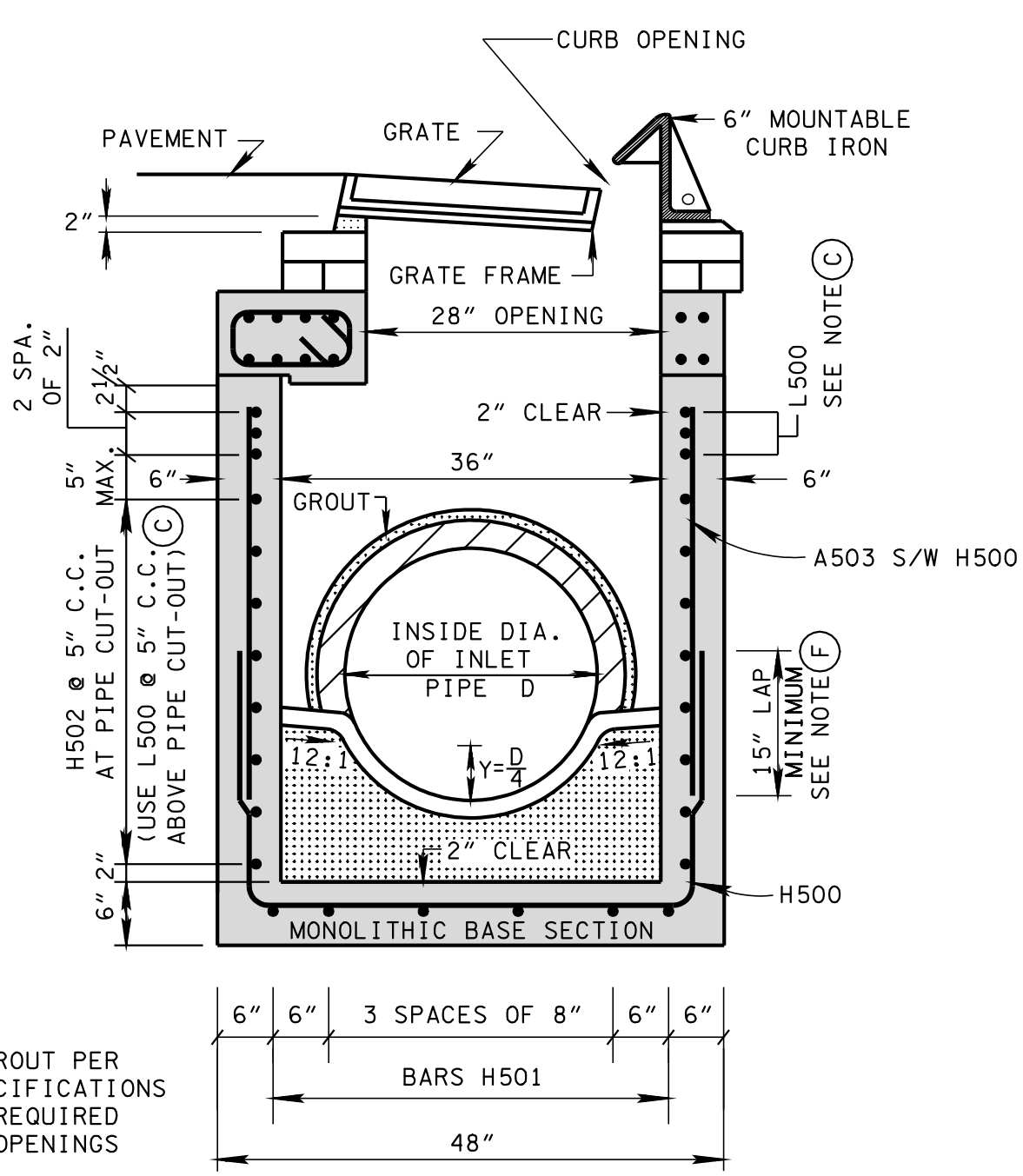
SECTION *-*
 X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



SECTION A-A



SECTION B-B

- 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 UN-CUT WILL NOT BE PERMITTED.
- ④ TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

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

A500	45"				
A501	105"	26"	42½"	26"	102½"
A502	30"				
A503	VARIABLE				
LS400	53"	12"	H500	101¼"	H501
LS401	53"	11"	41¼"	101¼"	41¼"
LS402	7"	11"	41¼" MAX.	6" MIN.	41¼" MAX.

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.

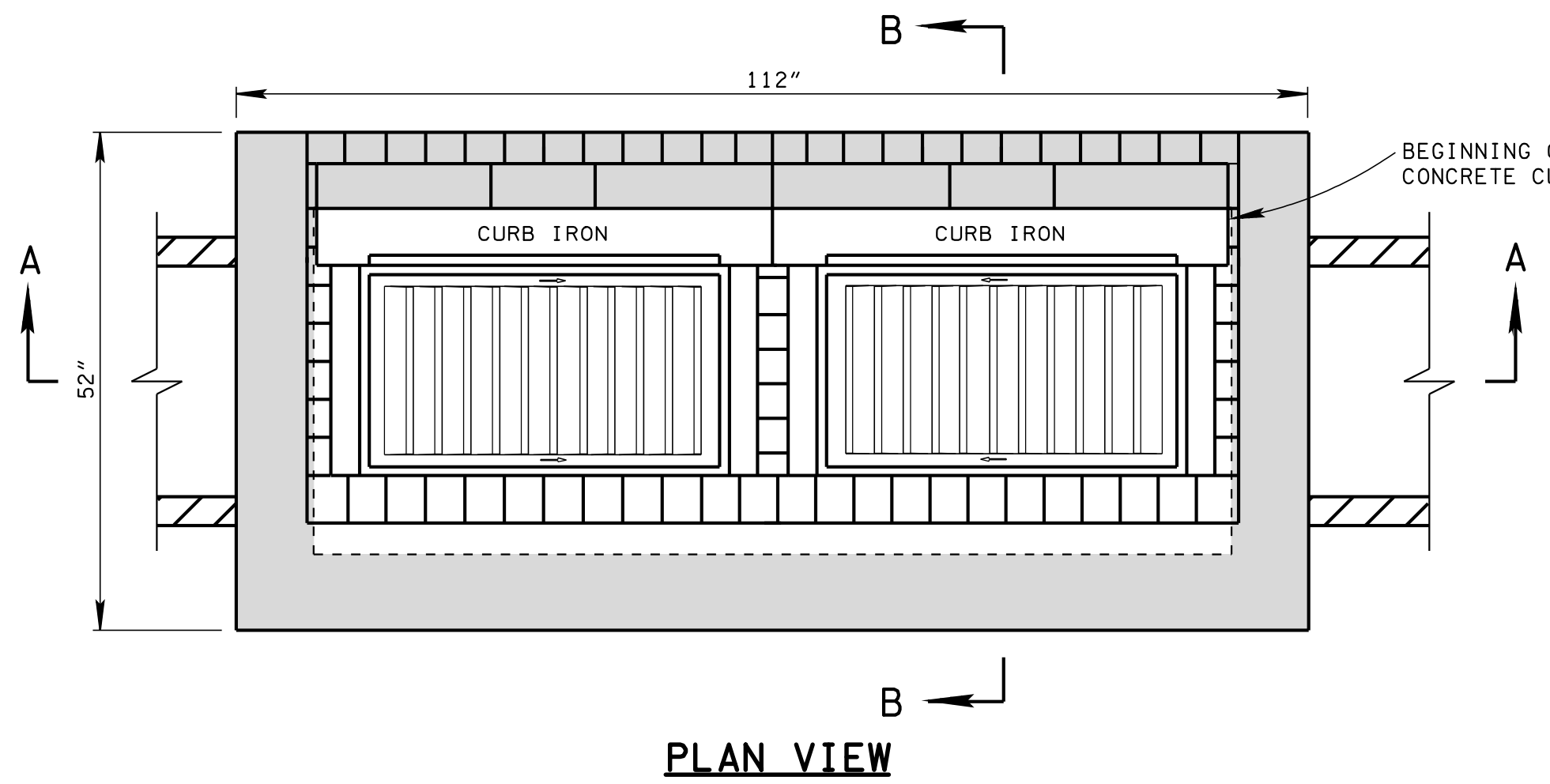
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**STANDARD PRECAST
 RECTANGULAR
 CONCRETE NO. 26
 CATCH BASIN**
 (FOR USE WITH 6" MOUNTABLE CURB)

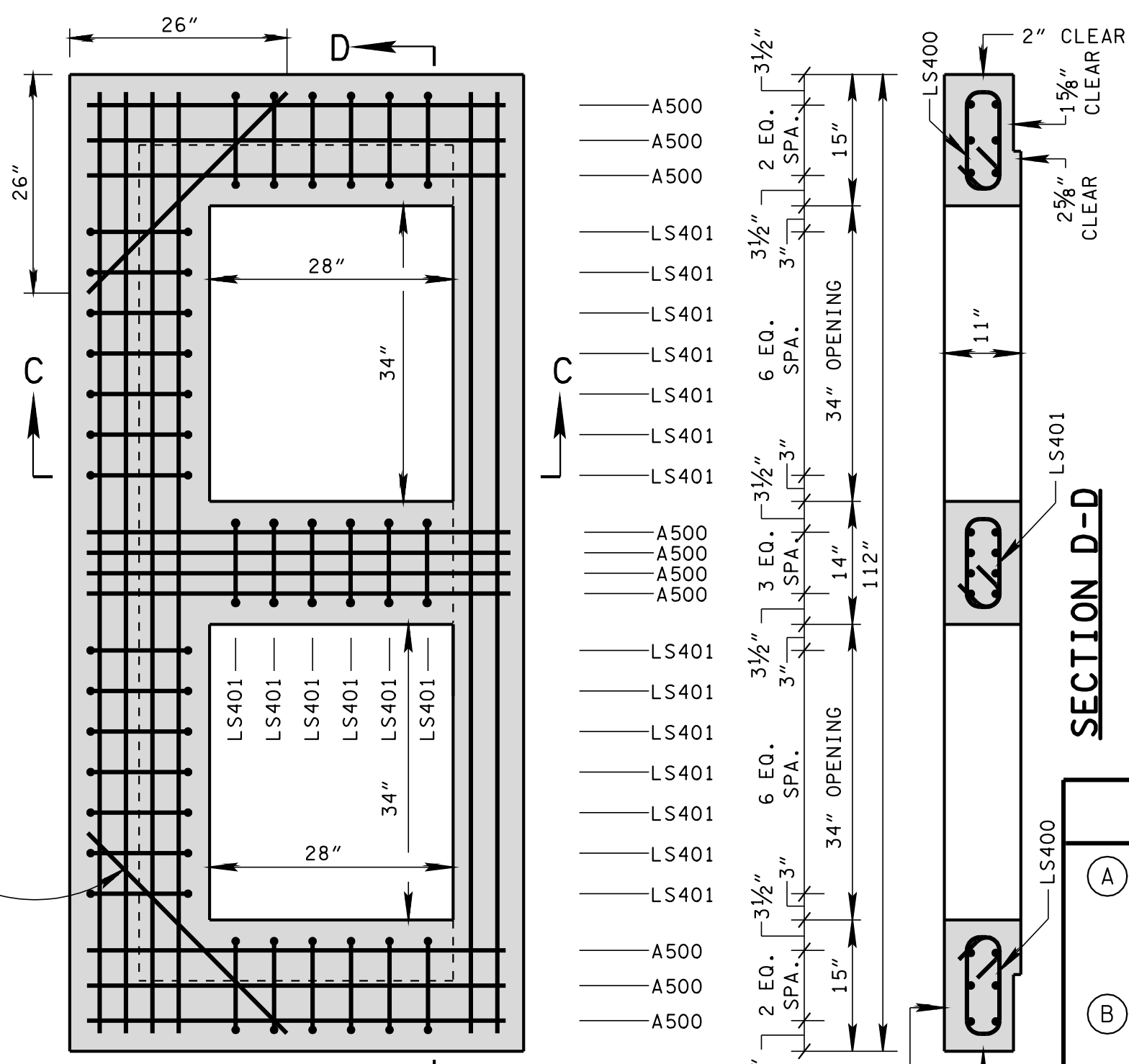
CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

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	53	4.05
24	3	32	60	4.59
30	3½	39	67	5.13
36	4	46	74	5.67
42	4½	53	81	6.21
48	5	60	88	6.75
54	5½	67	95	7.30
60	6	74	102	7.84

- REV. 12-18-95: CHANGED VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.
- REV. 12-18-96: REMOVED 0.5" PREMOLED 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.

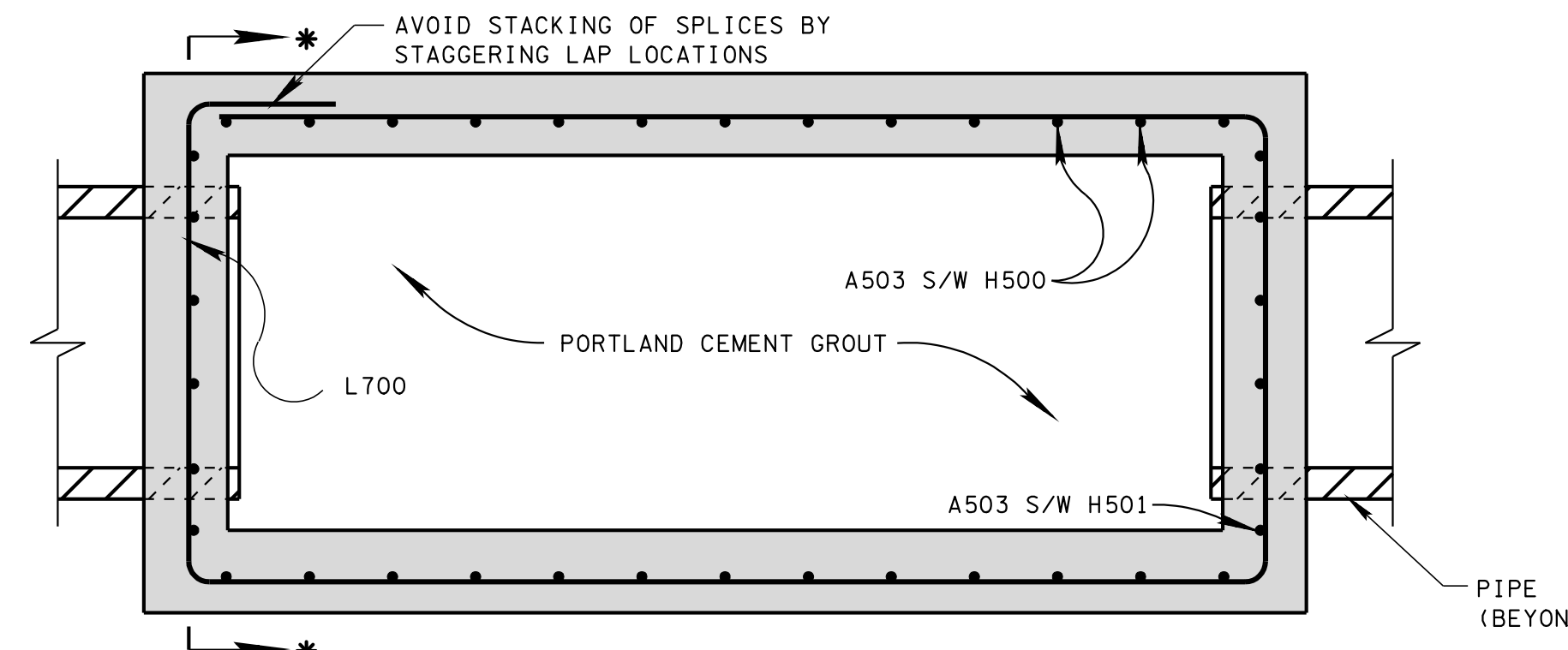


PLAN VIEW

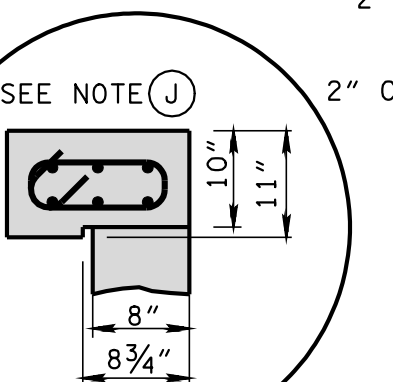


PLAN VIEW

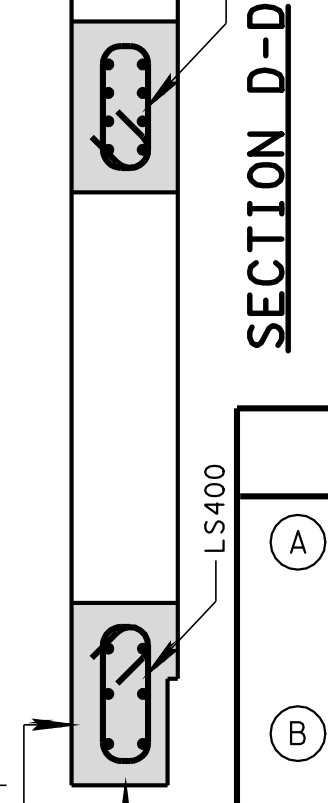
SECTION *-*
 X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION E-E

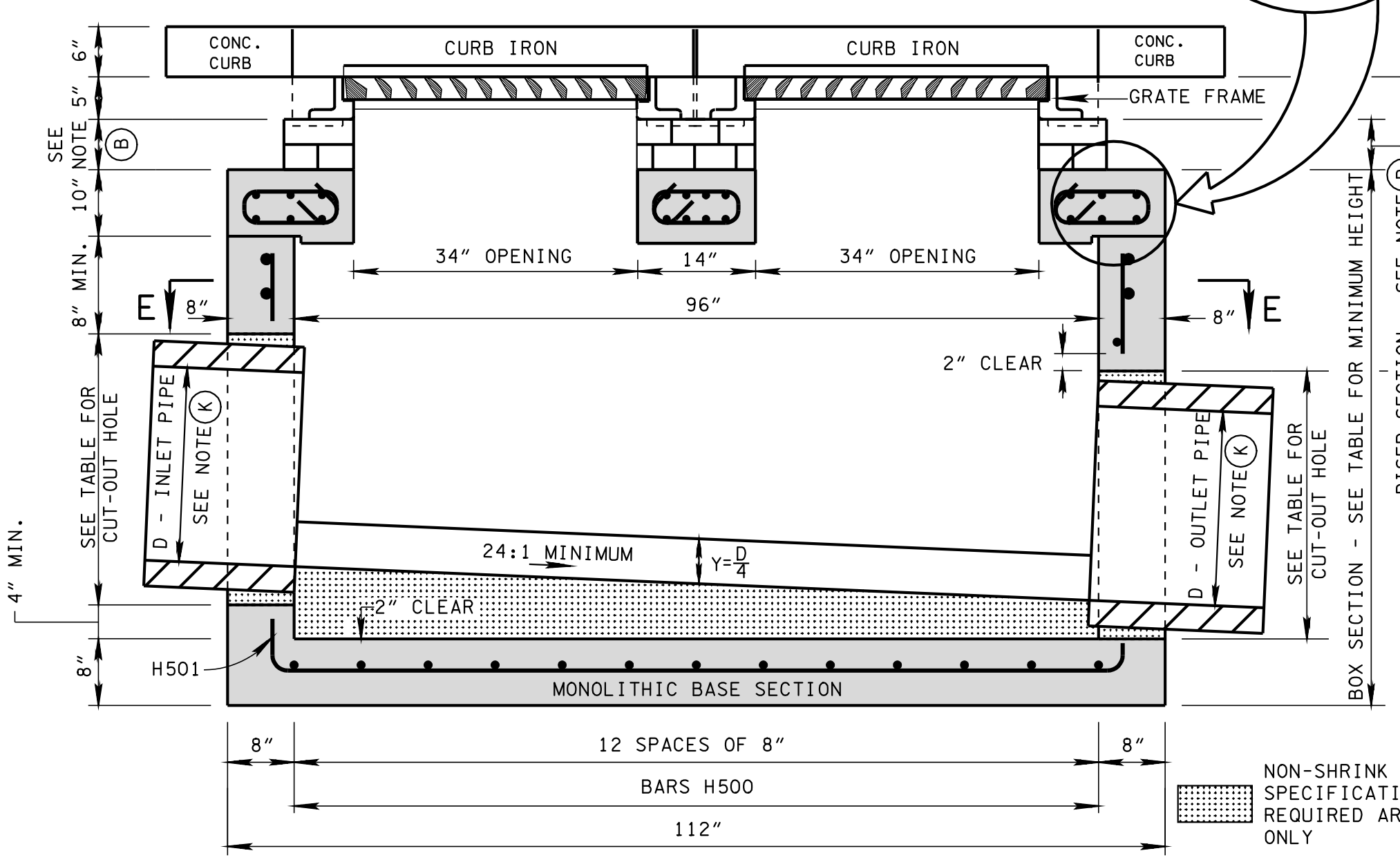


SECTION C-C

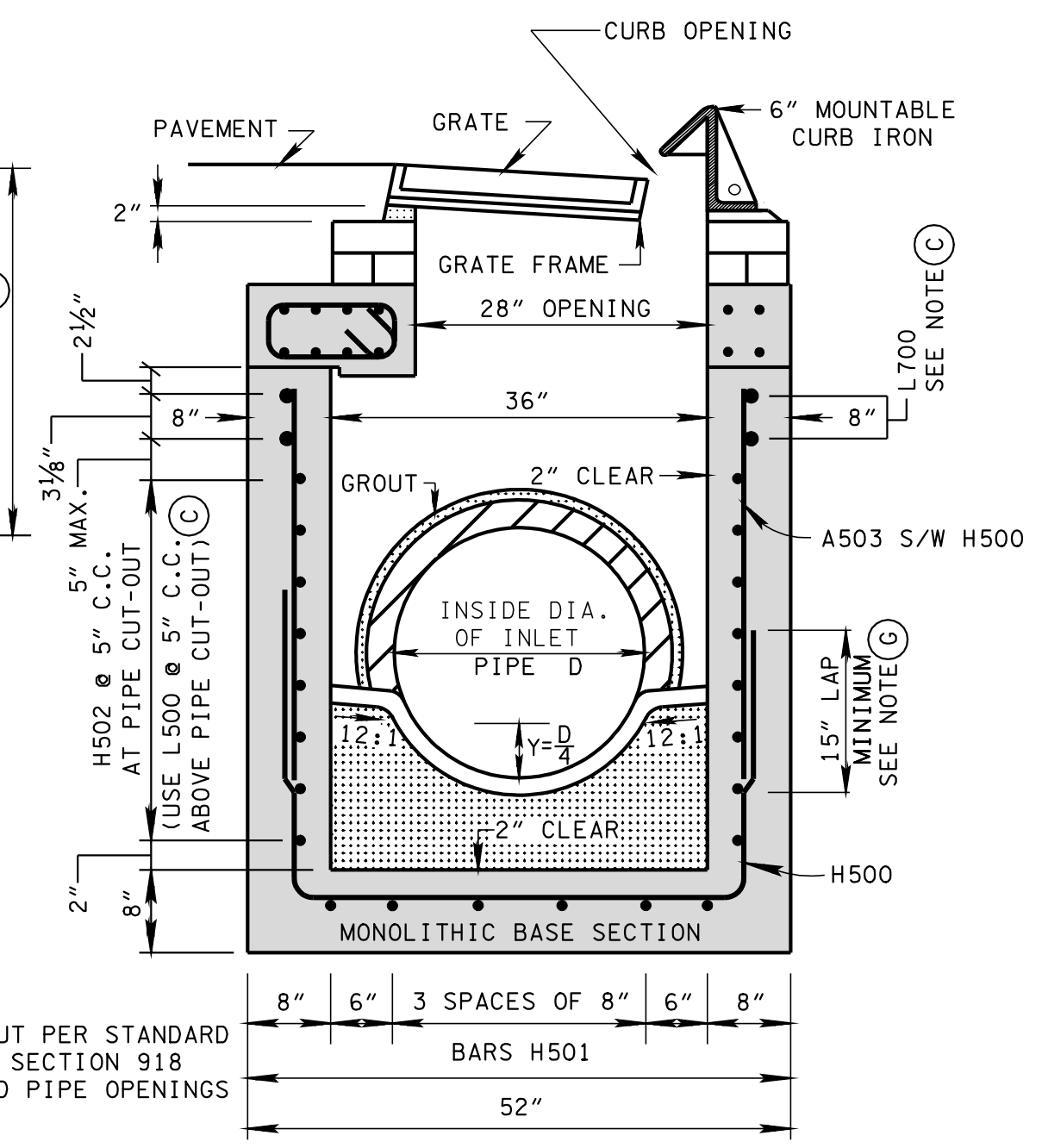


SECTION D-D

- 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.



SECTION A-A



SECTION B-B

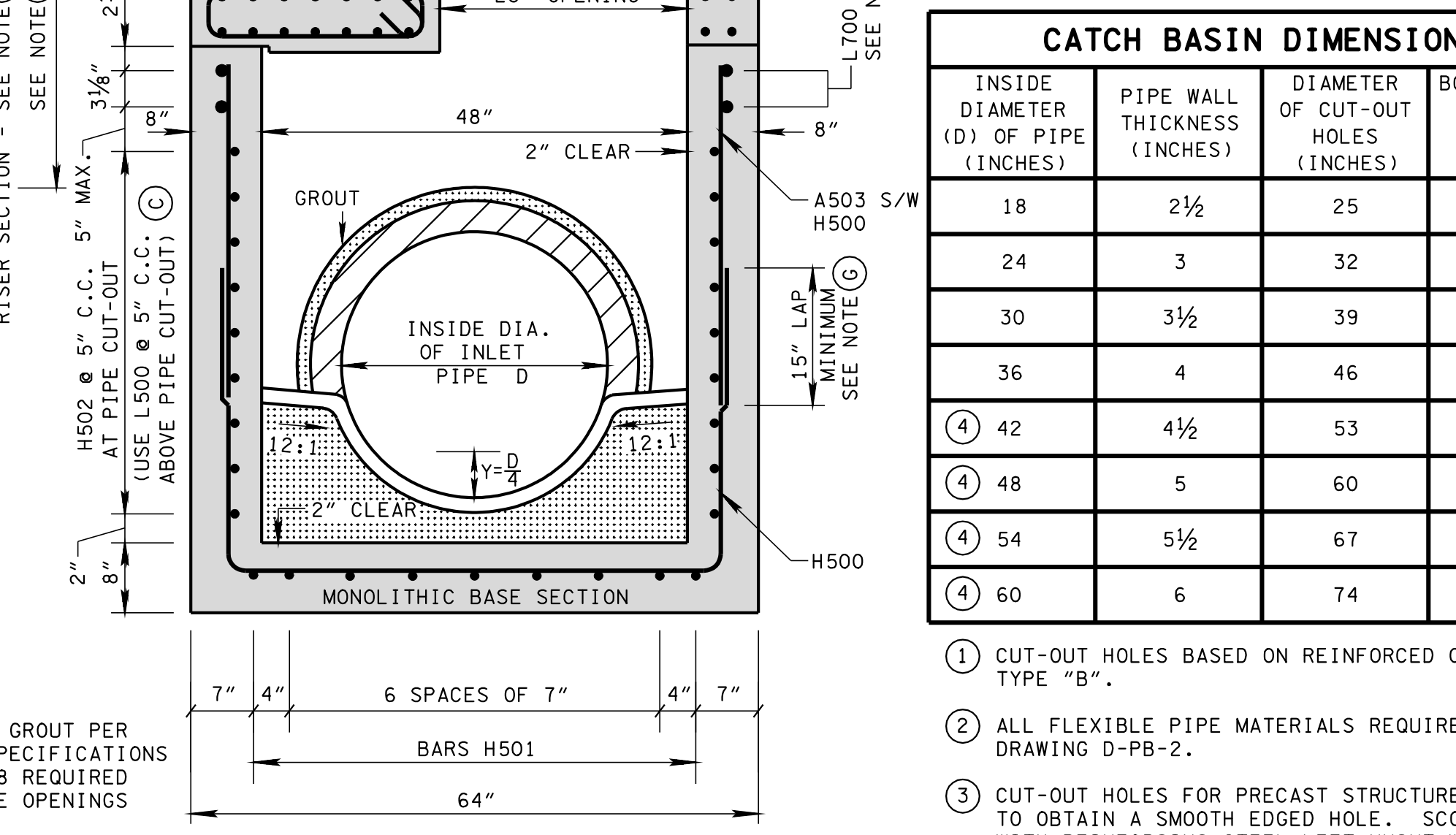
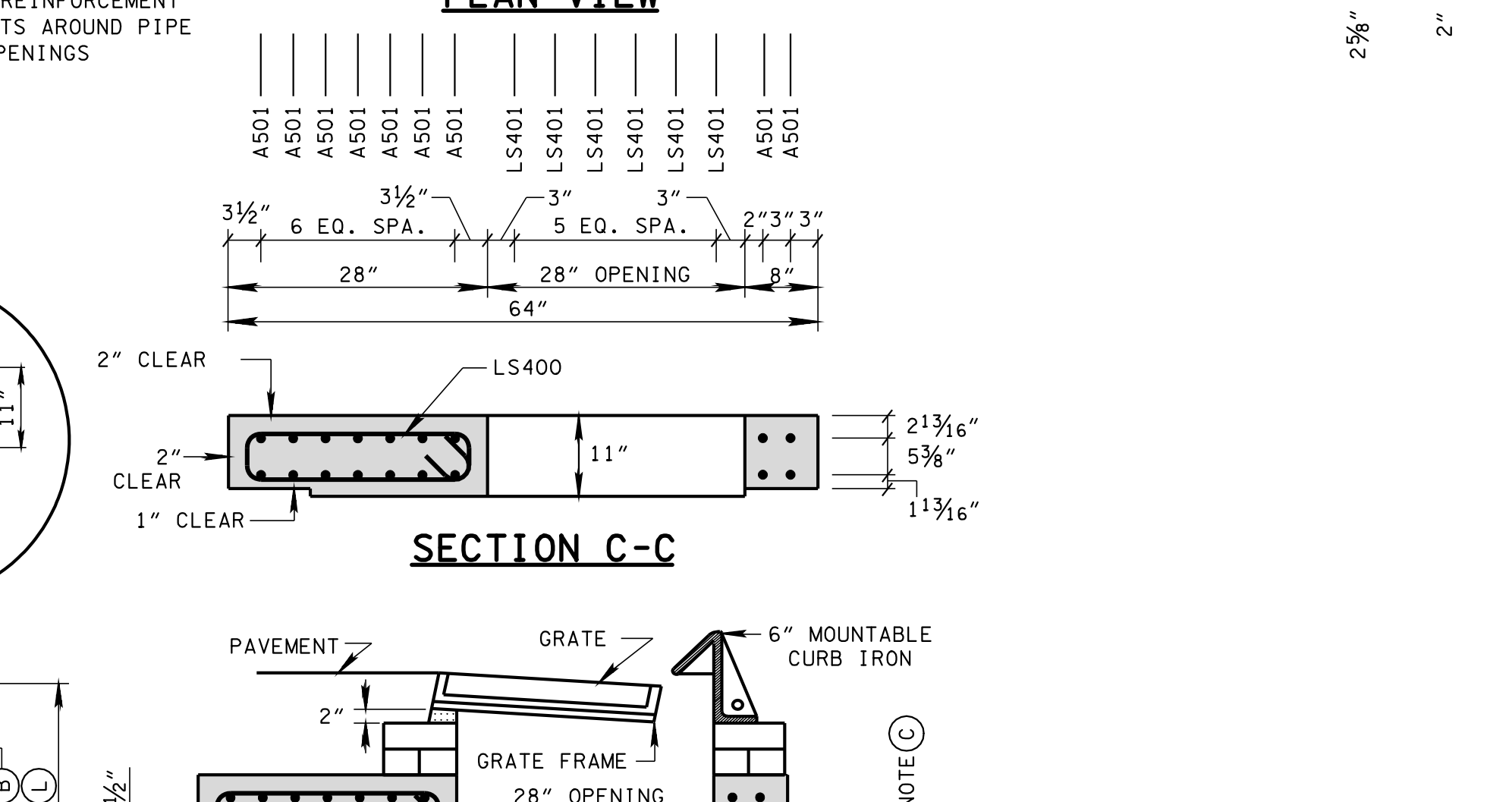
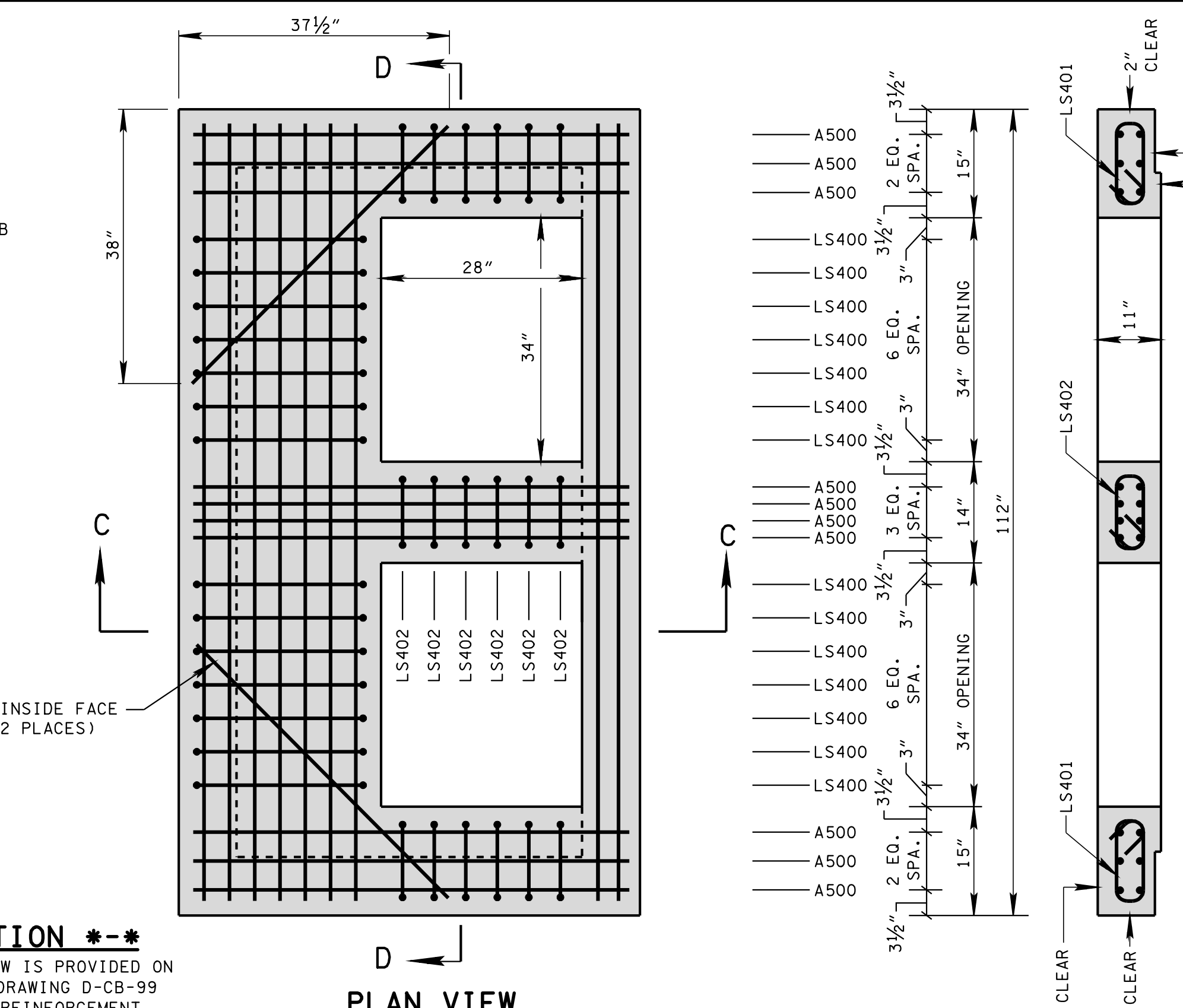
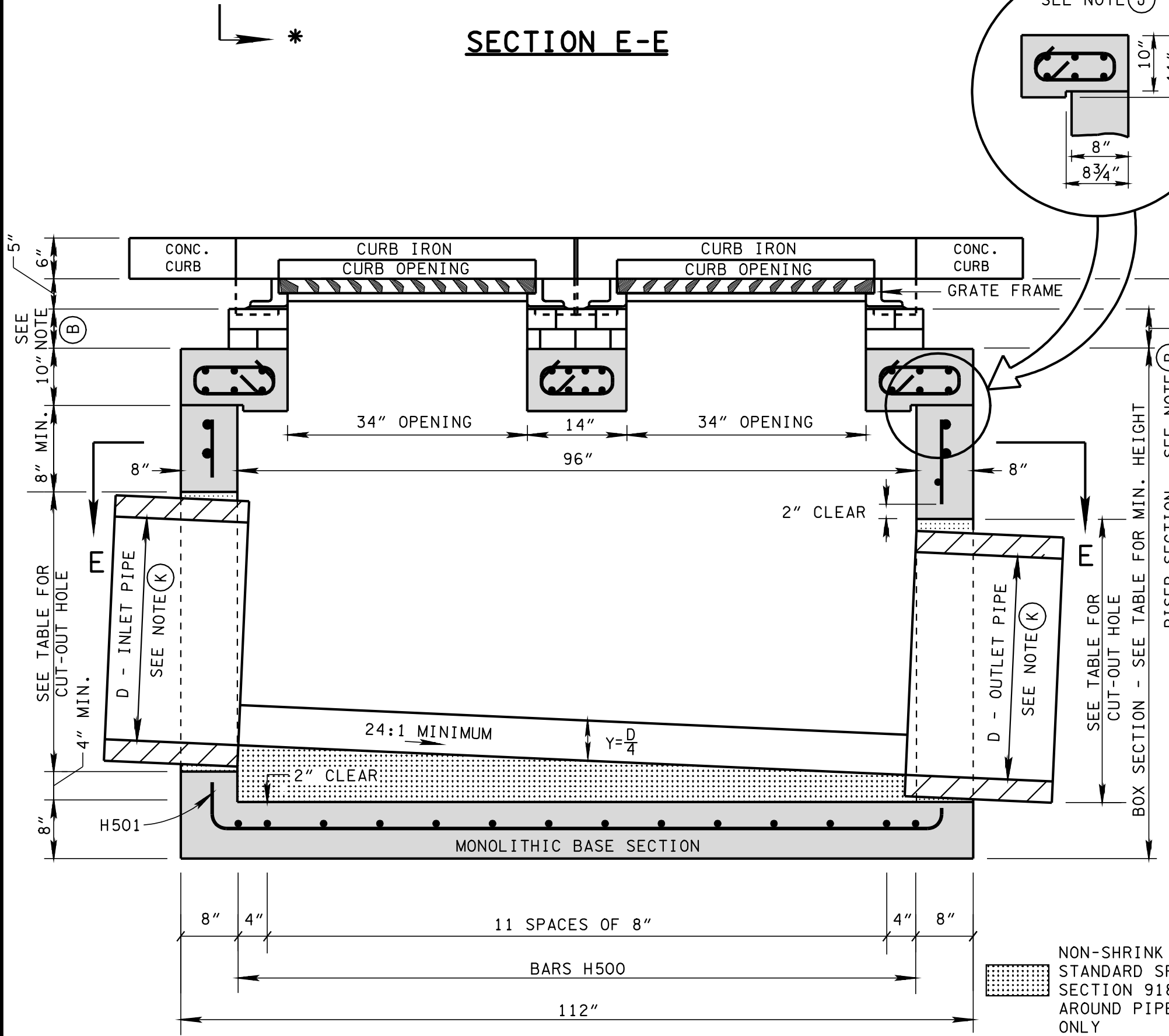
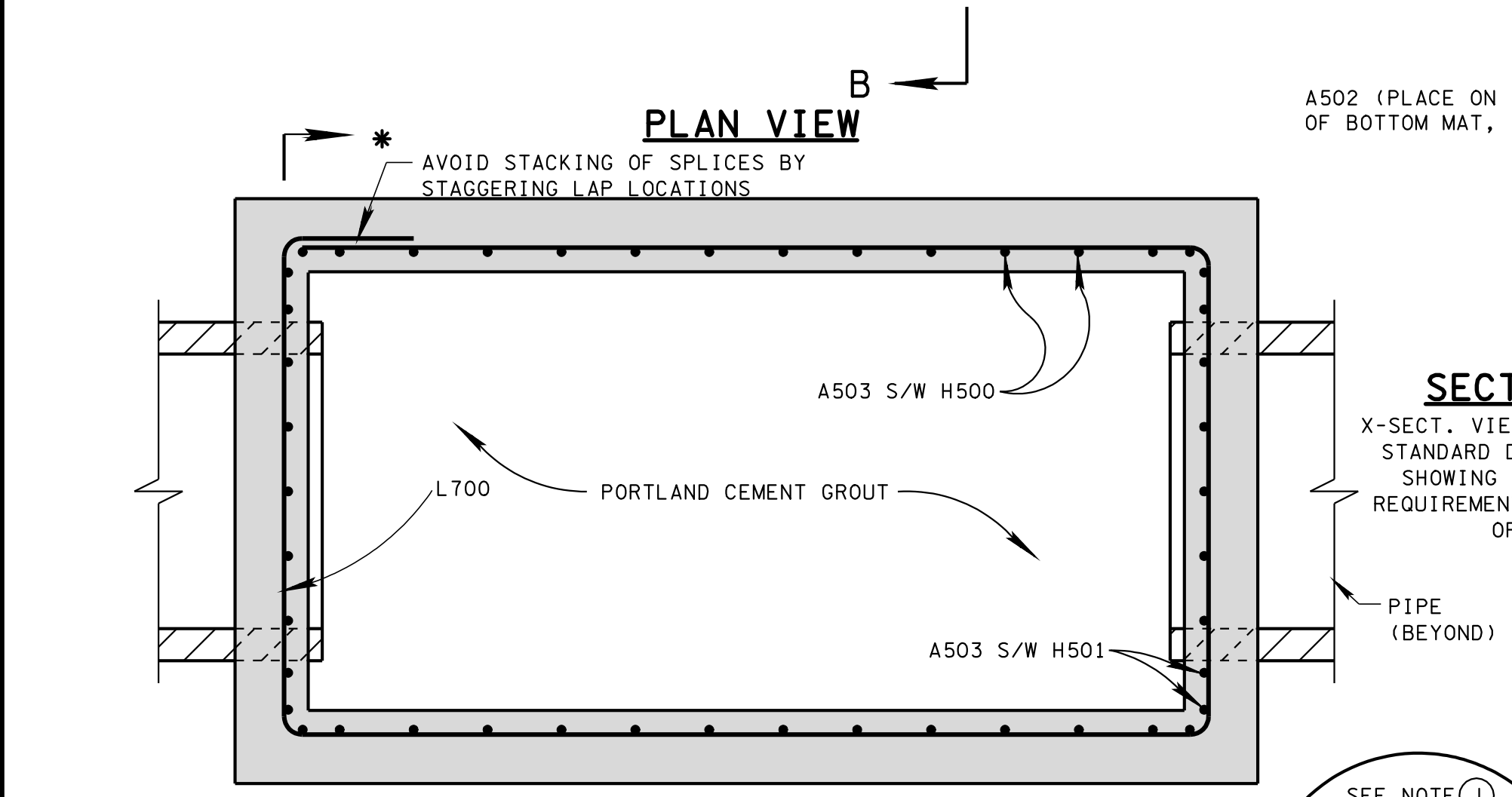
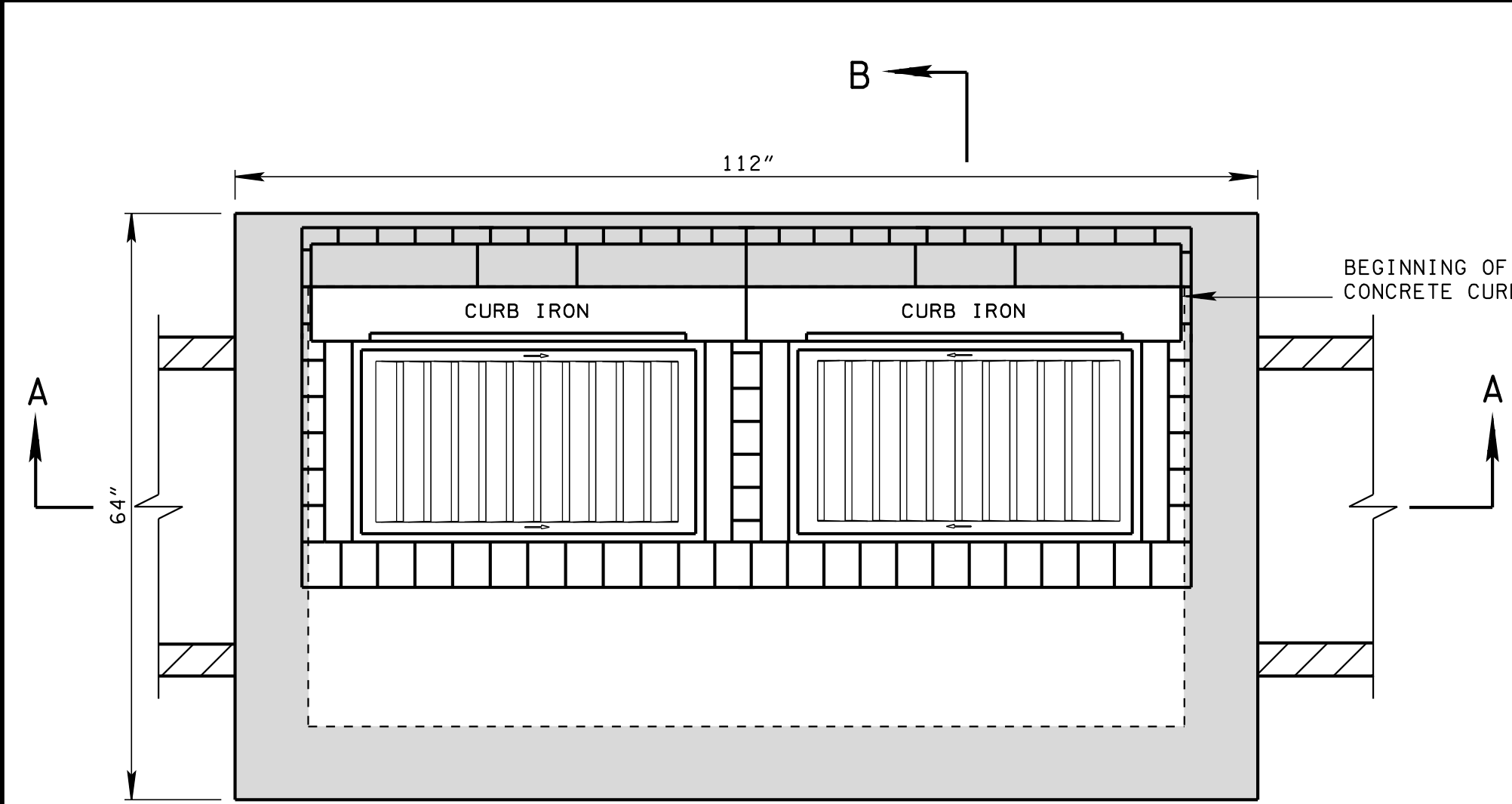
REINFORCING STEEL LEGEND

A500	48"						
A501	108"						
A502	34"						
A503	VARIABLE						
LS400	11"						
LS401	10"						
LS402	12"						
H500	42½"	26"	26"	102½"	26"	12"	104¼"
H501	12"						
L700	101¼"						44¼"
L500	101¼"						44¼"

□ 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)

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.



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

- ### 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 $1\frac{1}{2}$ 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				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	53	4.05
24	3	32	60	4.59
30	3½	39	67	5.13
36	4	46	74	5.67
42	4½	53	81	6.21
48	5	60	88	6.75
54	5½	67	95	7.30
60	6	74	102	7.84

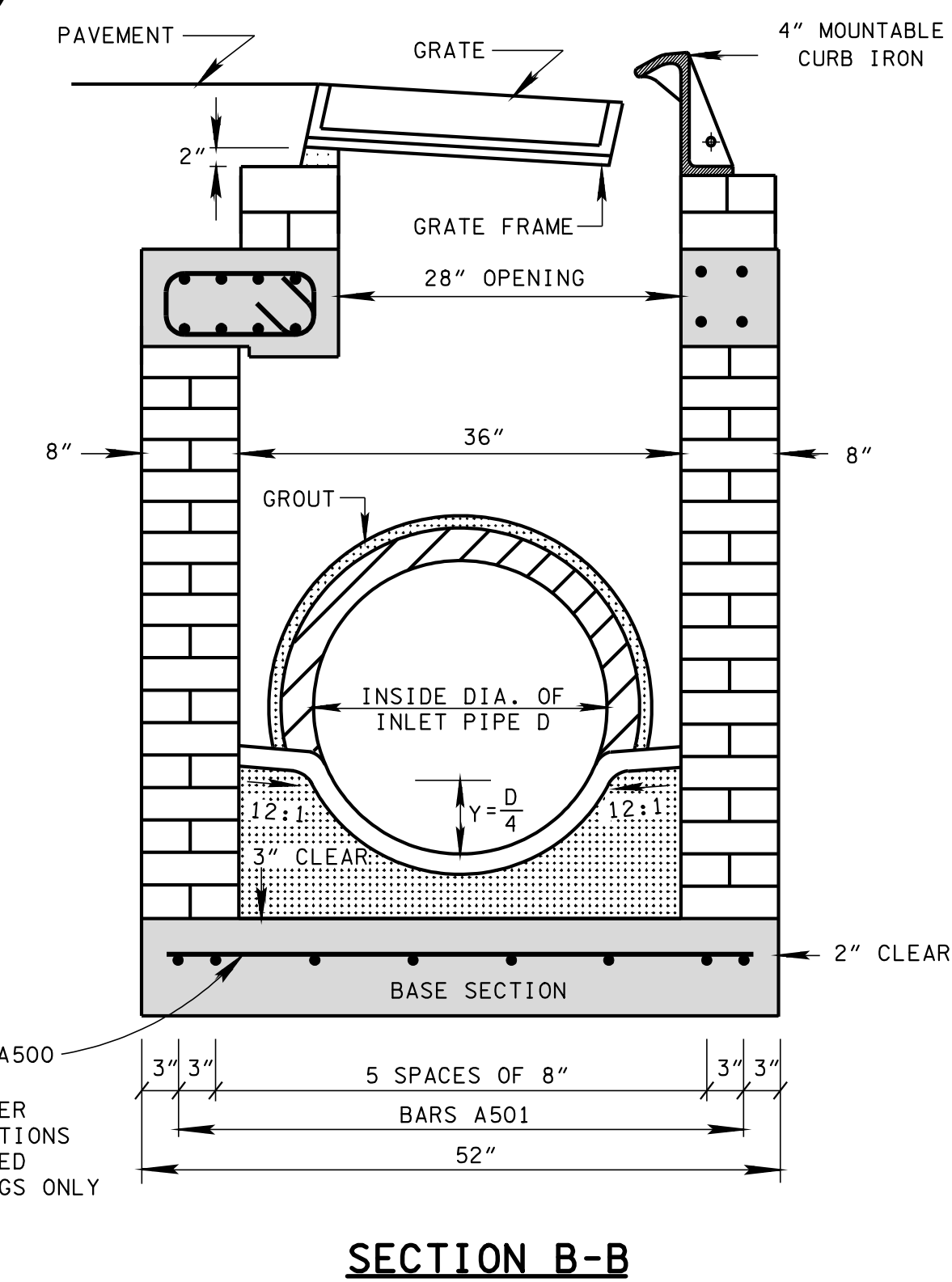
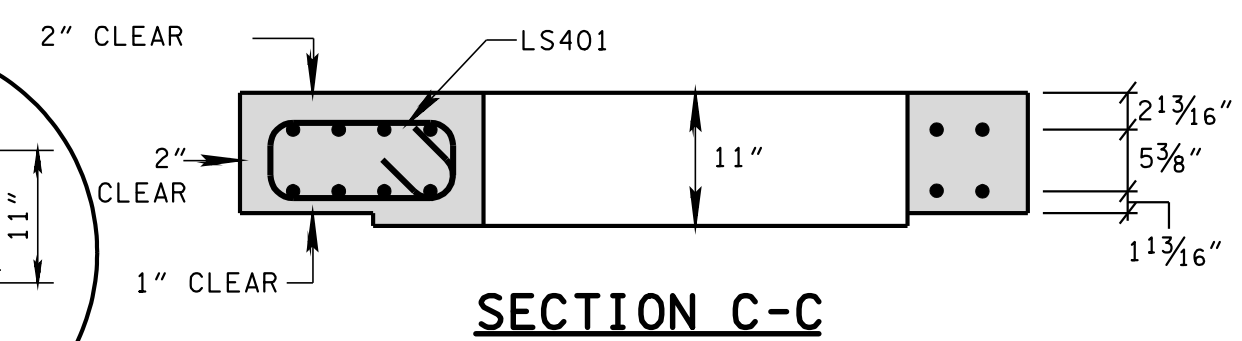
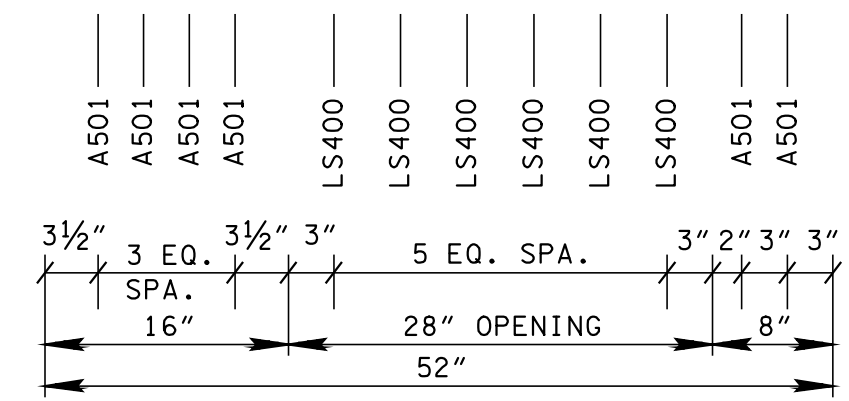
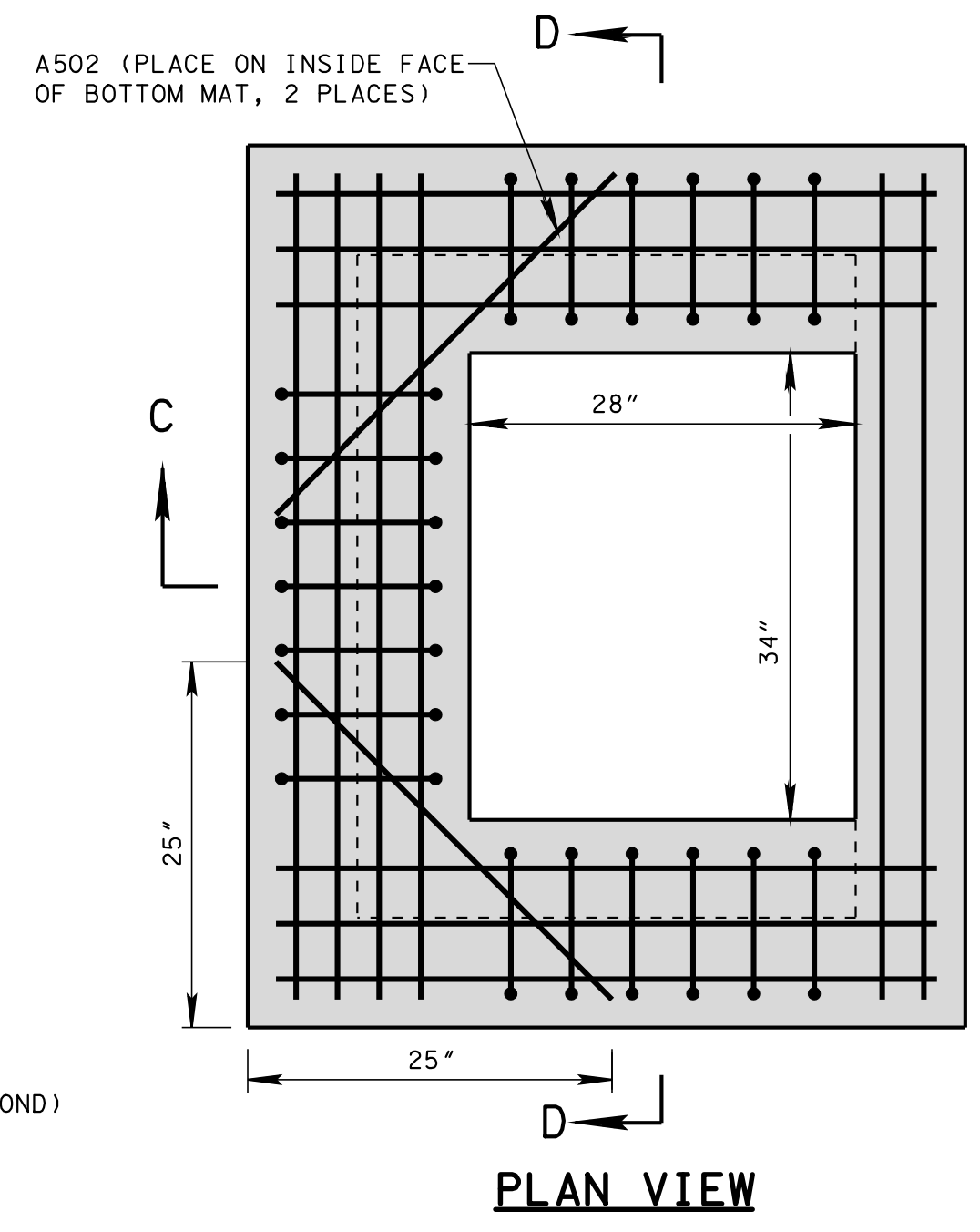
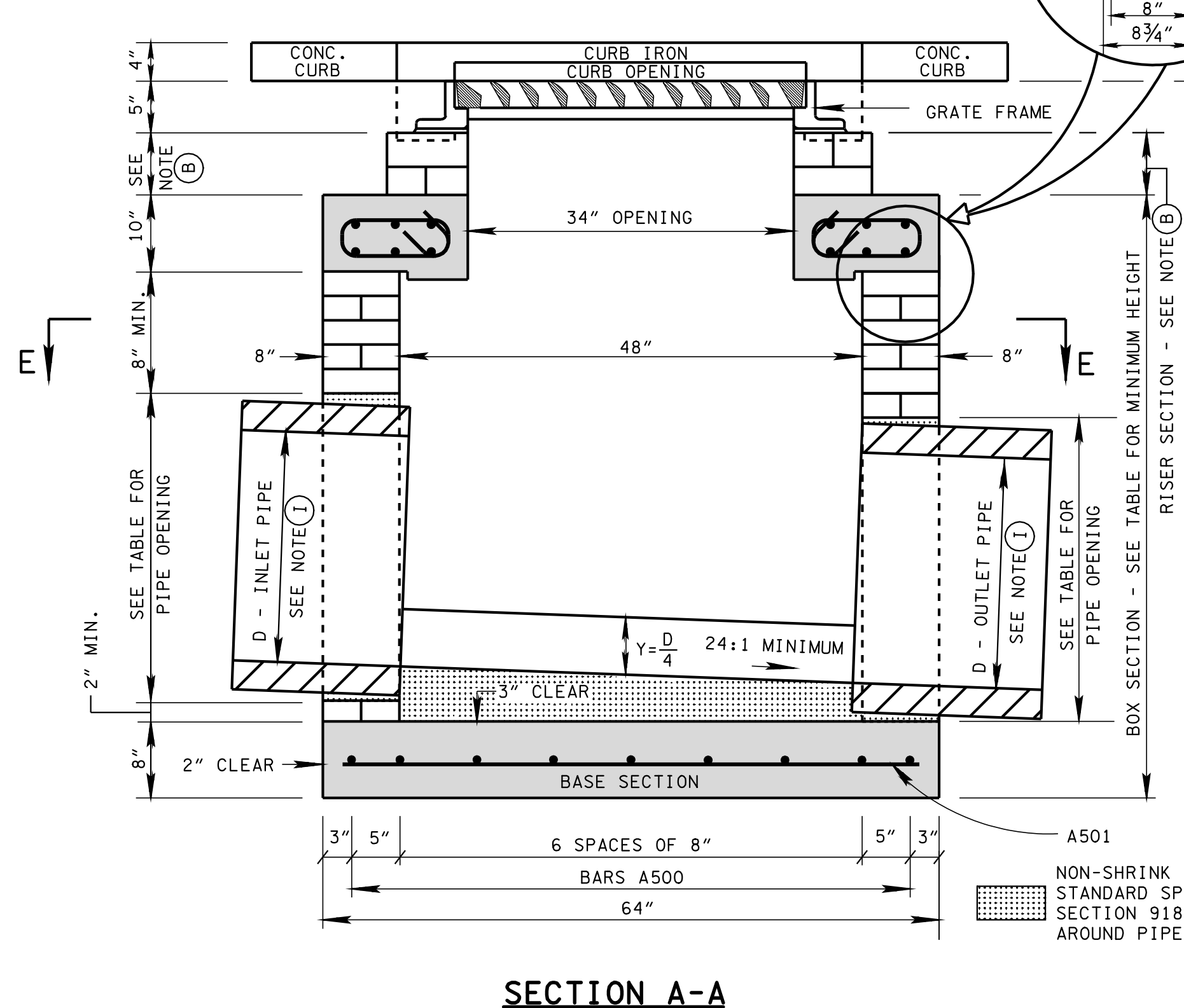
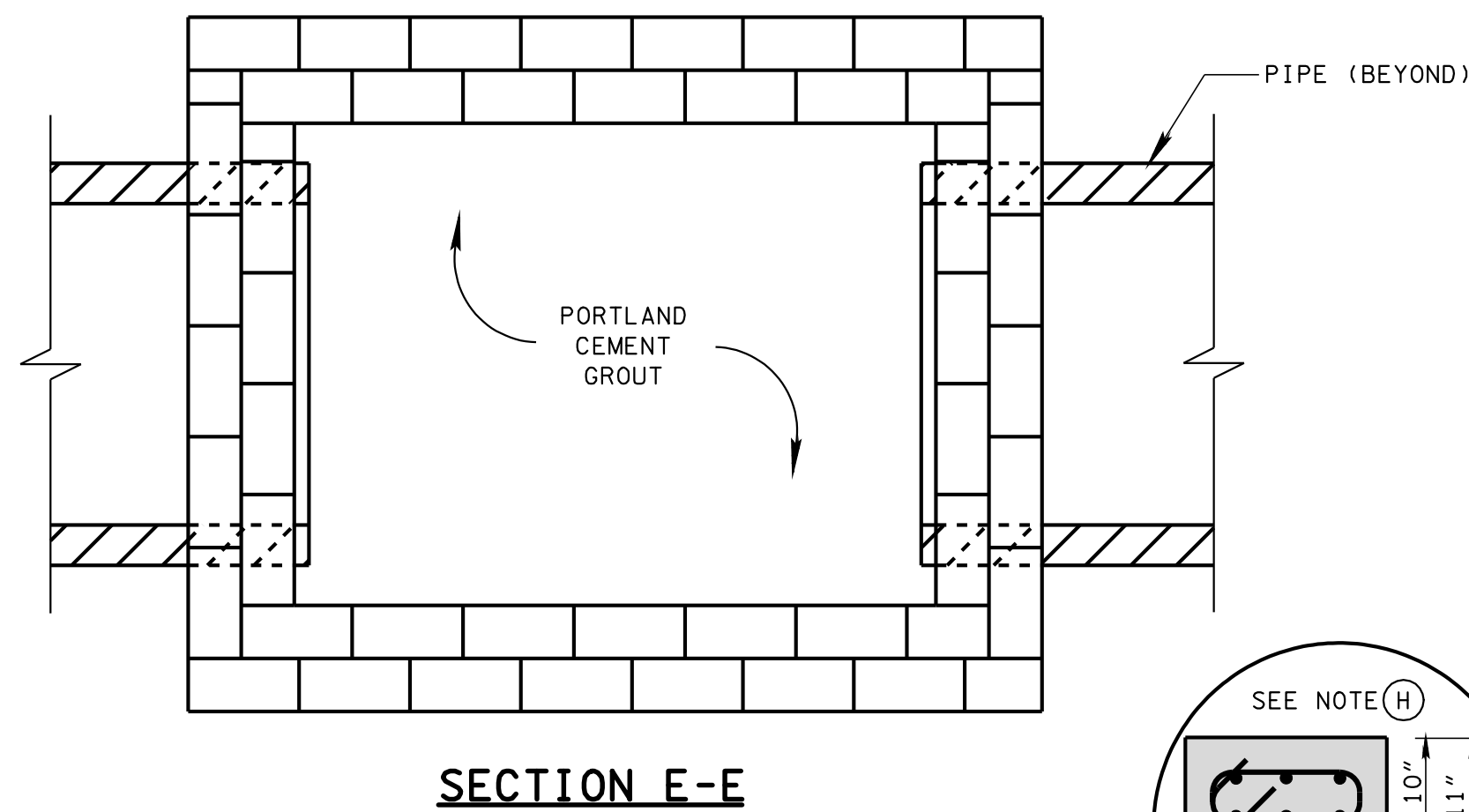
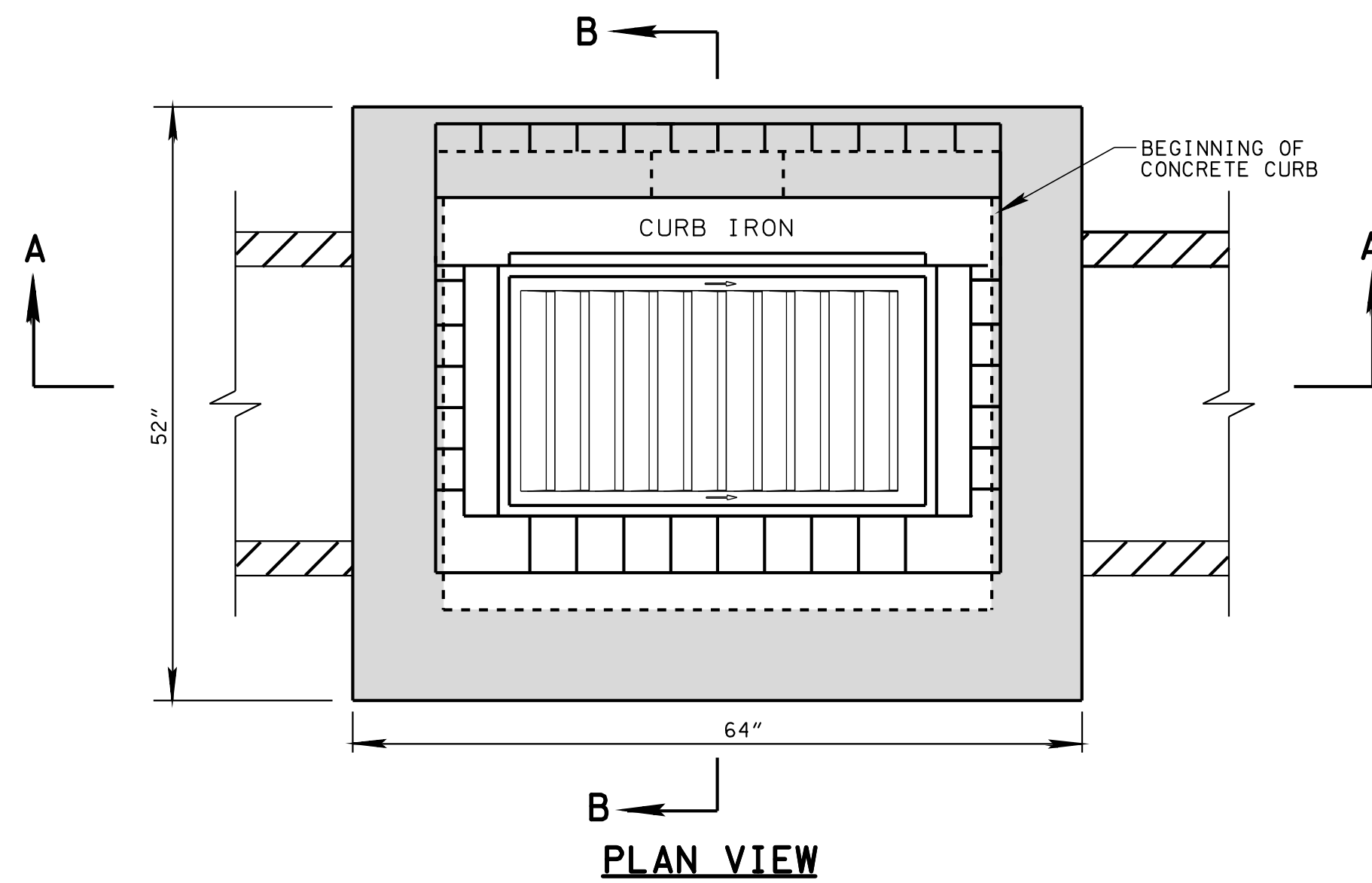
REINFORCING STEEL LEGEND			
A500	60"		
A501	108"	H501	102½"
A502	51"		
A503	VARIABLE	H502	101¼"
H500	26"		
		L500	53¼"
		L700	56¼"
		LS400	7"
		LS401	5¾"
		LS402	5¾"

DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.1. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

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

- 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 EGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN CUT WILL NOT BE PERMITTED.
- 4 TO BE USED IN 96 INCH INTERIOR WALL ONLY.

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



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.

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.

REINFORCING STEEL LEGEND

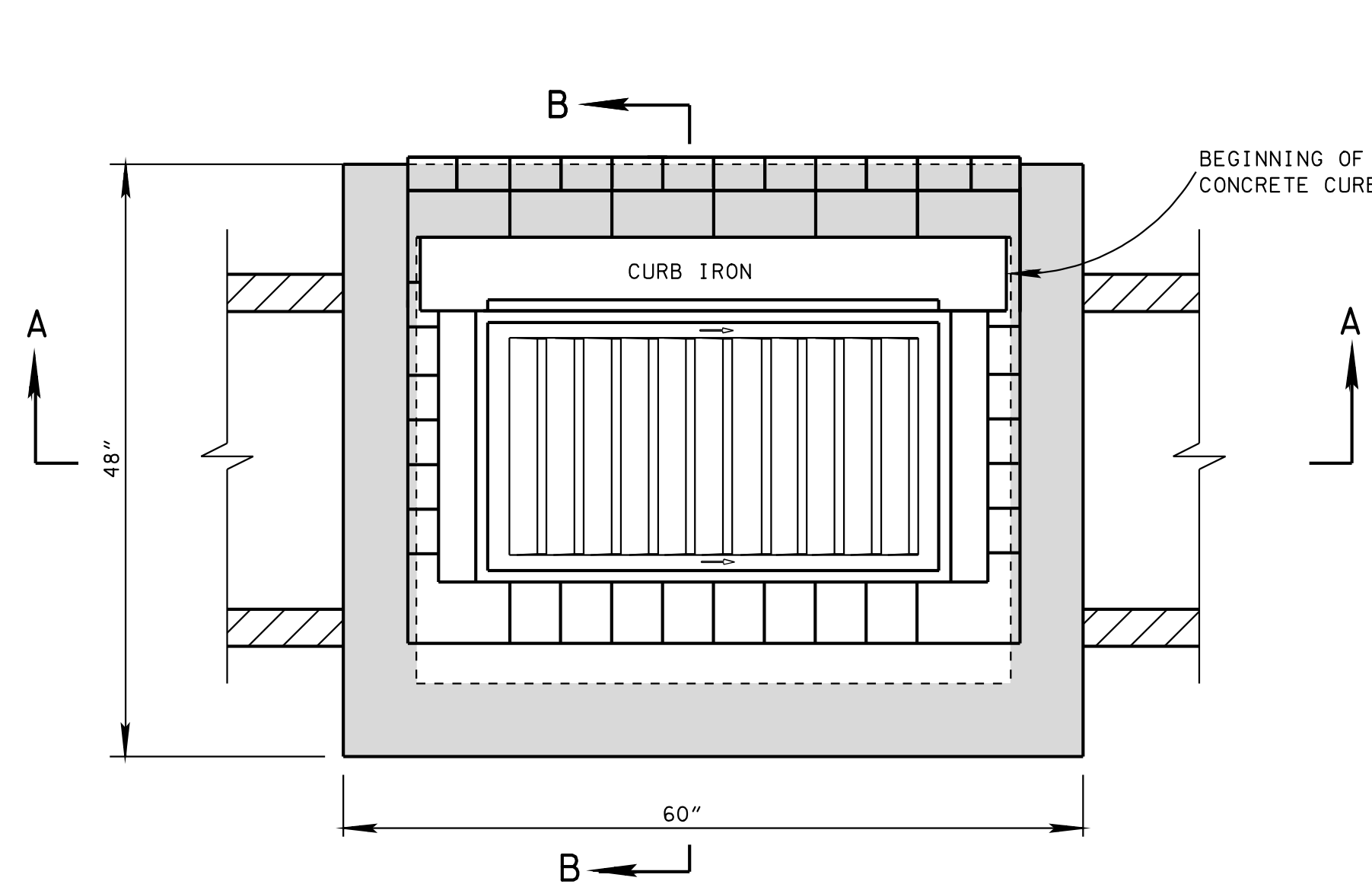
A500	48"	11"
A501	60"	12"
A502	33"	12"

LS400 11"
 LS401 12"

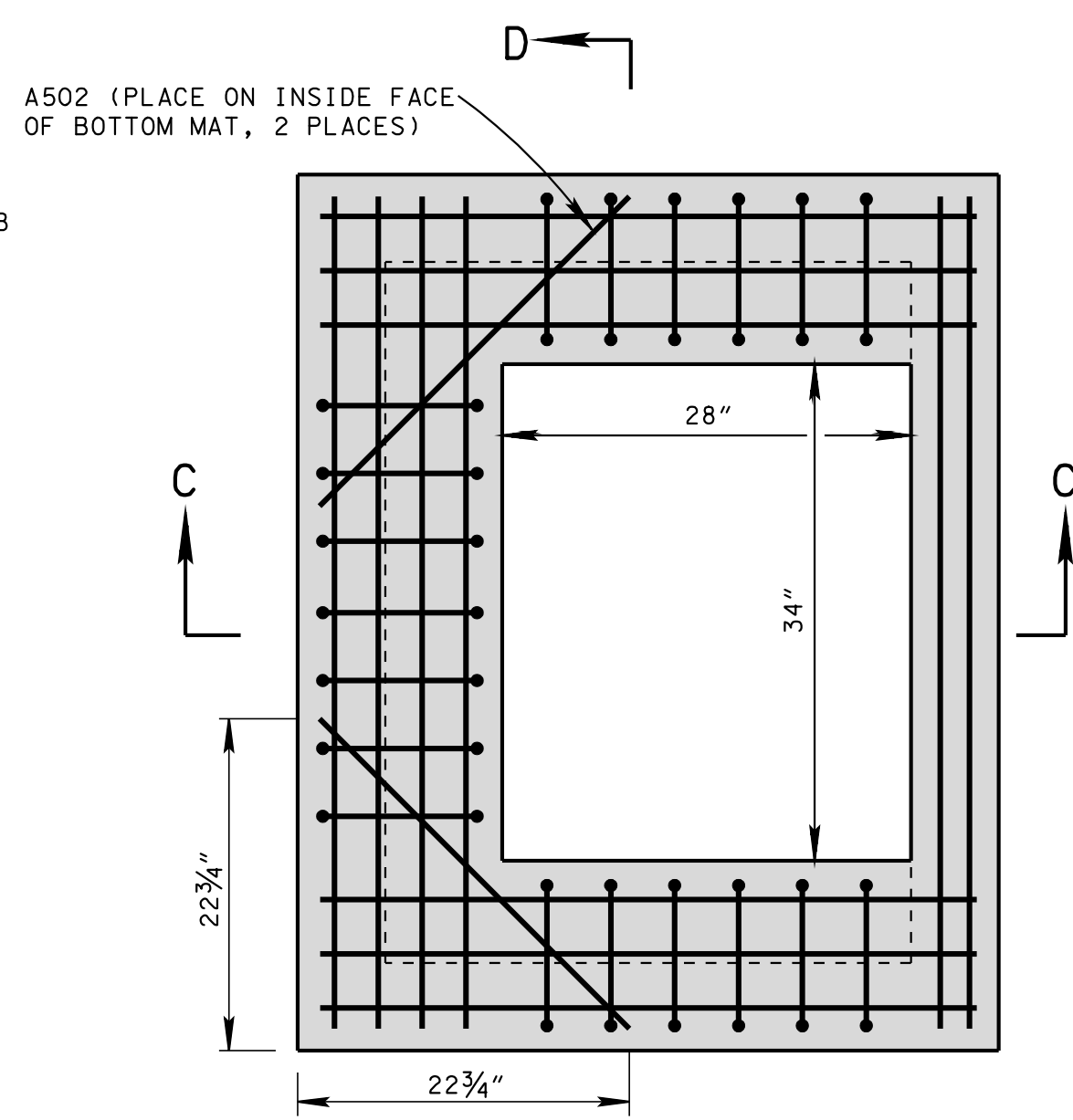
DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

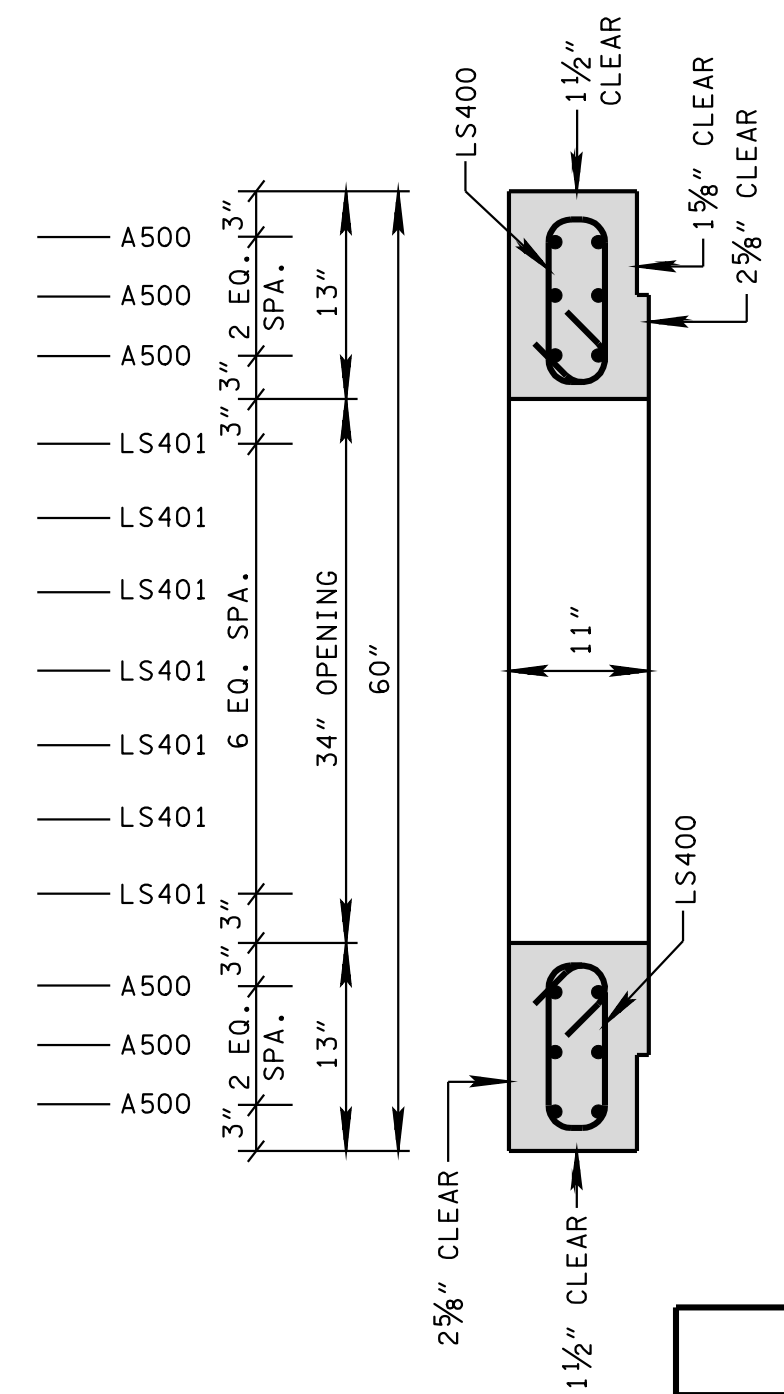
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
**STANDARD
 RECTANGULAR BRICK
 NO. 28
 CATCH BASIN**
 (FOR USE WITH 4"
 MOUNTABLE CURB)



PLAN VIEW



PLAN VIEW



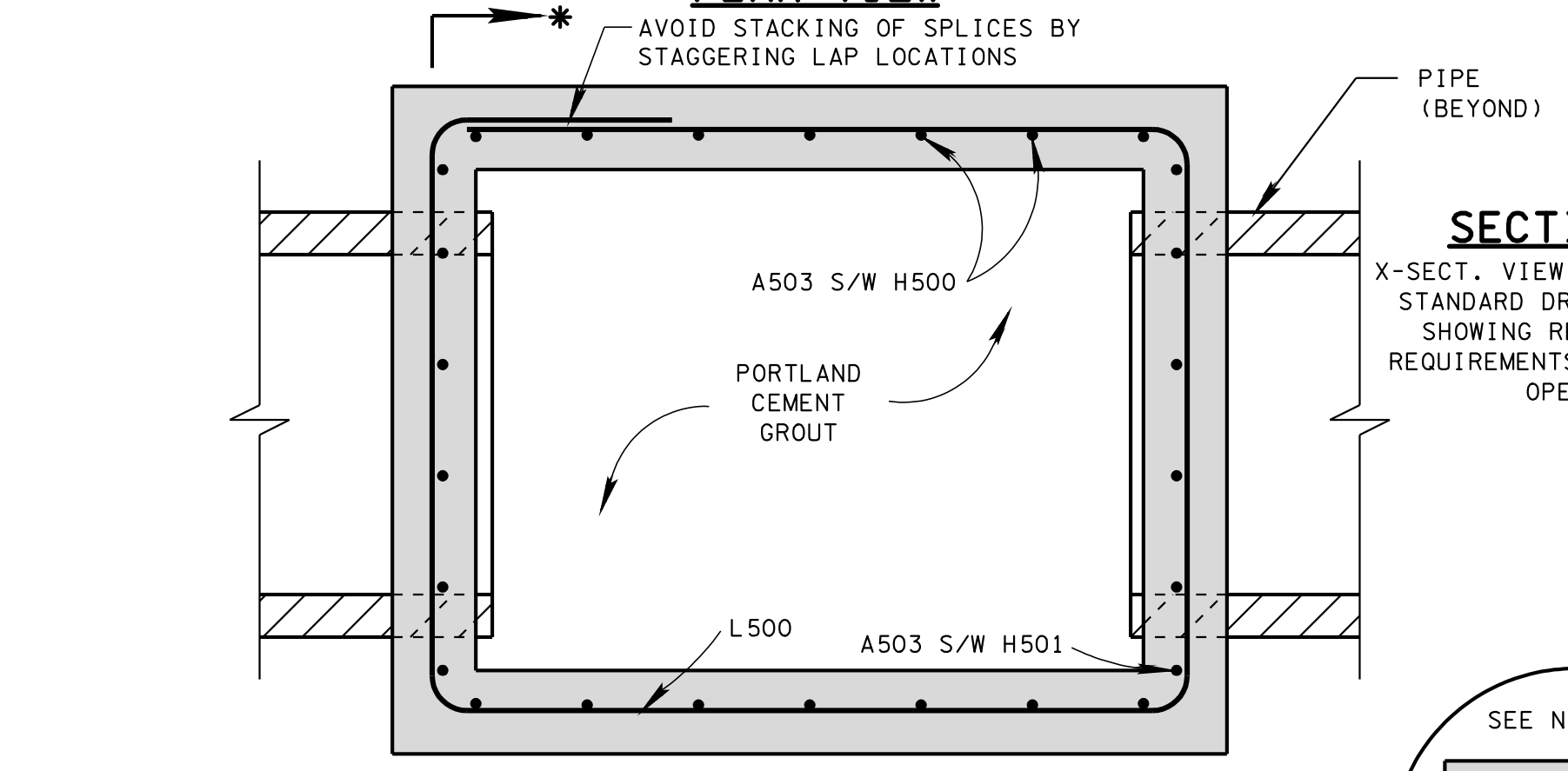
SECTION D-D

CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'

CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
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	2 1/2	25	49	3.88
24	3	32	56	4.42
④ 30	3 1/2	39	63	4.96
④ 36	4	46	70	5.50

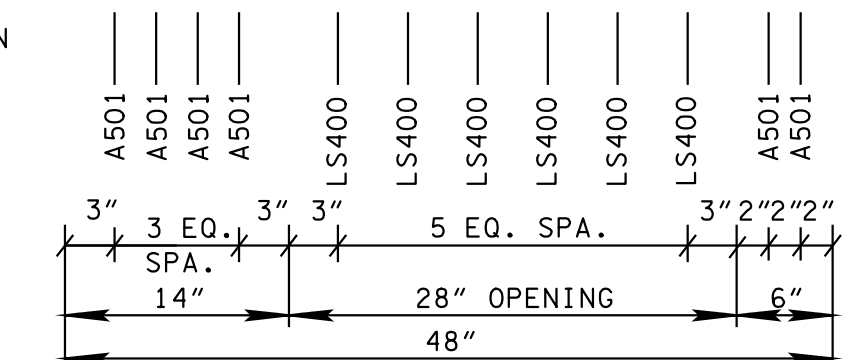
- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN CUT WILL NOT BE PERMITTED.
- 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 ⑥ 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 ①
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ⑥
- 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.

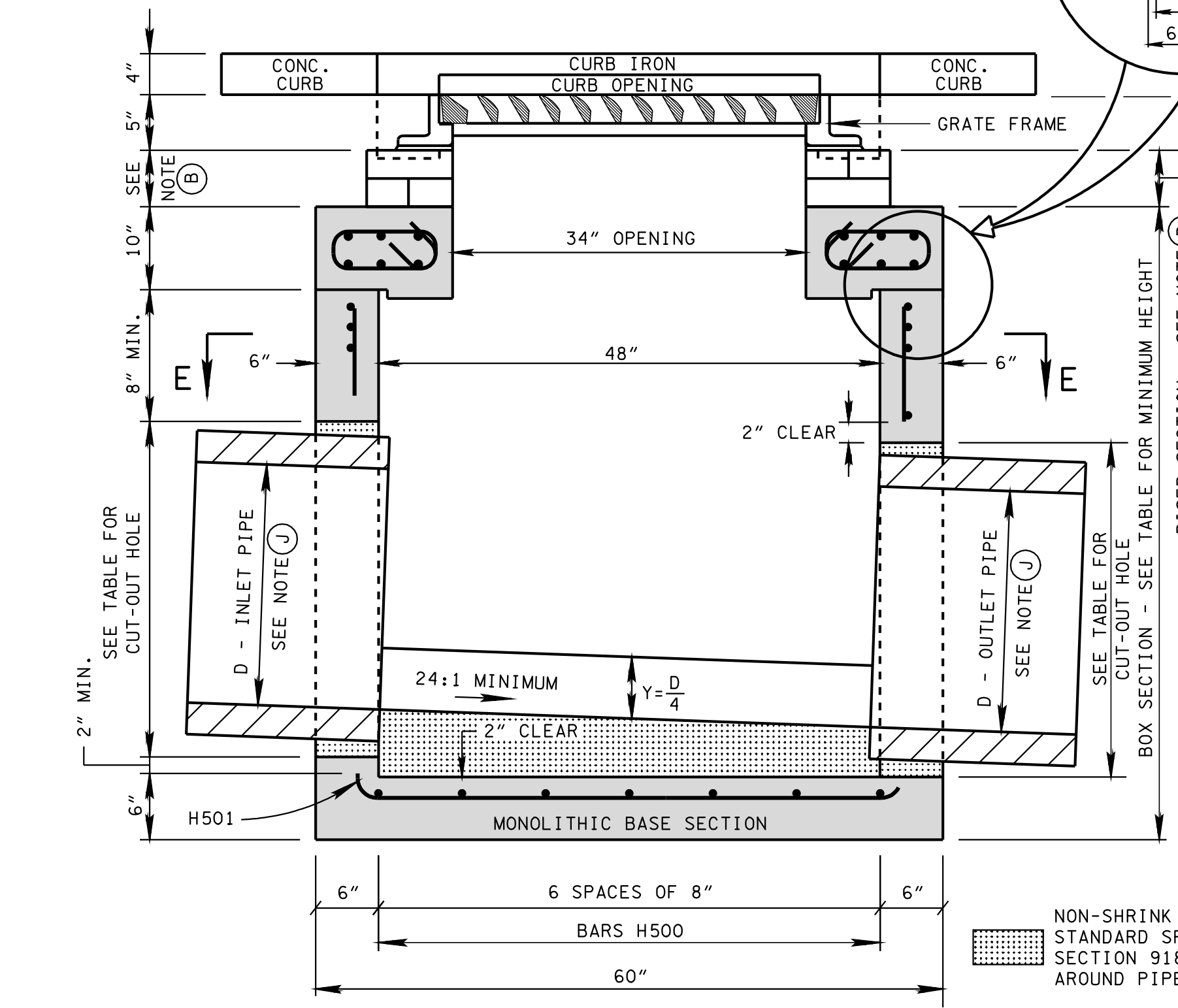


SECTION E-E

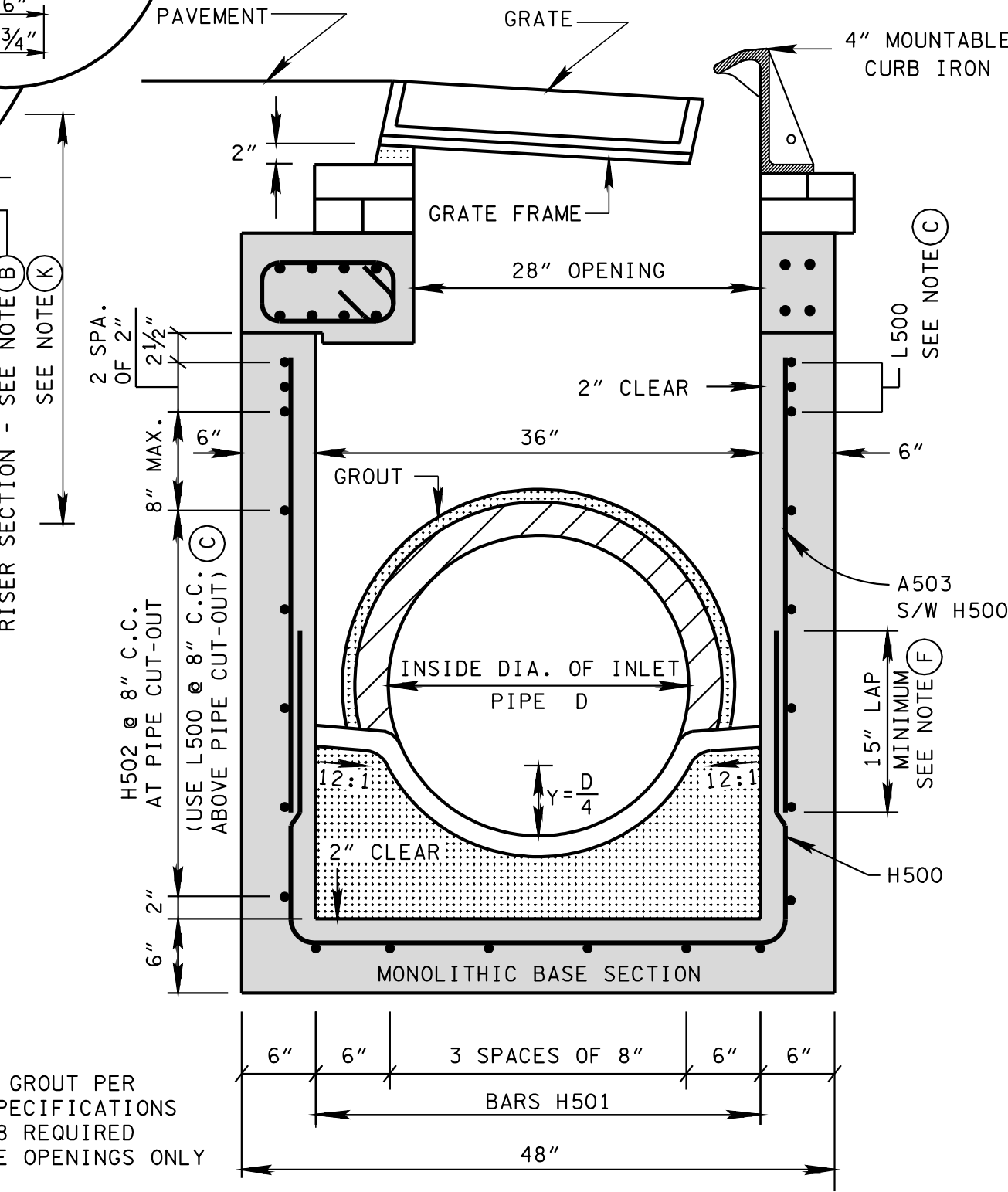
SECTION ***
 X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C

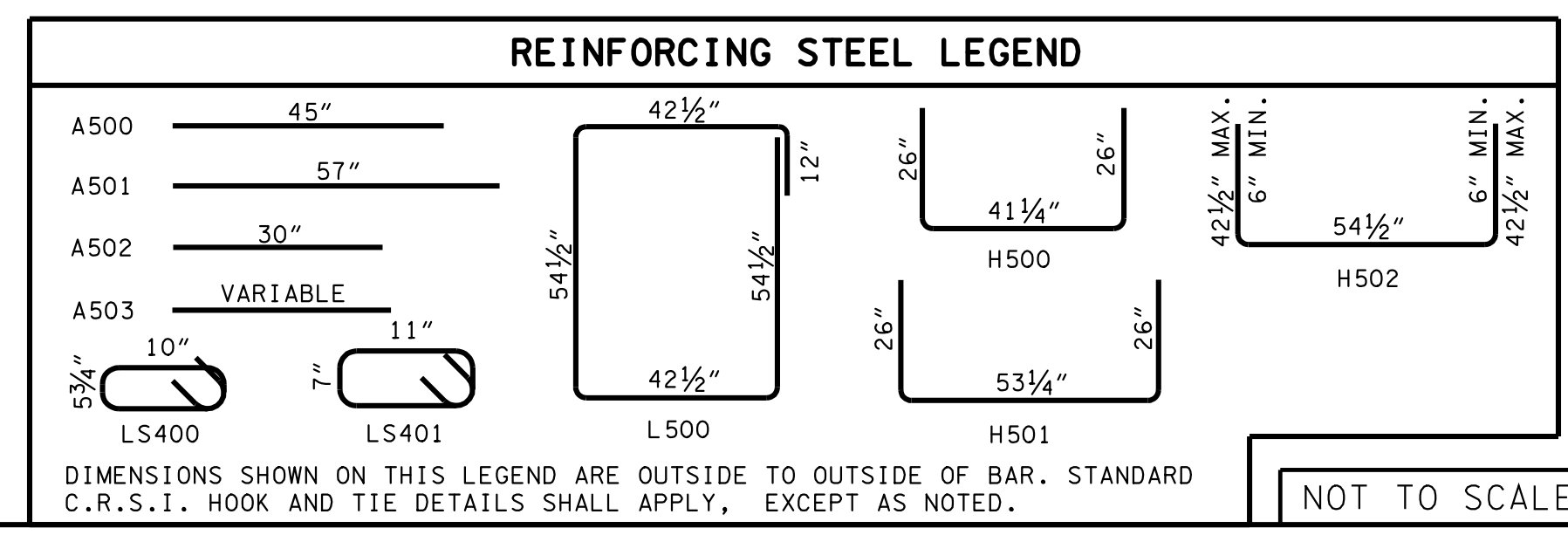


SECTION A-A



SECTION B-B

- GENERAL NOTES**
- 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - THE FABRICATOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
 - APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
 - 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.
 - ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
 - 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.
 - 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.
 - SEE STANDARD DRAWING D-CBB-12C FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
 - 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.



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)
 12-18-95 D-CB-28P

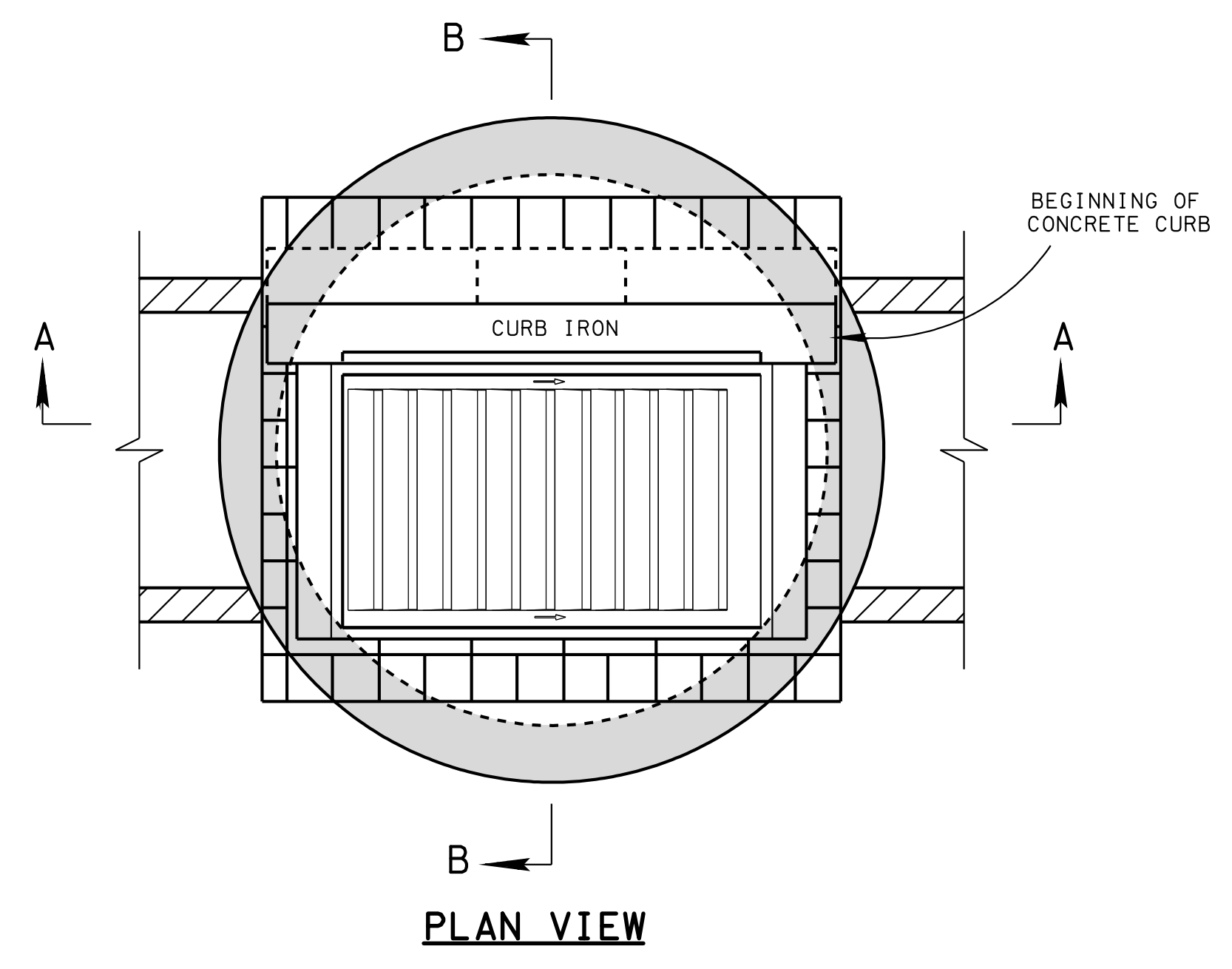
NOT TO SCALE

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.

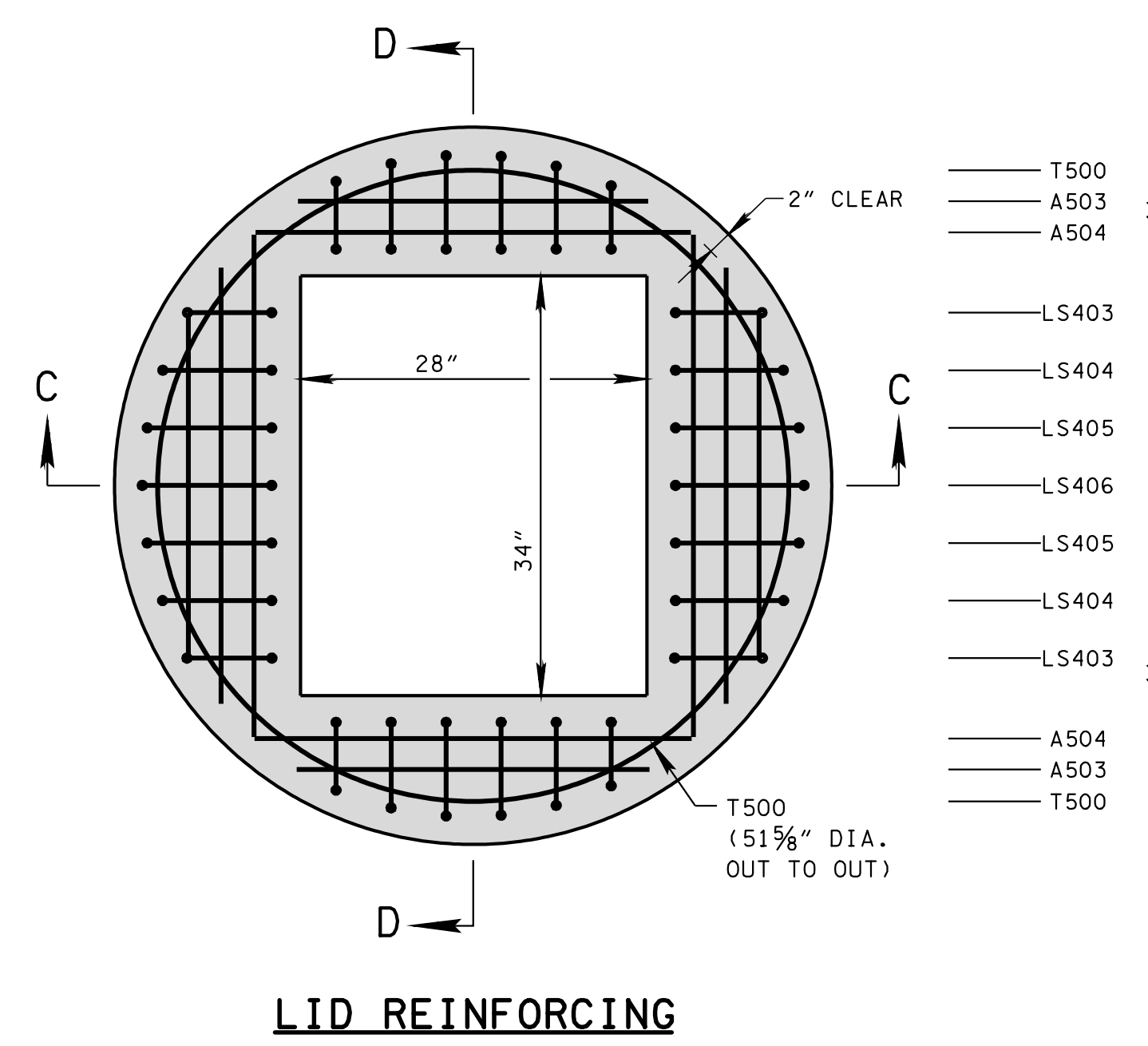
CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 20.00'.

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

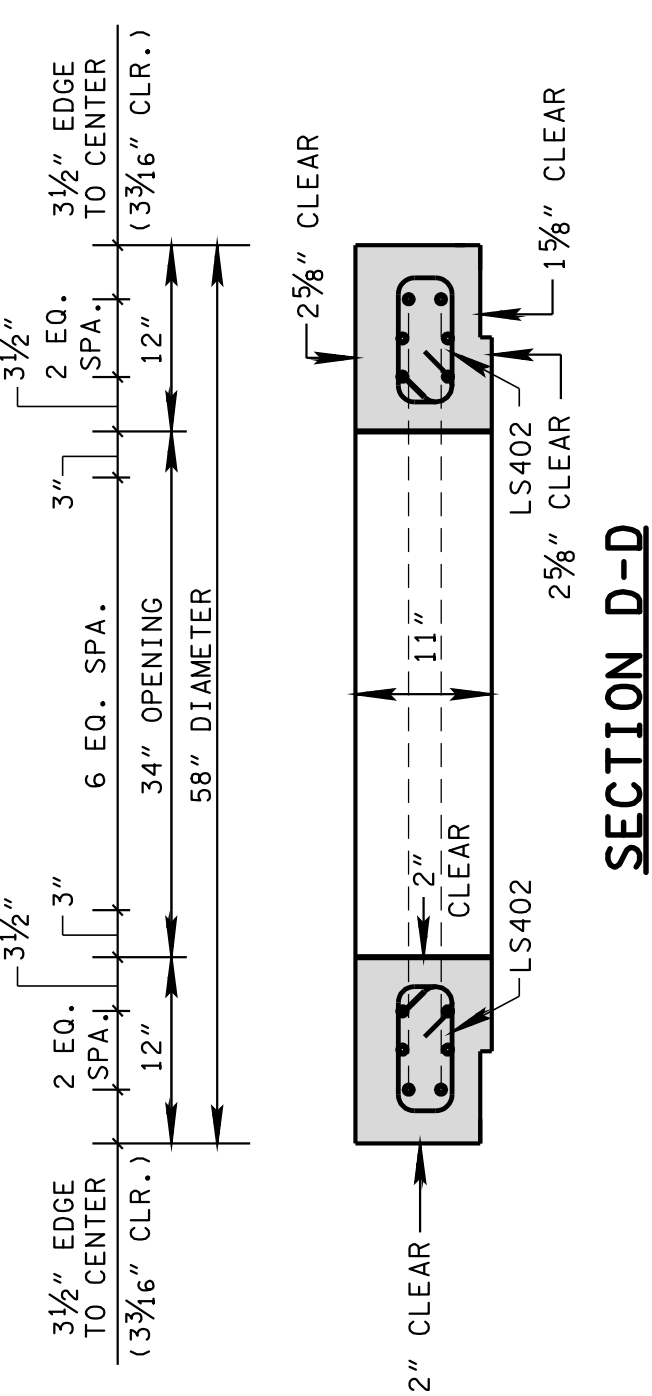
- REV. 12-18-95: MODIFIED DRAWING NO. D-CB-25RA TO ACCEPT 4" MOUNTABLE CURB BACK.
- REV. 2-14-96: CHANGED SHEET NAME.
- REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (F) CHANGED LABEL OF LAST FOUR GENERAL NOTES.
- REV. 4-15-97: CHANGED CATCH BASIN DIMENSION TABLE.
- REV. 1-19-99: CHANGED 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.



PLAN VIEW

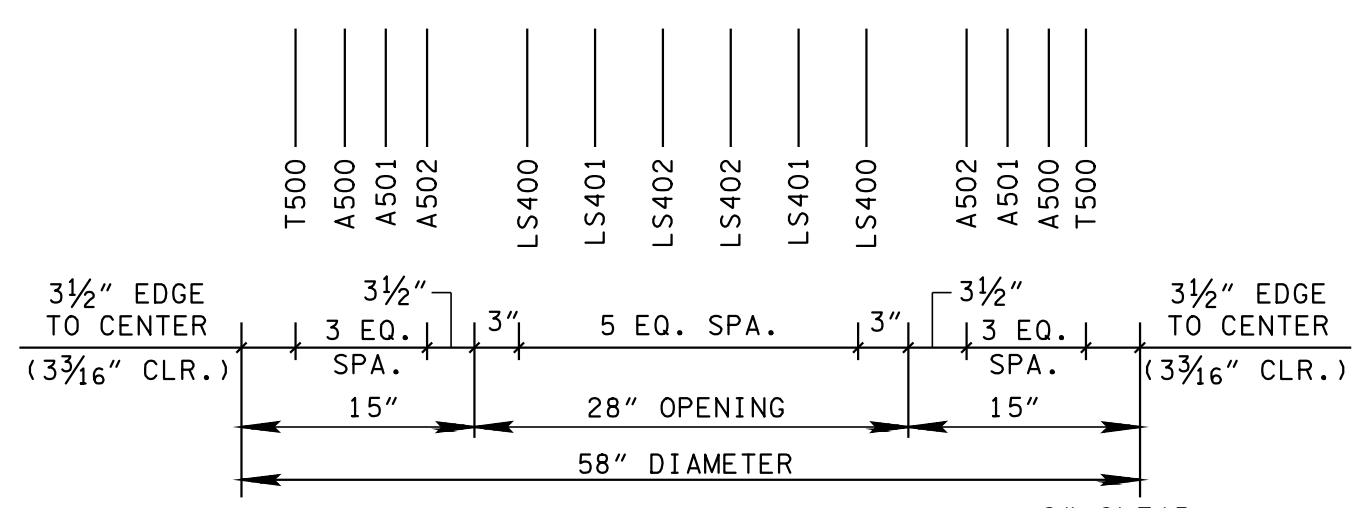


LID REINFORCING

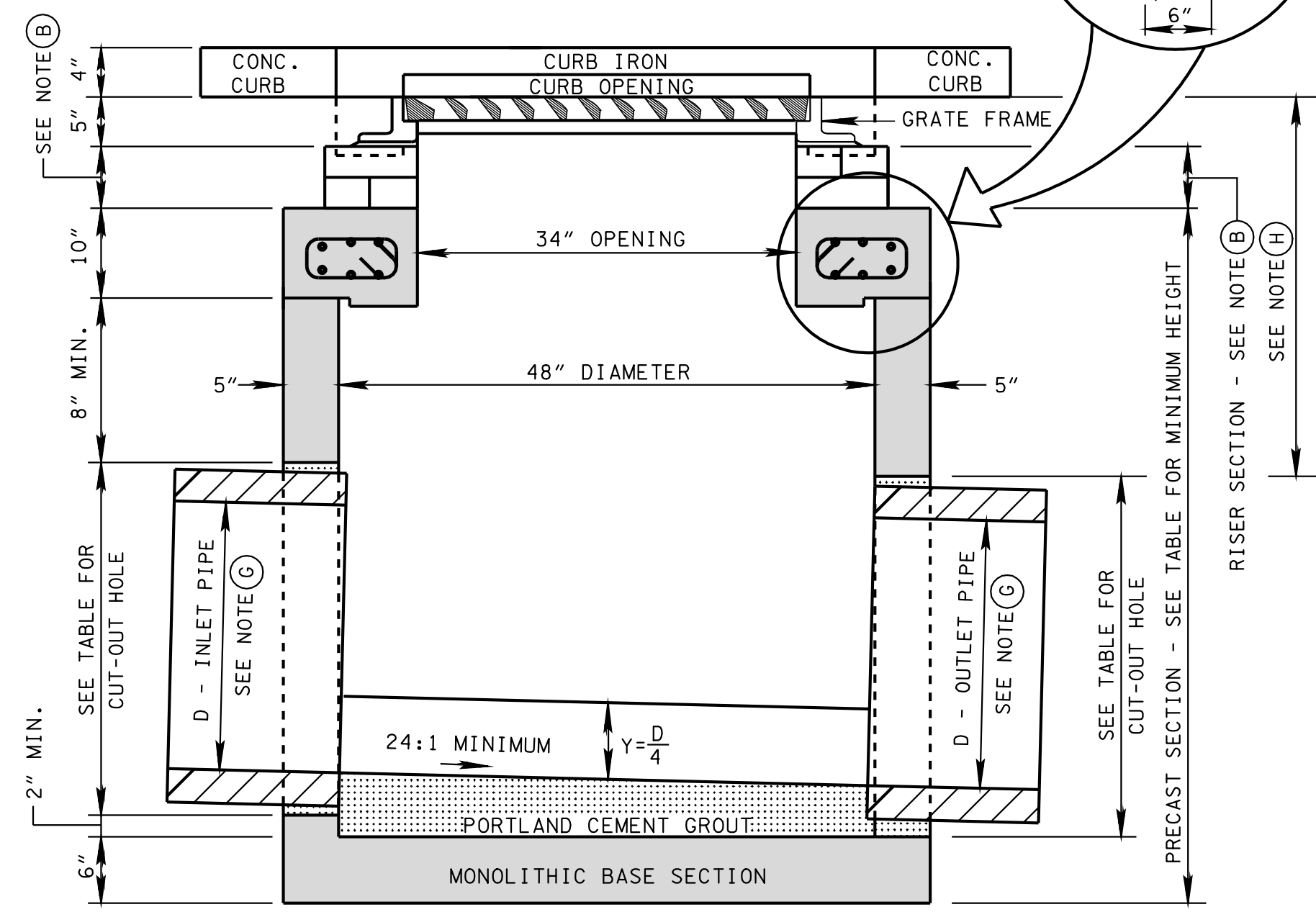
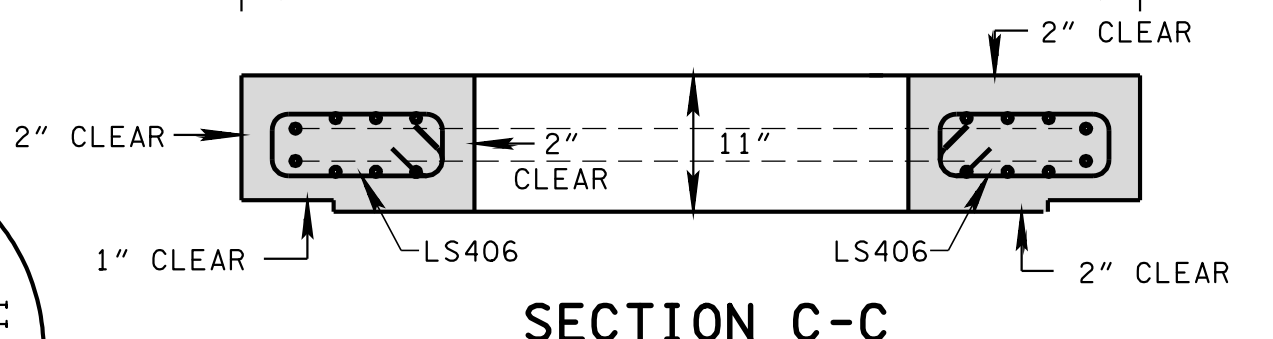


SECTION D-D

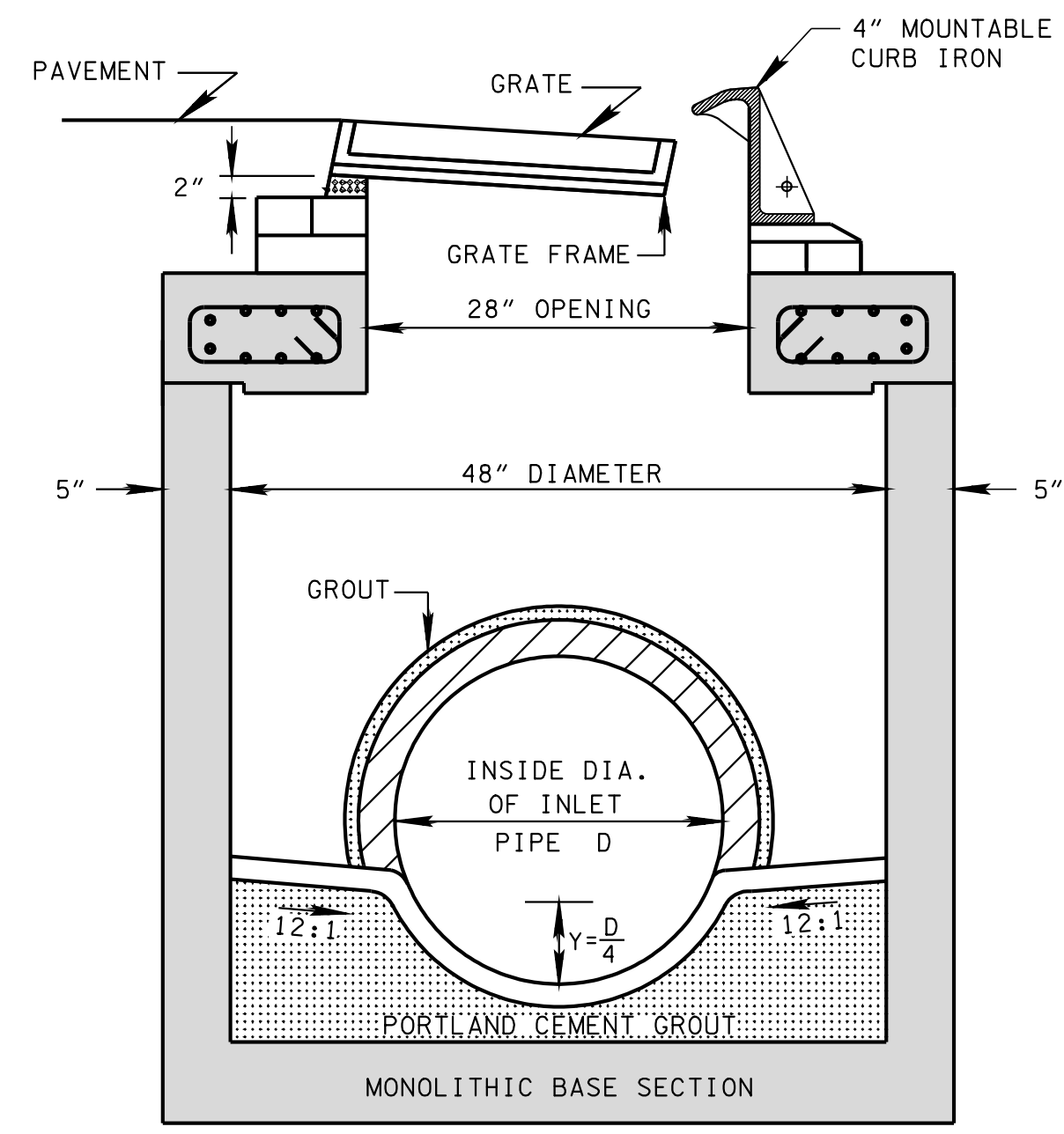
- (1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- (2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- (3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN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



SECTION C-C



SECTION A-A



SECTION B-B

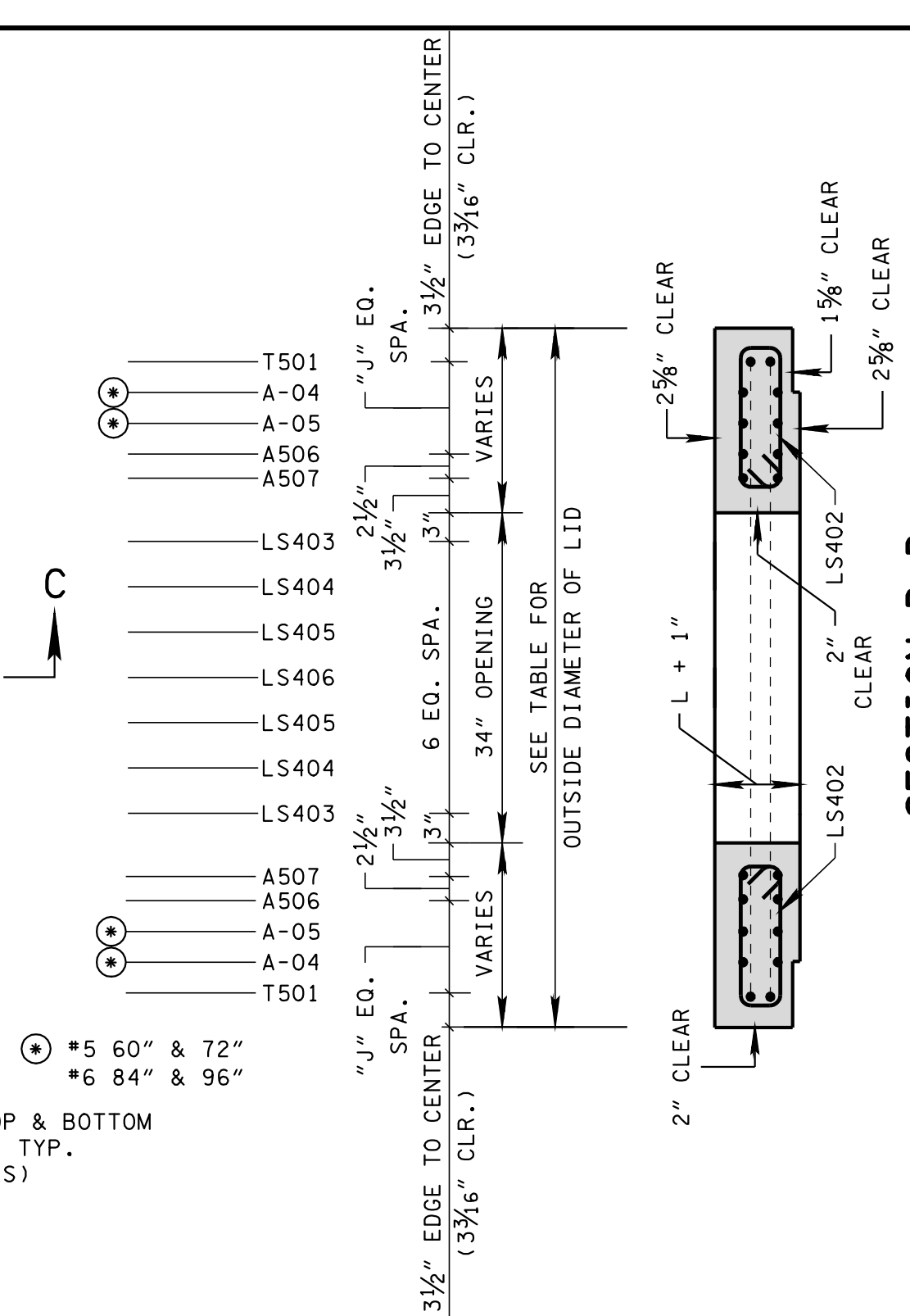
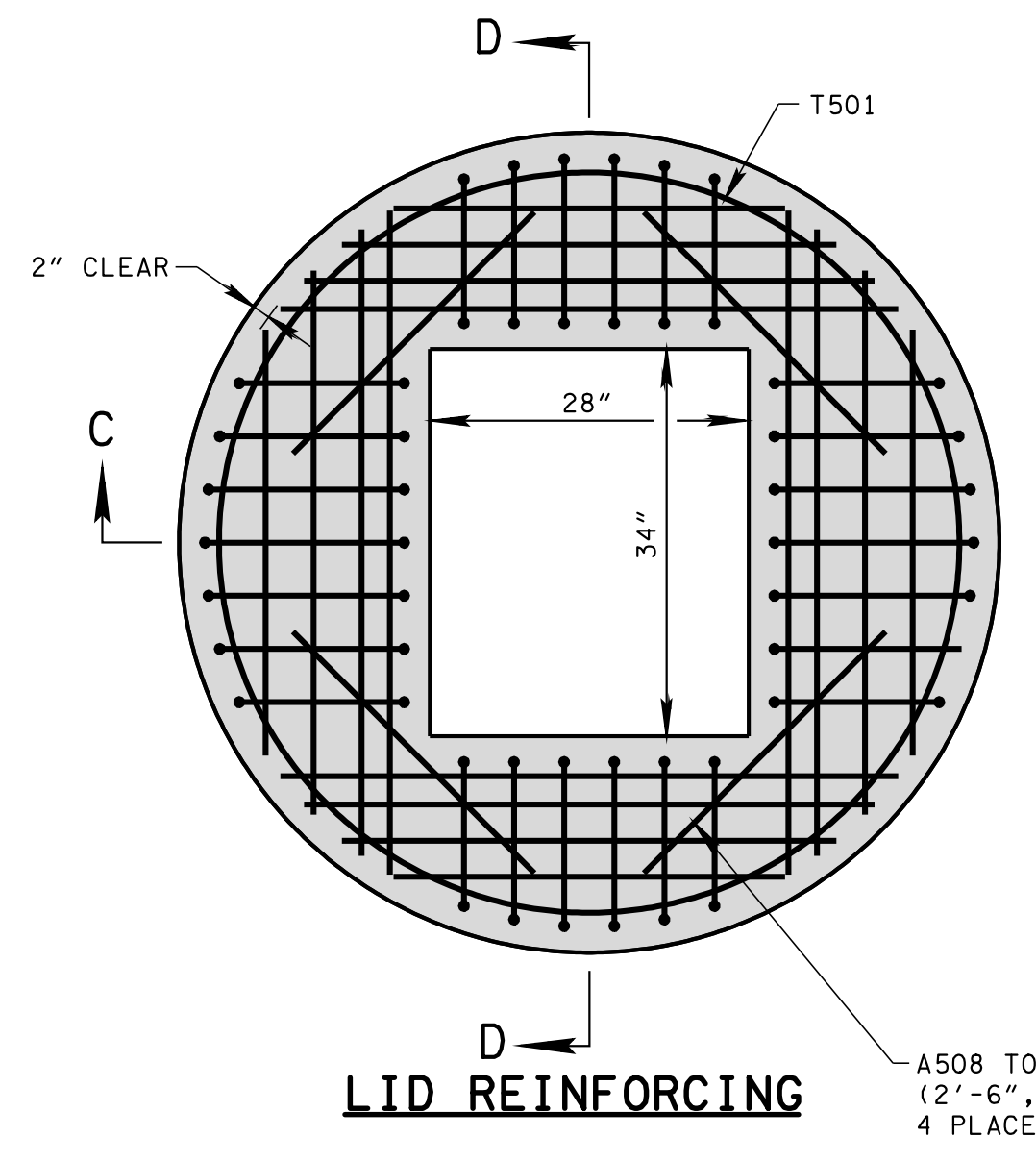
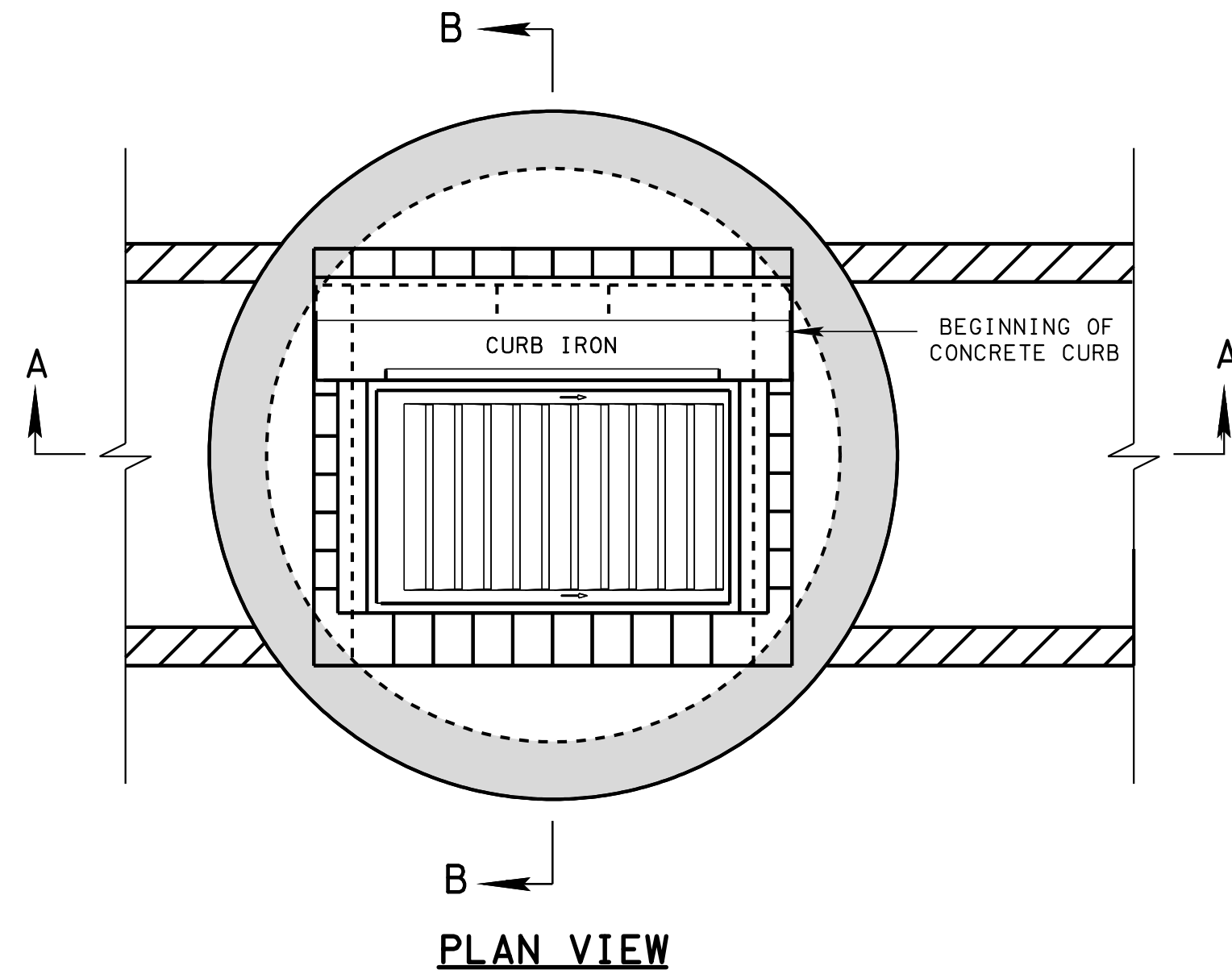
GENERAL NOTES

- (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.

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

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)



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

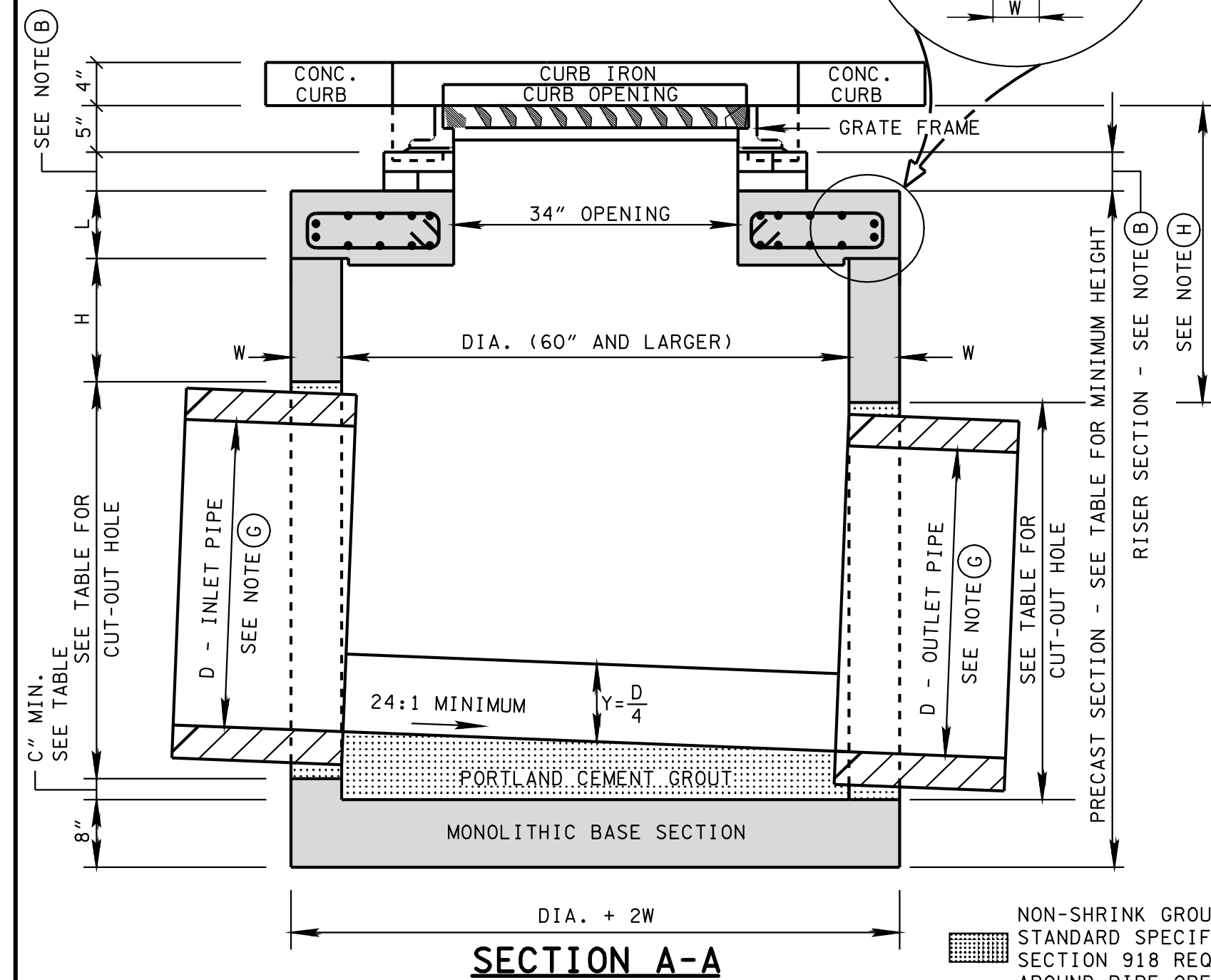
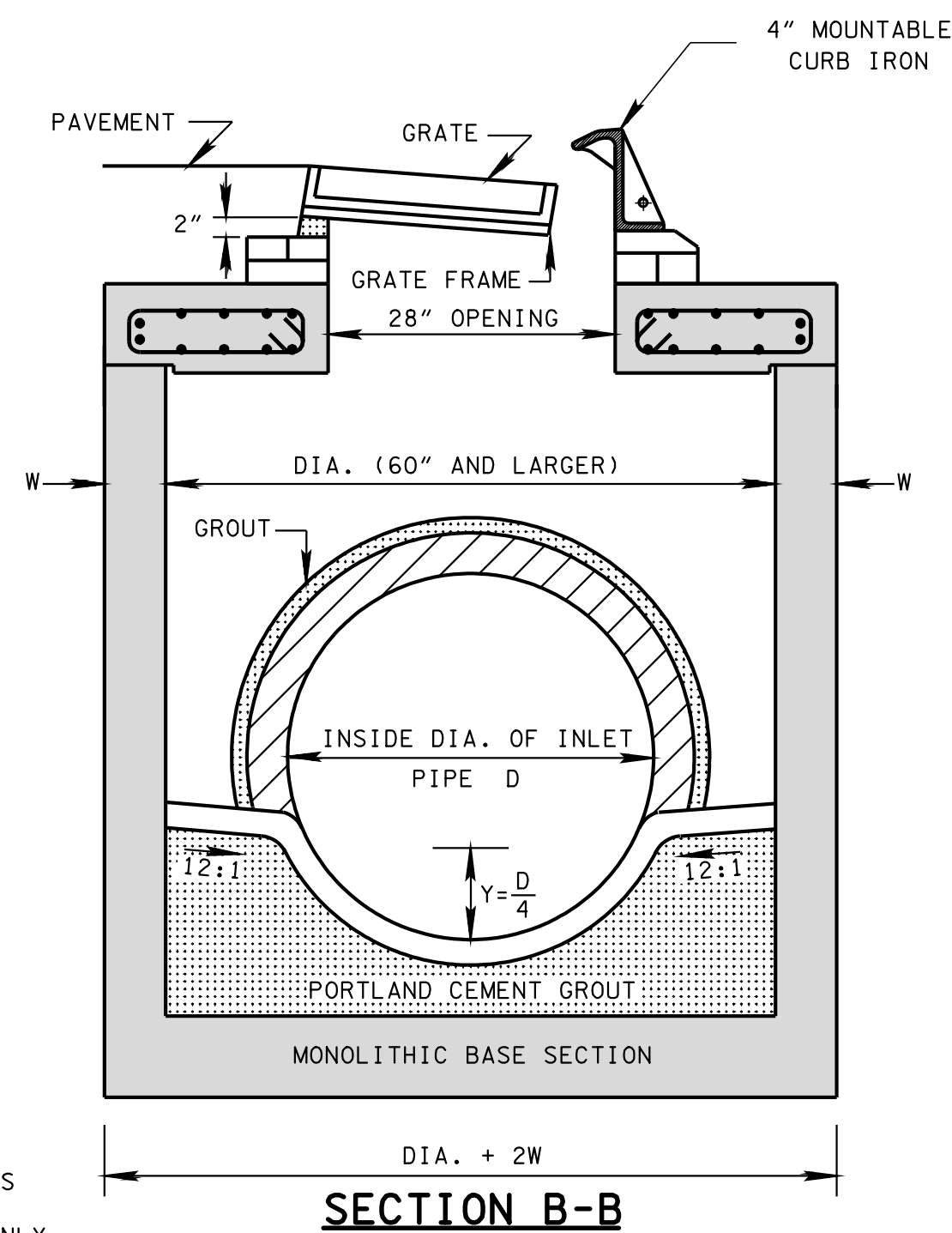
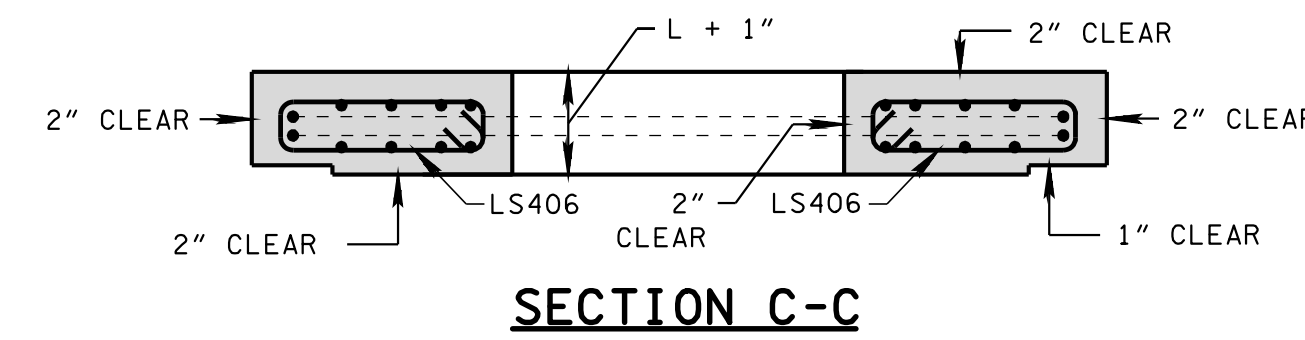
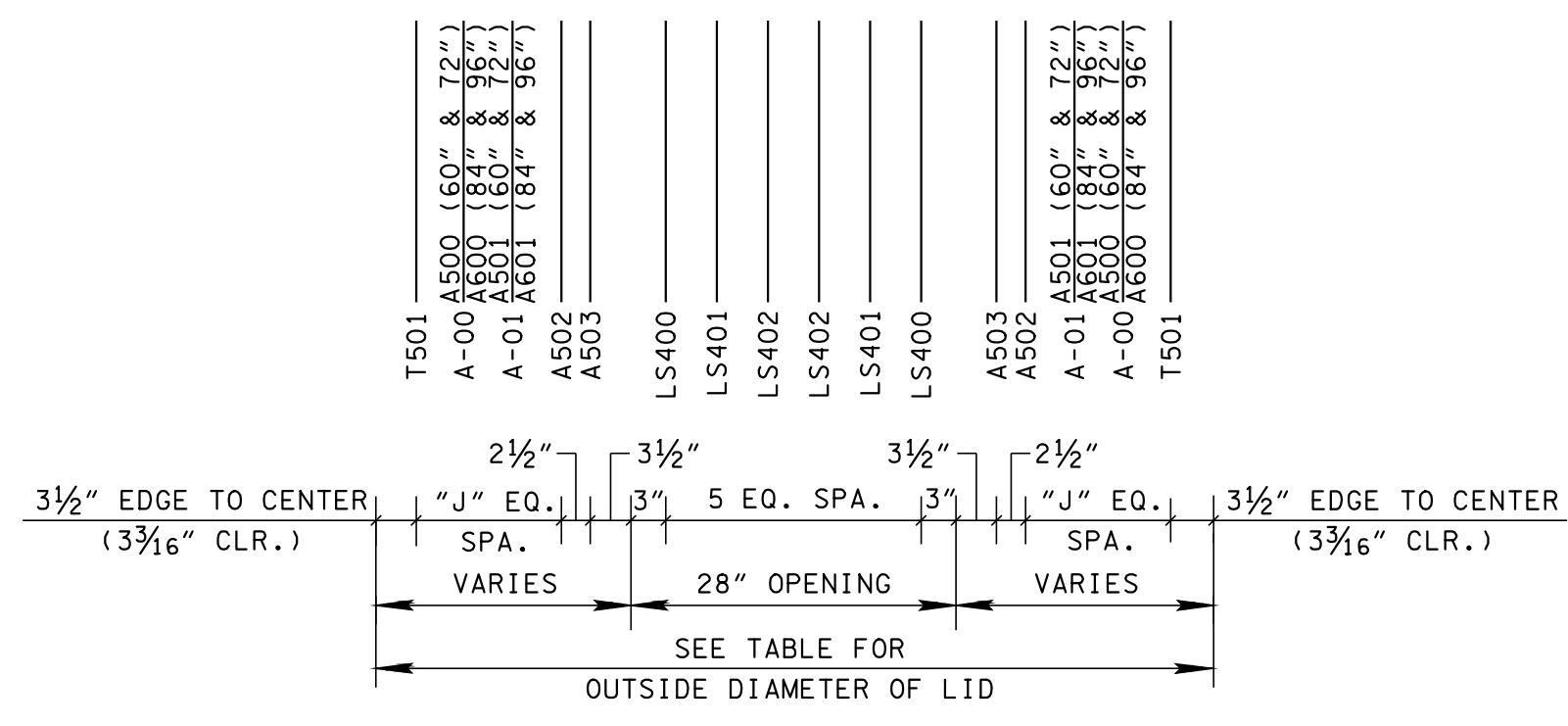
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
			60"	72"	84"	96"	60"	72"	84"	96"
18	2½	25	51½	53	57½	59	3.92	3.97	4.34	4.38
24	3	32	58½	60	64½	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

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'".



- 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.

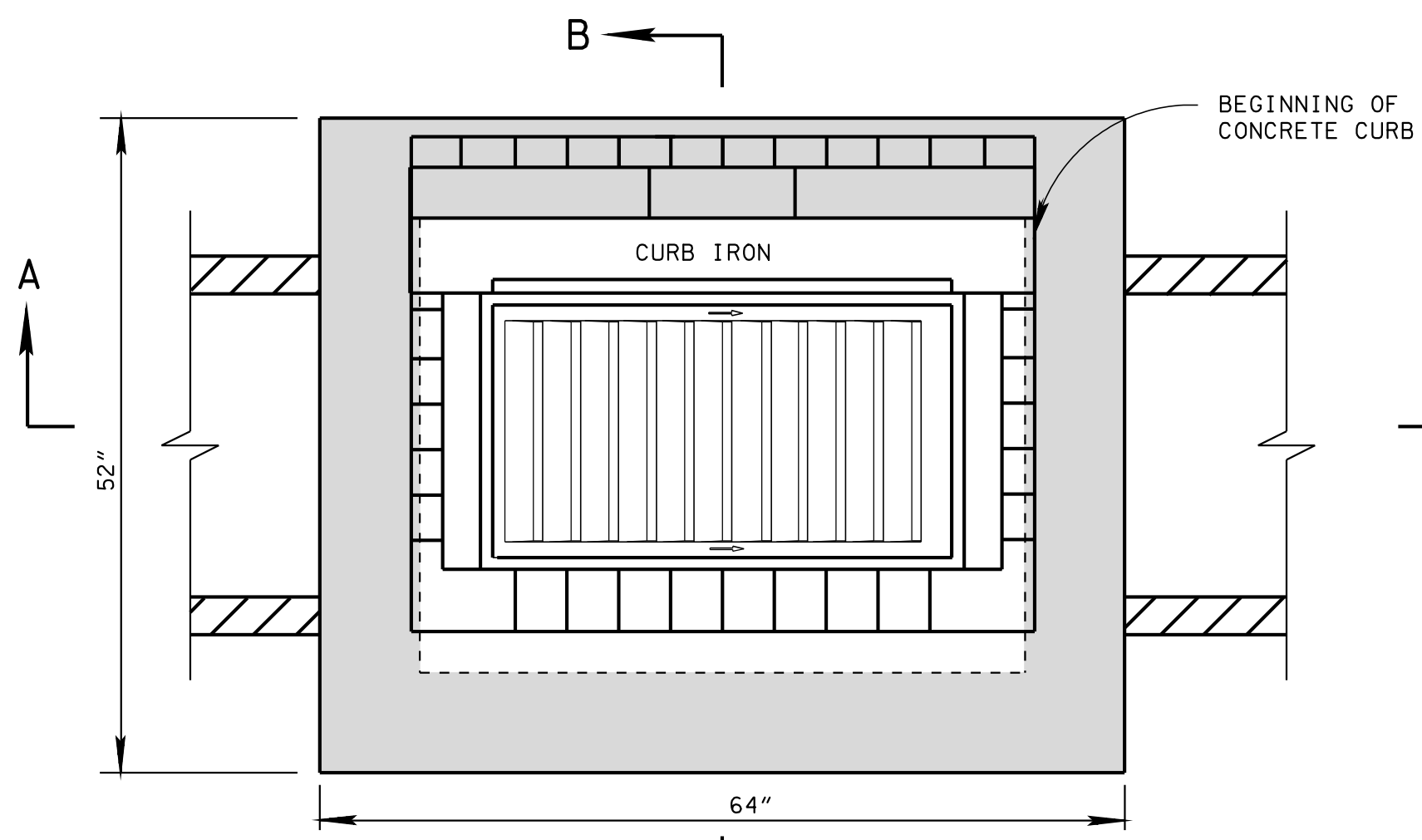
CATCH BASIN DIMENSIONS

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

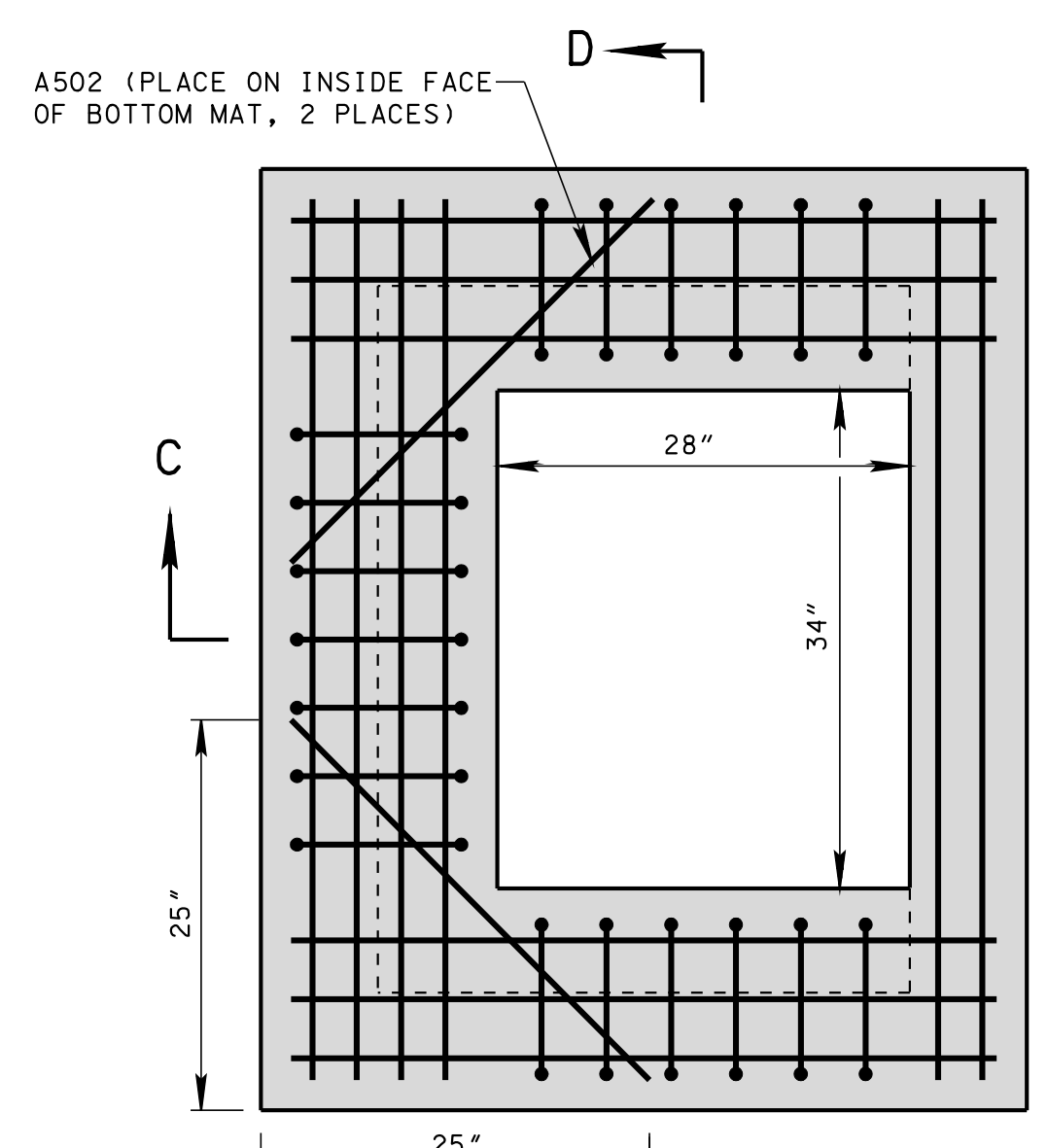
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

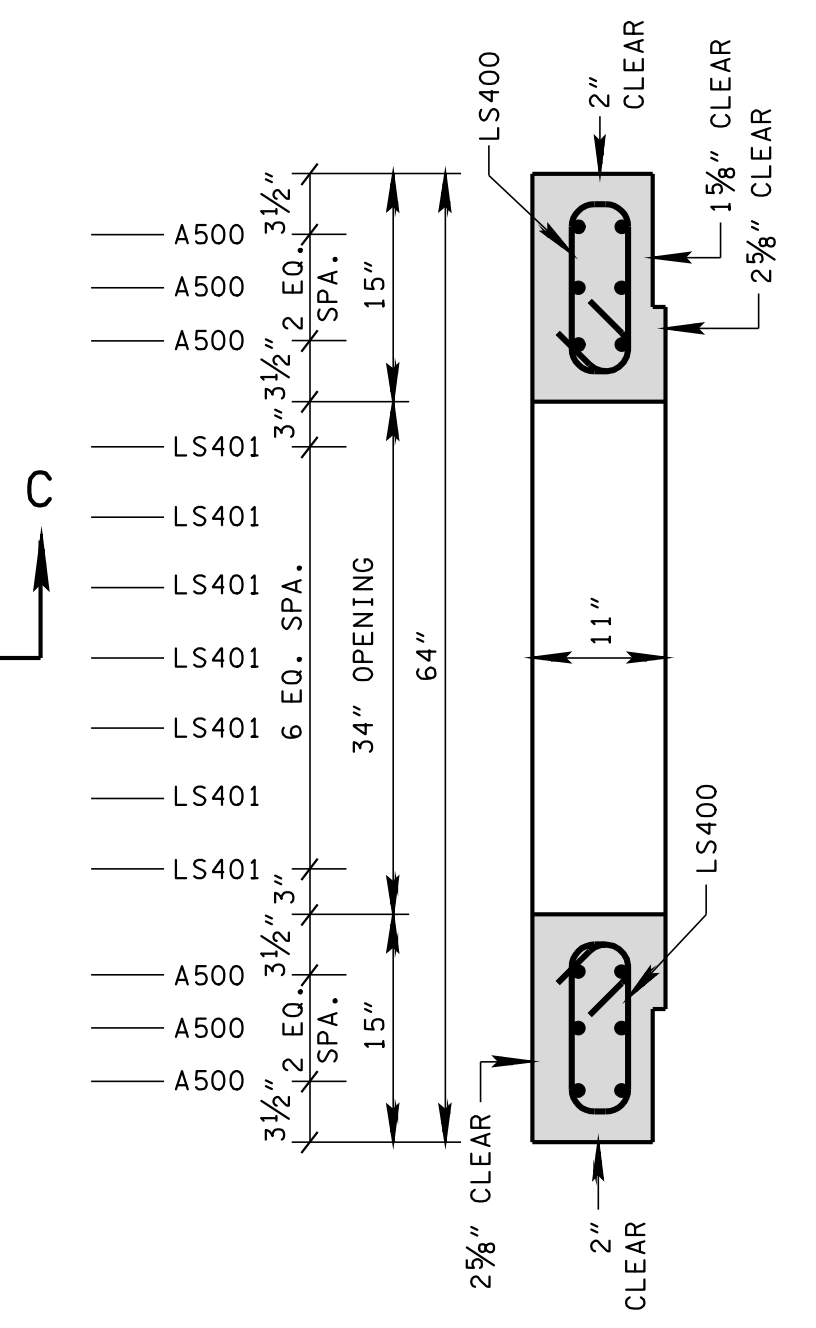
STANDARD PRECAST CIRCULAR NO. 28 CATCH BASIN
 (FOR USE WITH 4" MOUNTABLE CURB)



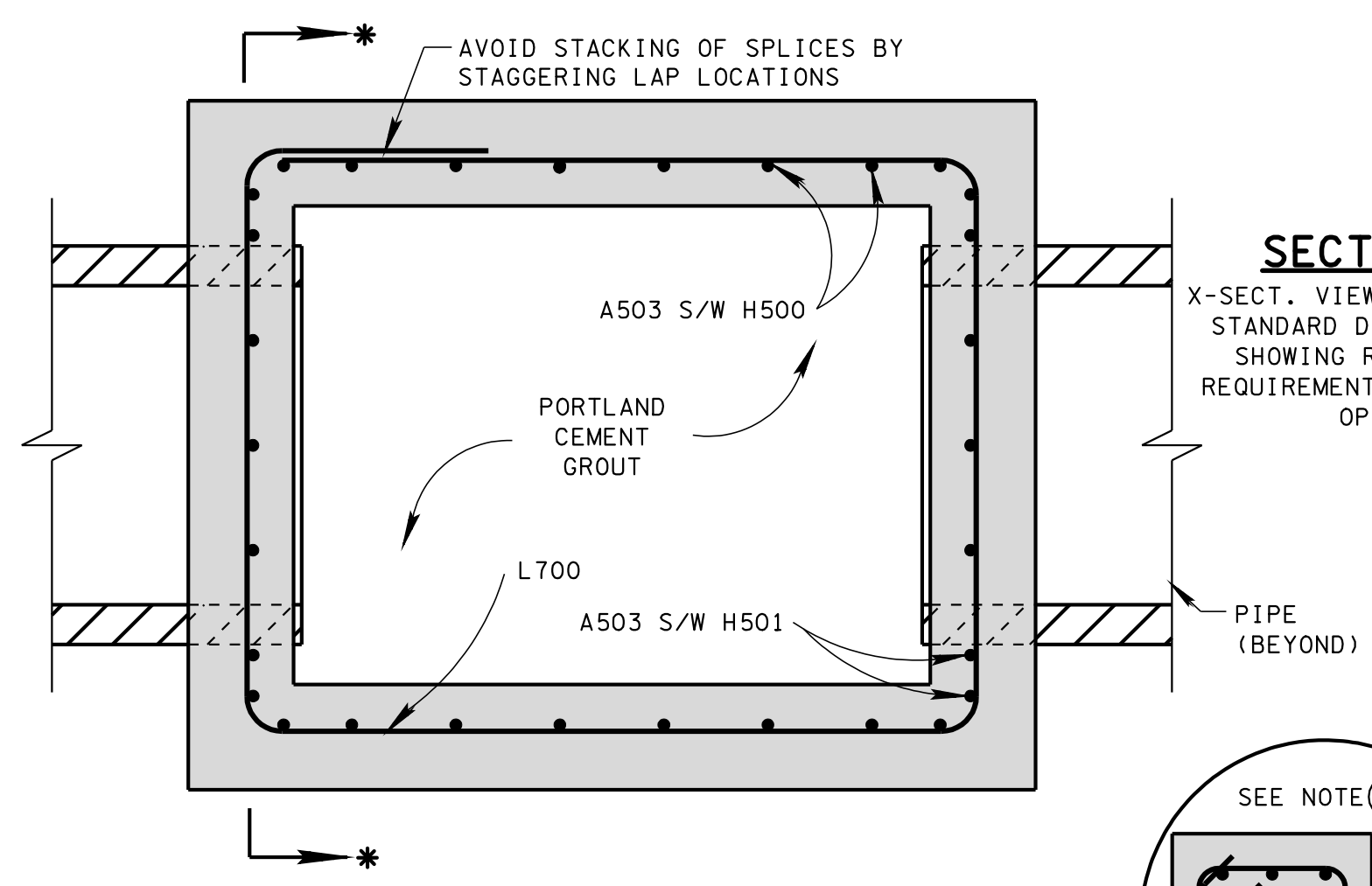
PLAN VIEW



PLAN VIEW



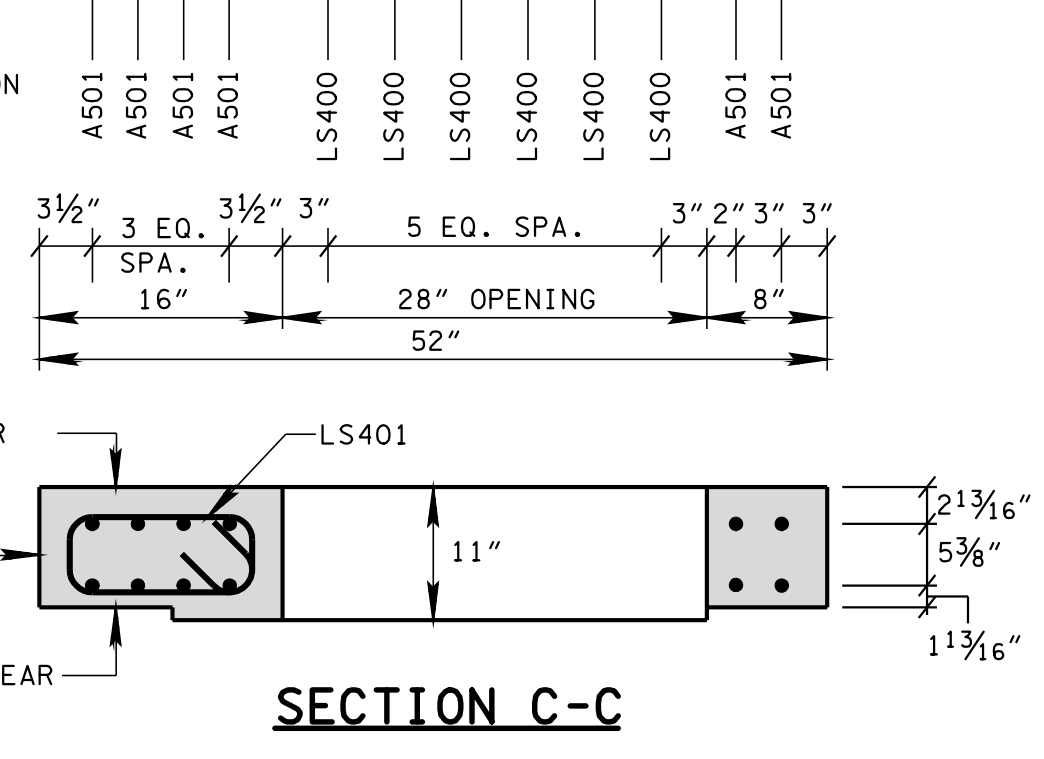
SECTION D-D



SECTION E-E

SECTION *-*

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



SECTION C-C

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

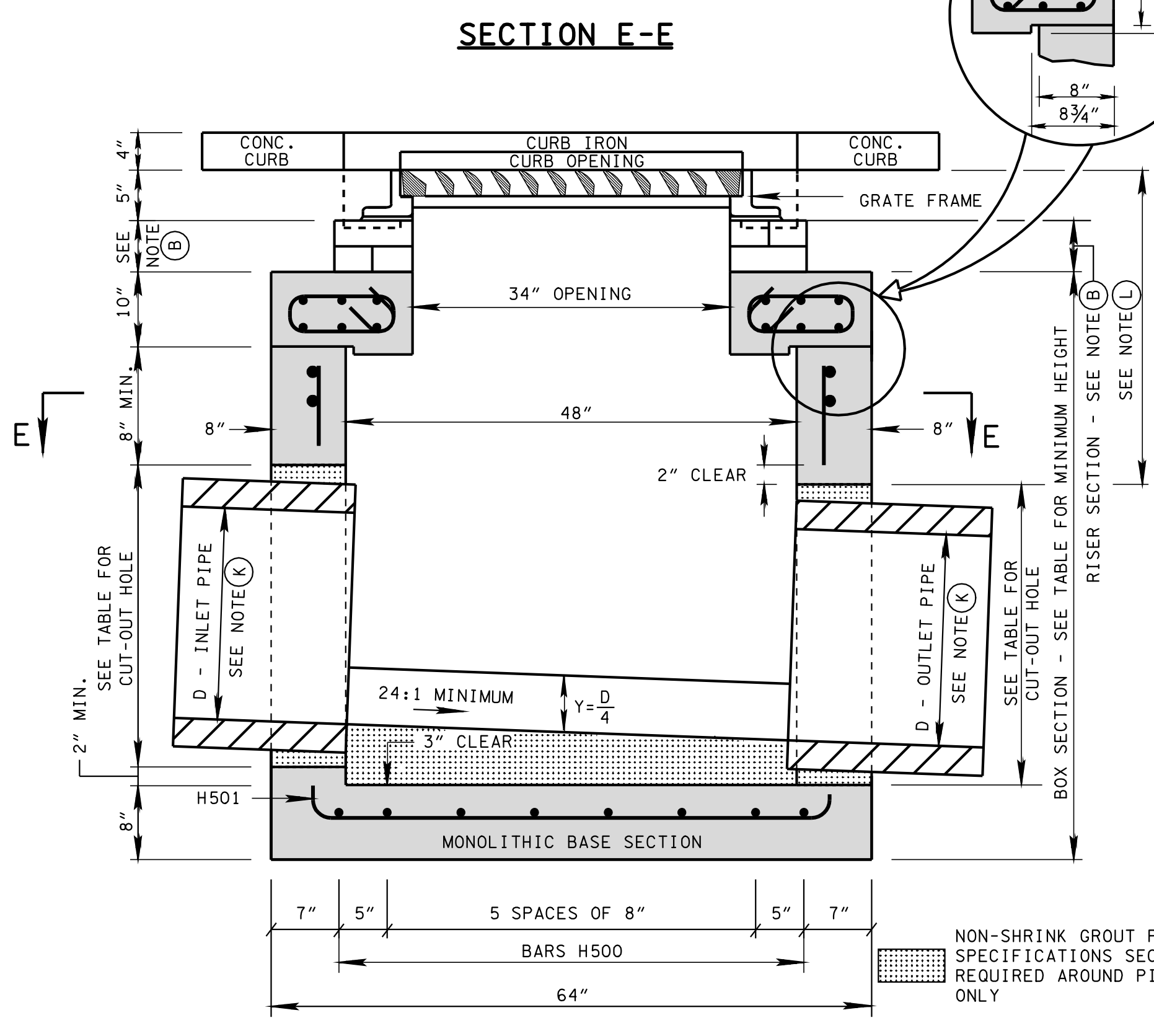
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	51	3.88
24	3	32	58	4.42
30	3 1/2	39	65	4.96
36	4	46	72	5.50

- 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 EGGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN CUT WILL NOT BE PERMITTED.
- ④ TO BE USED IN 48 INCH INTERIOR WALLS ONLY.

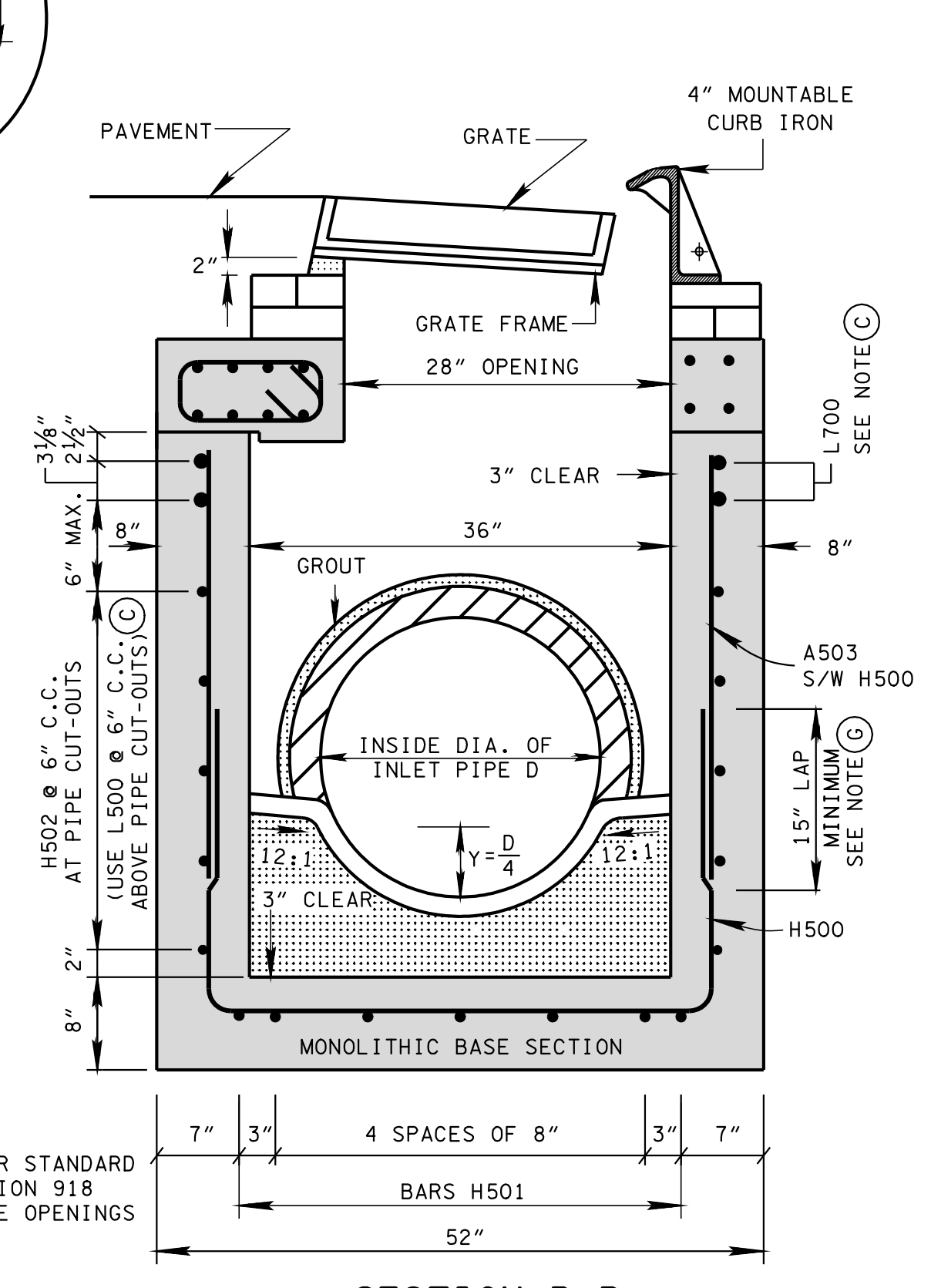
- REV. 12-18-95: CHANGED VERTICAL DEPTH REQUIREMENTS. ADDED HANDLING AND CUT-OUT HOLE NOTES.
- REV. 12-18-96: REMOVED 0.5" PREMOLDED FIBER EXPANSION JOINT FROM SECTION "B-B". REMOVED OLD GENERAL NOTE (H) CHANGED LABEL OF LAST THREE GENERAL NOTES.
- REV. 10-26-97: CHANGED MINIMUM DEPTH TABLE AND MODIFIED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

GENERAL NOTES

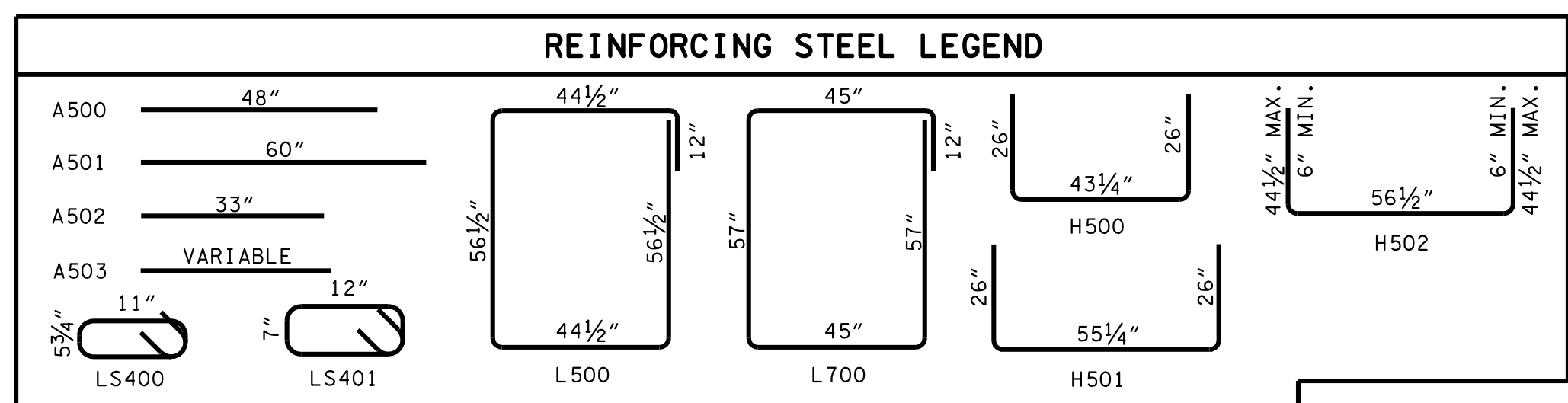
- (A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 28 CONCRETE CATCH BASINS AND ALL PRECAST NO. 28 CONCRETE CATCH BASINS THAT ARE GREATER THAN TWELVE FEET IN DEPTH. SEE STANDARD DRAWING D-CB-28P FOR DETAILS OF PRECAST NO. 28 CONCRETE CATCH BASINS TWELVE FEET AND LESS IN DEPTH. SEE STANDARD DRAWING D-CB-99 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 1 1/2 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.



SECTION A-A



SECTION B-B

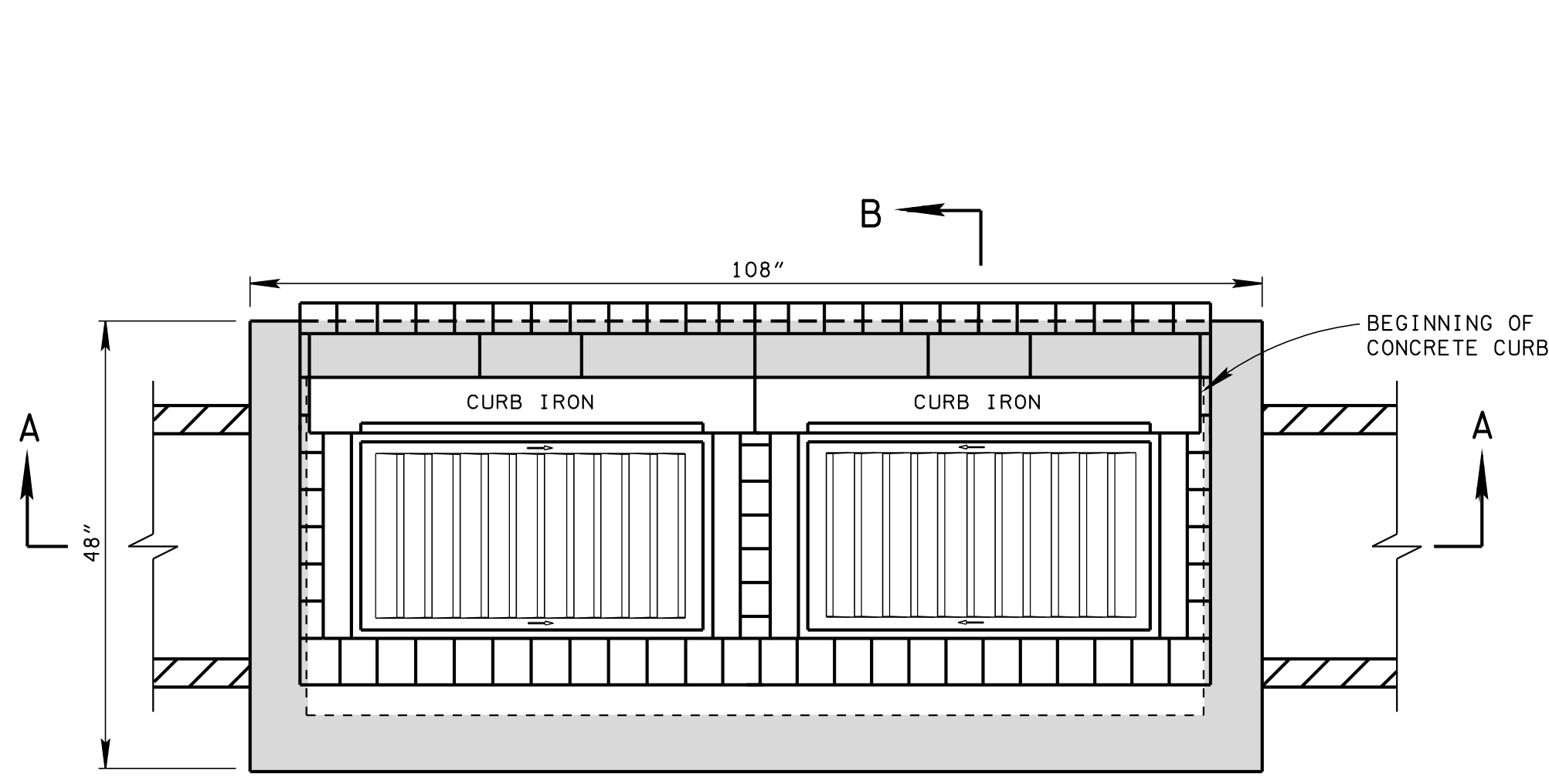


DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

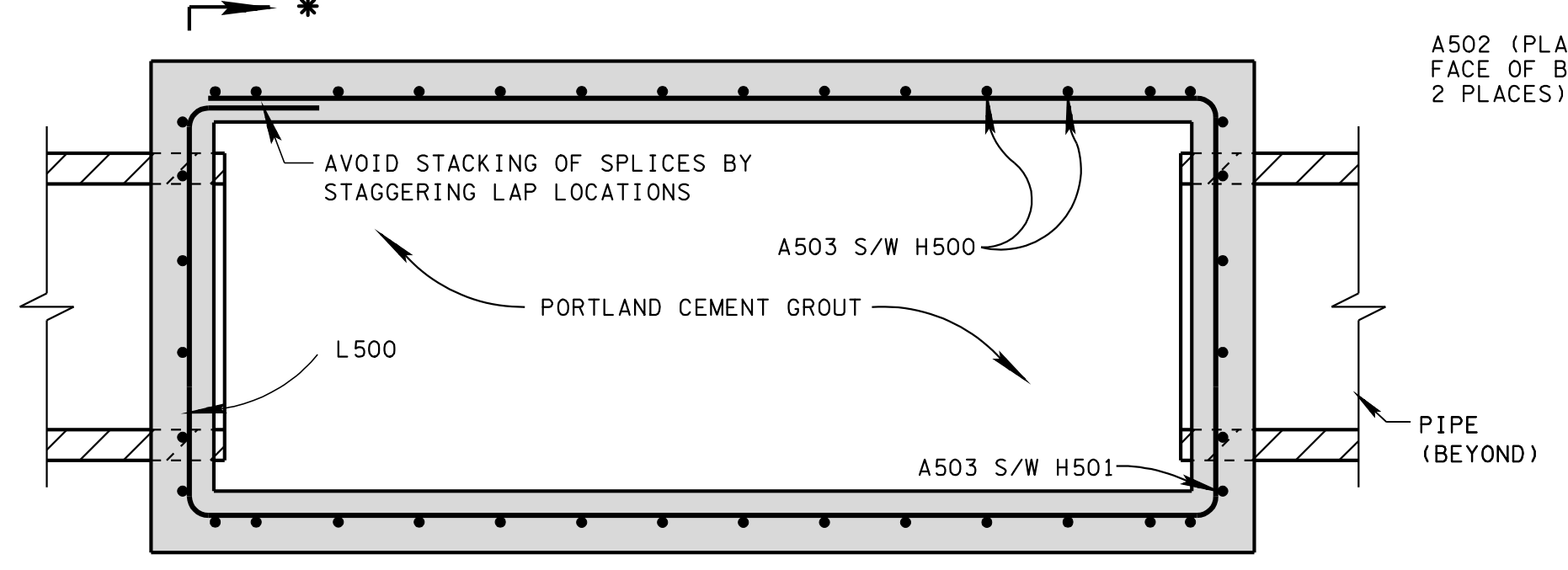
STANDARD RECTANGULAR CONCRETE NO. 28 CATCH BASIN
(FOR USE WITH 4" MOUNTABLE CURB)



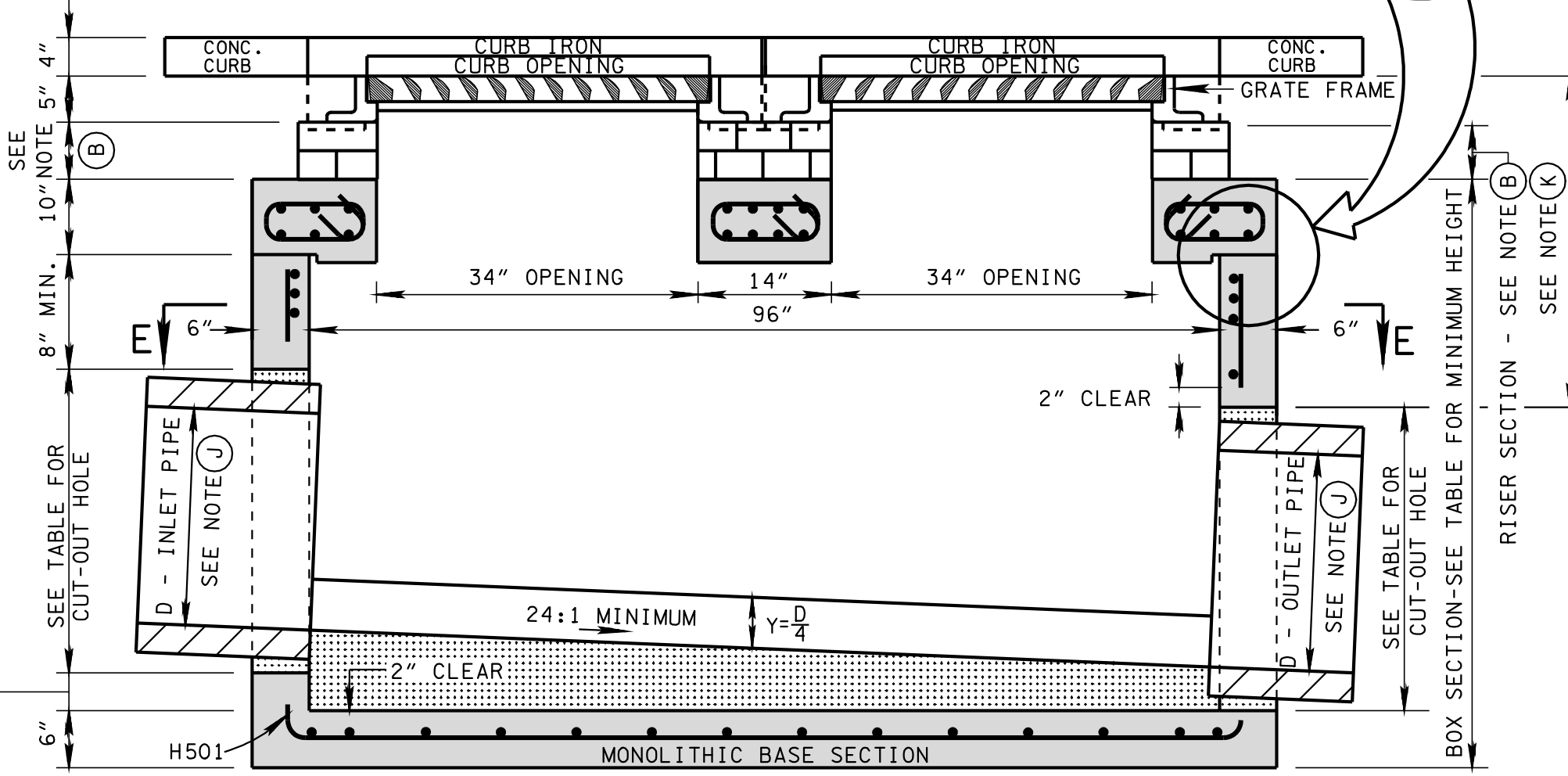
SECTION **

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

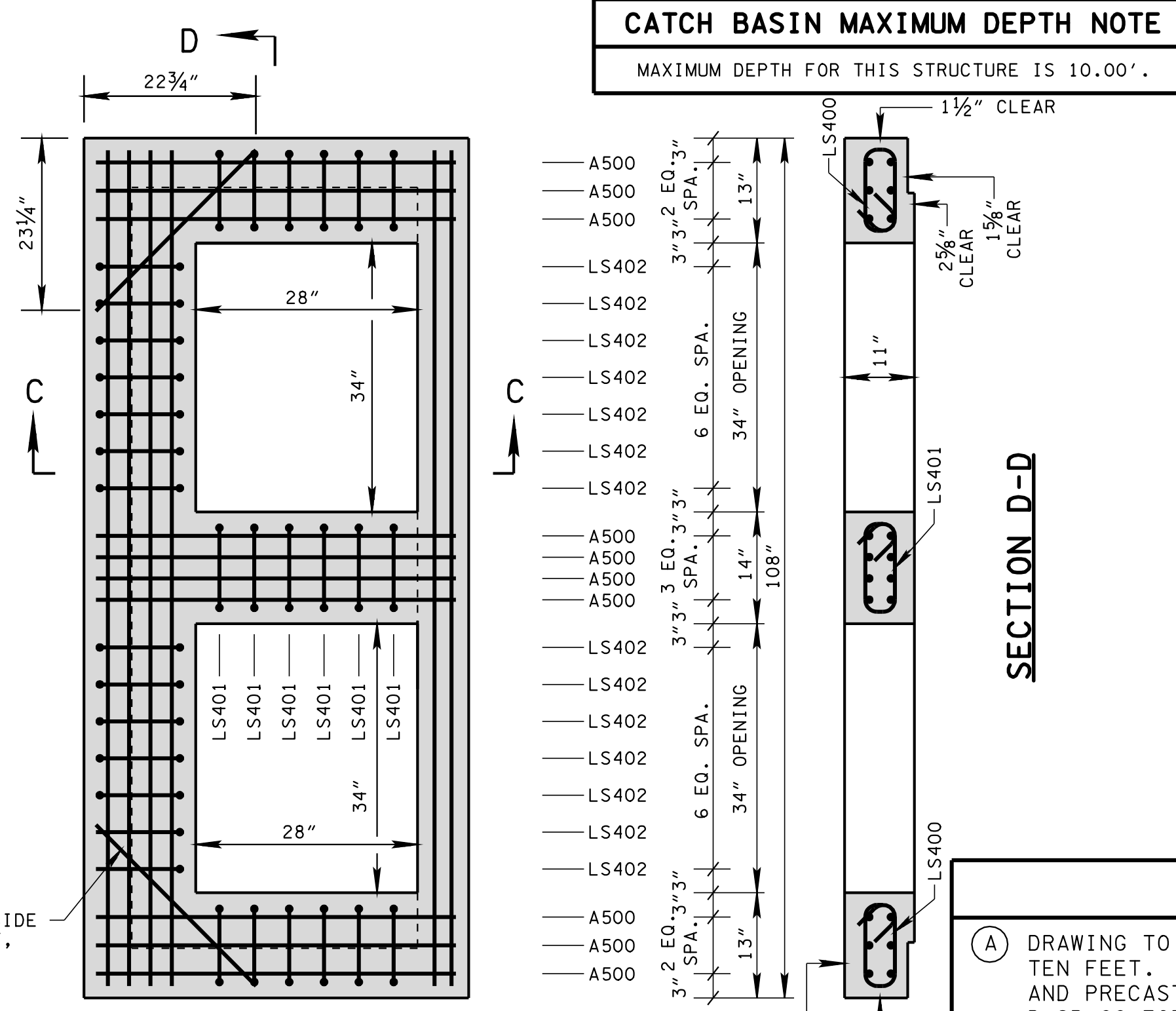
PLAN VIEW



SECTION E-E

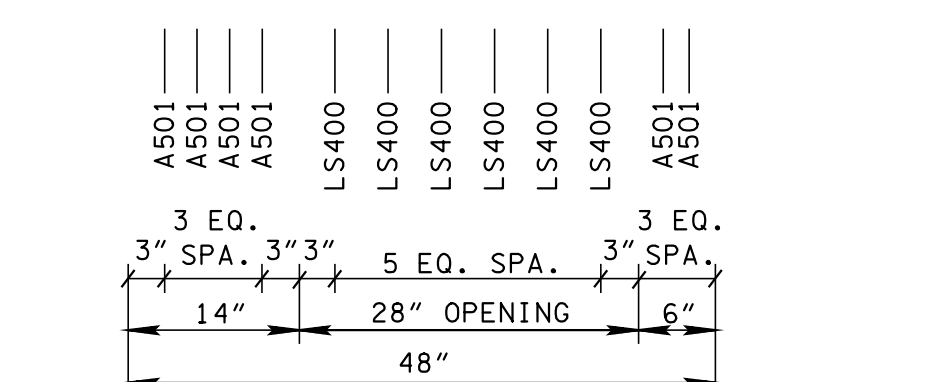


SECTION A-A

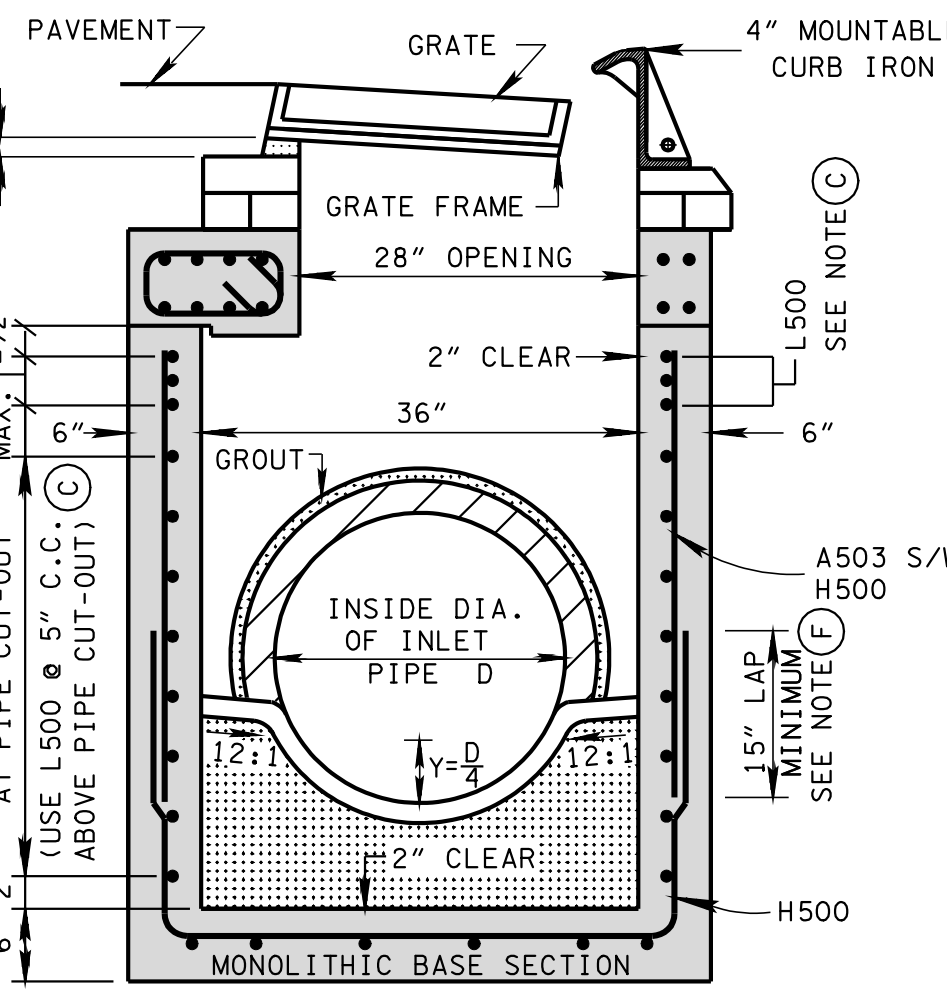


CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 10.00'.

PLAN VIEW



SECTION C-C



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	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

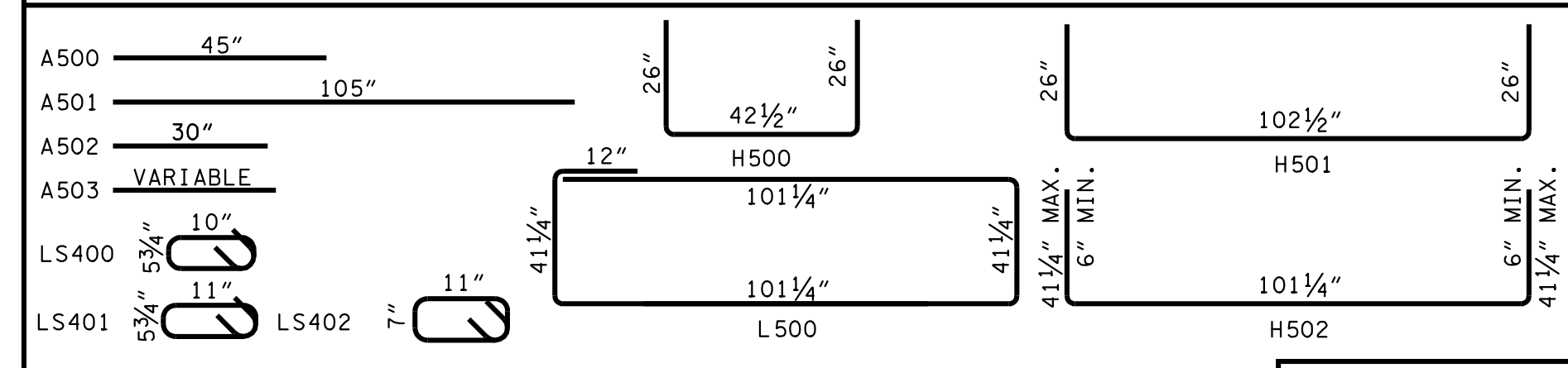
- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN-CUT WILL NOT BE PERMITTED.
- TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-12C FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- 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



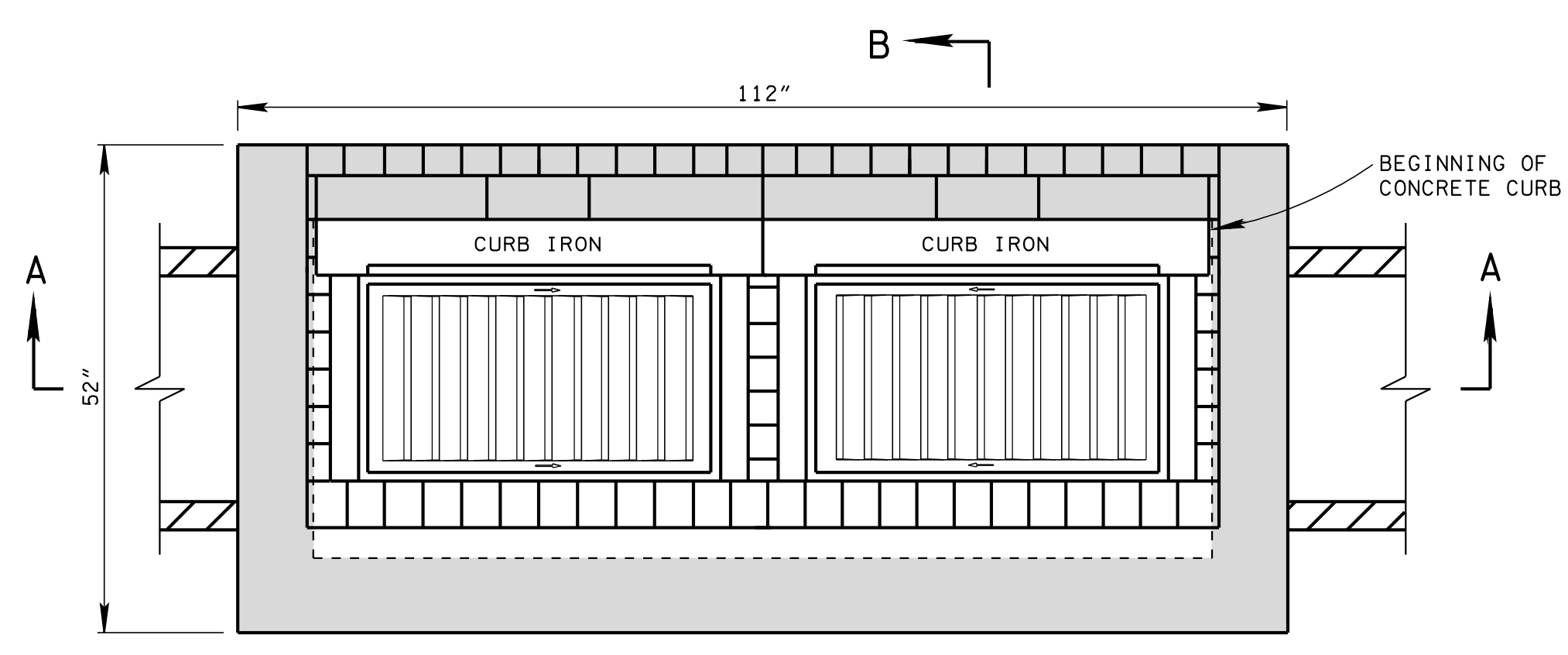
DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

- 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 (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. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (L)
- 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.

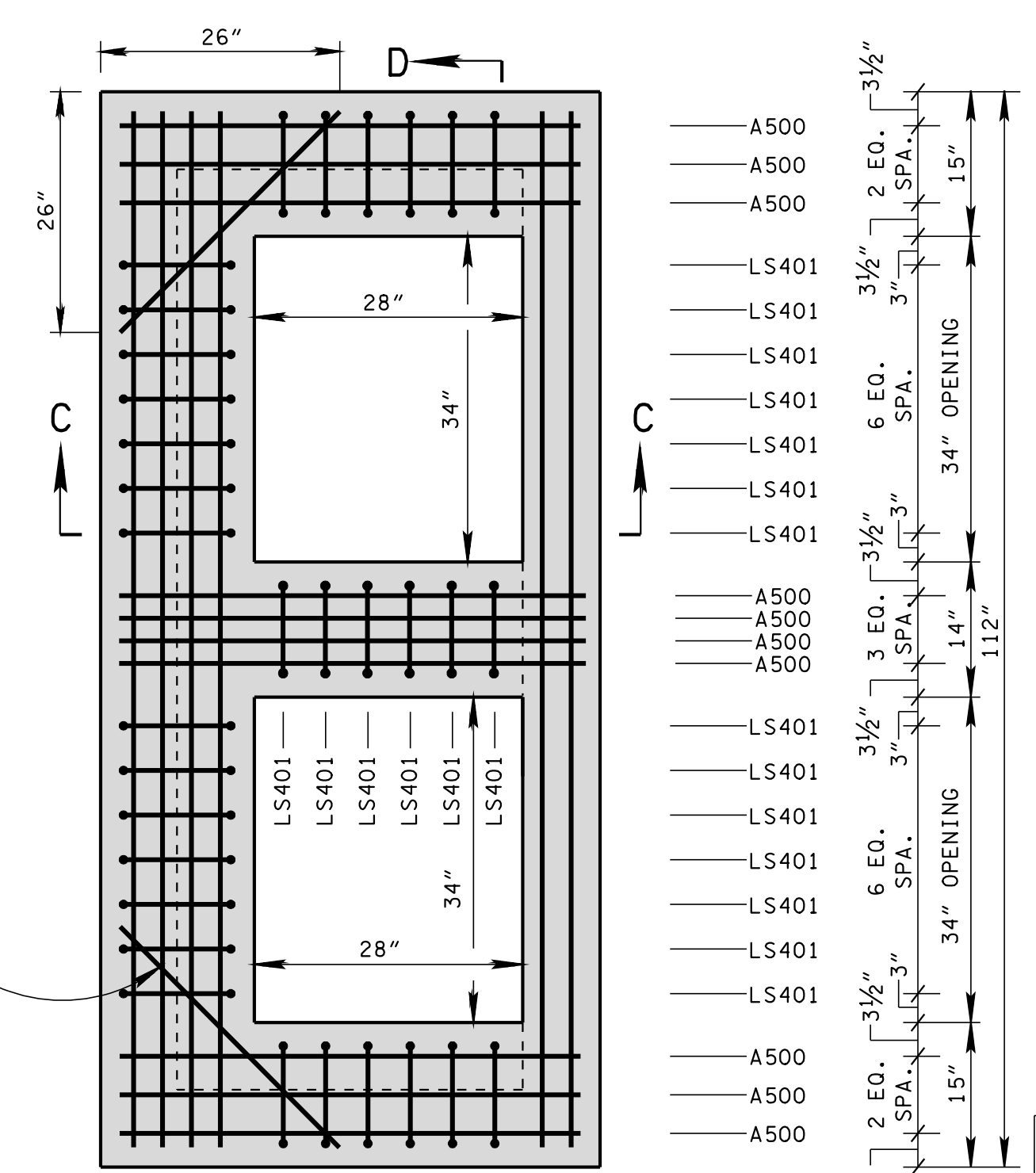
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**STANDARD PRECAST
RECTANGULAR
CONCRETE NO. 29
CATCH BASIN**
(FOR USE WITH 4" MOUNTABLE CURB)



PLAN VIEW

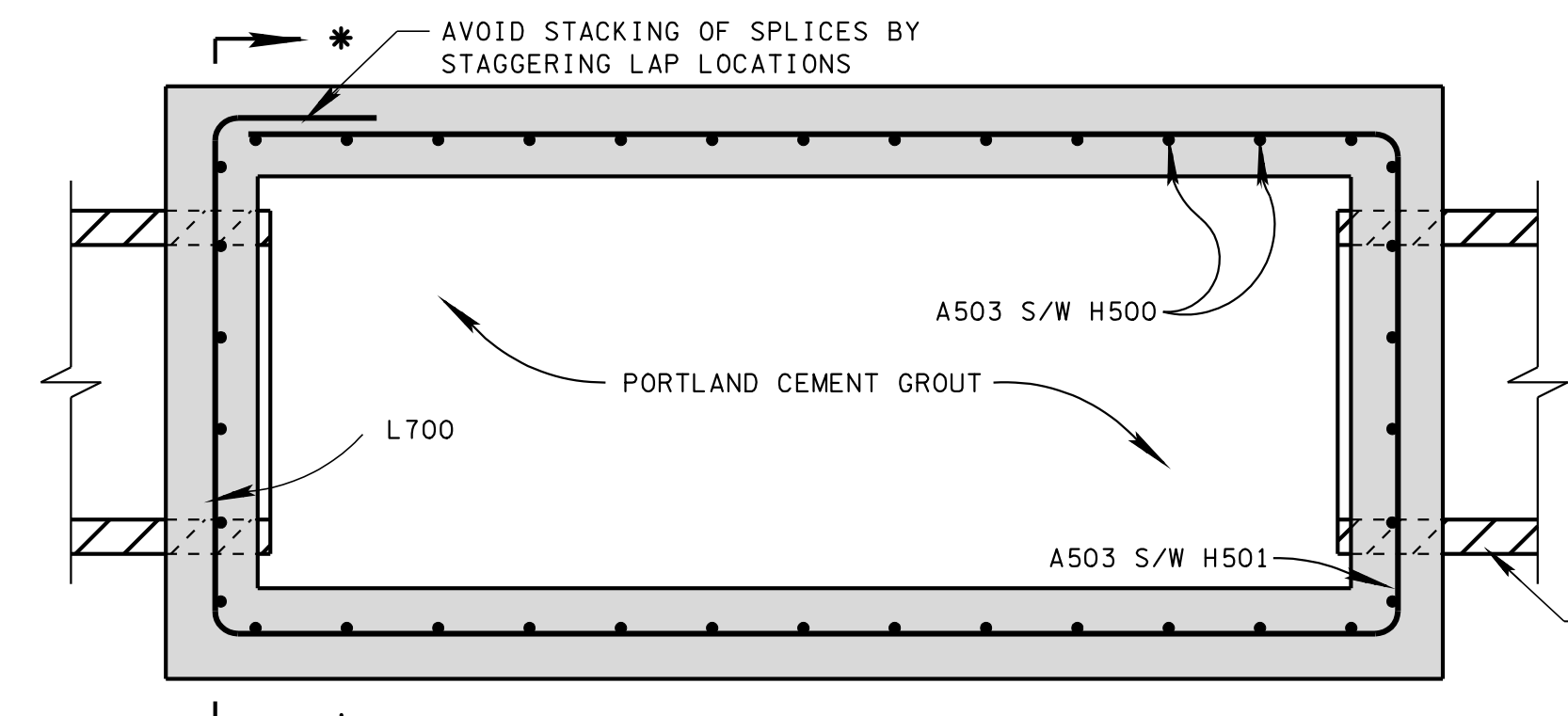


PLAN VIEW

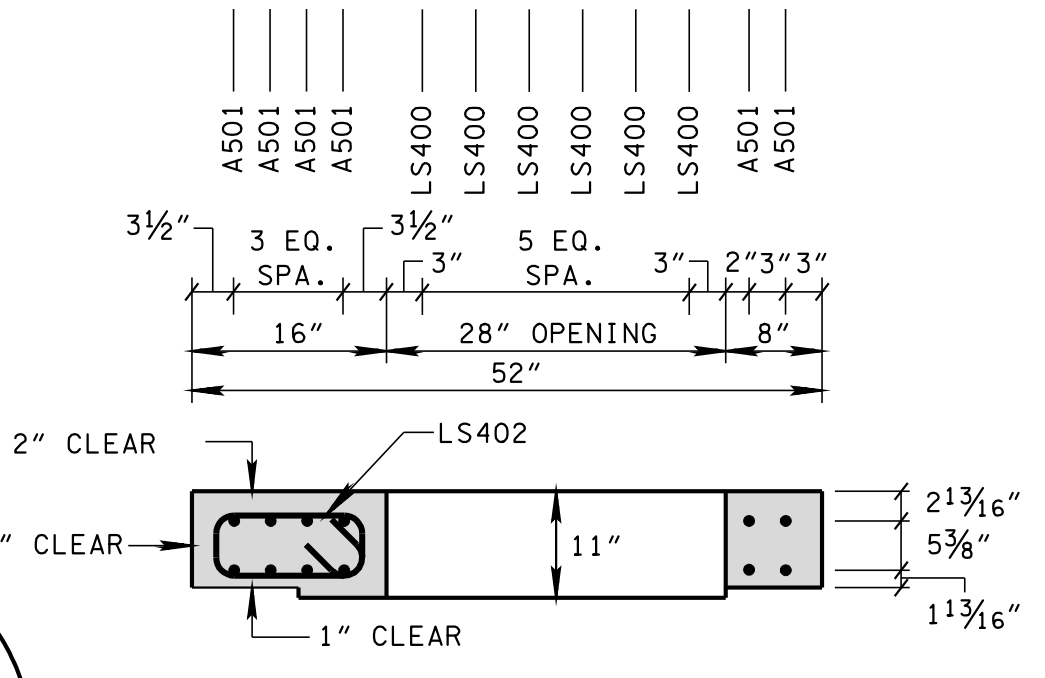
SECTION **
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

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

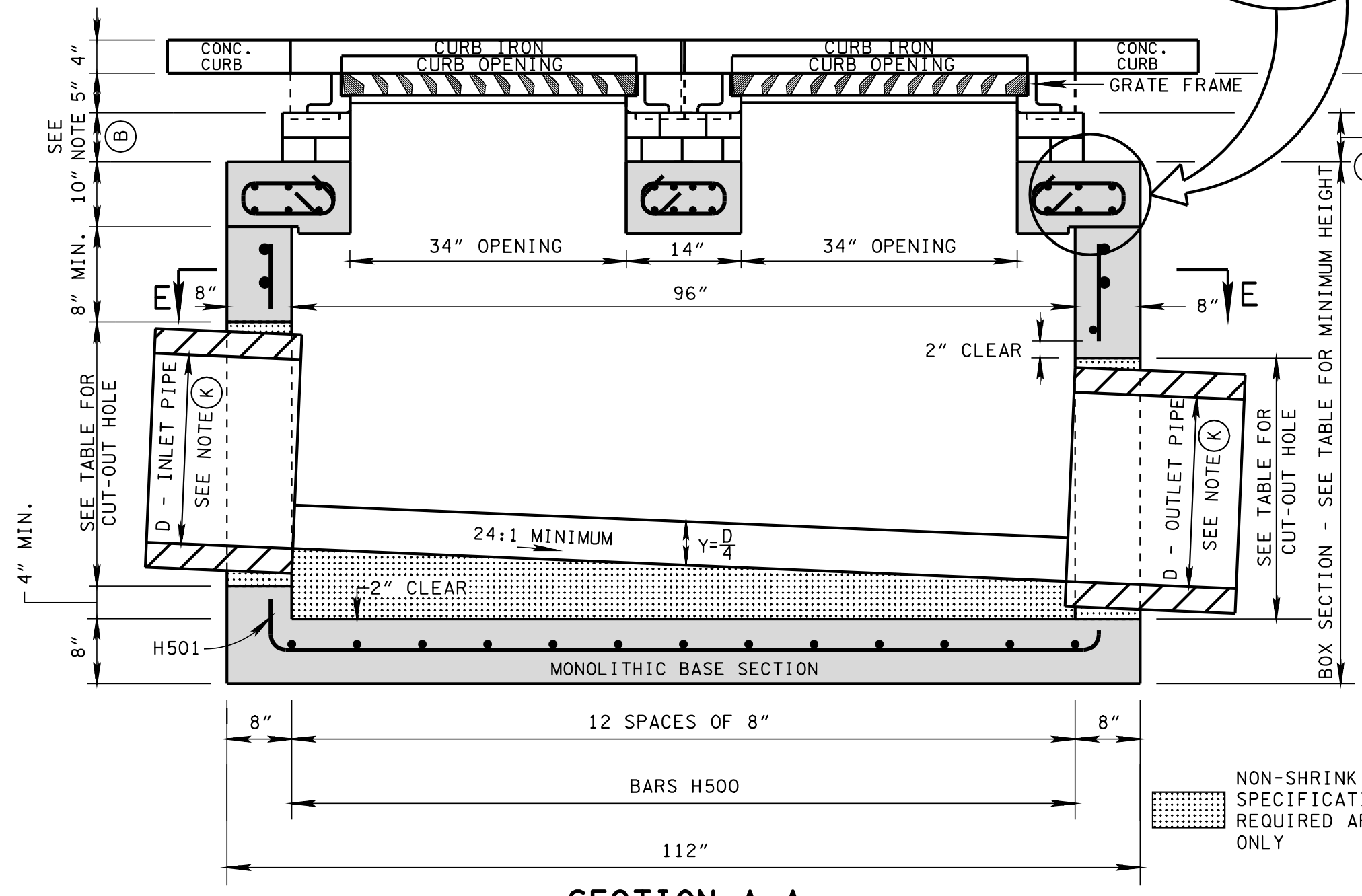
A502 (PLACE ON INSIDE FACE OF BOTTOM MAT, 2 PLACES)



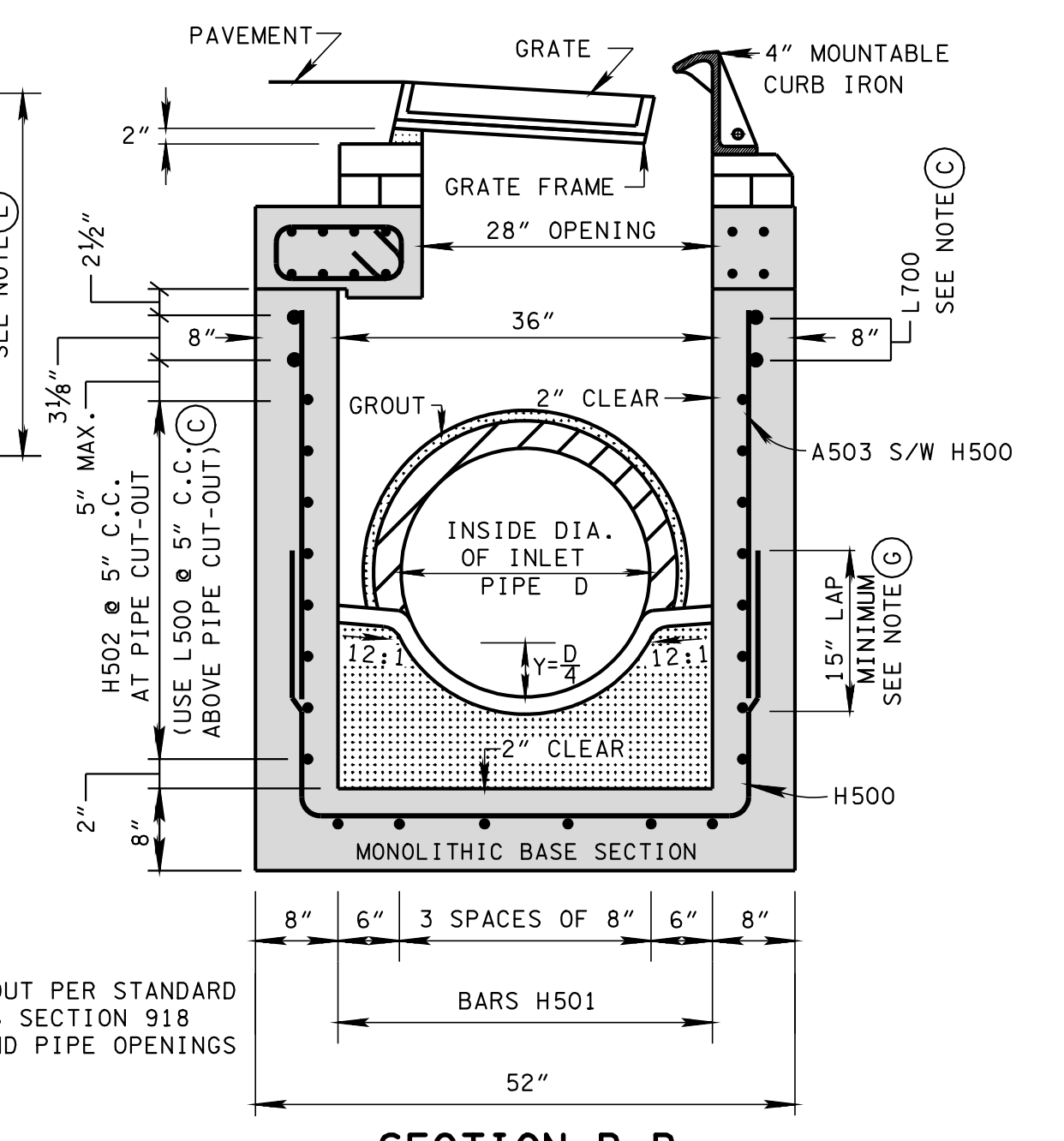
SECTION E-E



SECTION C-C



SECTION A-A



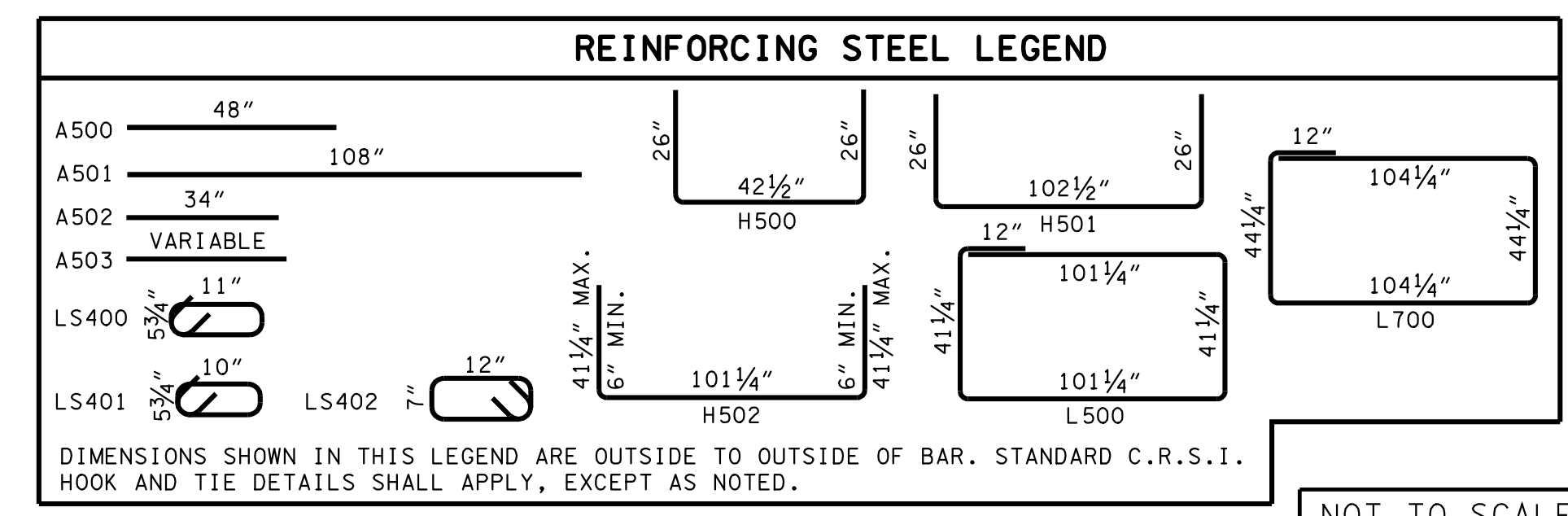
SECTION B-B

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	2 1/2	25	53	4.05
24	3	32	60	4.59
30	3 1/2	39	67	5.13
36	4	46	74	5.67
42	4 1/2	53	81	6.21
48	5	60	88	6.75
54	5 1/2	67	95	7.30
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 UN CUT WILL NOT BE PERMITTED.
- ④ TO BE USED IN 96 INCH INTERIOR WALLS ONLY.

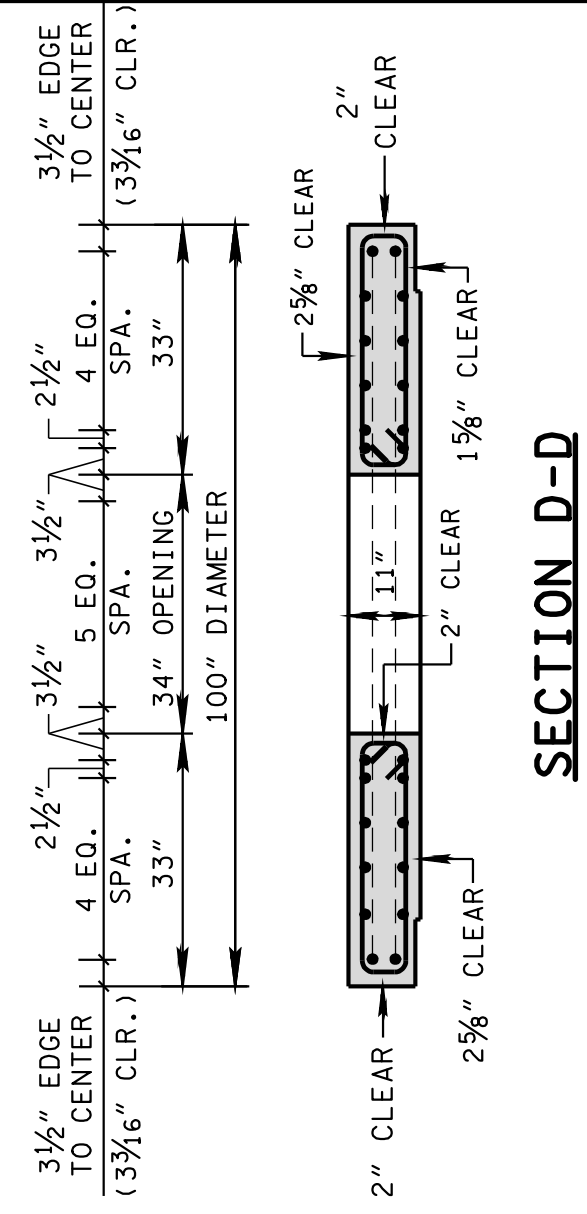
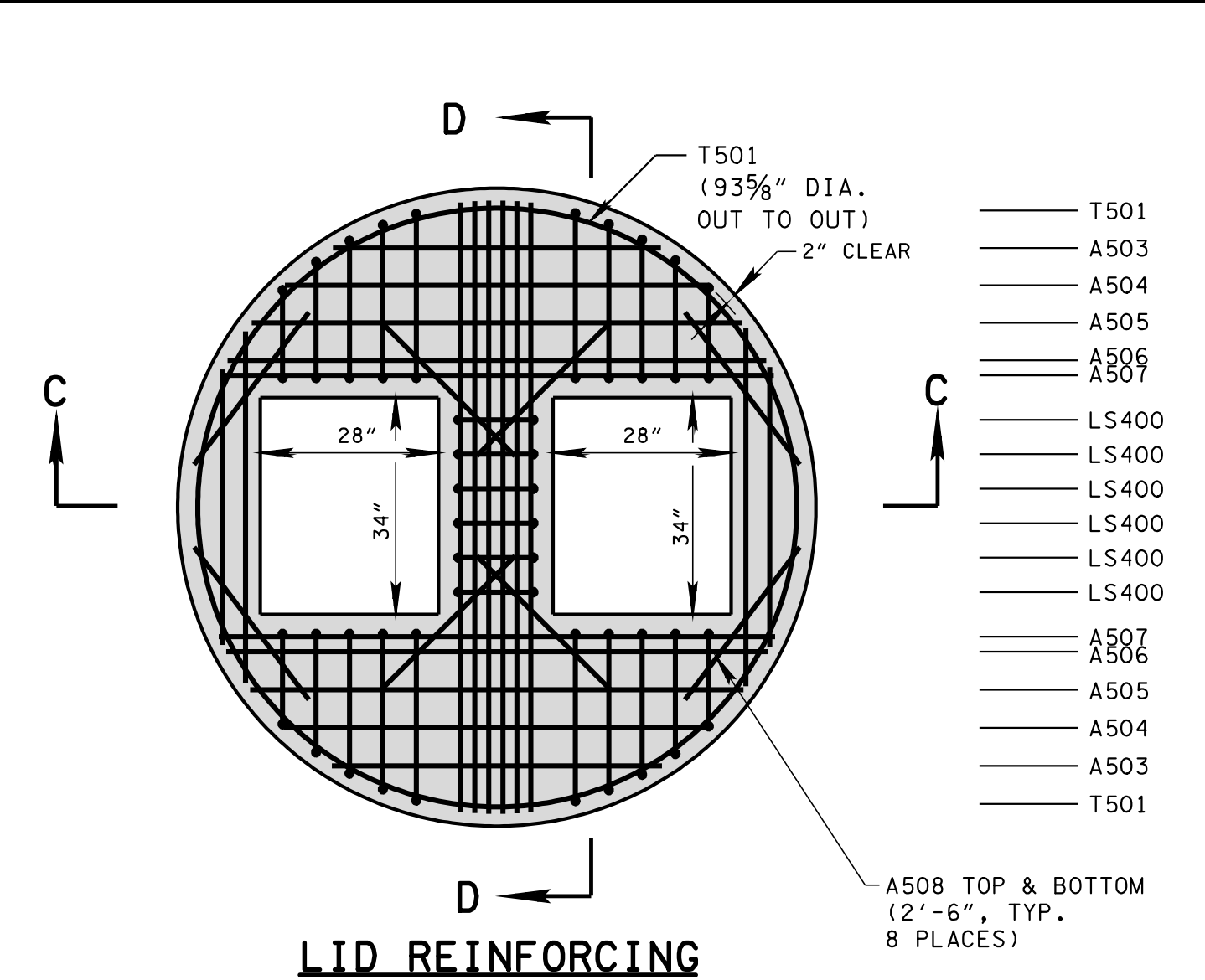
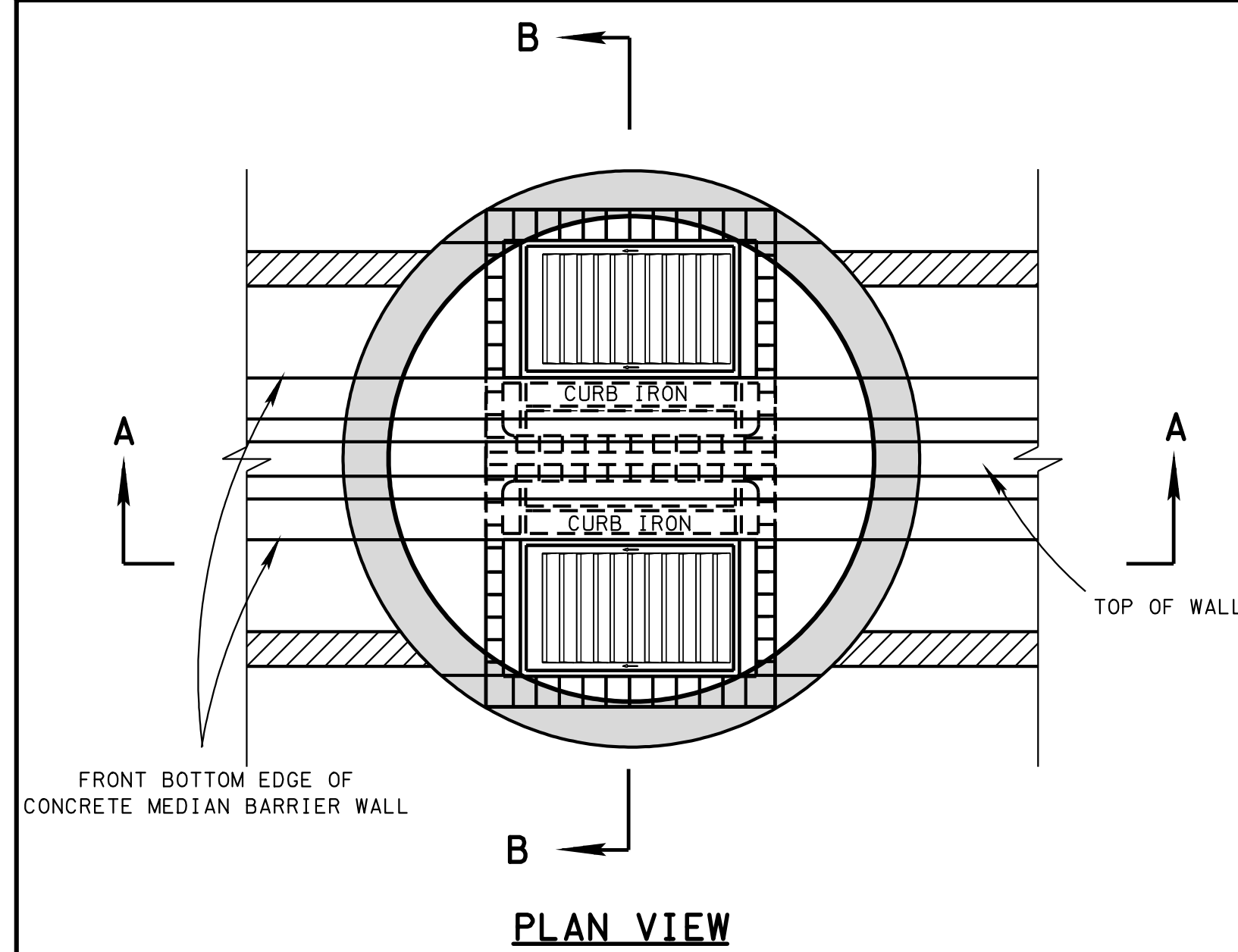
GENERAL NOTES

- (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 1 1/2 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.



MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

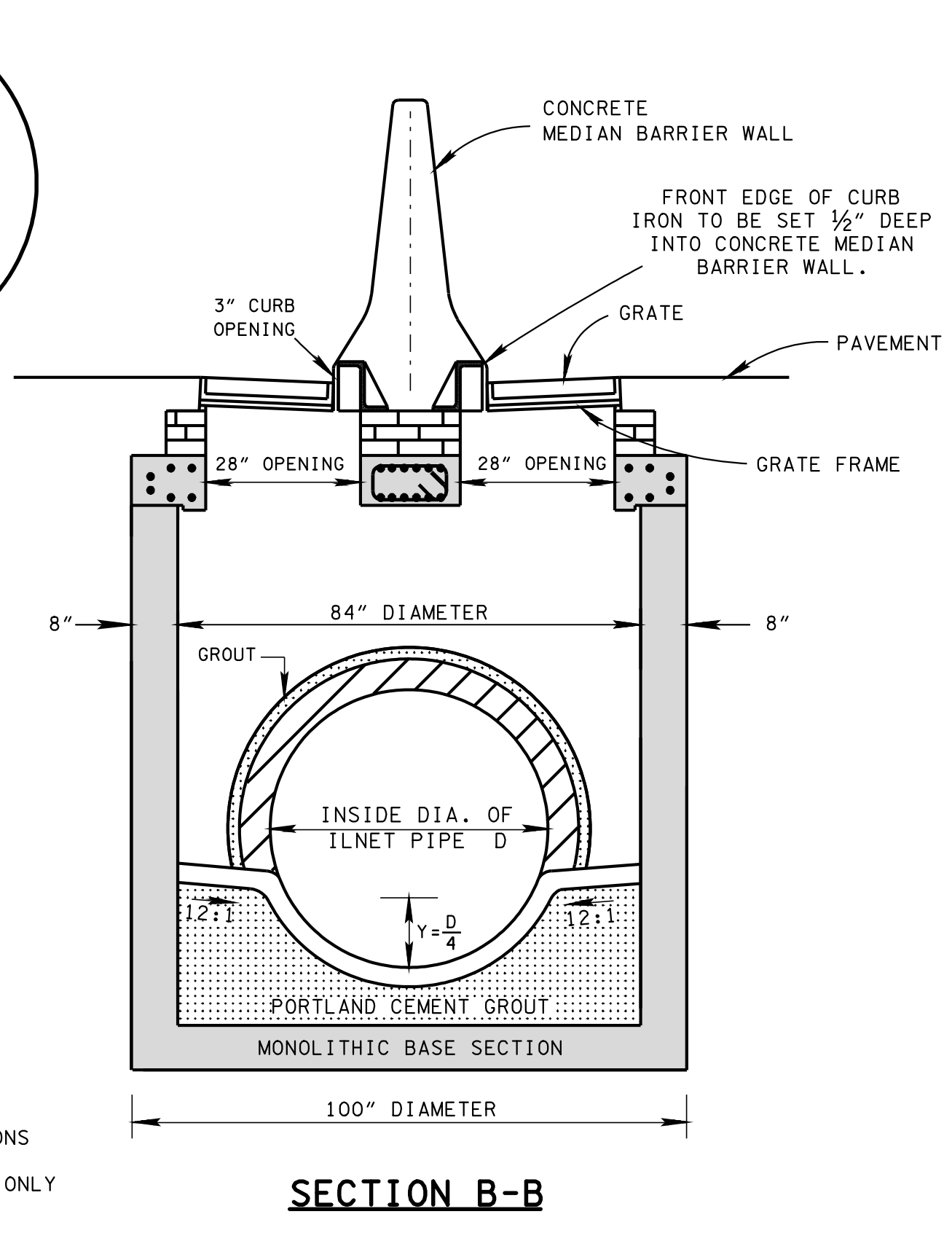
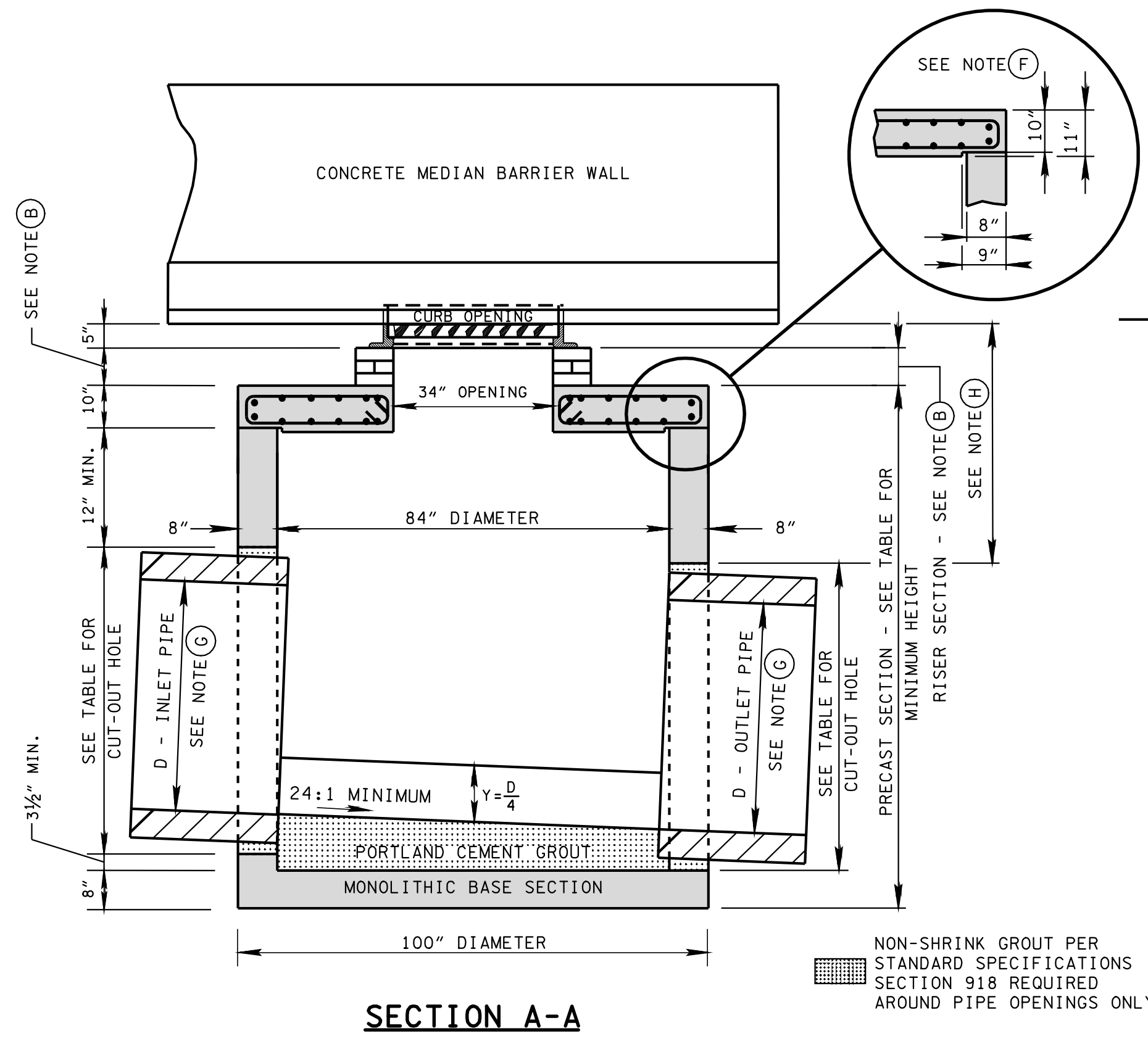
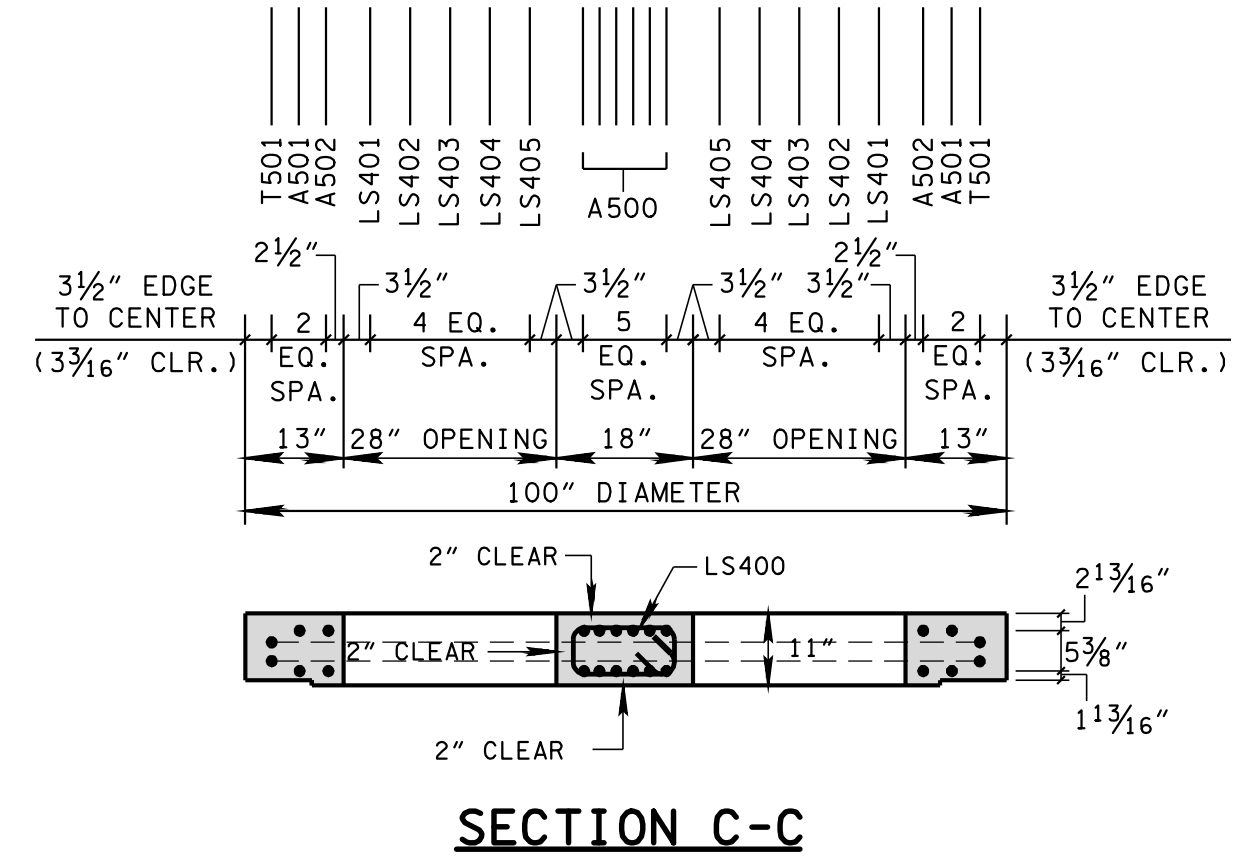
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STANDARD RECTANGULAR CONCRETE NO. 29 CATCH BASIN
(FOR USE WITH 4" MOUNTABLE CURB)



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	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 UN CUT WILL NOT BE PERMITTED.

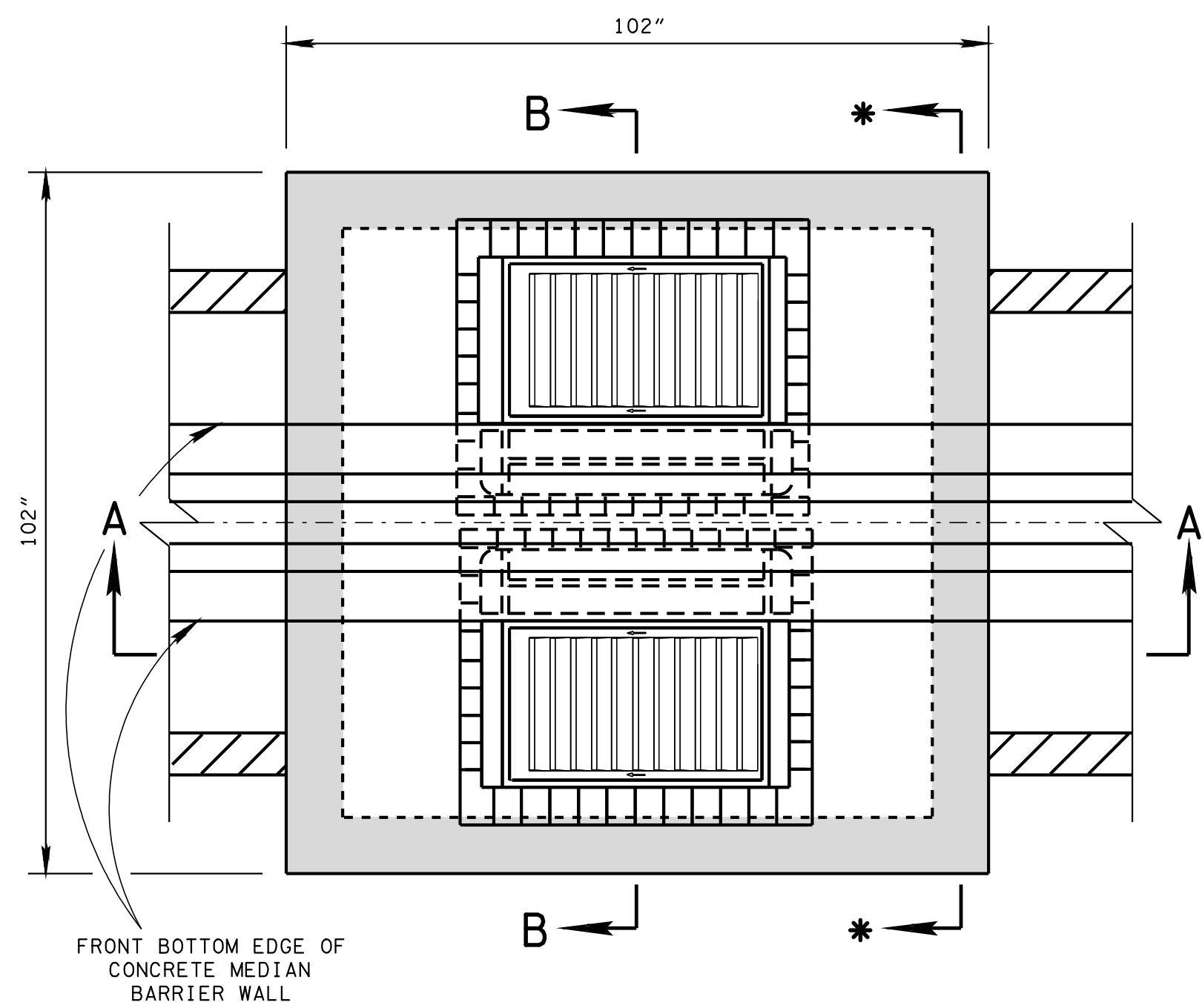


GENERAL NOTES

- (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-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.

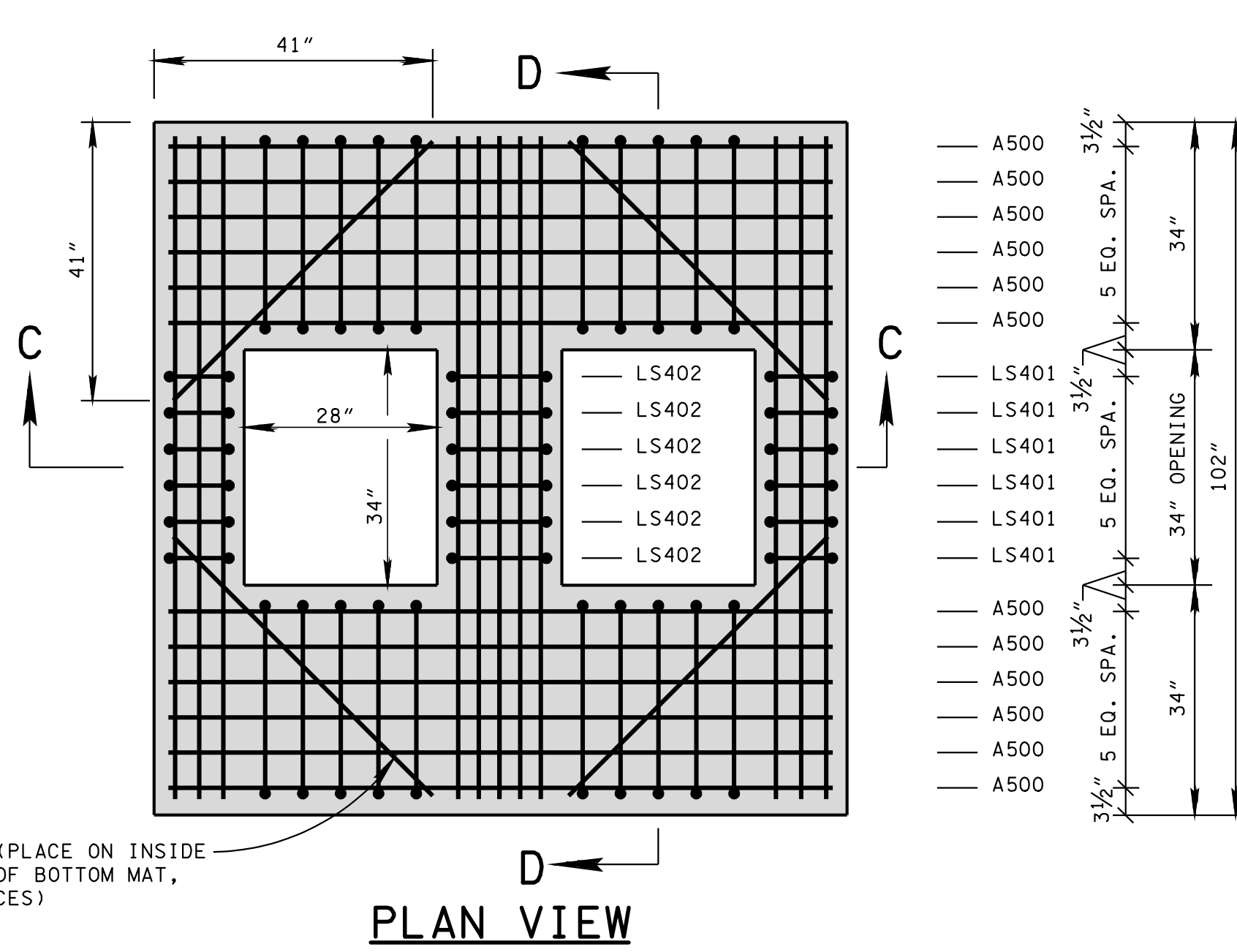
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
**STANDARD PRECAST CIRCULAR NO. 31
 CATCH BASIN**
 (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)



PLAN VIEW

SECTION *-*

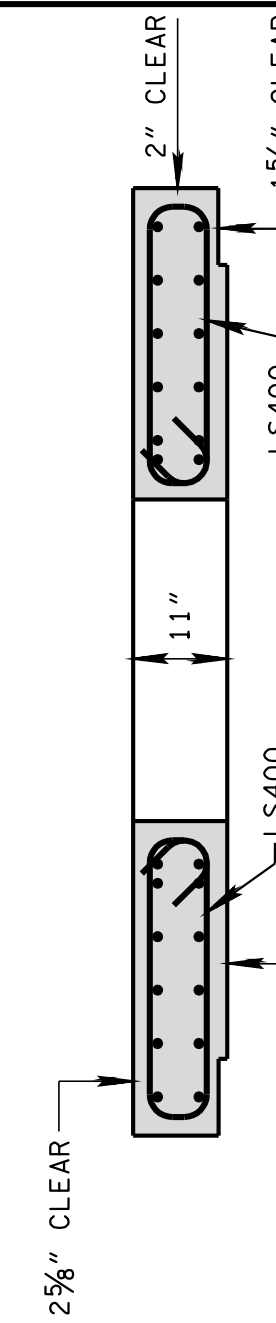
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



PLAN VIEW

A501 (PLACE ON INSIDE FACE OF BOTTOM MAT, 4 PLACES)

SECTION D-D



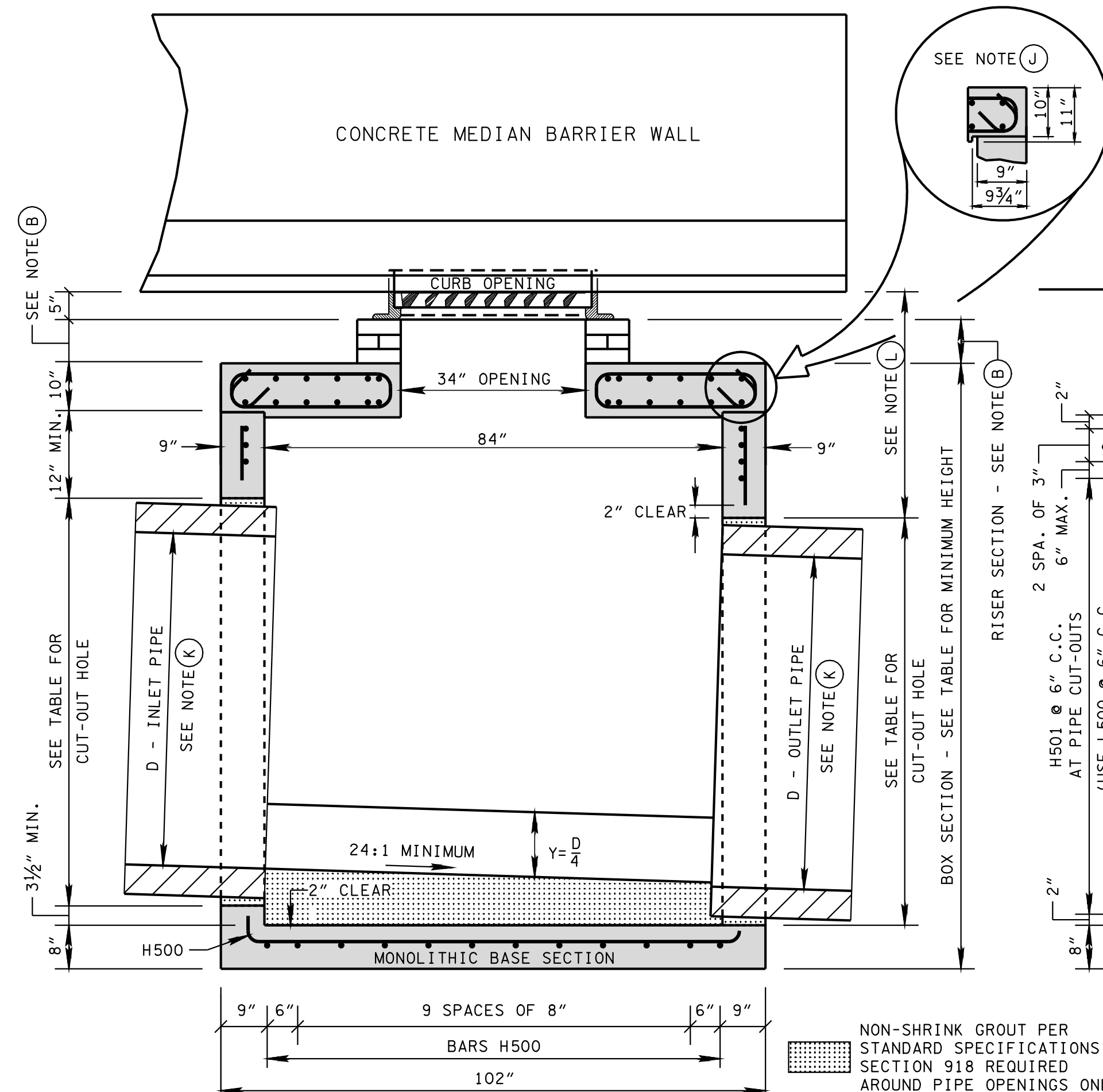
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	57½	4.34
24	3	32	64½	4.88
30	3½	39	71½	5.42
36	4	46	78½	5.97
42	4½	53	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 UN-CUT WILL NOT BE PERMITTED.

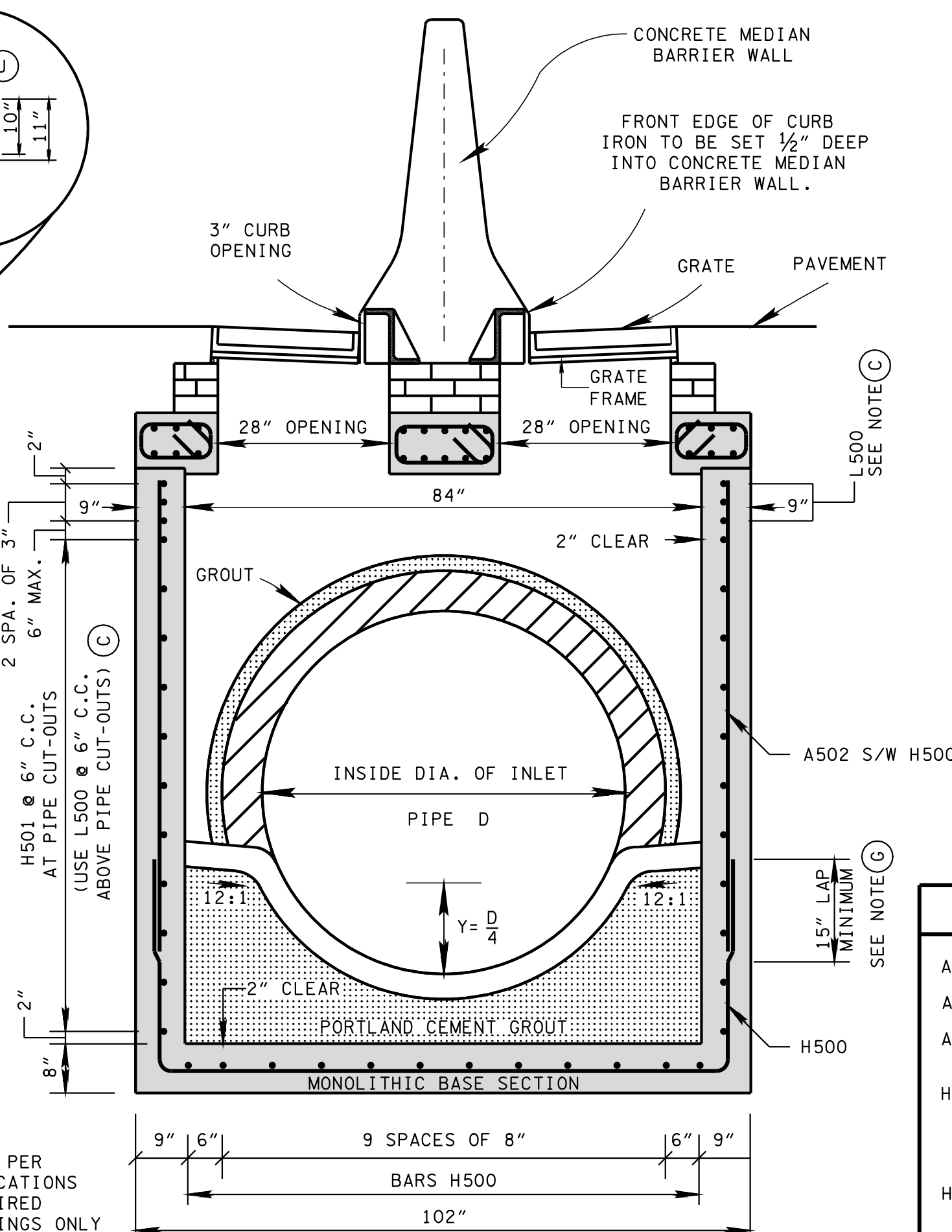
CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

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.

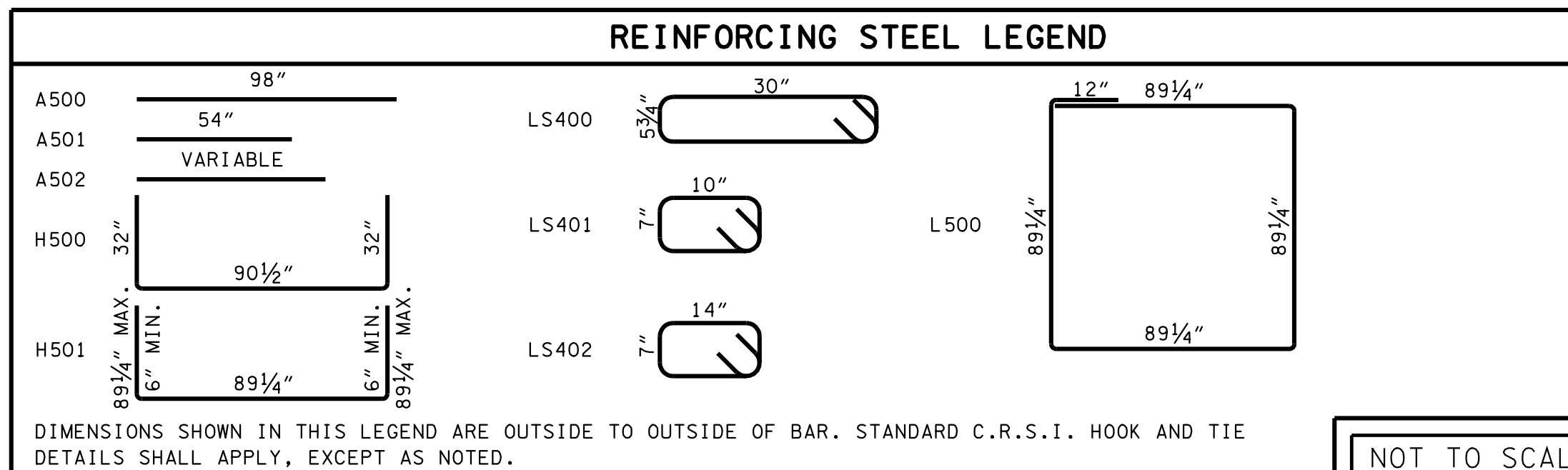


SECTION A-A



SECTION B-B

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



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)

NOT TO SCALE

5-27-95 D-CB-31SD

- 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. 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.

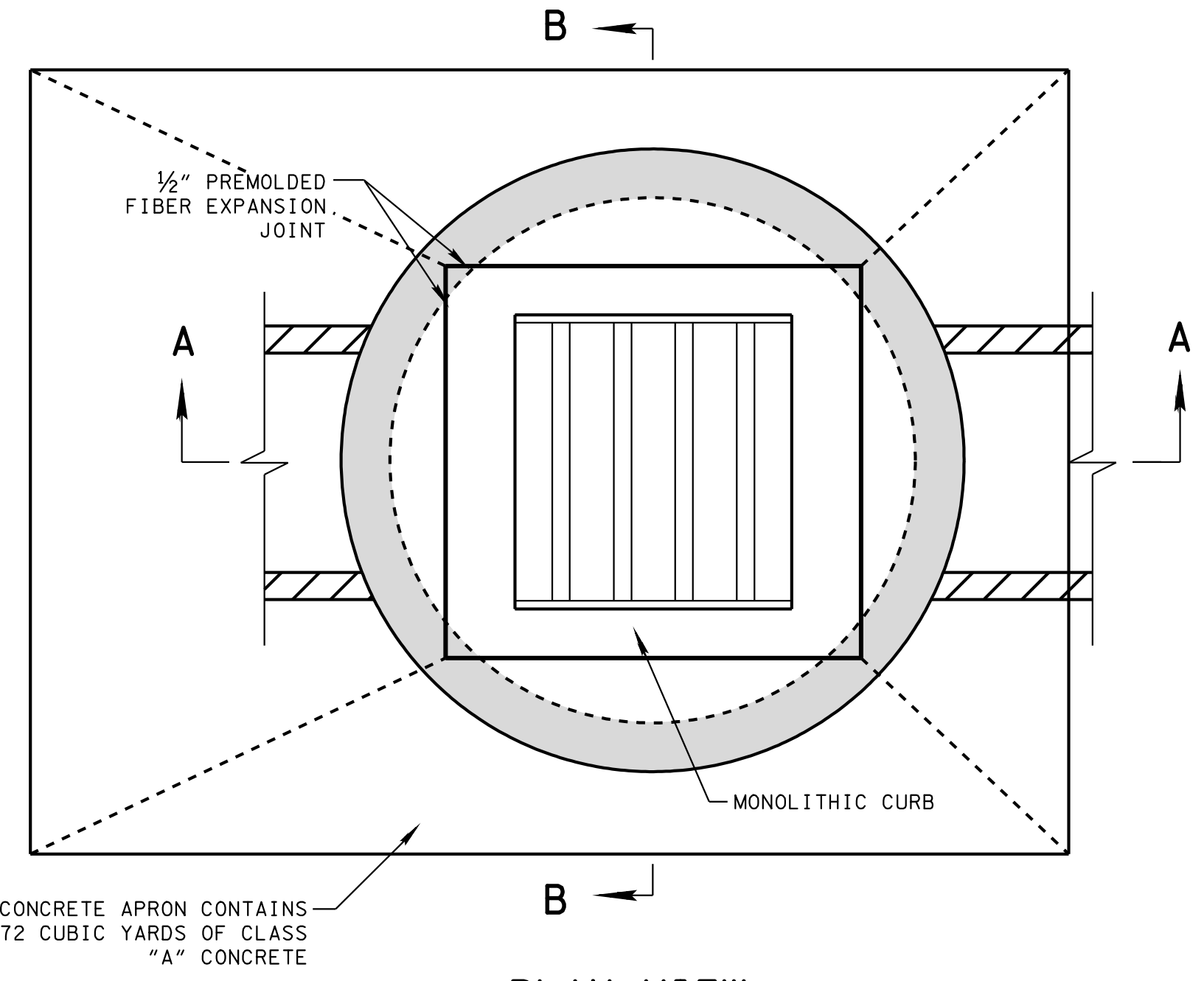
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4
84	100	5
96	114	6

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	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	6.46
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

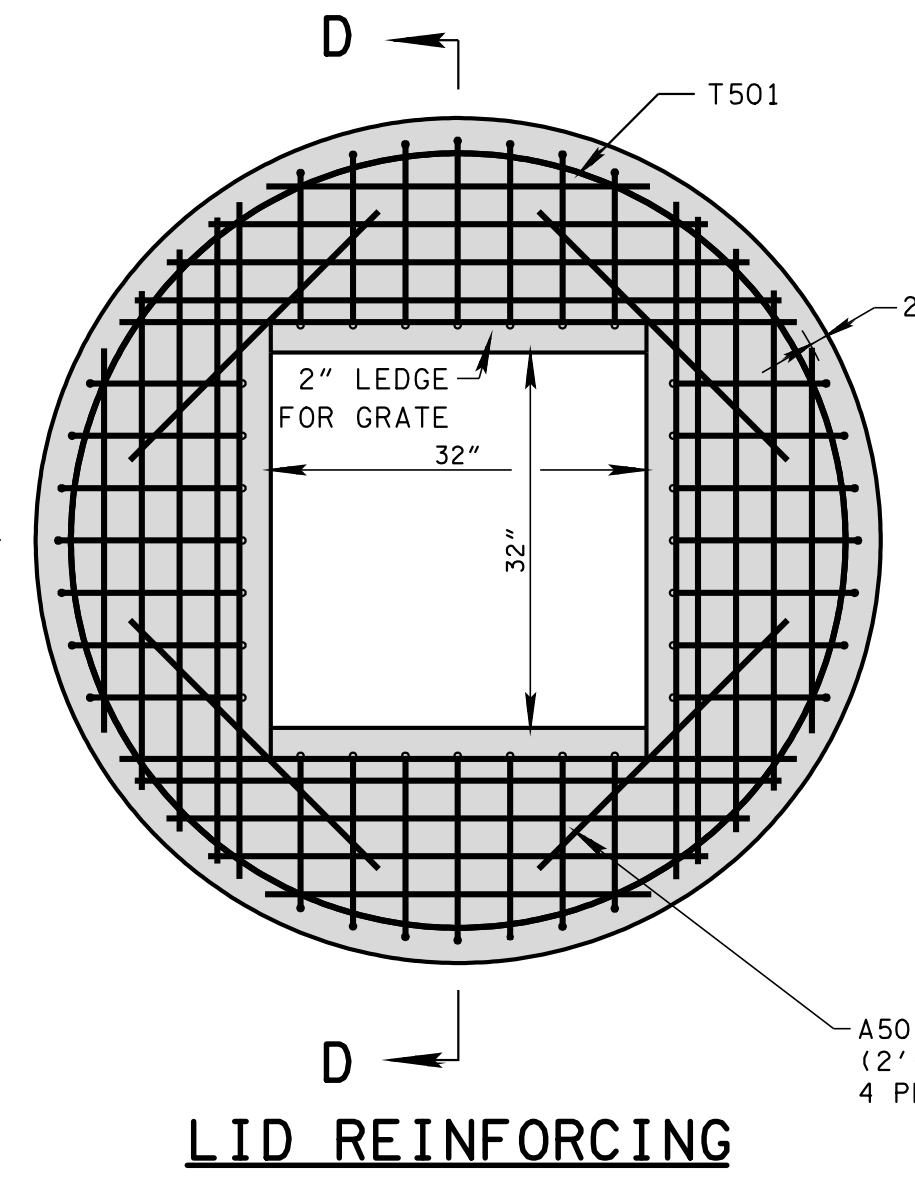
- (1) CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- (2) ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- (3) CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN-CUT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

OUT-TO-OUT DIAMETER FOR T501 REINFORCING BARS EQUALS OUTSIDE DIAMETER OF LID MINUS 6¾ INCHES.

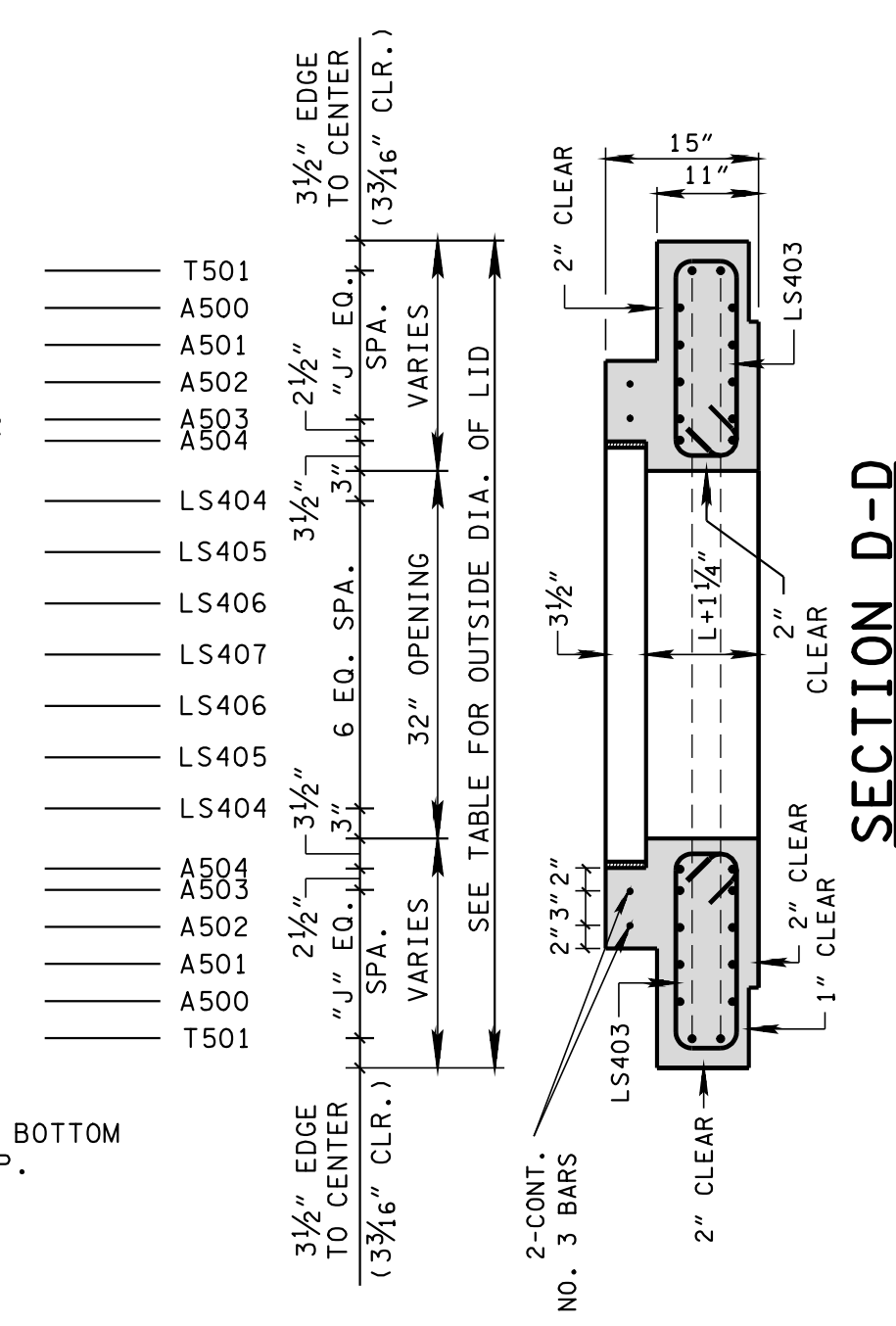
ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURE AS INDICATED BY "NO. OF EQ. SPACES 'J'"



PLAN VIEW

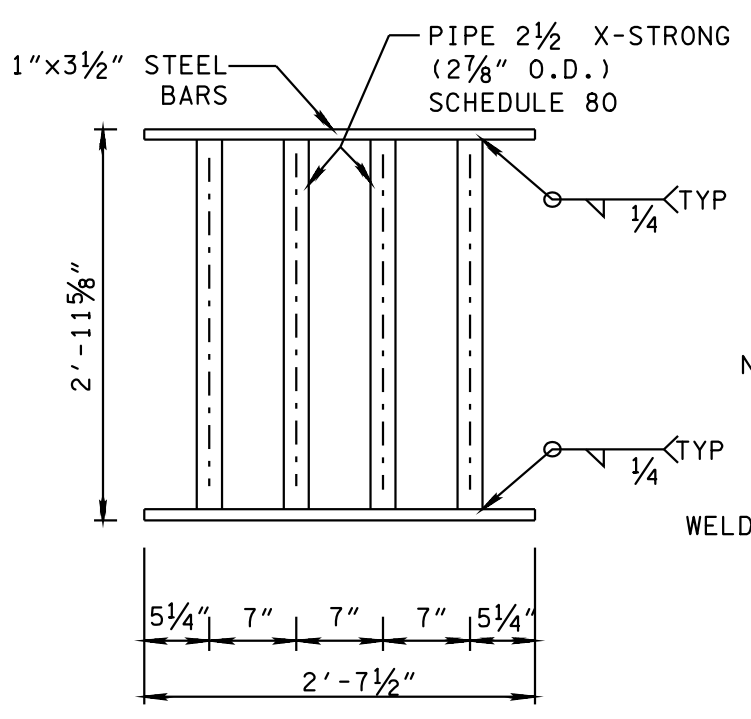
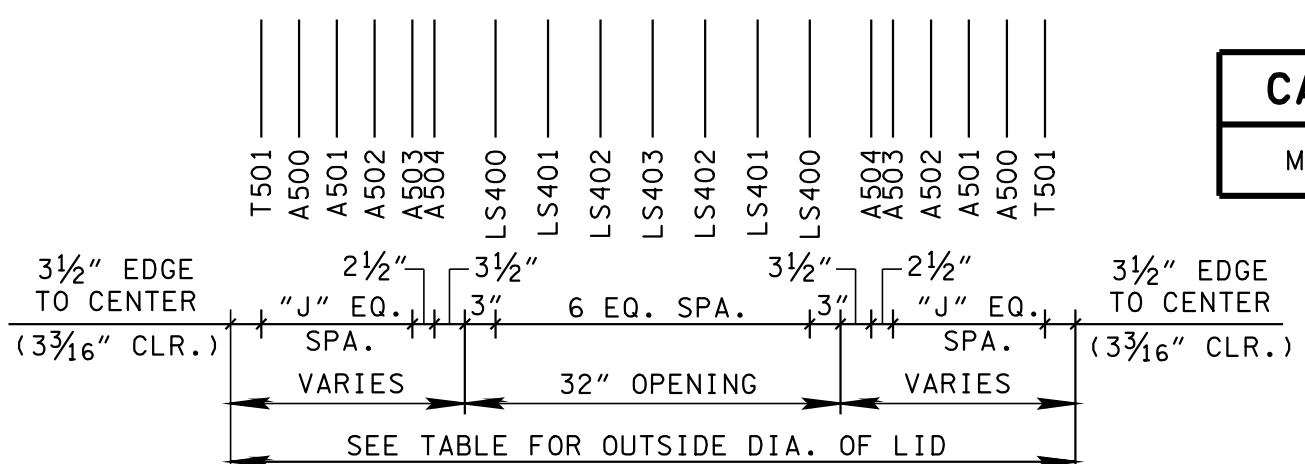


LID REINFORCING

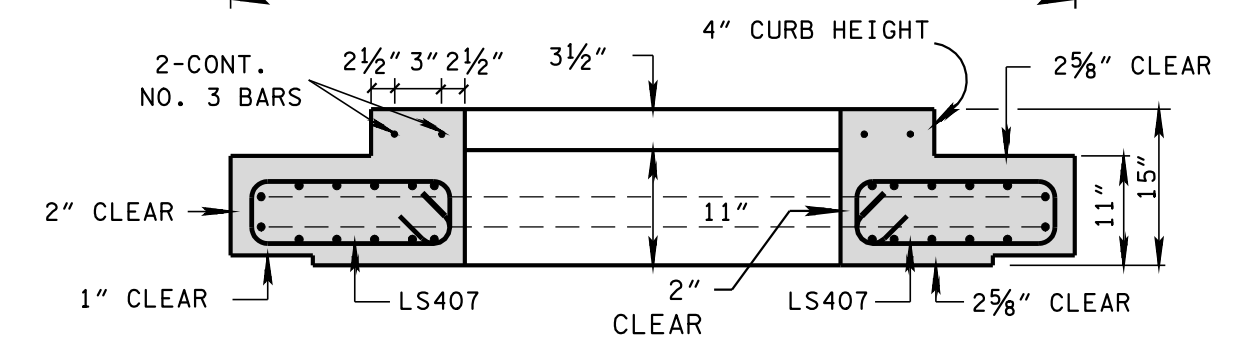


SECTION D-D

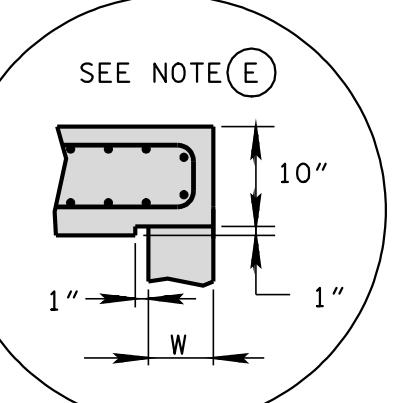
CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.



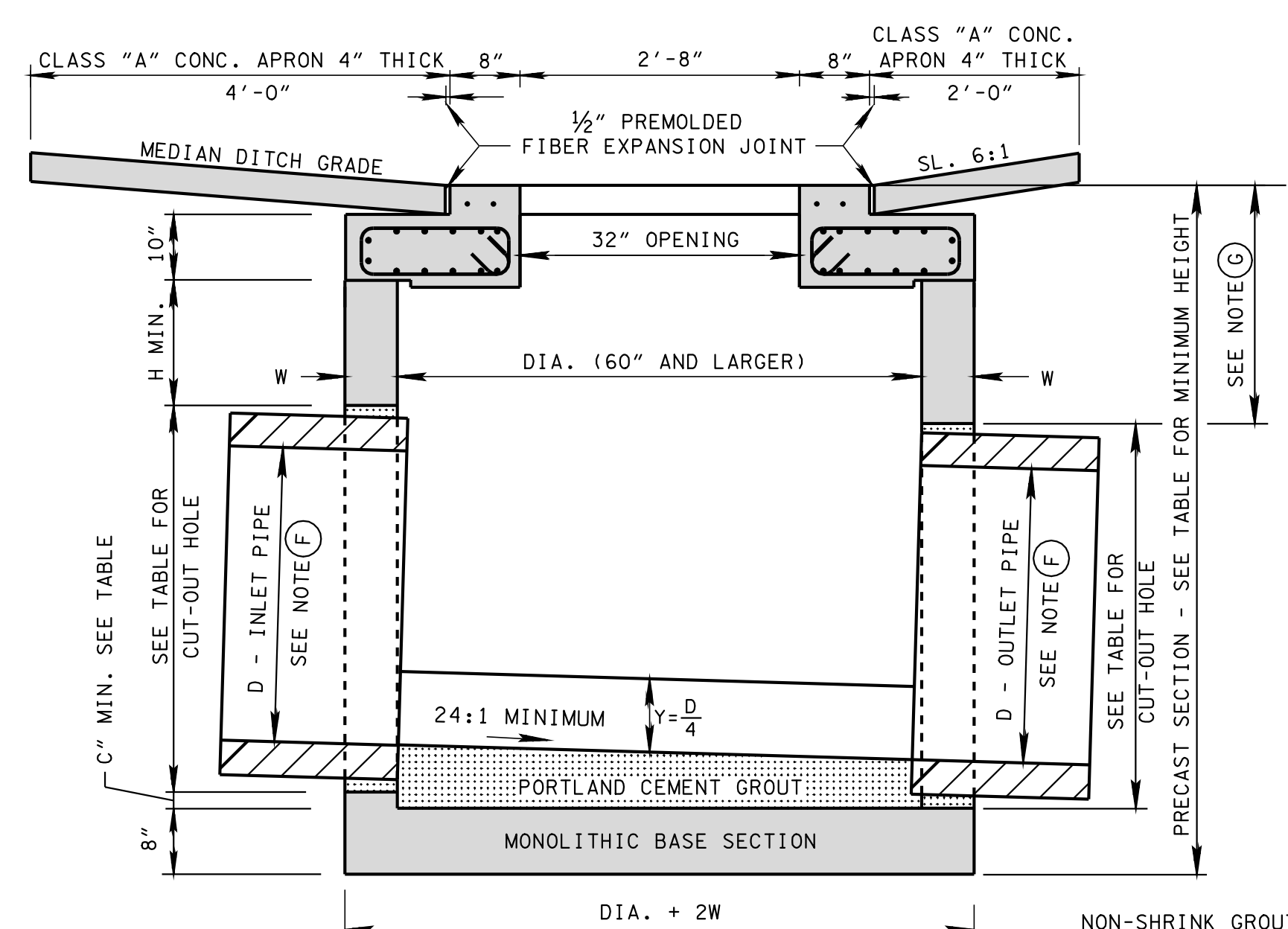
GRATE UNIT NO. 38
GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.
NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.
WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)



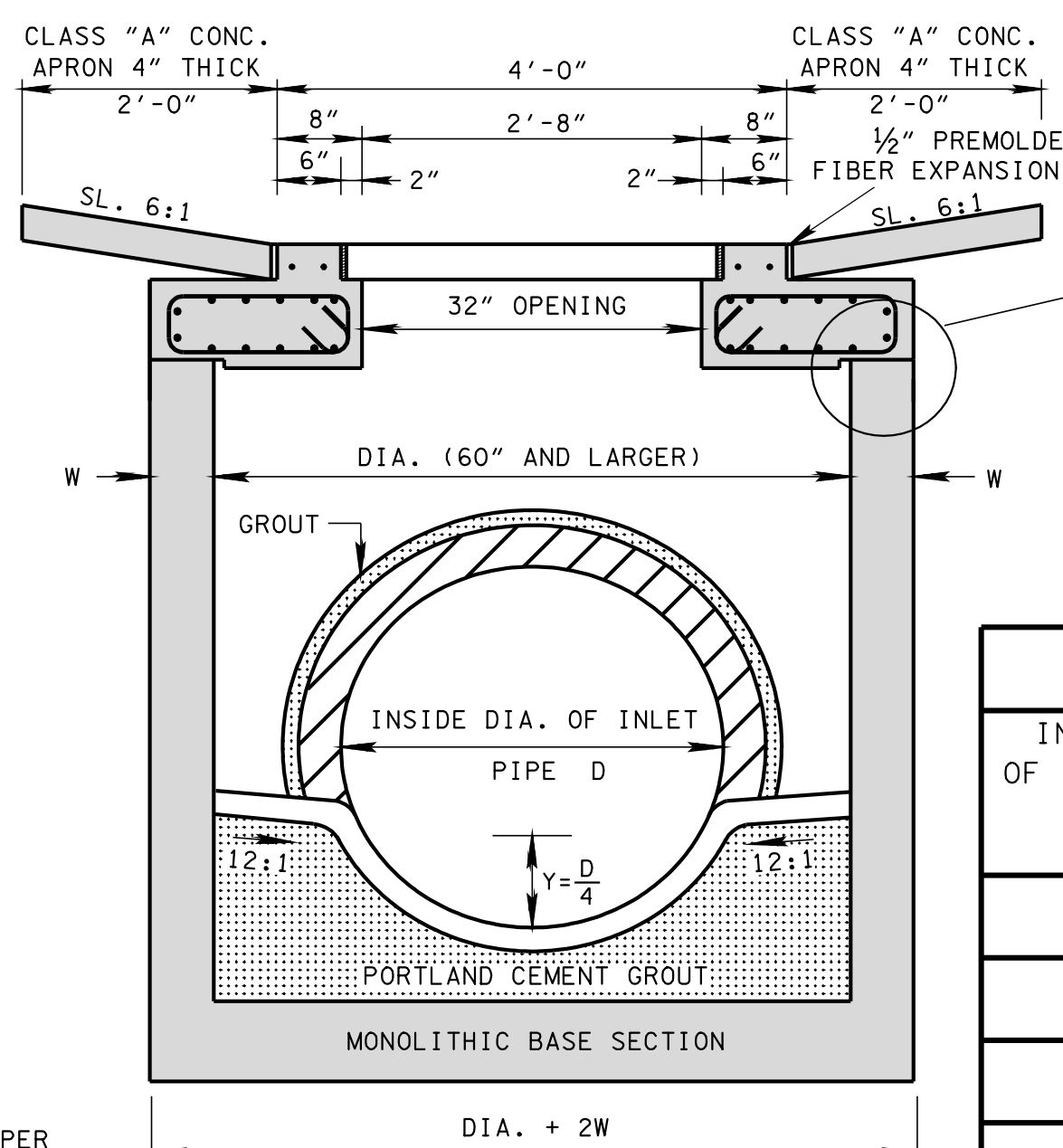
SECTION C-C



SEE NOTE (E)



SECTION A-A



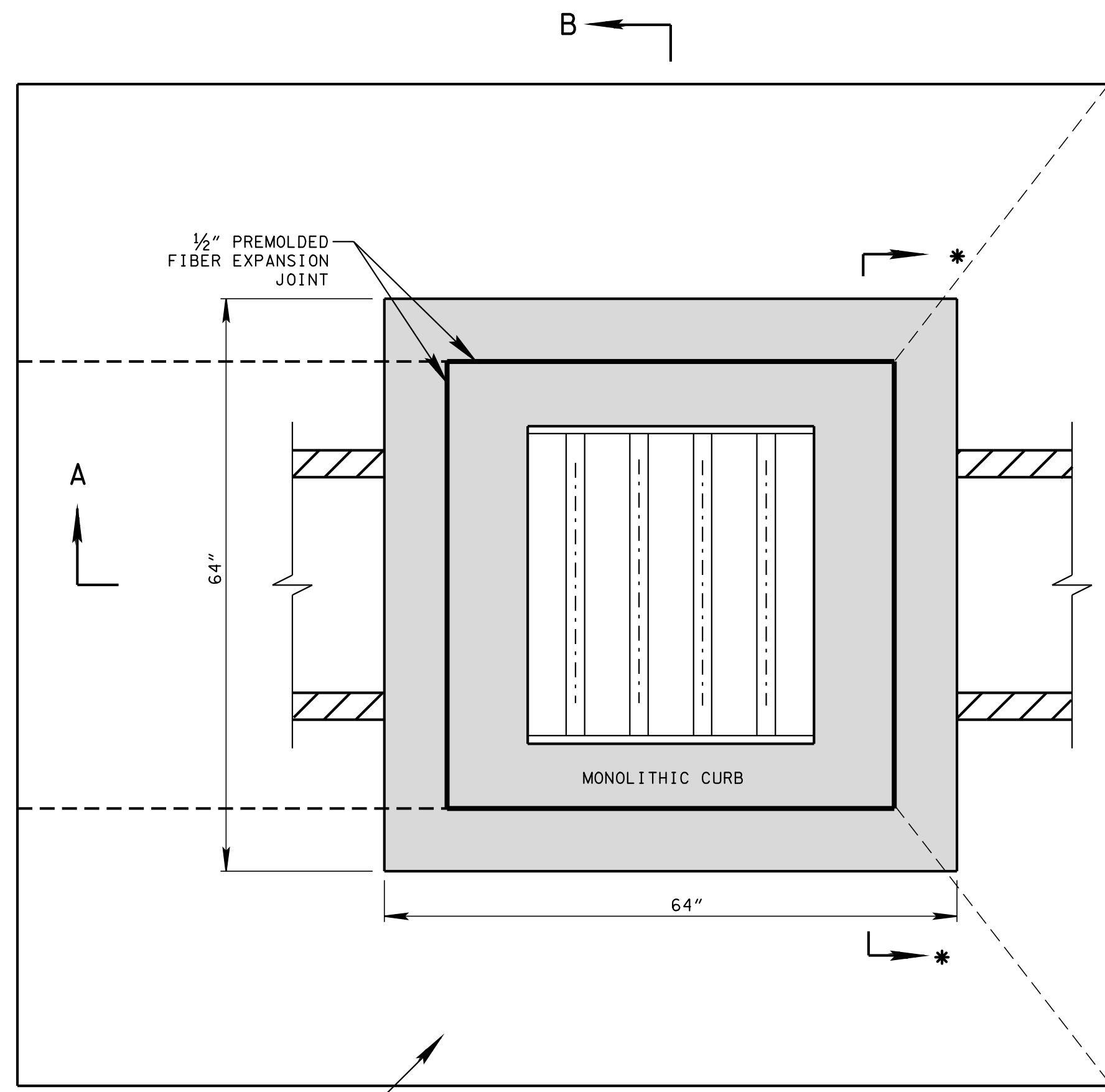
SECTION B-B

- 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.

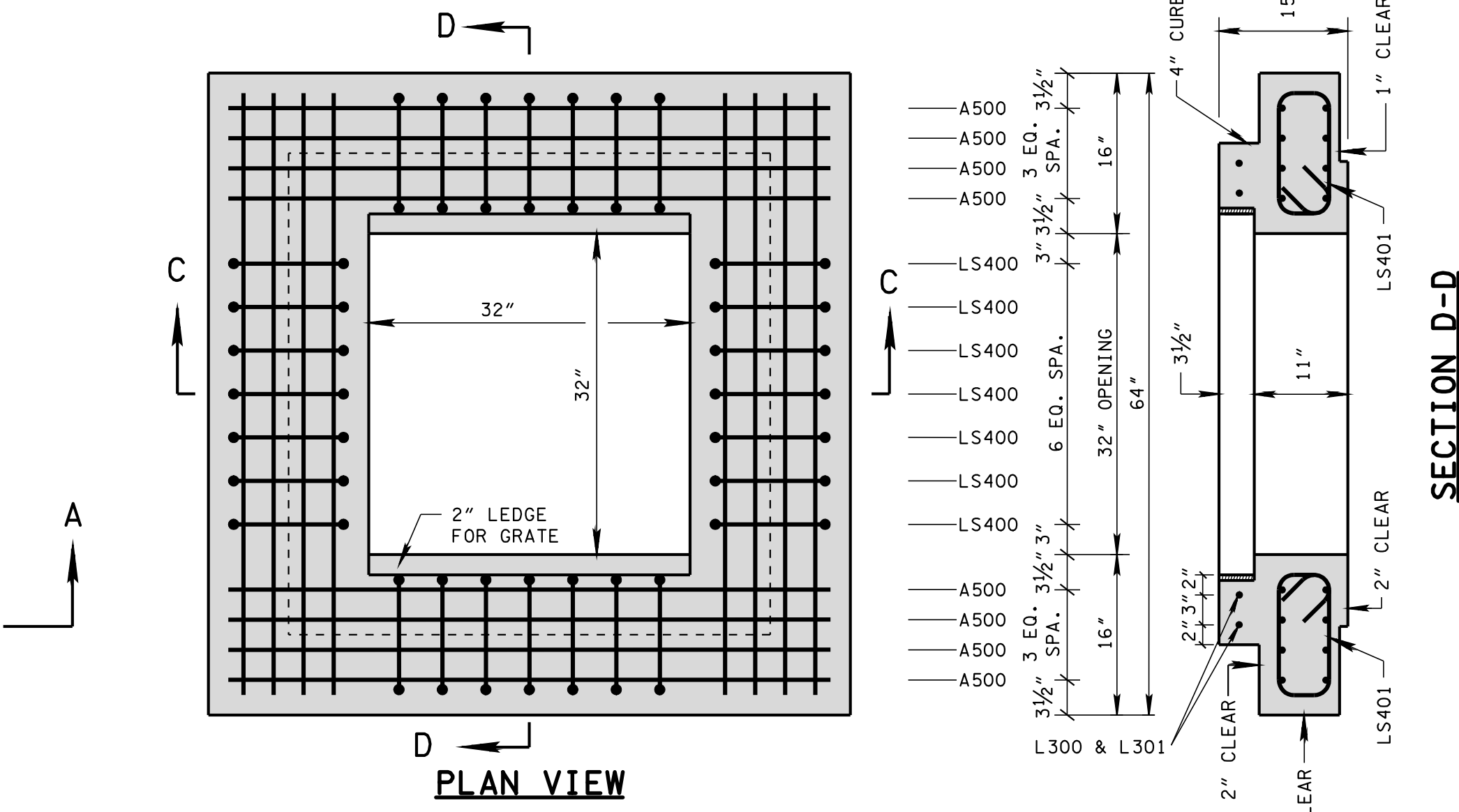
INSIDE DIA. OF CATCH BASIN DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF CATCH BASIN DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)	DIMENSION	
						C (INCHES)	H (INCHES)
60	6	10	72	36	24	2.5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



PLAN VIEW



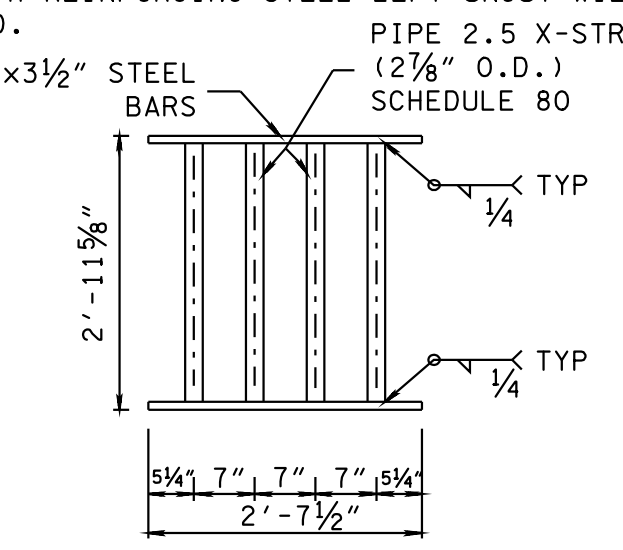
PLAN VIEW

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	2 1/2	25	55	3.88
24	3	32	62	4.42
30	3 1/2	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 UN-CUT WILL NOT BE PERMITTED.

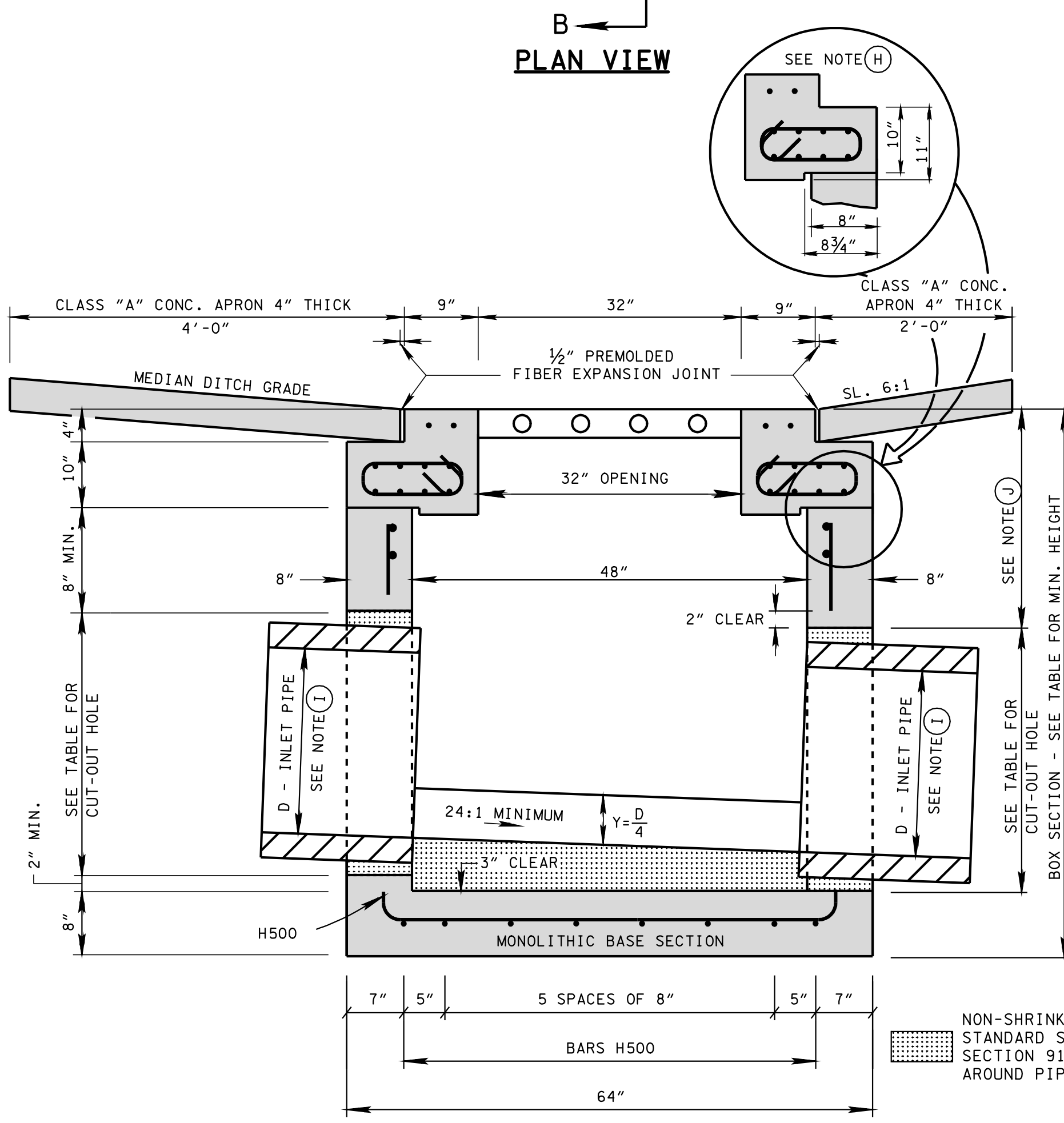


GRATE UNIT NO. 38

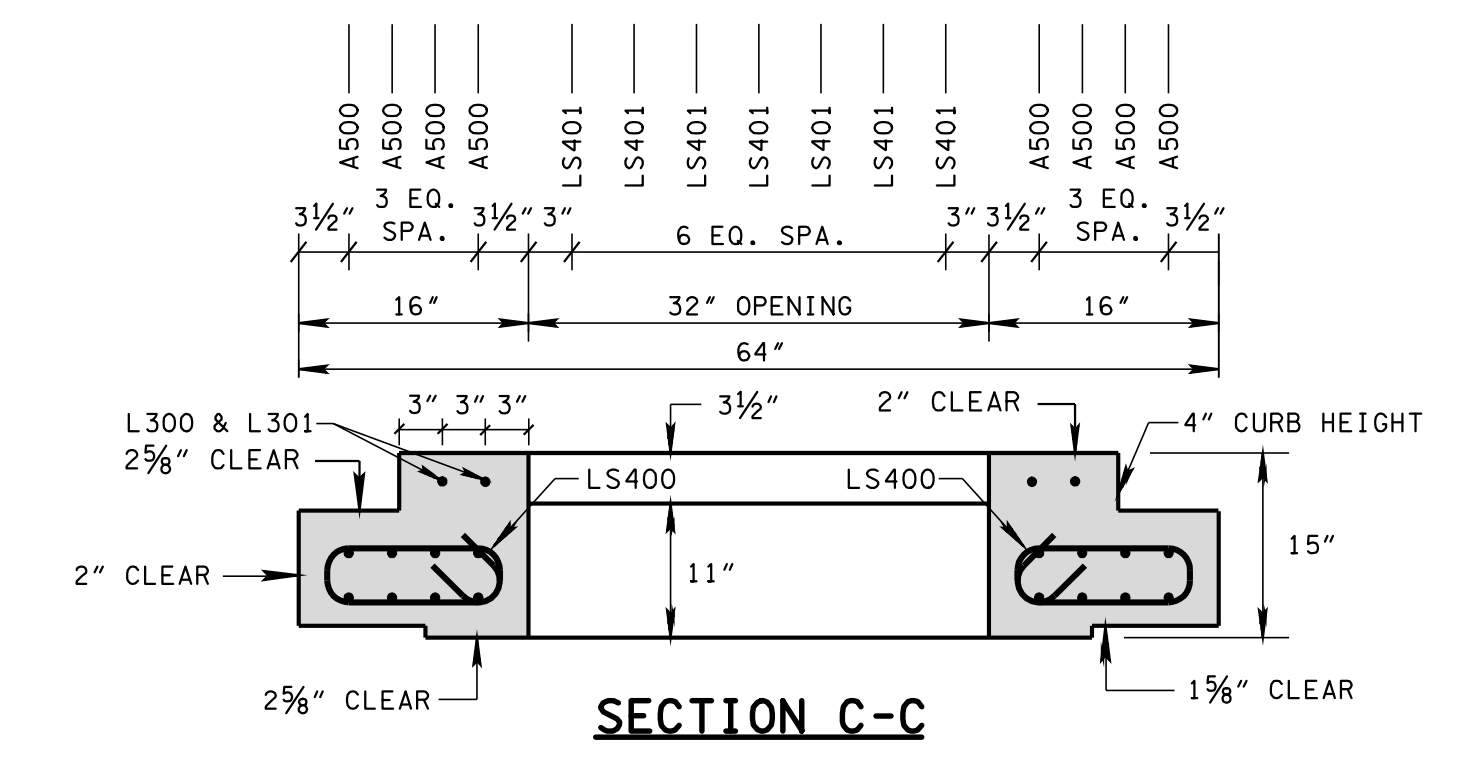
GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.
 NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.
 WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)

GENERAL NOTES

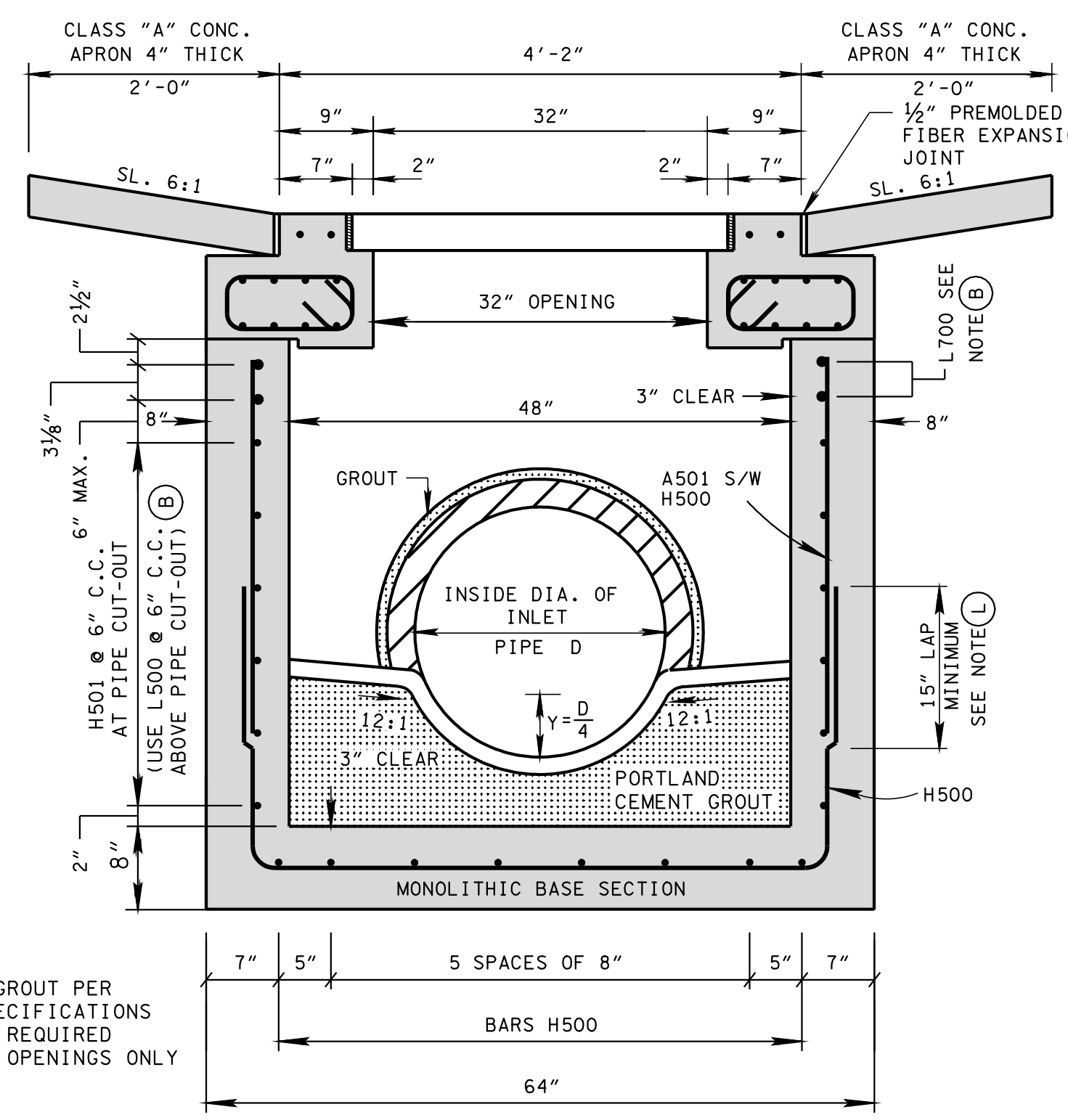
- (A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 38SB CONCRETE CATCH BASINS AND ALL PRECAST NO. 38SB CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS.
- (B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH BASIN WALLS. SEE 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 1/2 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 1 1/2 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.



SECTION A-A

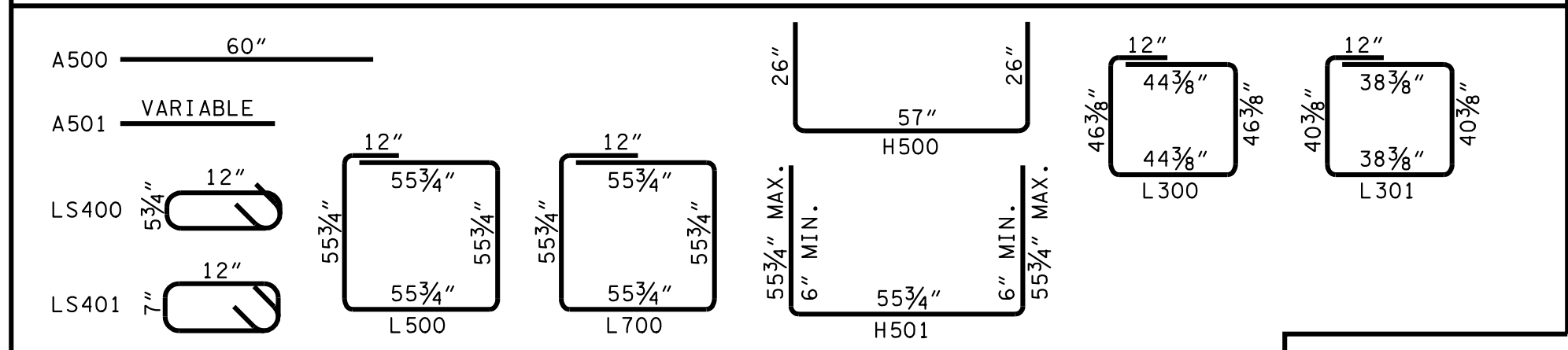


SECTION C-C



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.

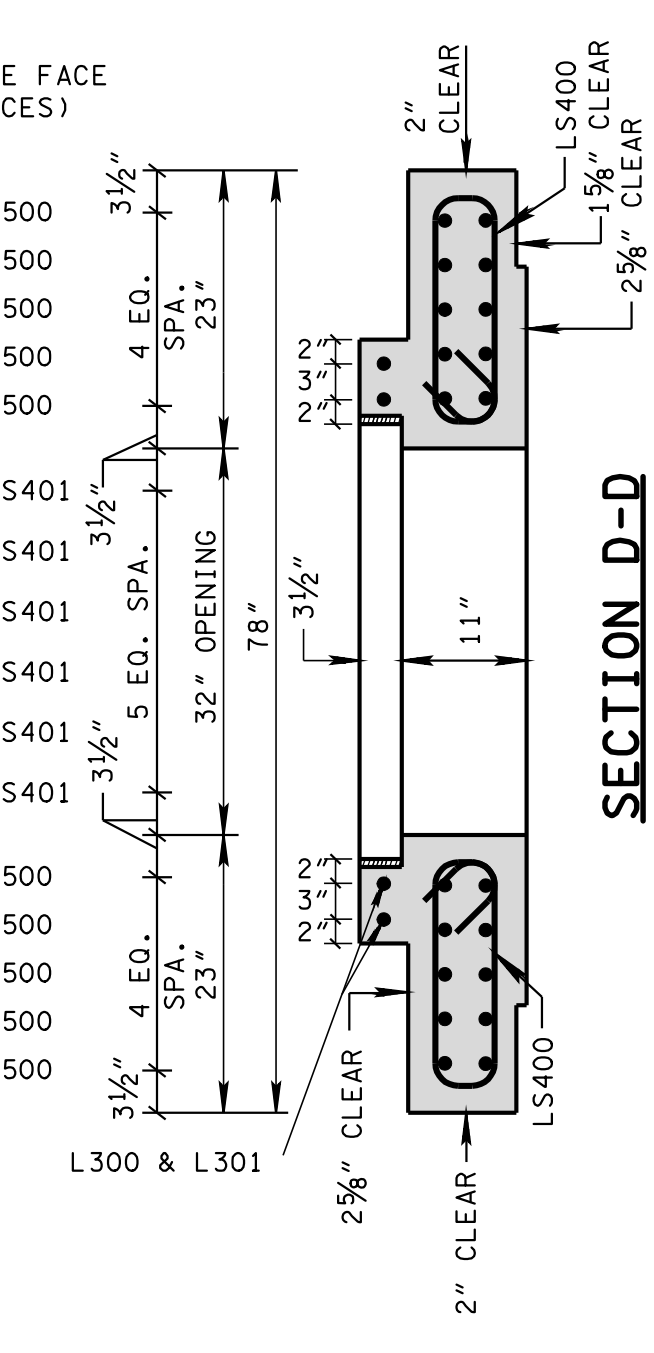
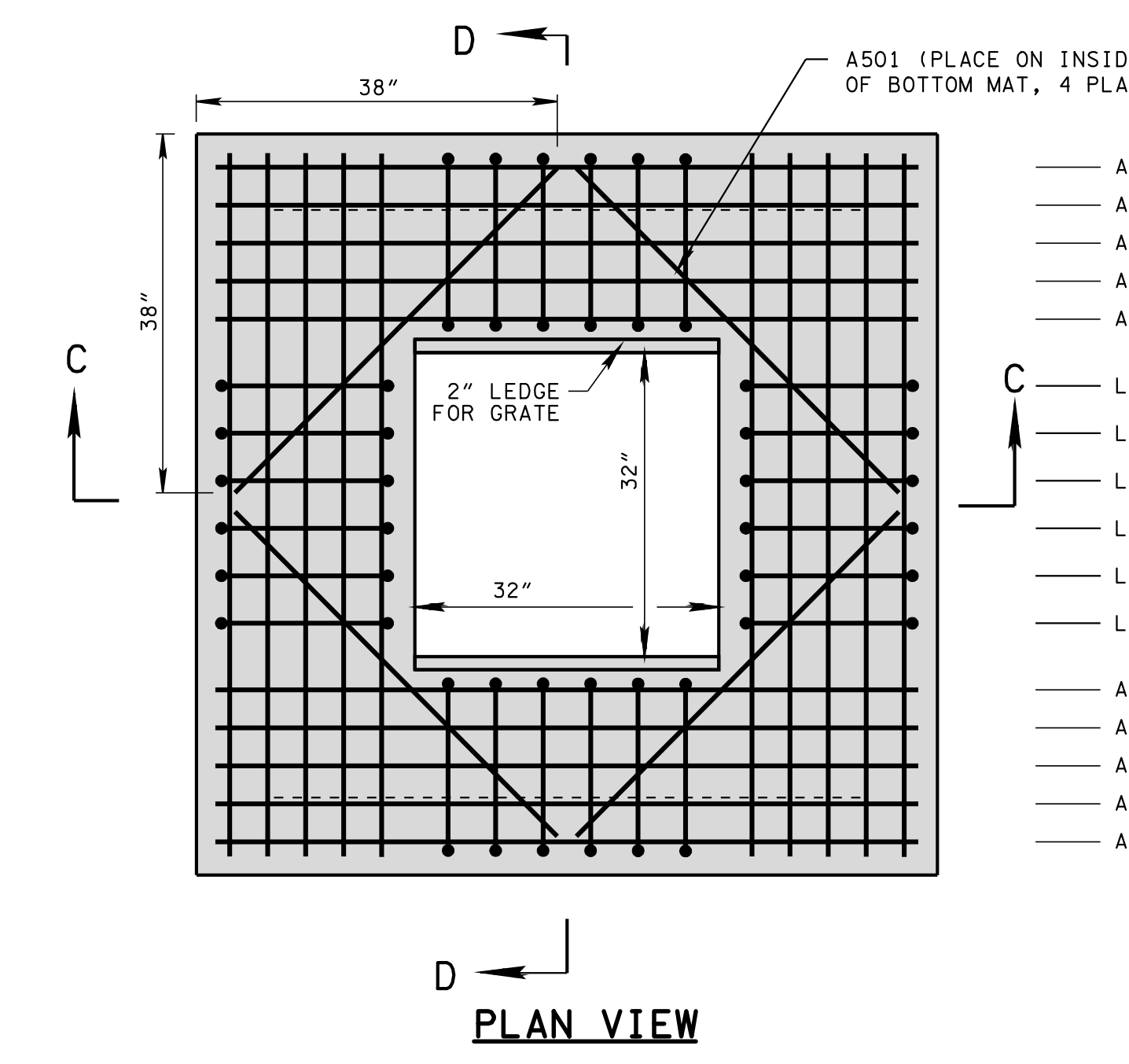
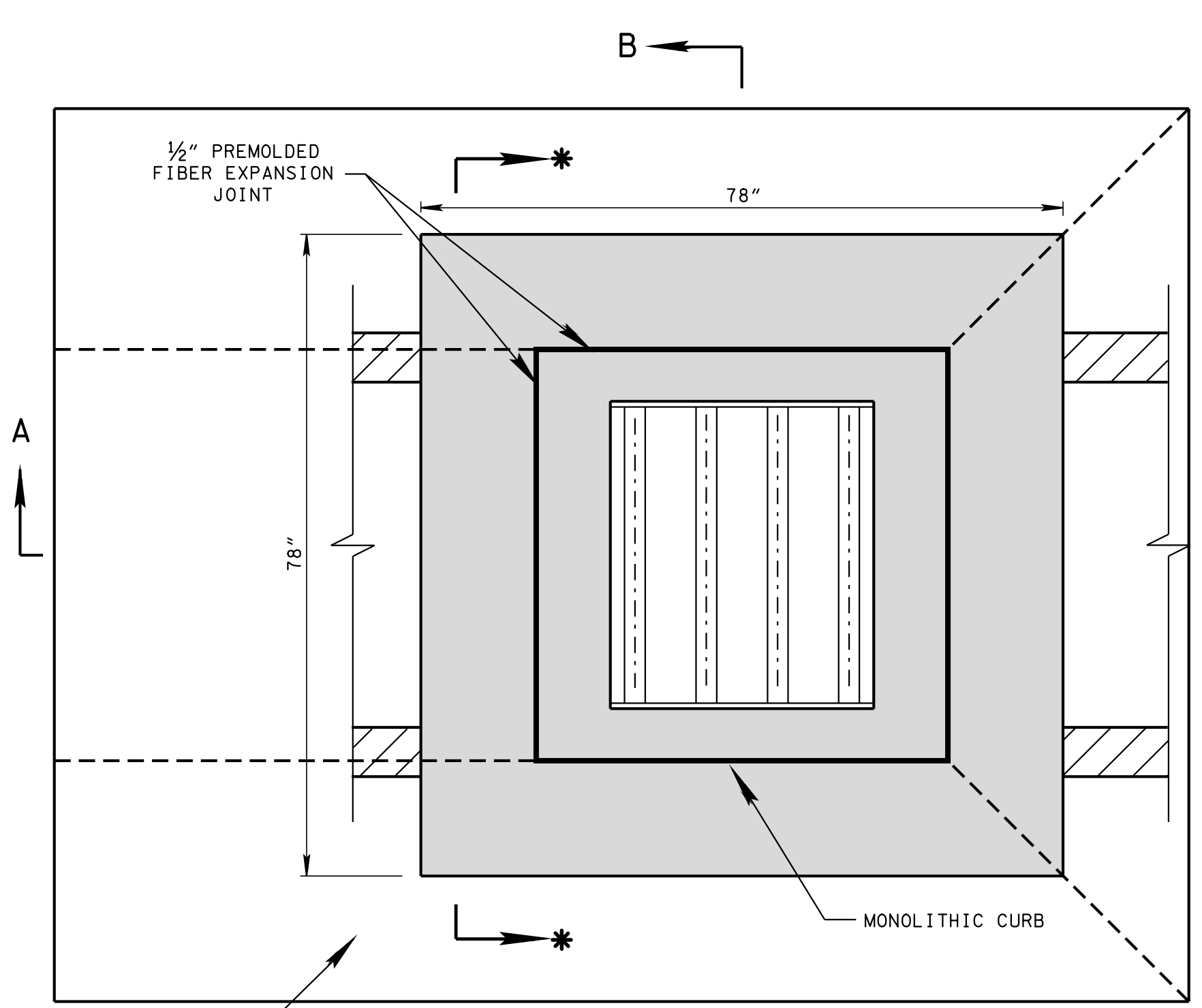
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**STANDARD
 4' X 4' SQUARE
 CONCRETE NO. 38
 CATCH BASIN**

NOT TO SCALE

5-27-99 D-CB-38SB

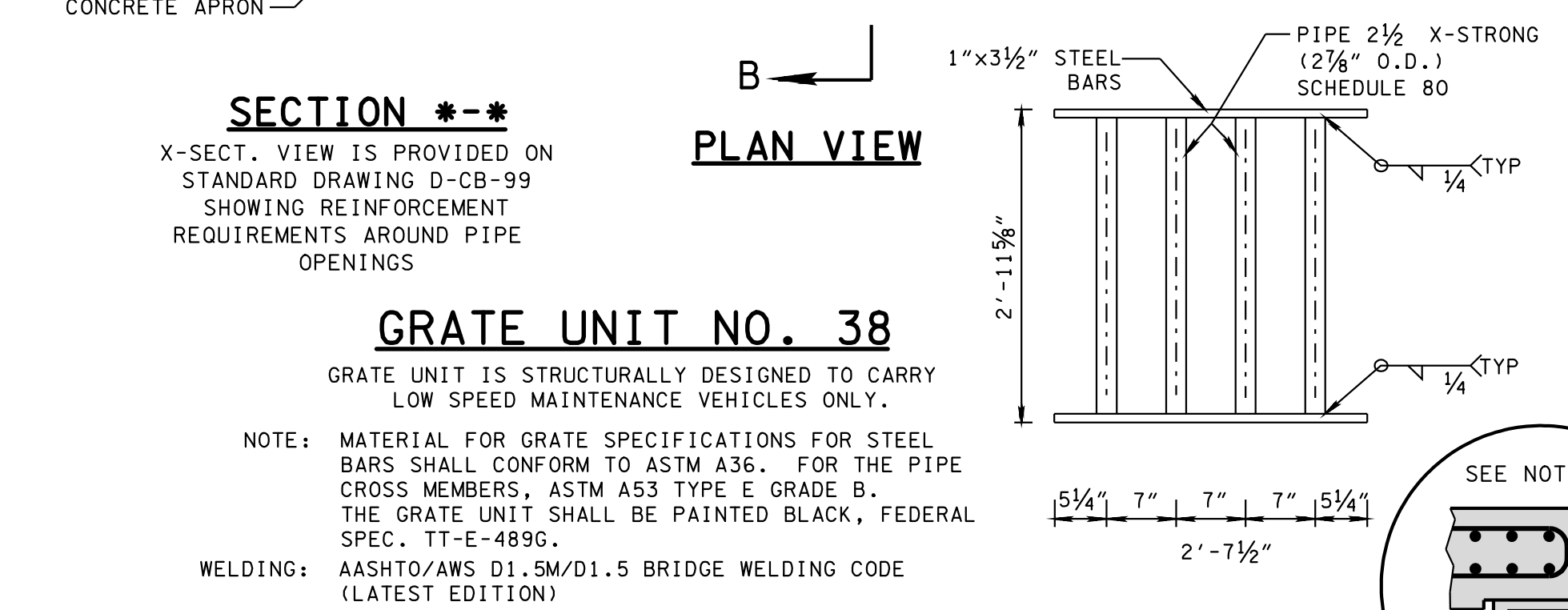


CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

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	2 1/2	25	59	4.05
24	3	32	66	4.59
30	3 1/2	39	73	5.13
36	4	46	80	5.67
42	4 1/2	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.

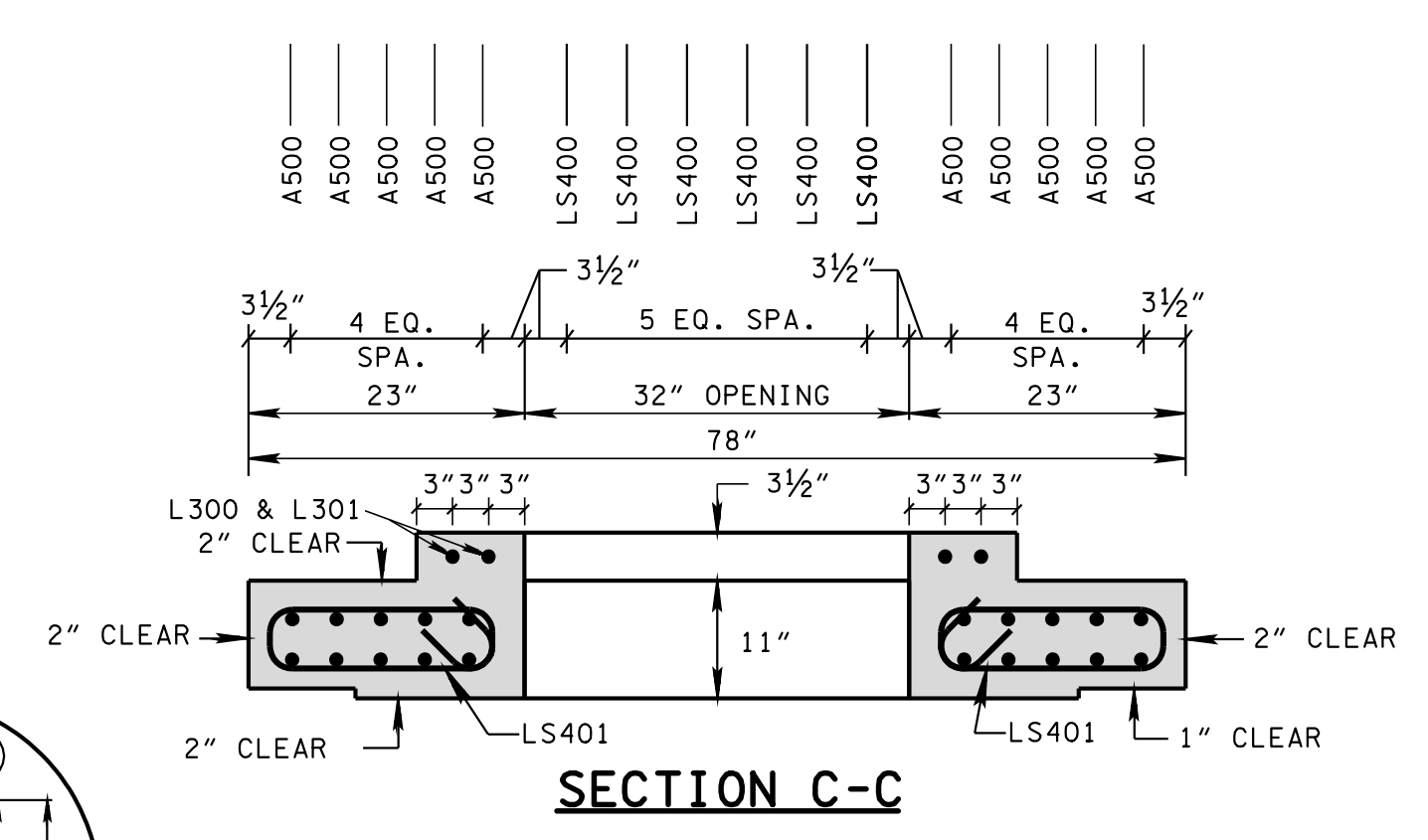
- REV. 9-5-04: CHANGED GROOVE DEPTH IN LID.
- REV. 8-01-12: REVISED CATCH BASIN FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES, LEGEND AND ADDITIONAL MISC. DRAFTING EDITS.
- REV. 9-24-12: MODIFIED TOP SLAB AND MINIMUM DEPTH.



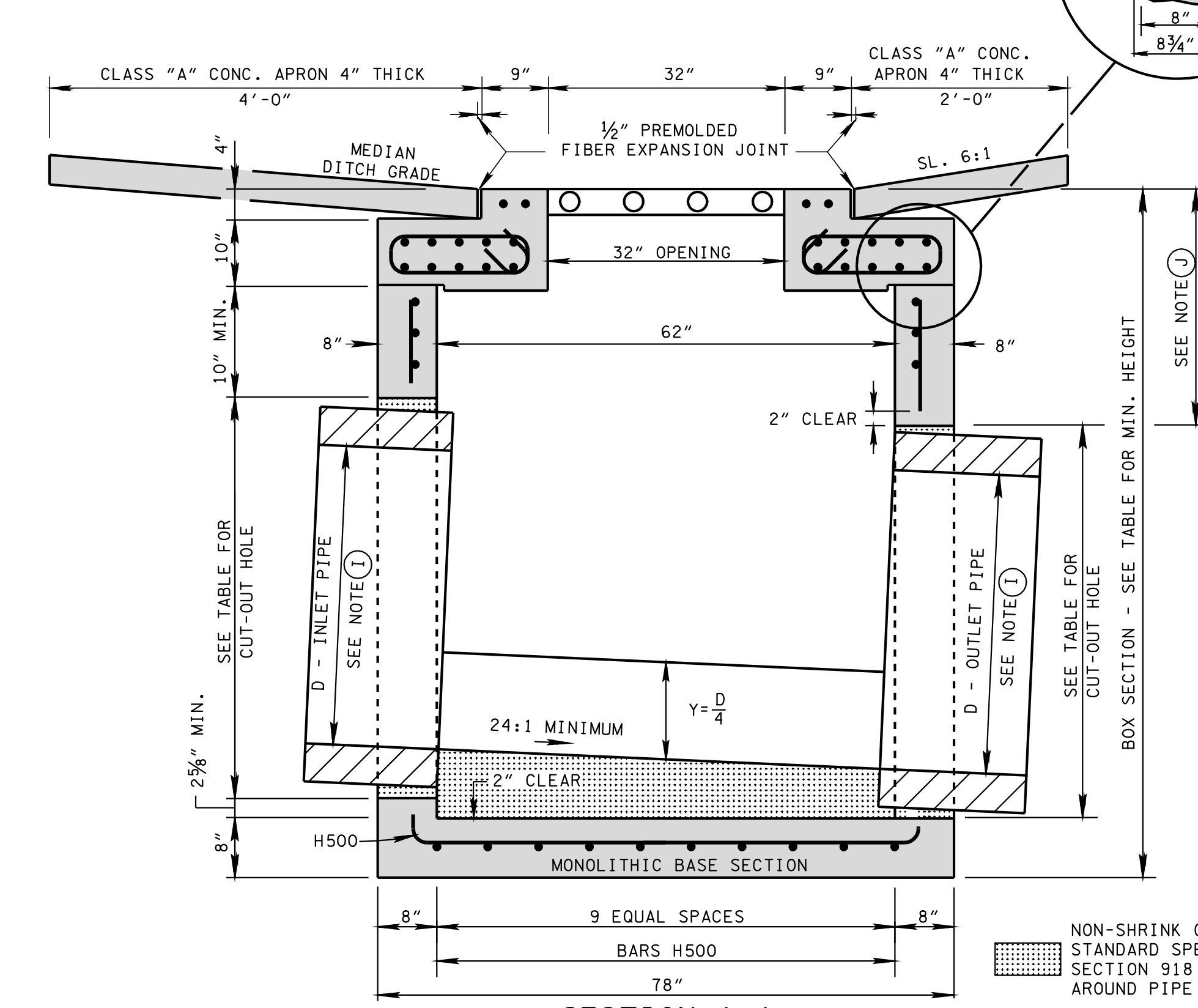
SECTION *-*
 X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS

GRATE UNIT NO. 38
 GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.

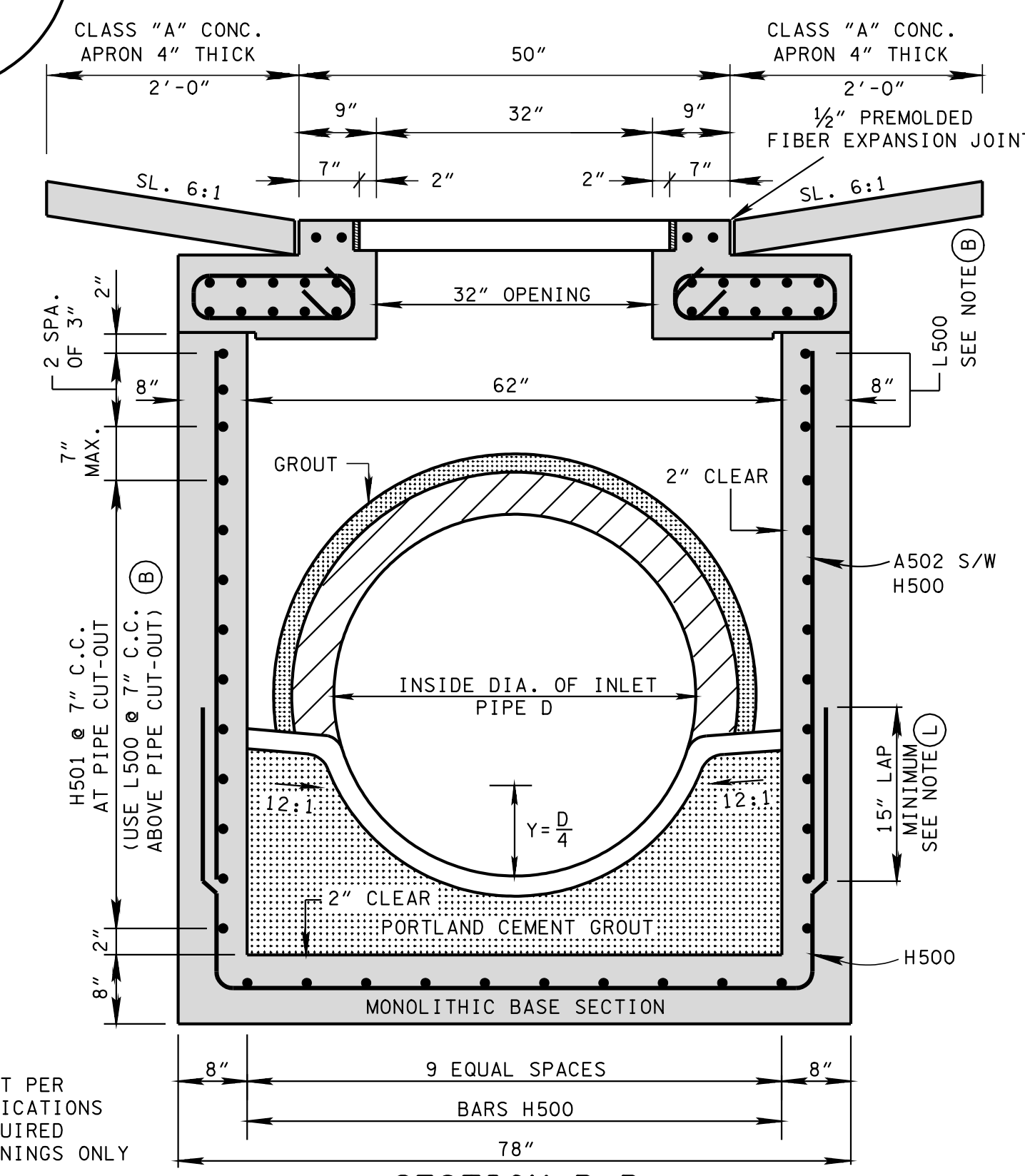
NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E GRADE B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.
 WELDING: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (LATEST EDITION)



SECTION C-C



SECTION A-A

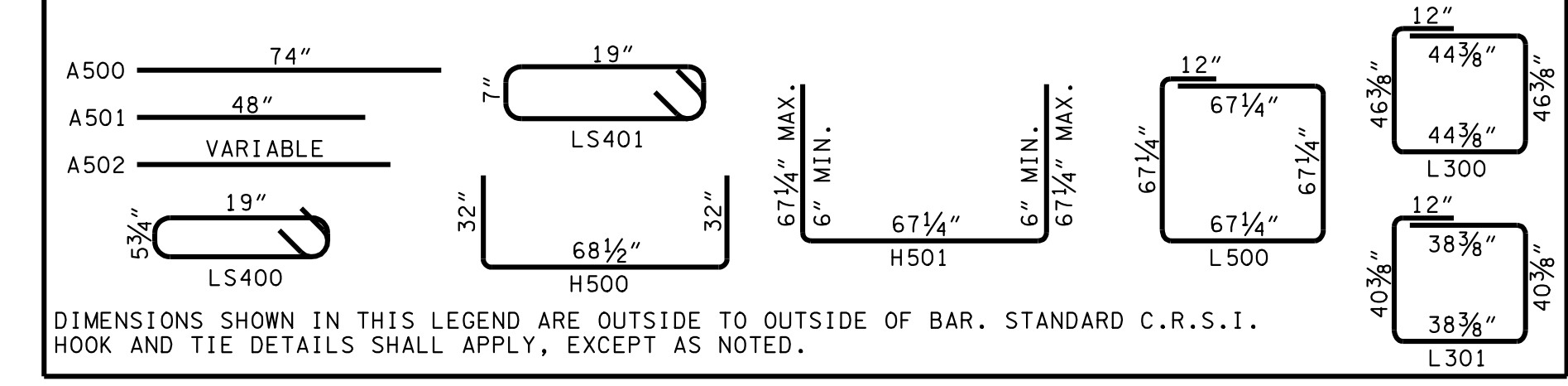


SECTION B-B

GENERAL NOTES

- (A) 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 1/2 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 1 1/2 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.

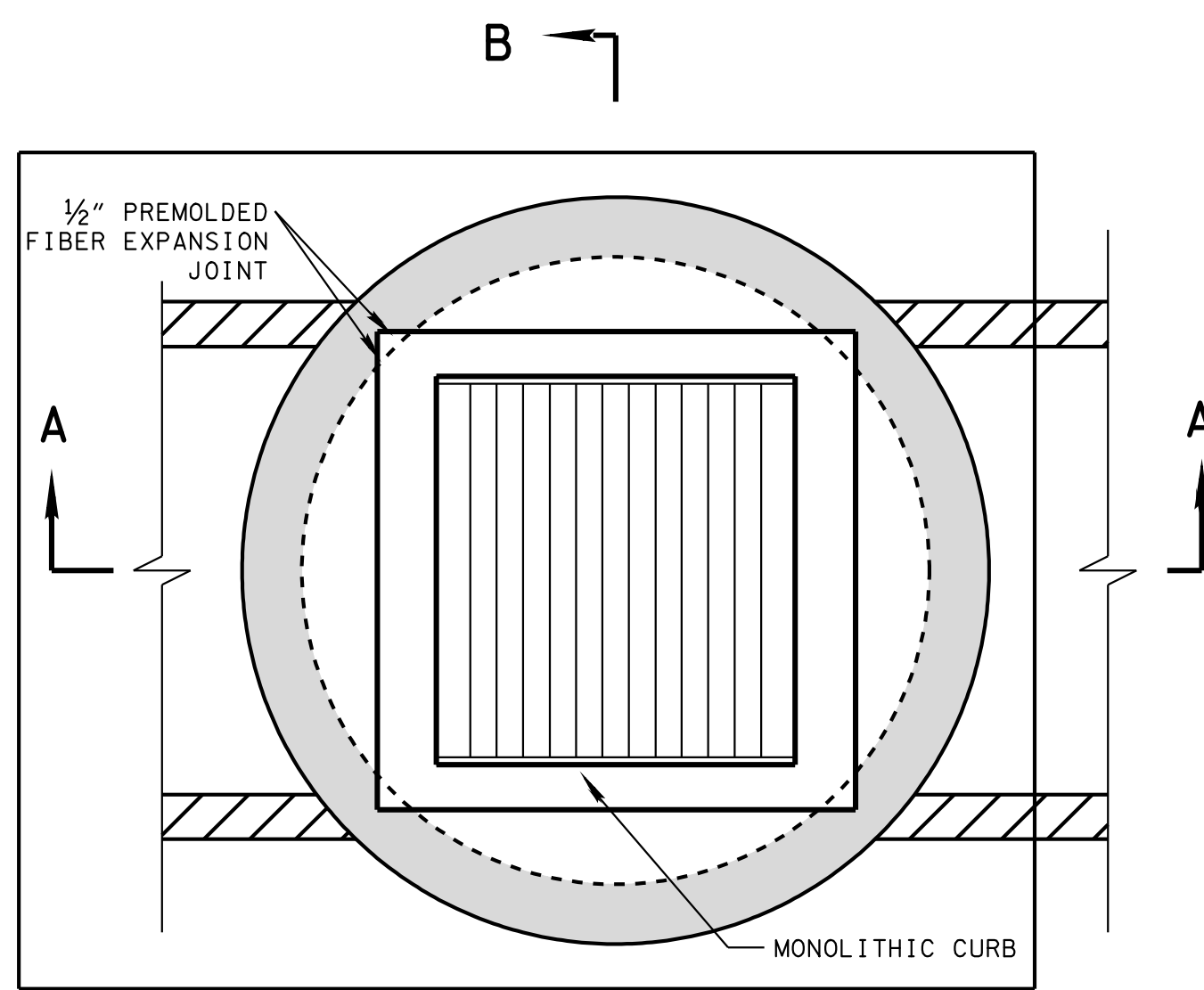
REINFORCING STEEL LEGEND



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

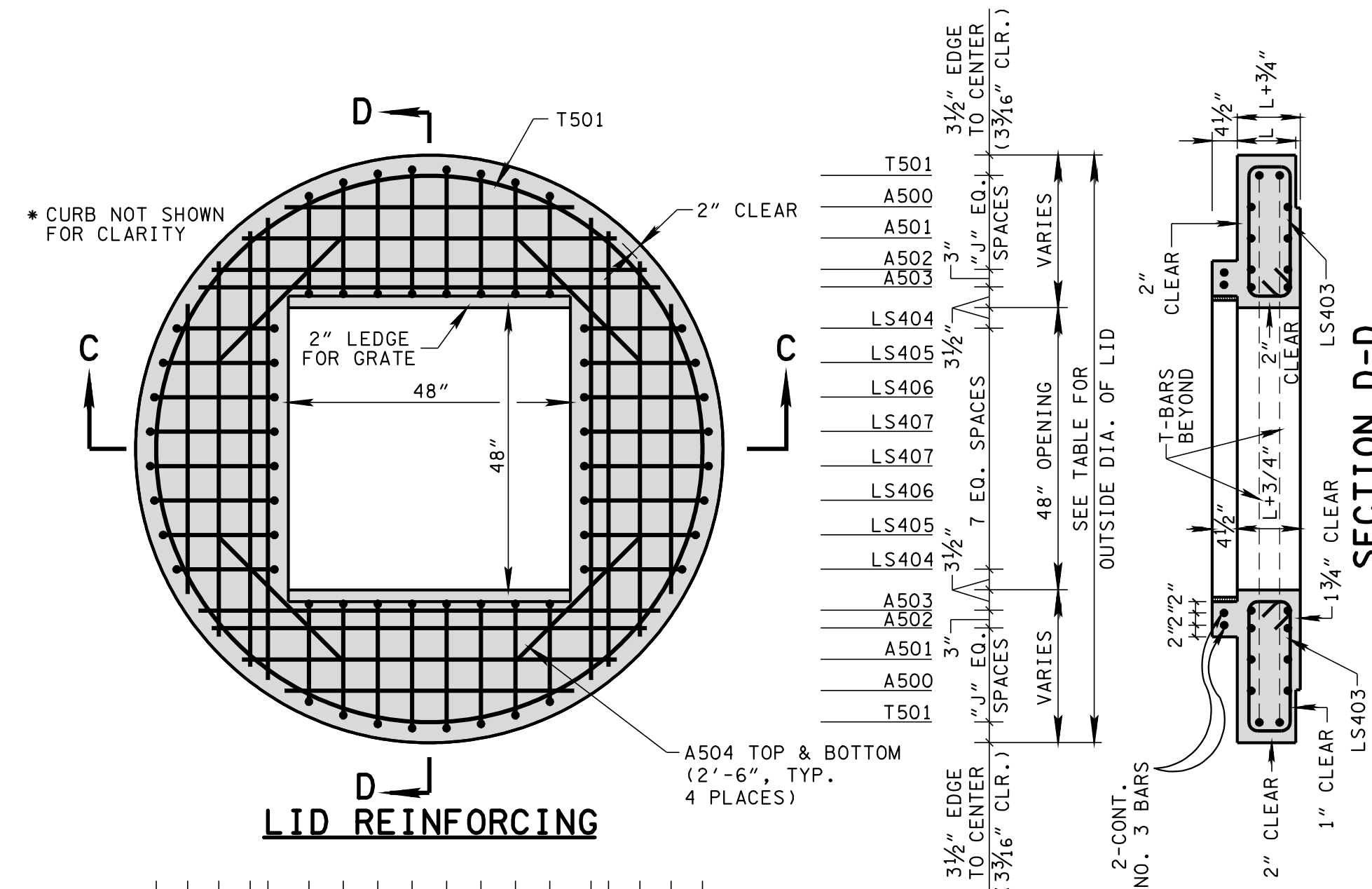


PLAN VIEW

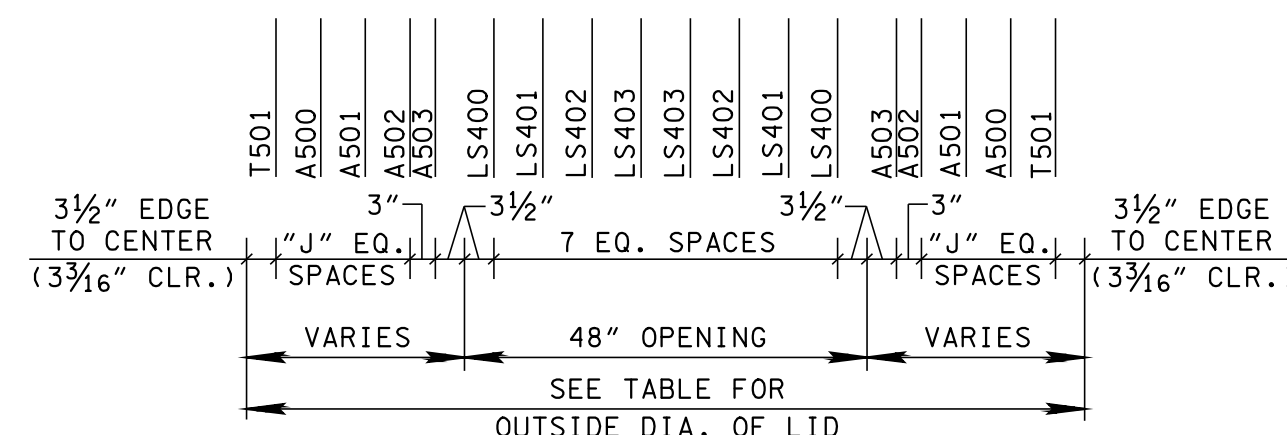
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
84	100	3
96	114	4

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

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



LID REINFORCING



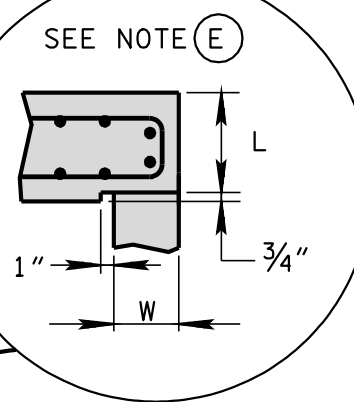
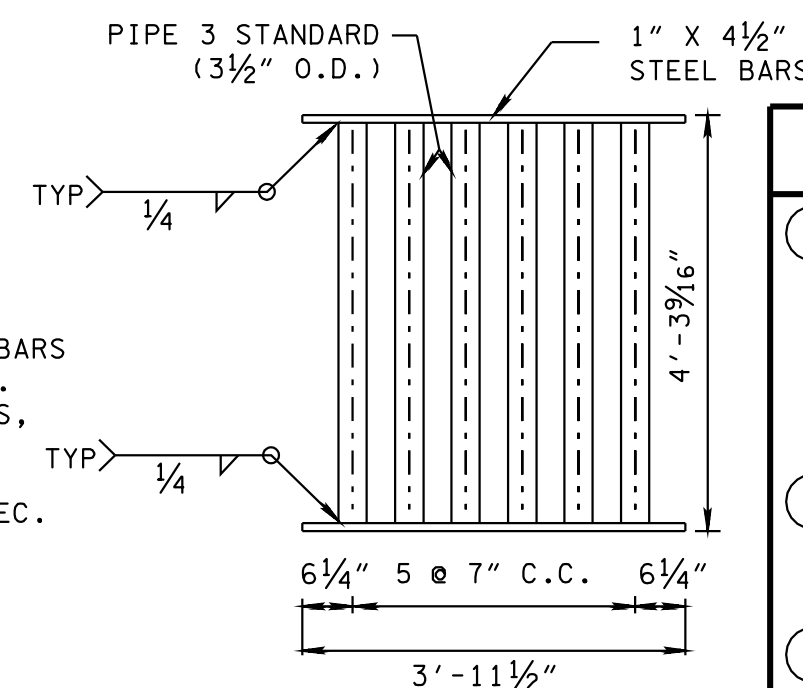
SECTION C-C

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.



CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.

INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION HEIGHTS (INCHES)		FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)	
			84"	96"	84"	96"
18	2 1/2	25	63	64 1/2	4.29	4.42
24	3	32	70	71 1/2	4.83	4.96
30	3 1/2	39	77	78 1/2	5.38	5.50
36	4	46	84	85 1/2	5.92	6.04
42	4 1/2	53	91	92 1/2	6.46	6.58
48	5	60	98	99 1/2	7.00	7.13
54	5 1/2	67	105	106 1/2	7.54	7.67
60	6	74	112	113 1/2	8.08	8.21
66	6 1/2	81	119	120 1/2	8.63	8.75

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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

- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.
- 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.
- FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 26 1/2 INCH (FOR 84 INCH INSIDE DIAMETER CATCH BASIN) OR 27 1/2 INCH (FOR 96 INCH INSIDE DIAMETER CATCH BASIN) DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.
- CONCRETE JOINT MATERIAL TO BE 1/2" PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.
- 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.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

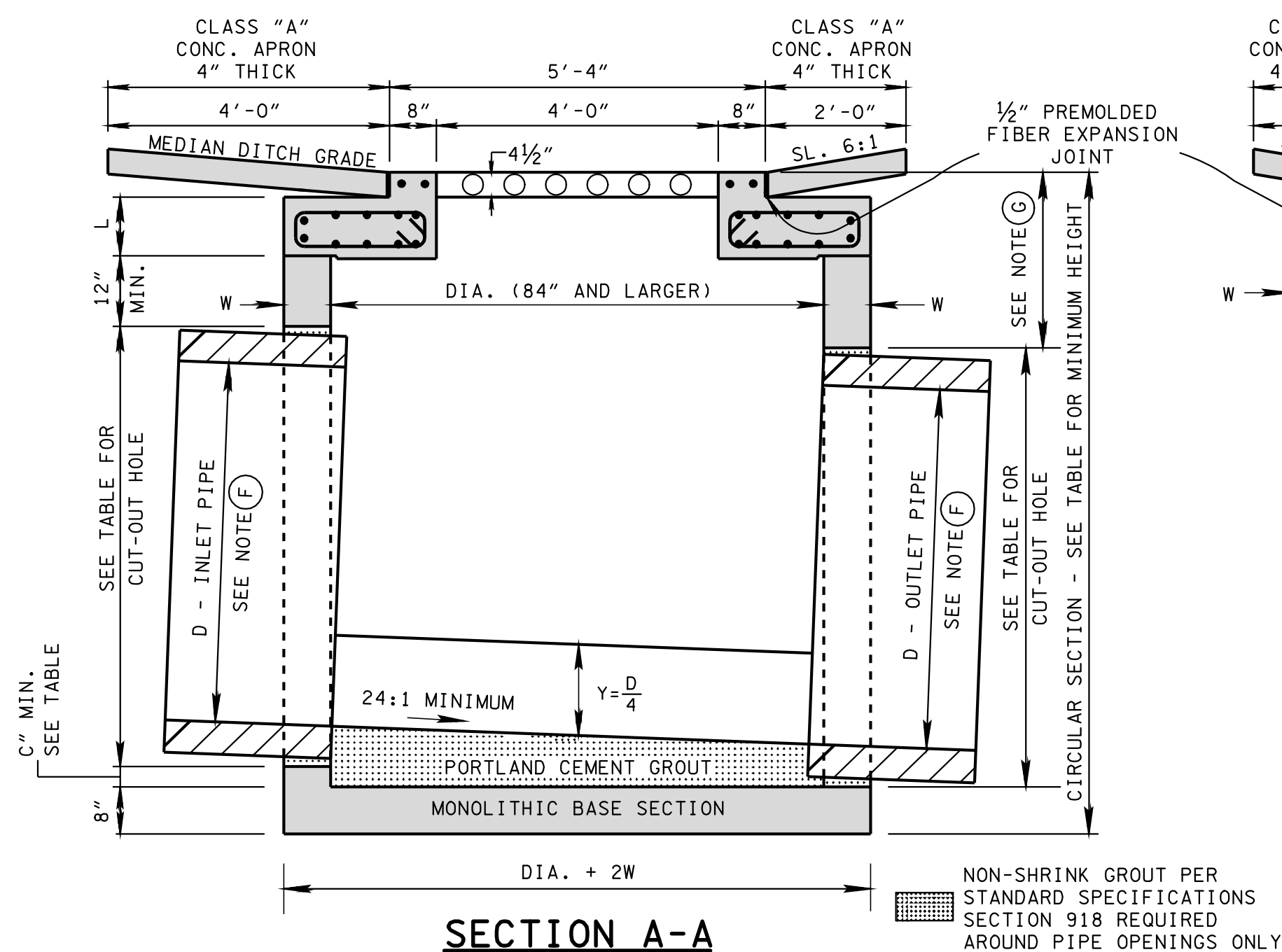
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST
CIRCULAR
NO. 39
CATCH BASIN

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

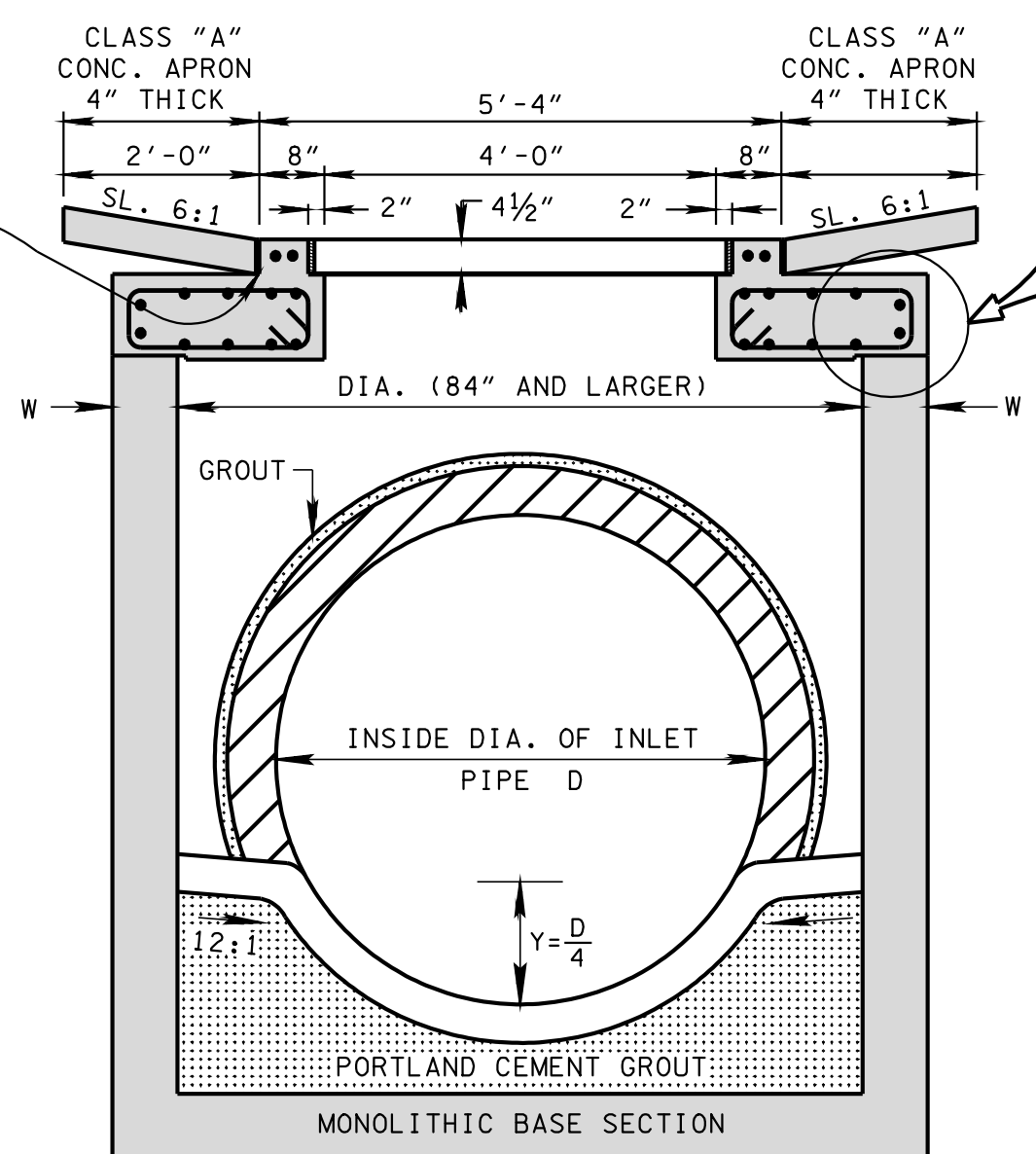
NOT TO SCALE

10-26-98 D-CB-39RB

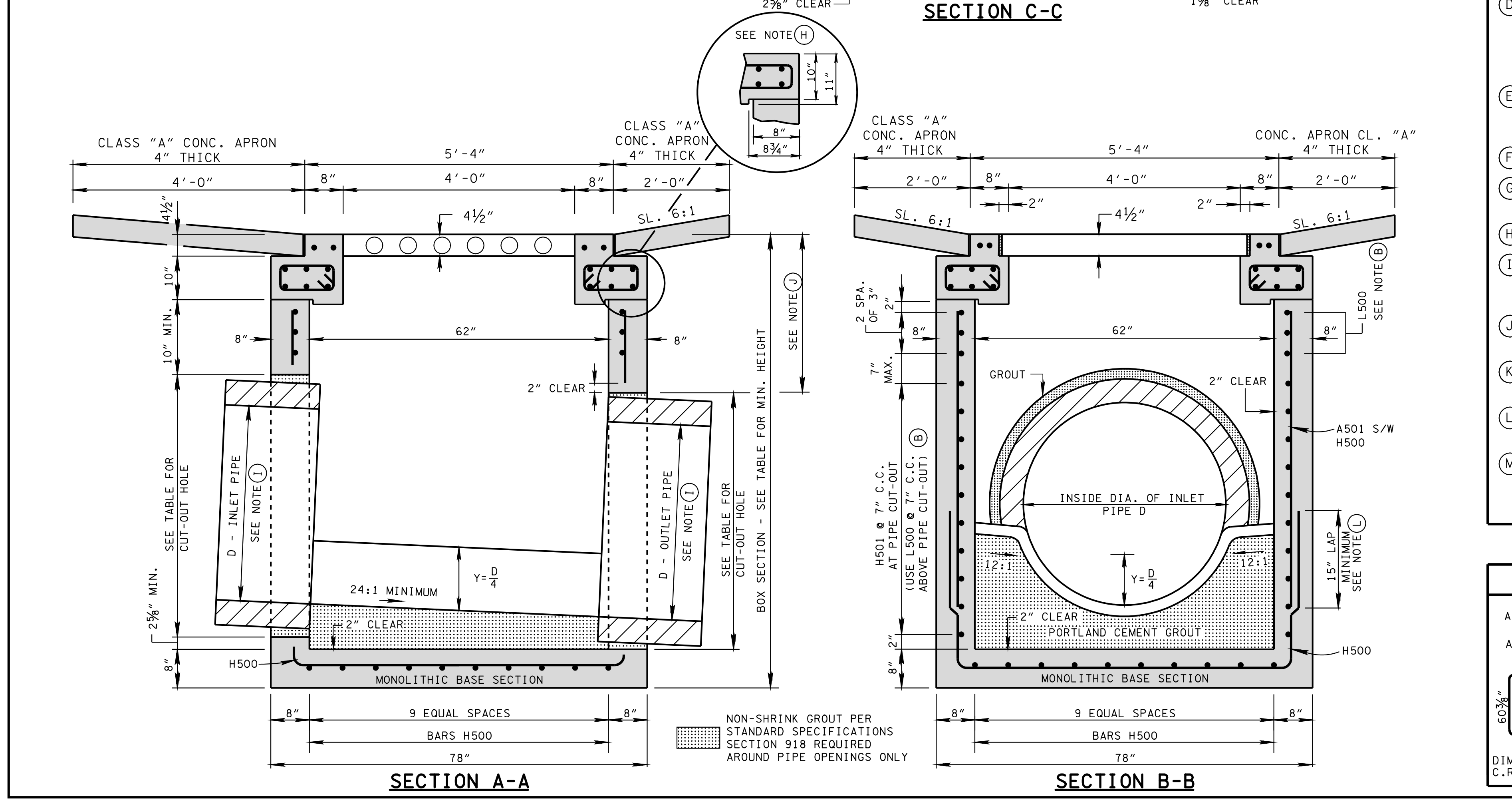
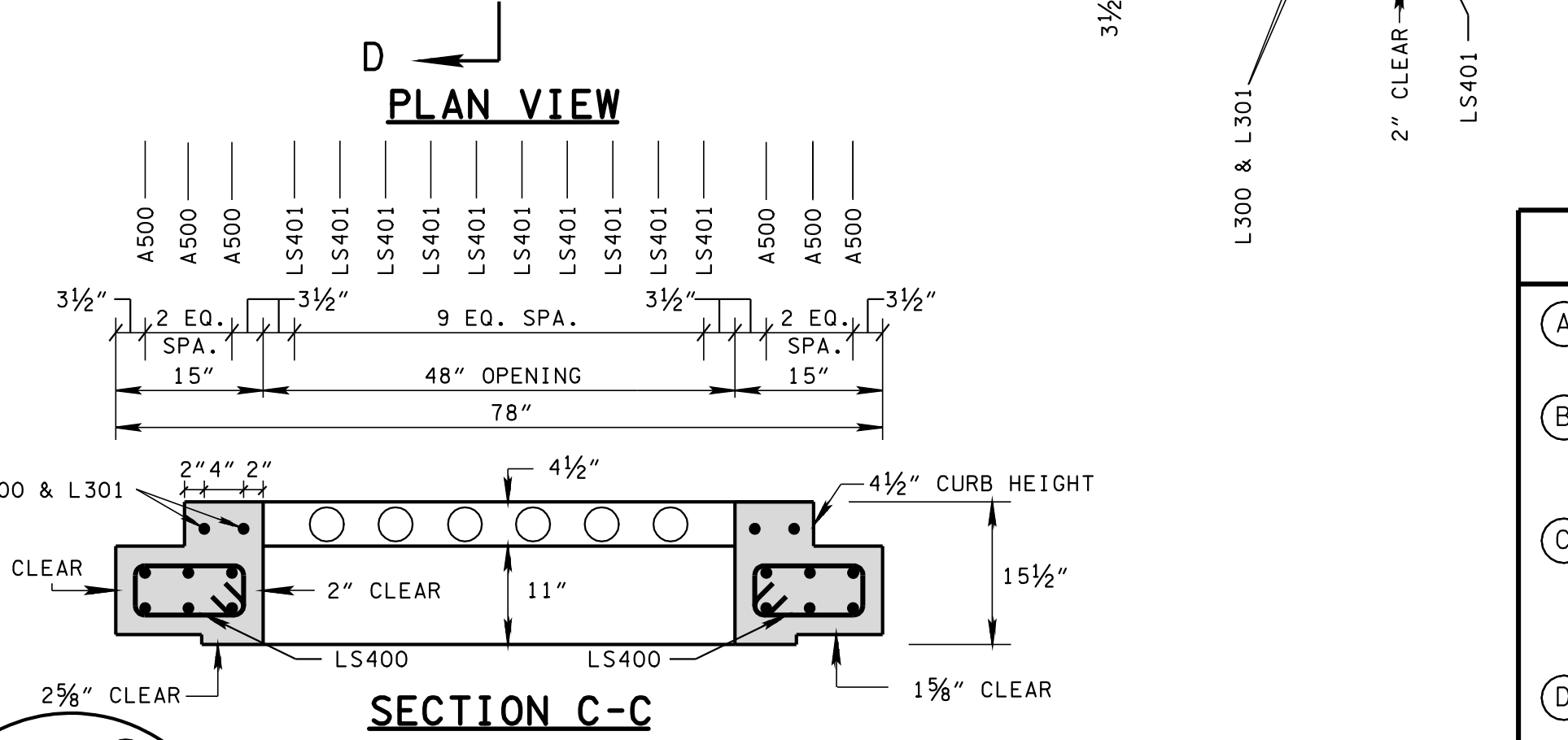
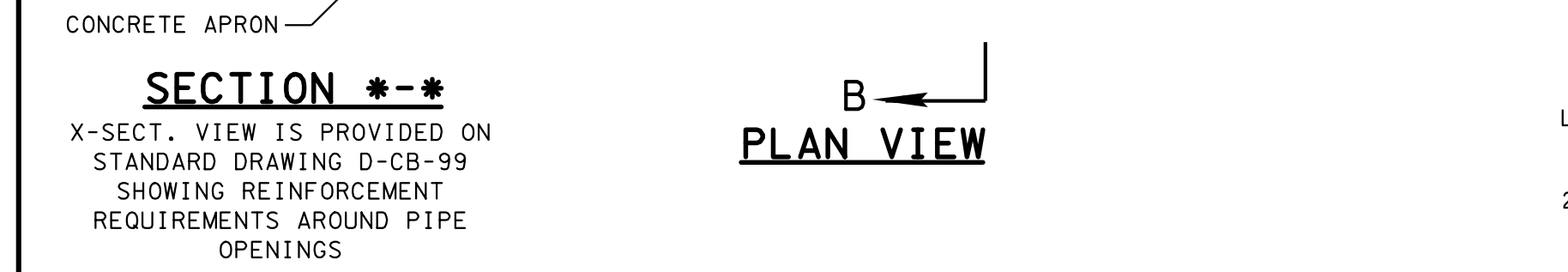
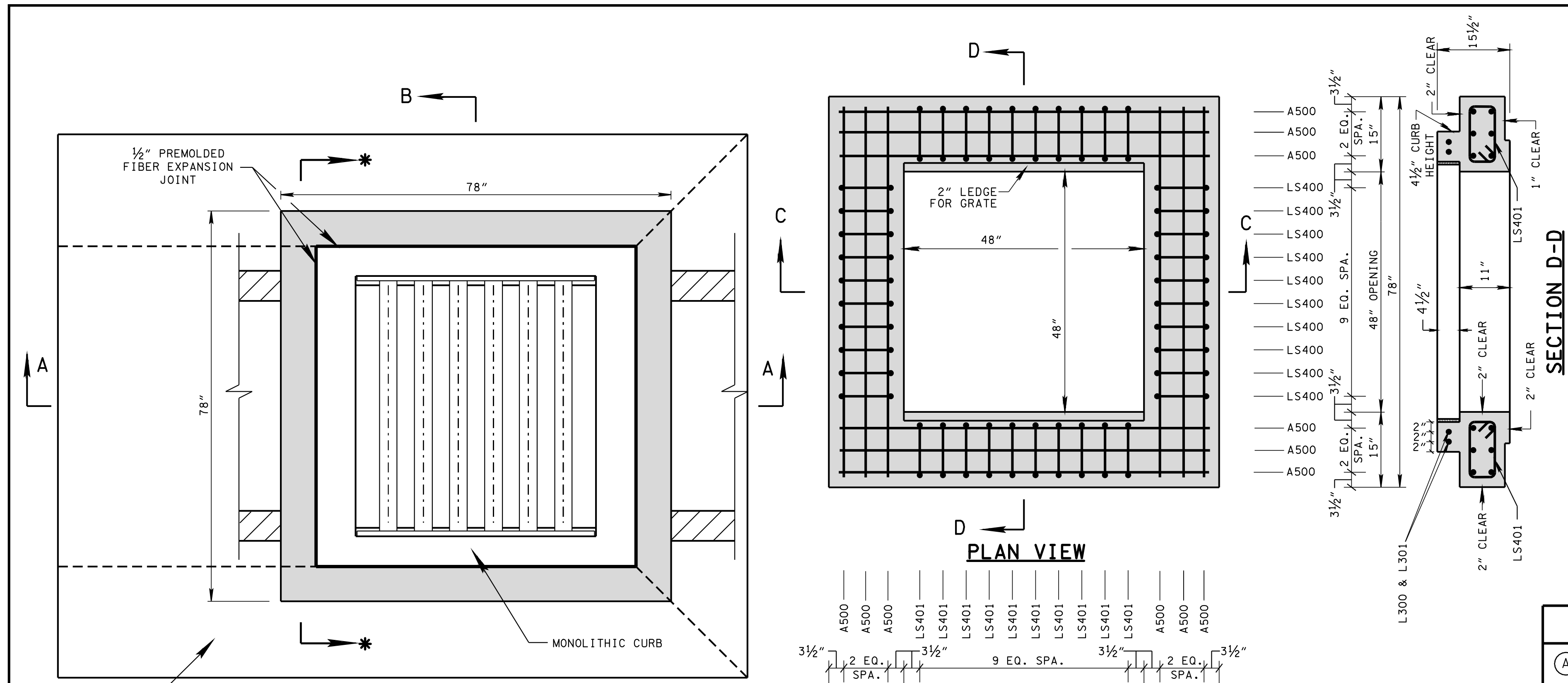


SECTION A-A

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



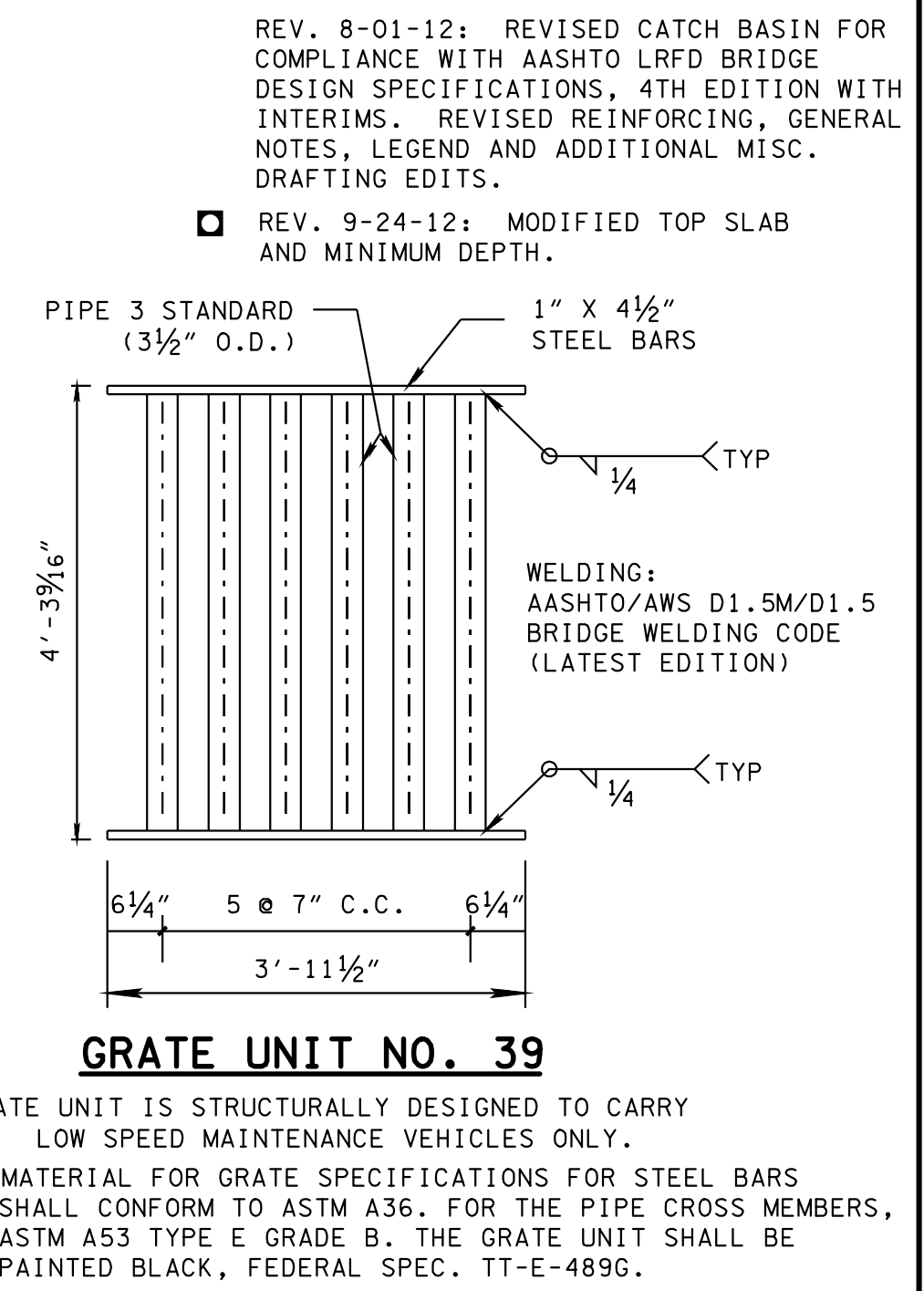
SECTION B-B



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

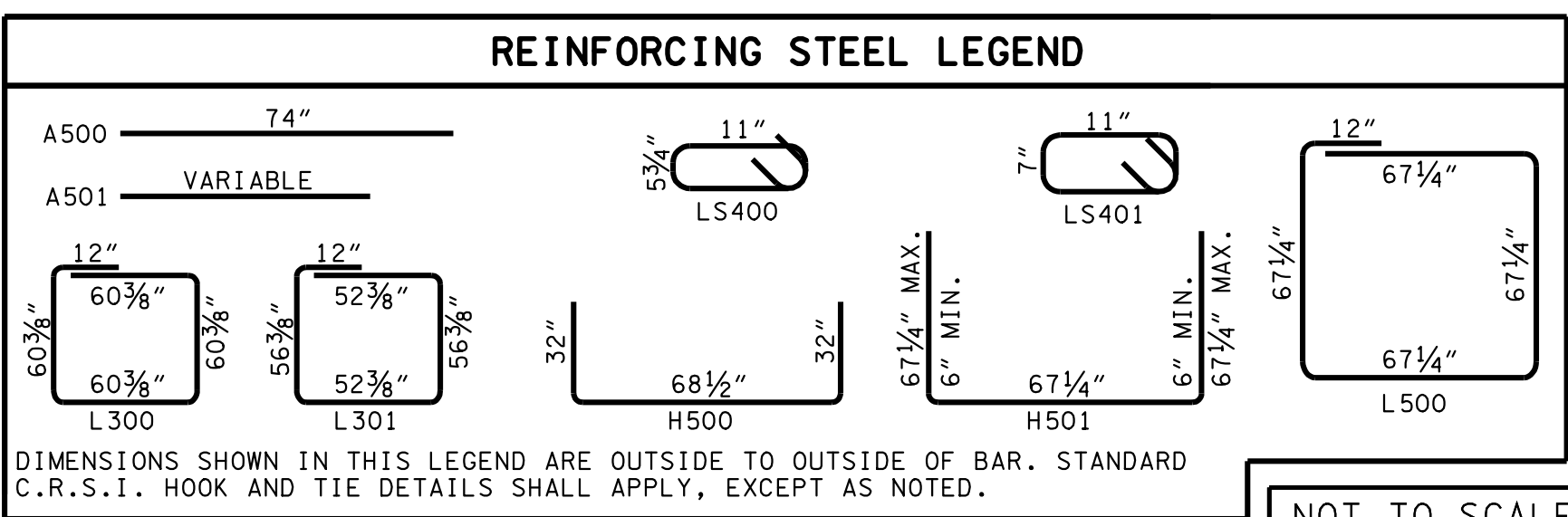
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	
18	2 1/2	25	60	4.13
24	3	32	67	4.67
30	3 1/2	39	74	5.22
36	4	46	81	5.76
42	4 1/2	53	88	6.30
48	5	60	95	6.84

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



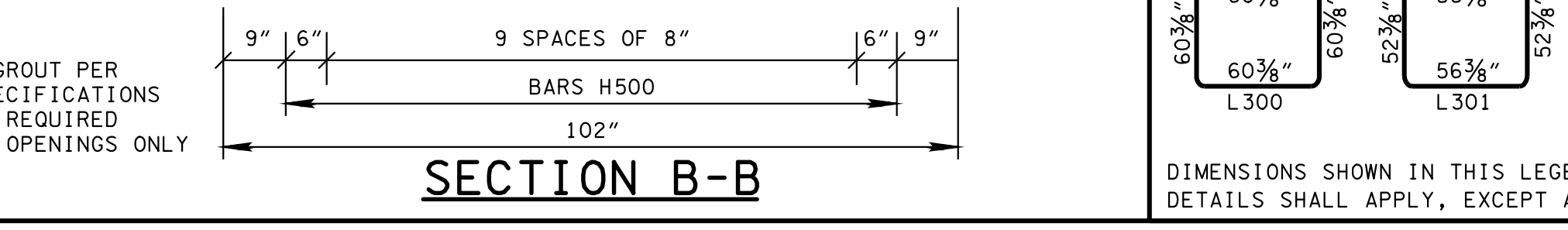
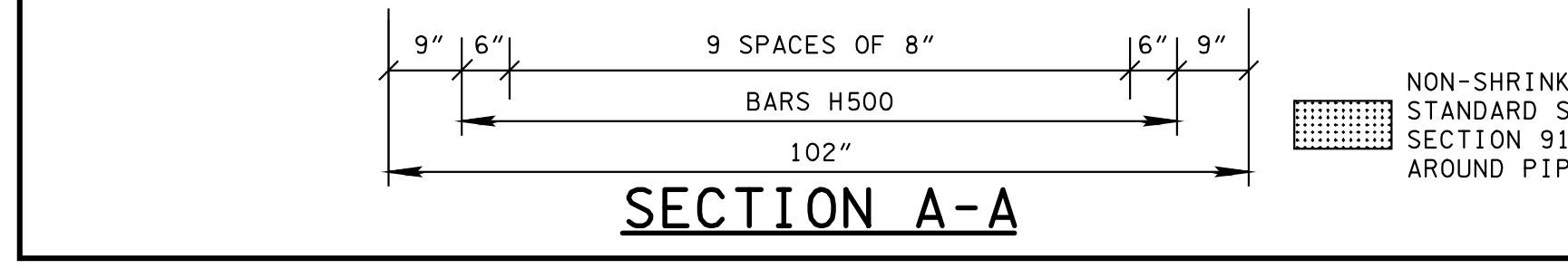
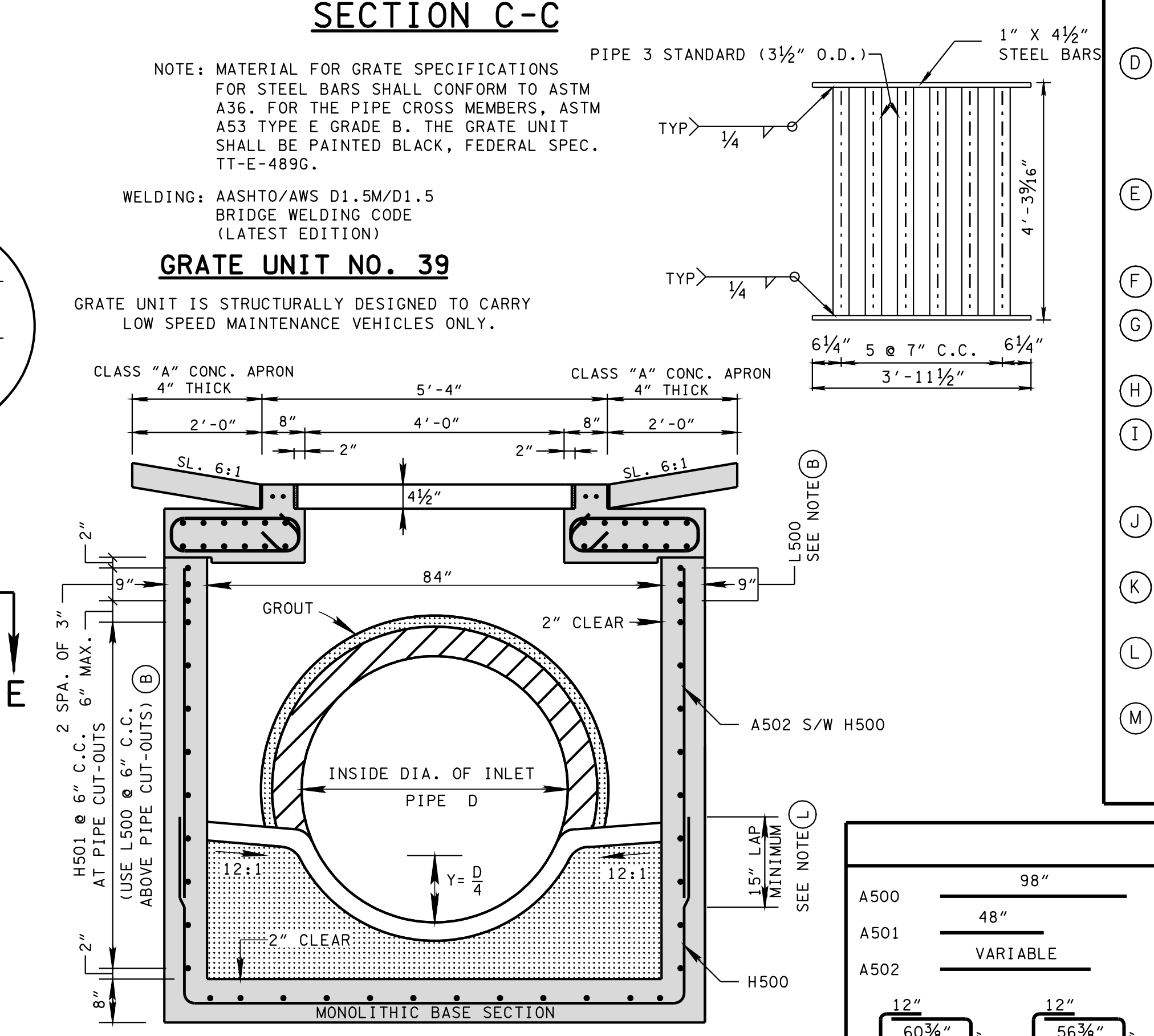
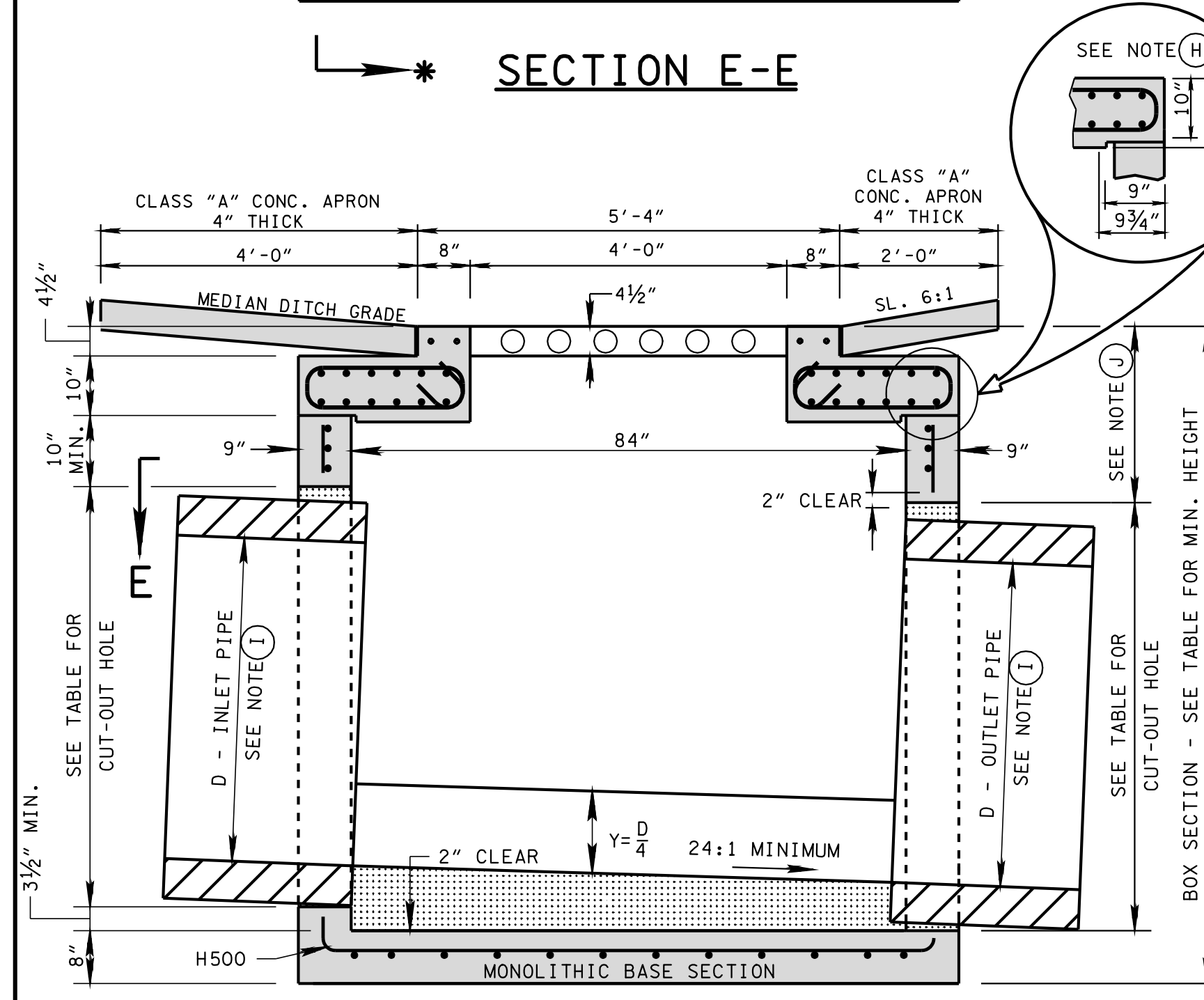
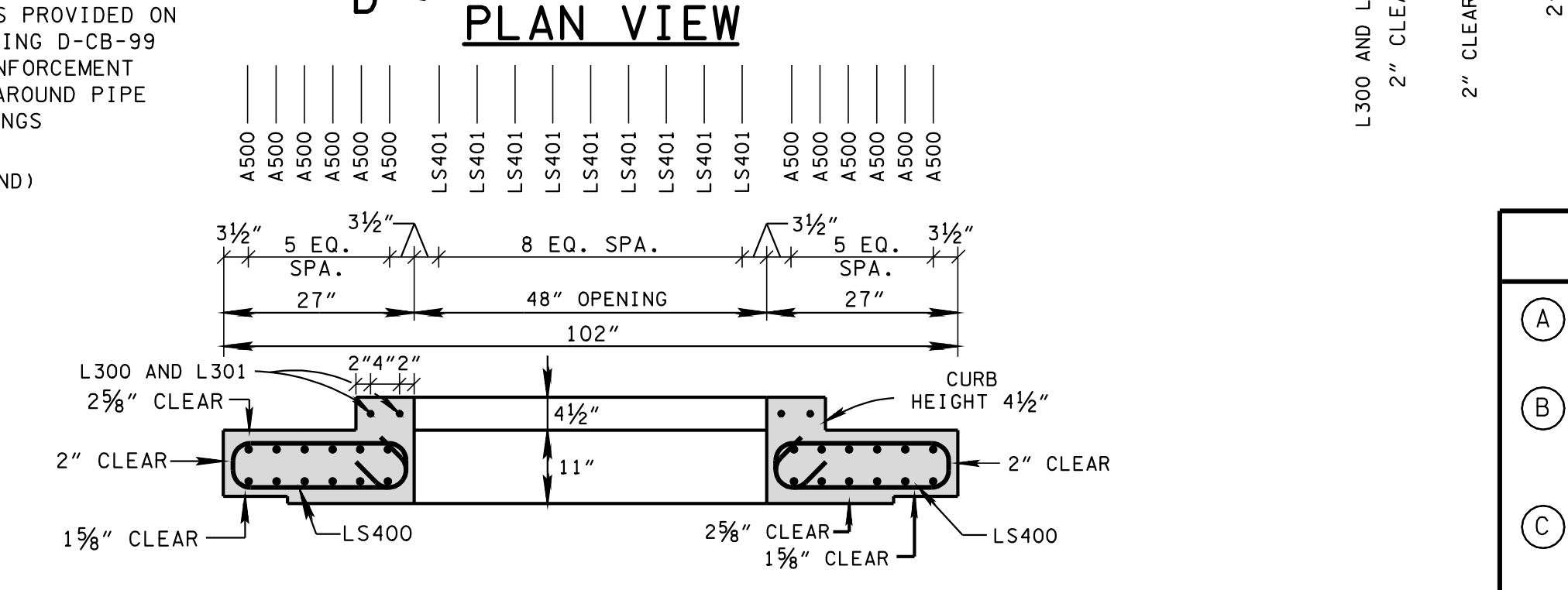
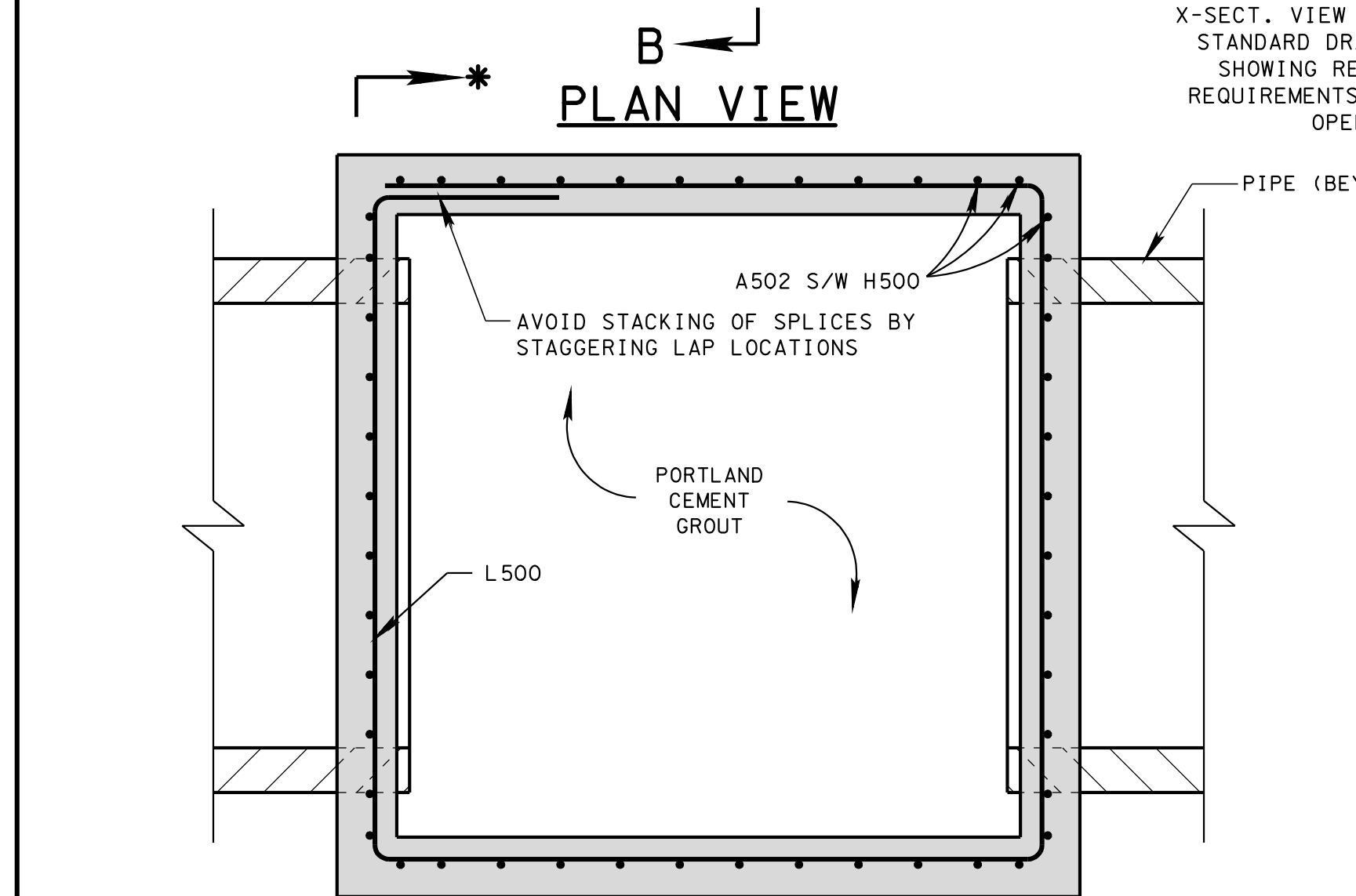
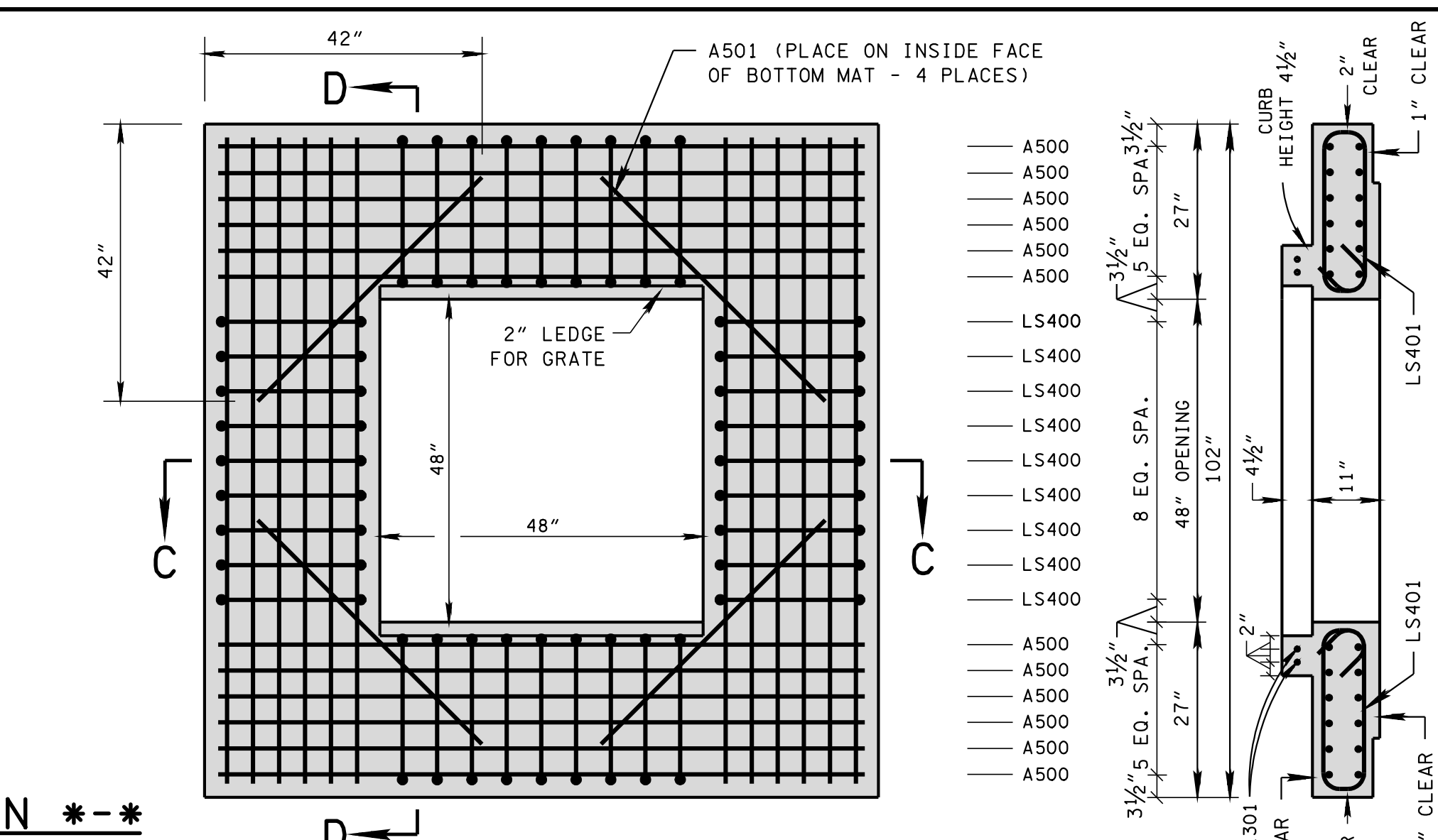
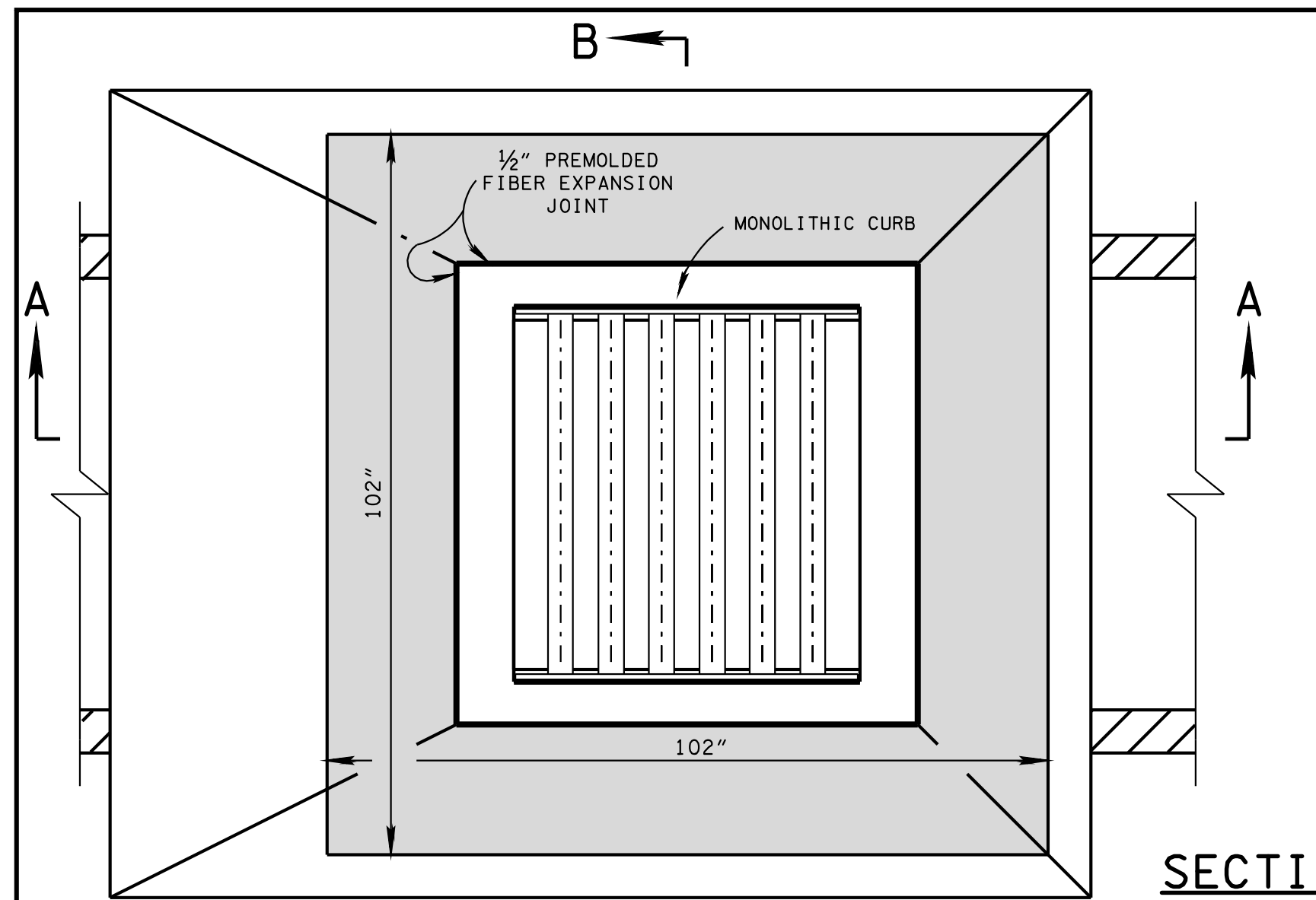
GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 24 1/2 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.
- CONCRETE JOINT MATERIAL TO BE 1/2 INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.
- THE CONTRACTOR MAY ELIMINATE THE A501 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
- 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.



MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
STANDARD
5'2" X 5'2" SQUARE
CONCRETE NO.39
CATCH BASIN



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	2 1/2	25	60	4.13
24	3	32	67	4.67
30	3 1/2	39	74	5.22
36	4	46	81	5.76
42	4 1/2	53	88	6.30
48	5	60	95	6.84
54	5 1/2	67	102	7.38
60	6	74	109	7.92
66	6 1/2	81	116	8.47

- SECTION D-D
- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
 - ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
 - 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 (C) 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.

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

- GENERAL NOTES**
- 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
 - 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.
 - ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
 - 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.
 - FOR CASES WHERE THE OUTLET PIPE DIAMETER IS LARGER THAN THE INLET PIPE DIAMETER, A MINIMUM 24 1/2 INCH DEPTH SHALL BE MAINTAINED ABOVE THE OUTLET PIPE.
 - CONCRETE JOINT MATERIAL TO BE 1/2 INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF STANDARD SPECIFICATIONS.
 - THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
 - 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' EPHT 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

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

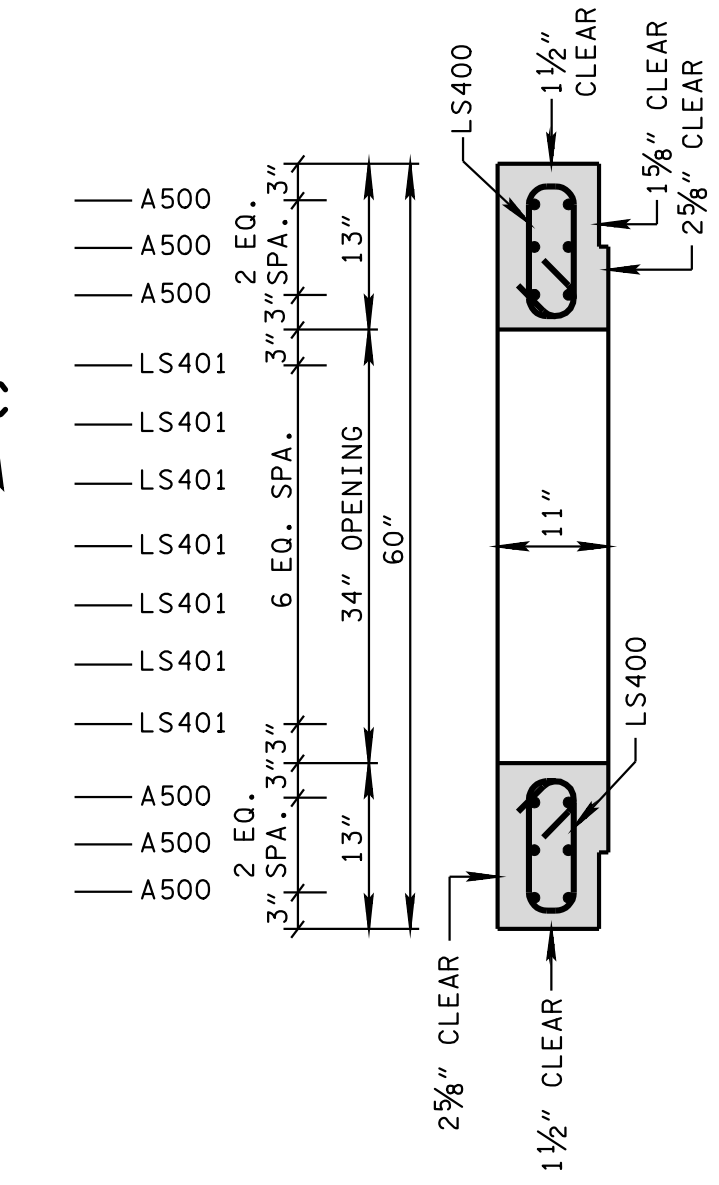
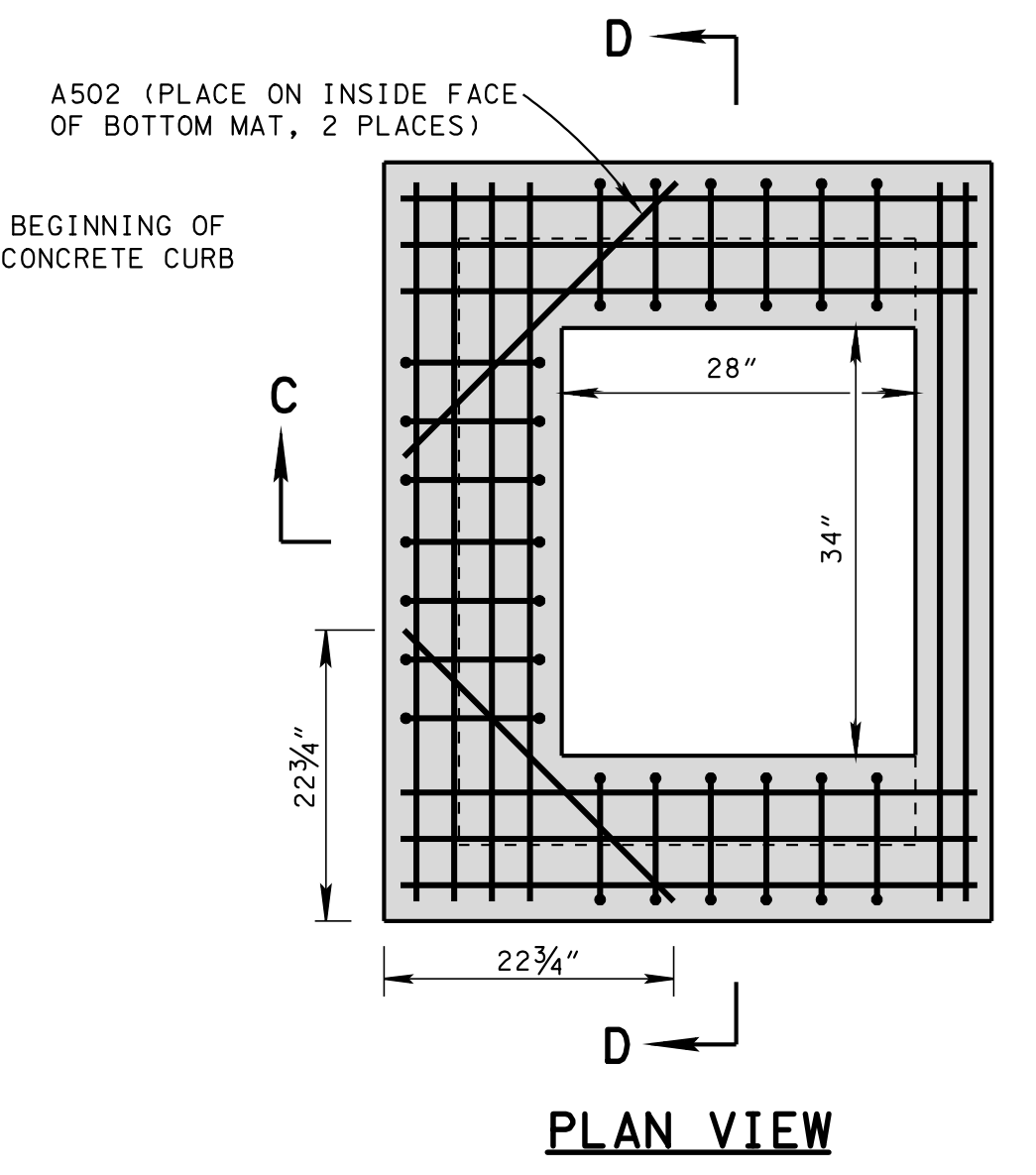
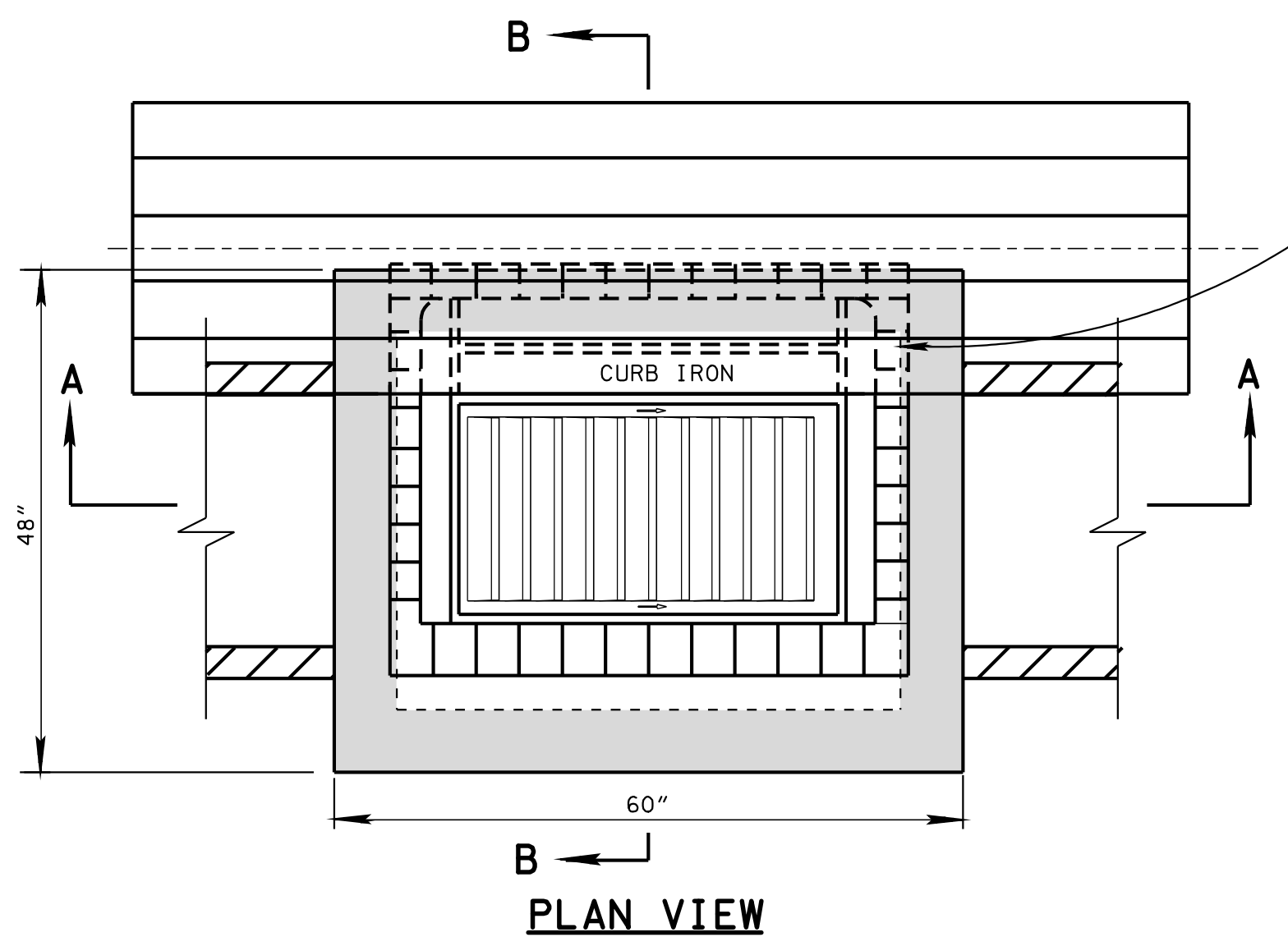
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

STANDARD 7' X 7' SQUARE CONCRETE NO. 39 CATCH BASIN

10-26-99 D-CB-39SD

NOT TO SCALE

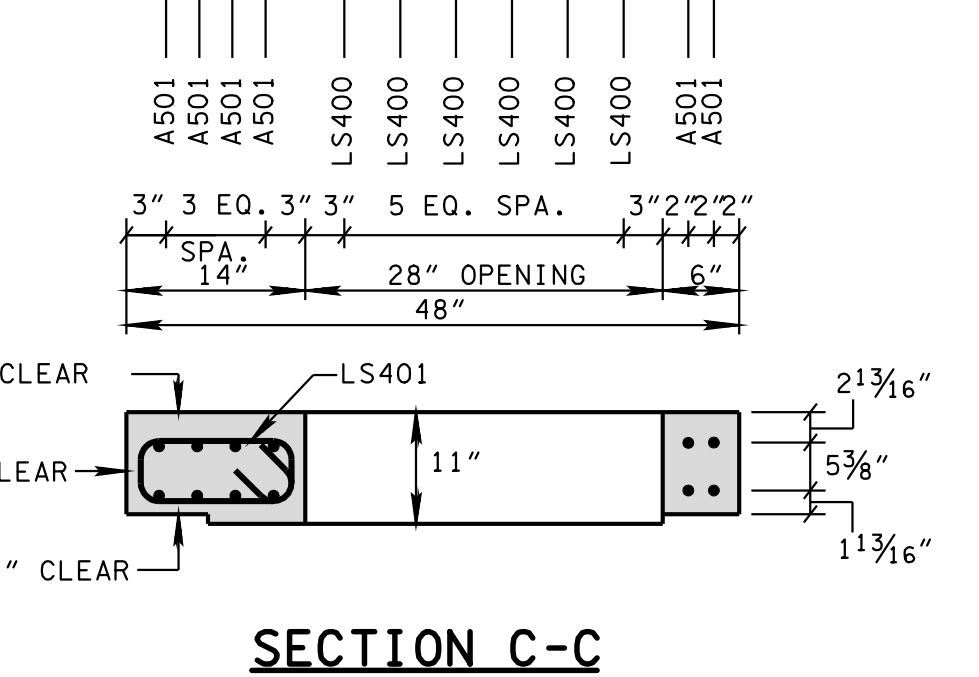
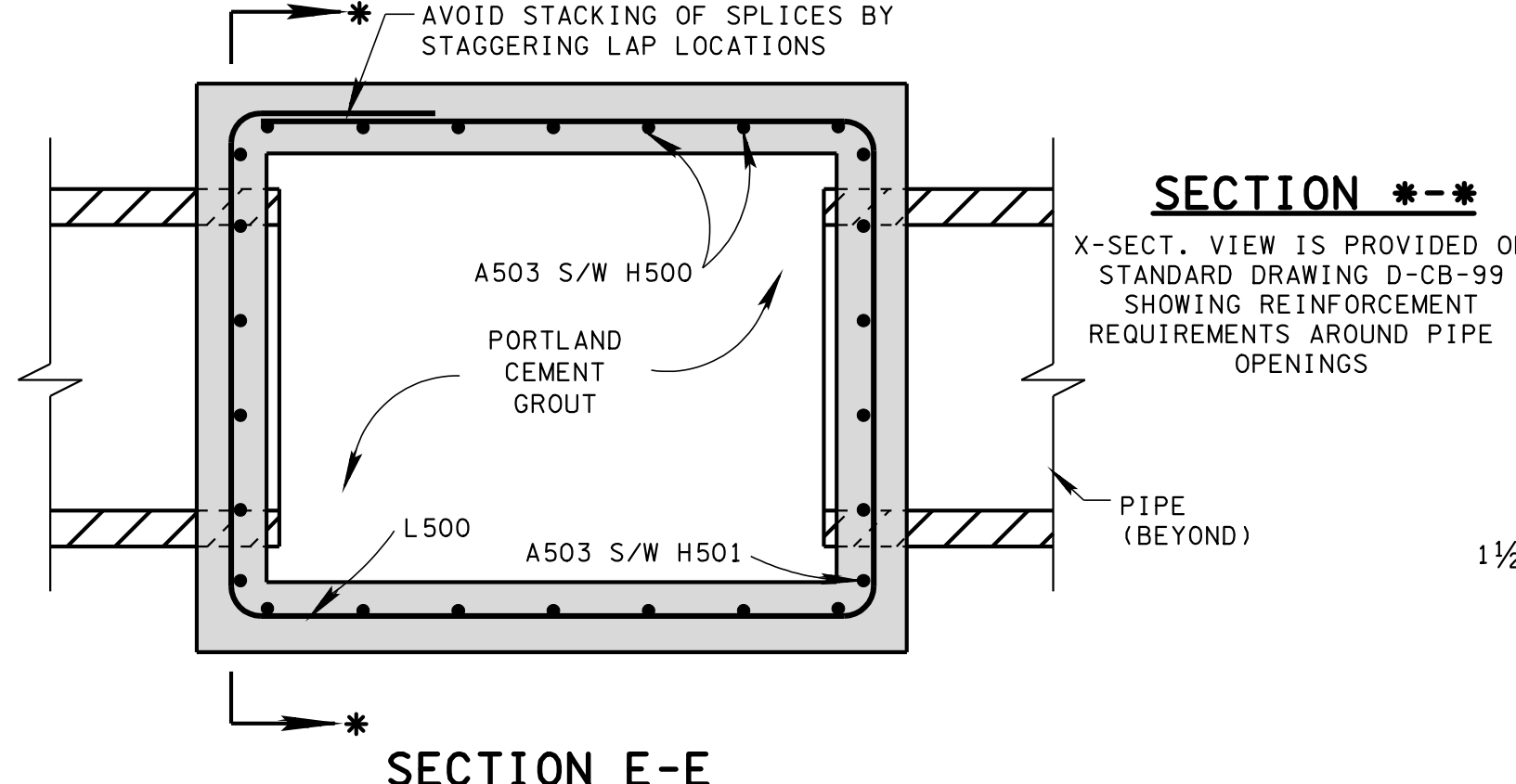
DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.



CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 12.00'.

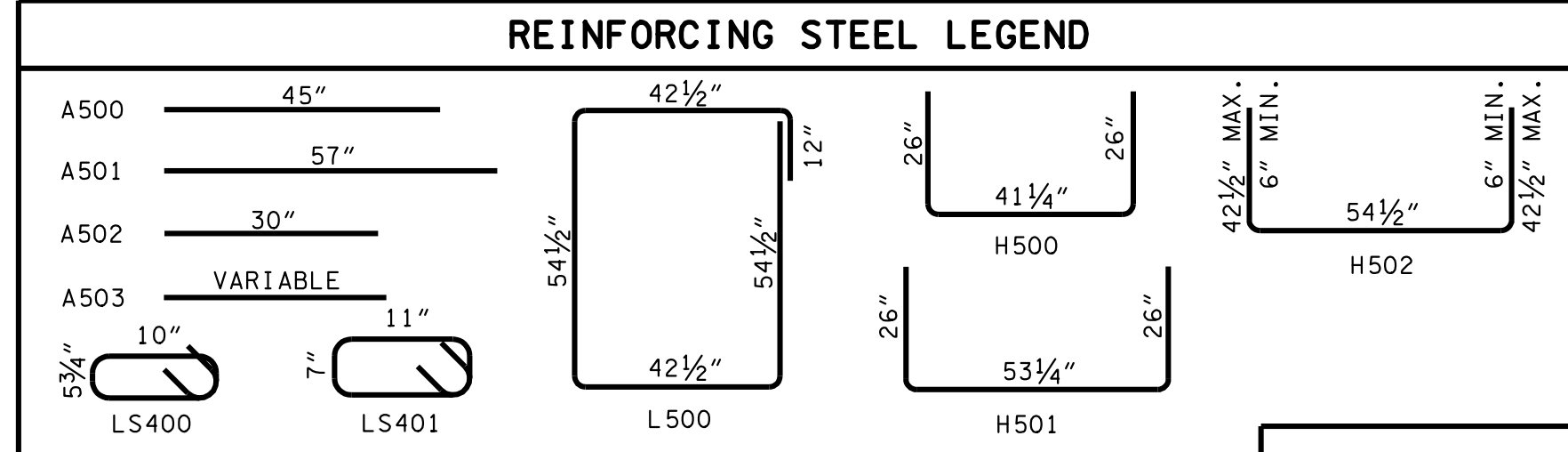
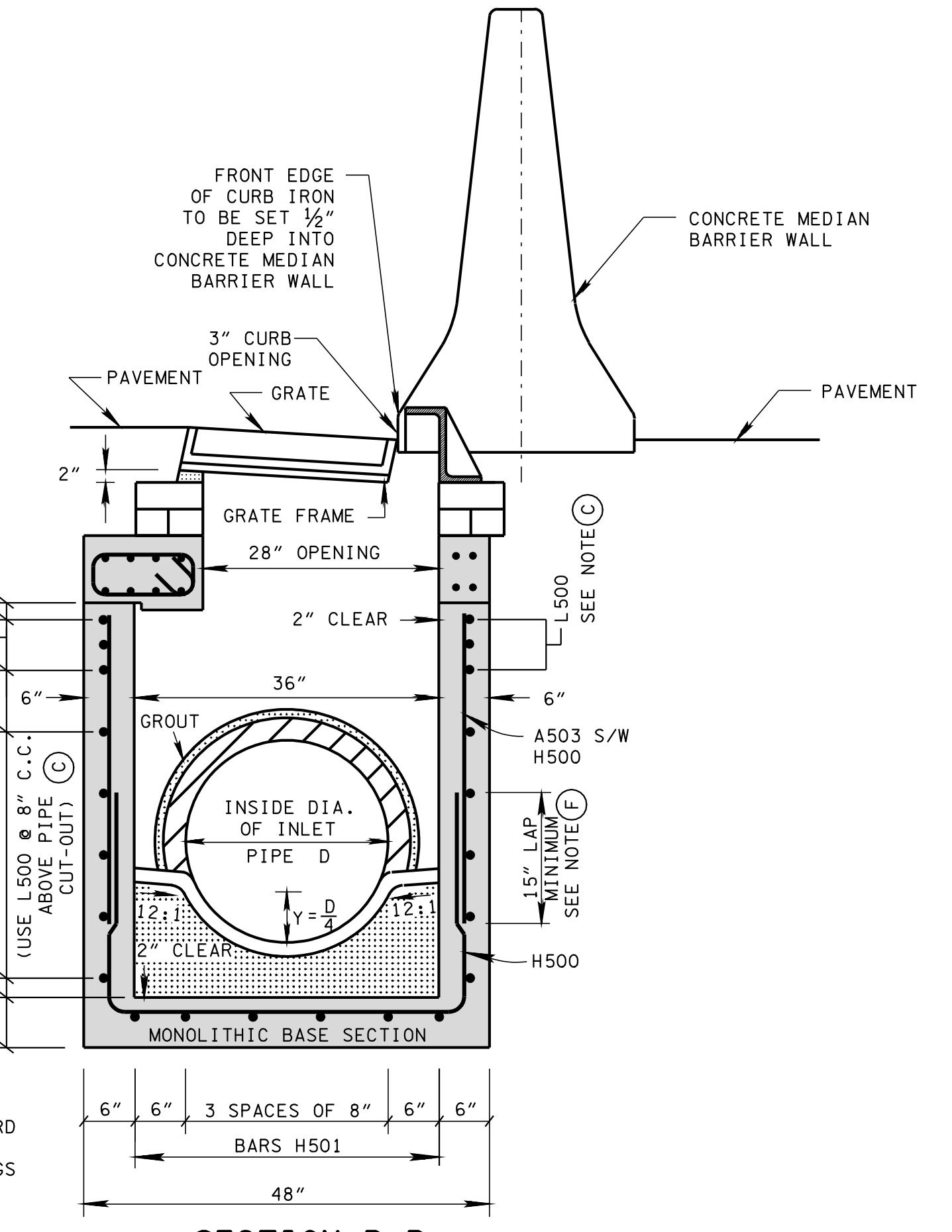
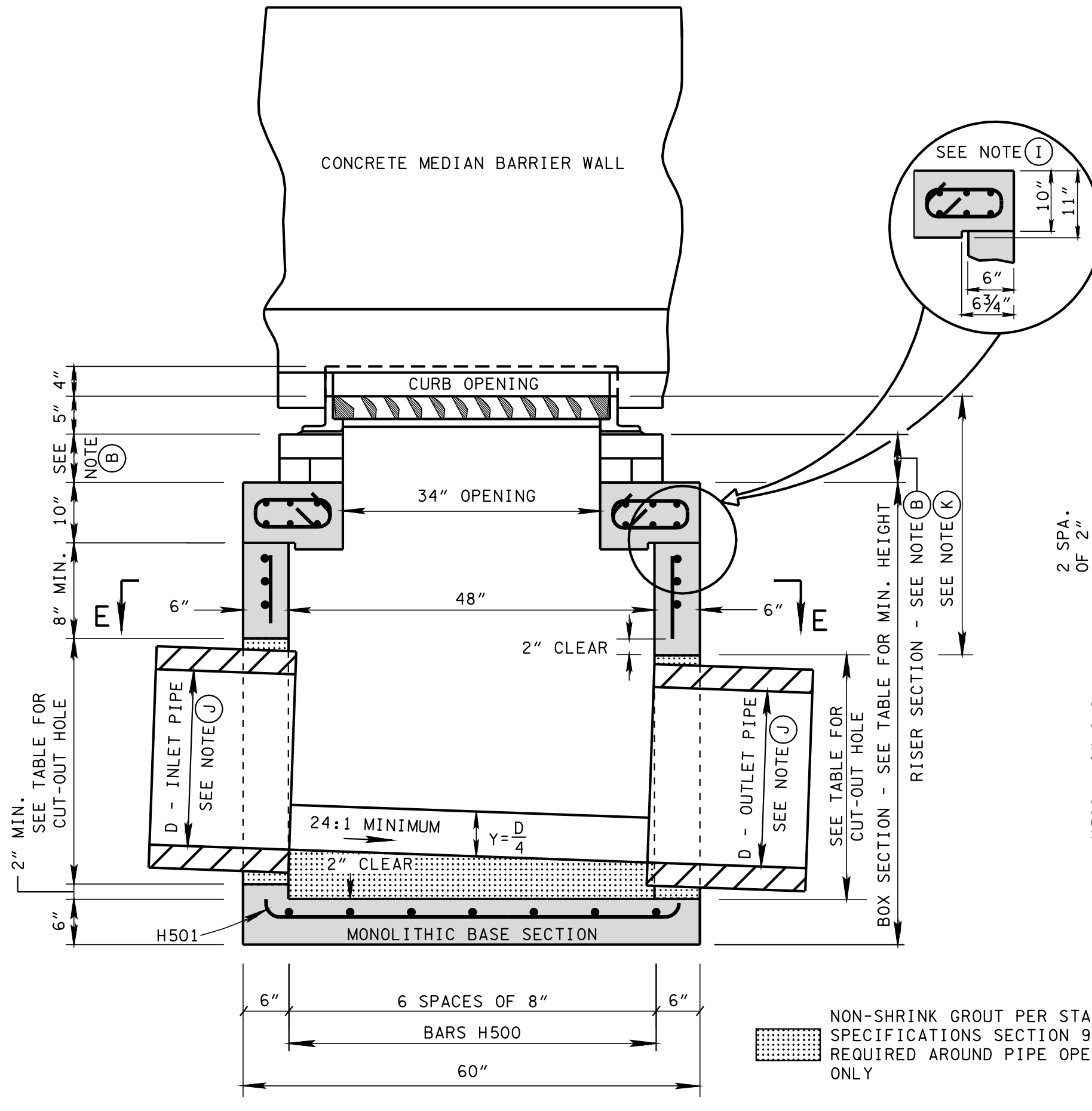
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	49	3.88
24	3	32	56	4.42
④ 30	3 1/2	39	63	4.96
④ 36	4	46	70	5.50

- 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.



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 1 1/2 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.



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)

12-18-95 D-CB-41P

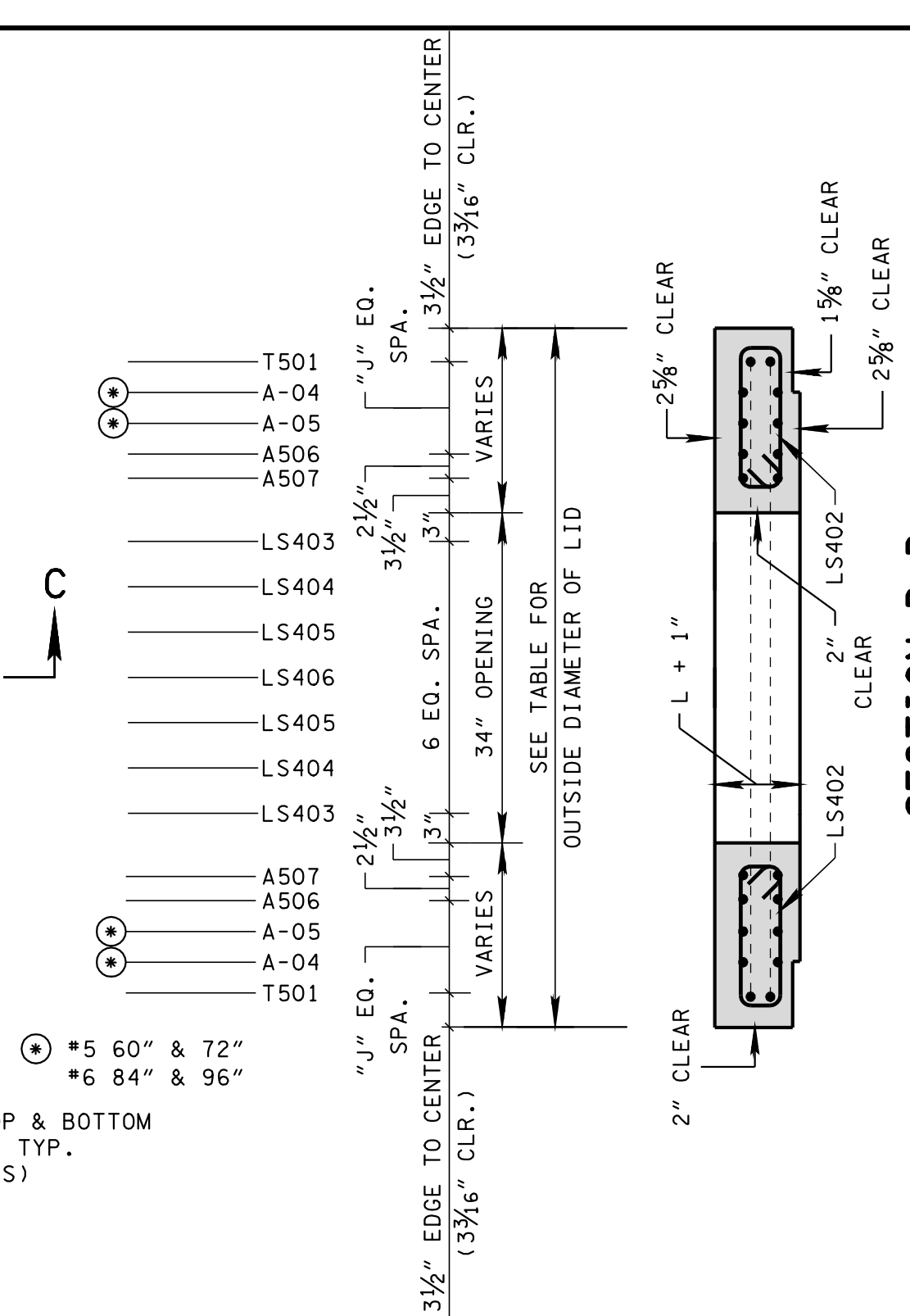
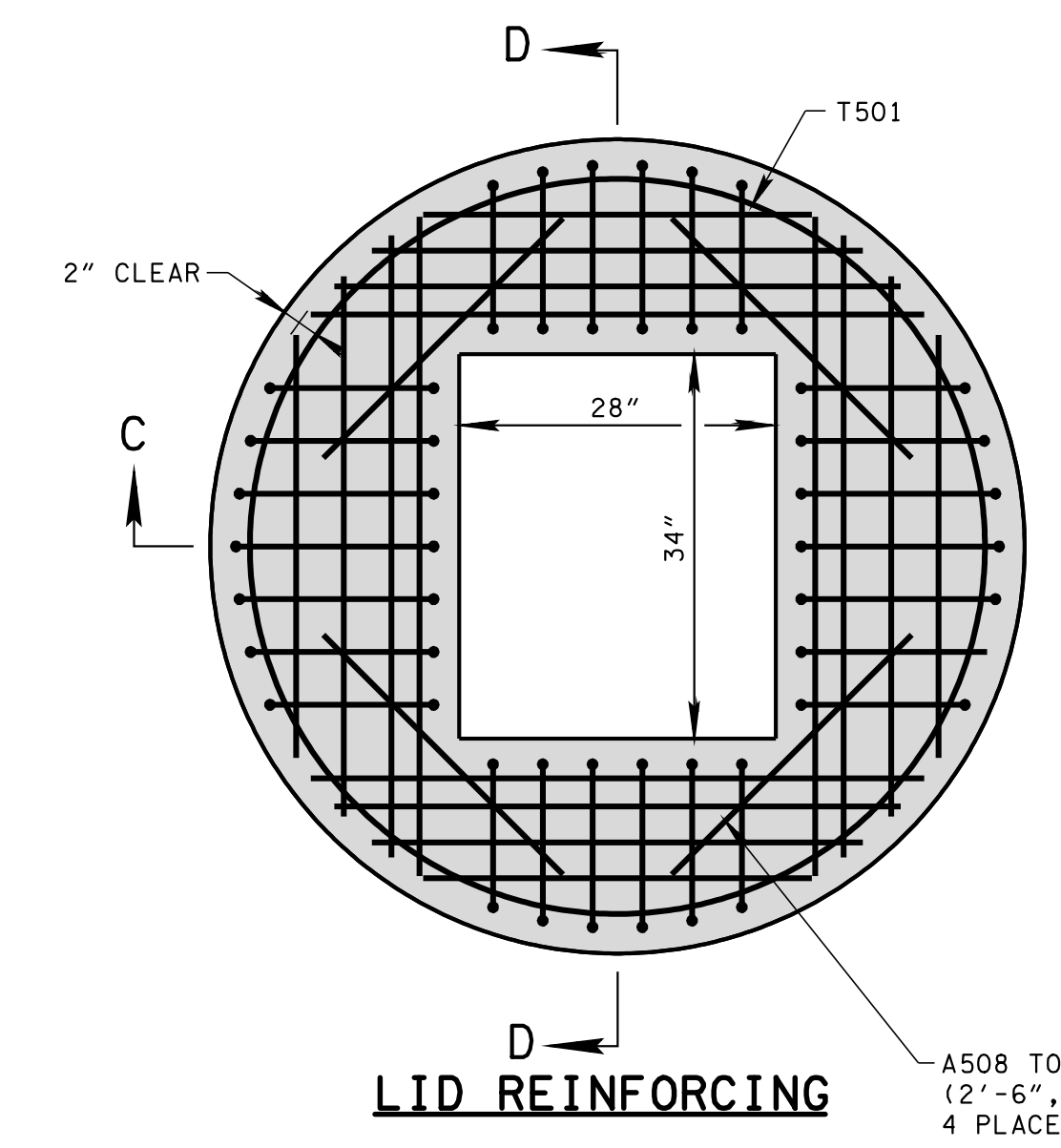
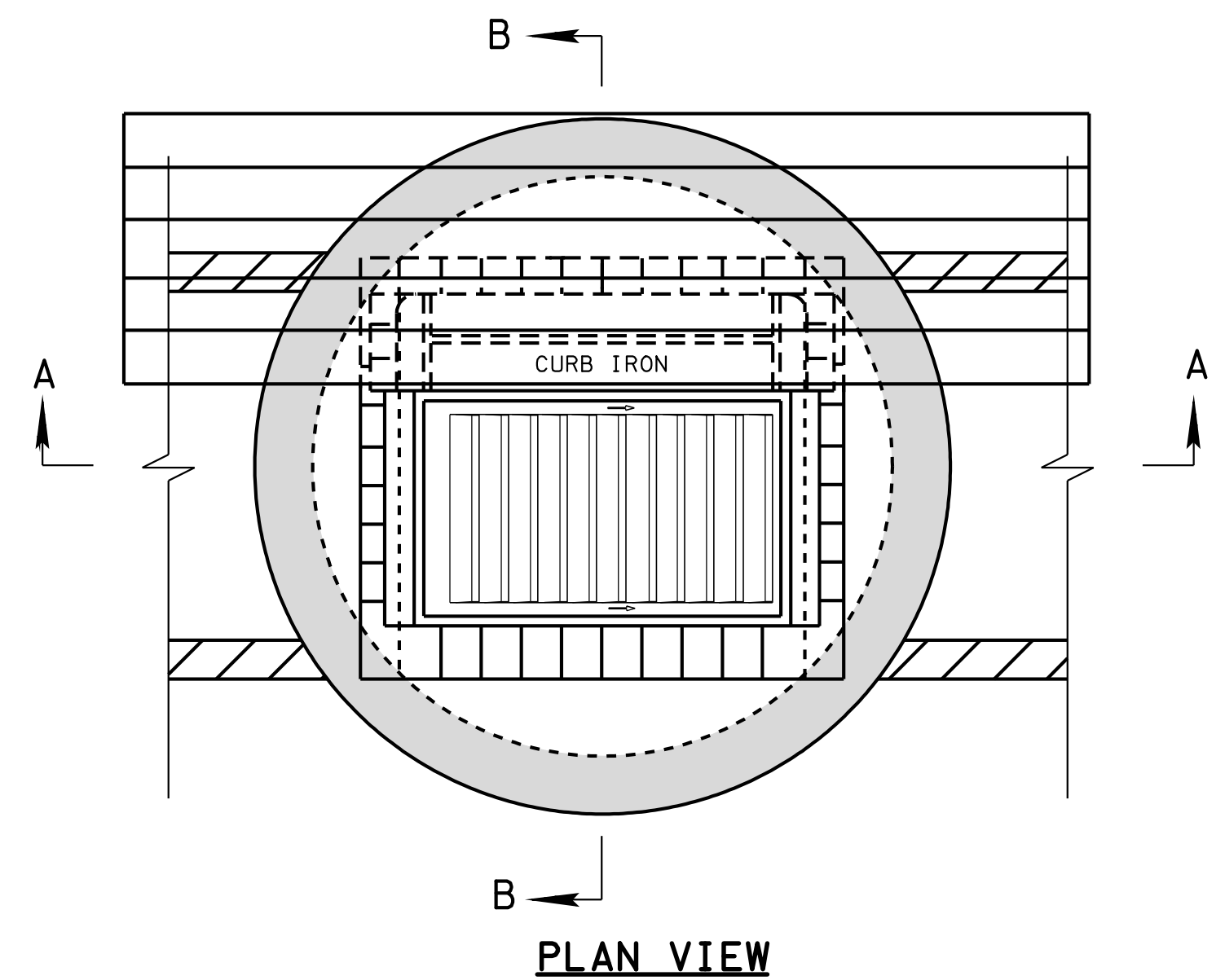
NOT TO SCALE

- 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'.

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

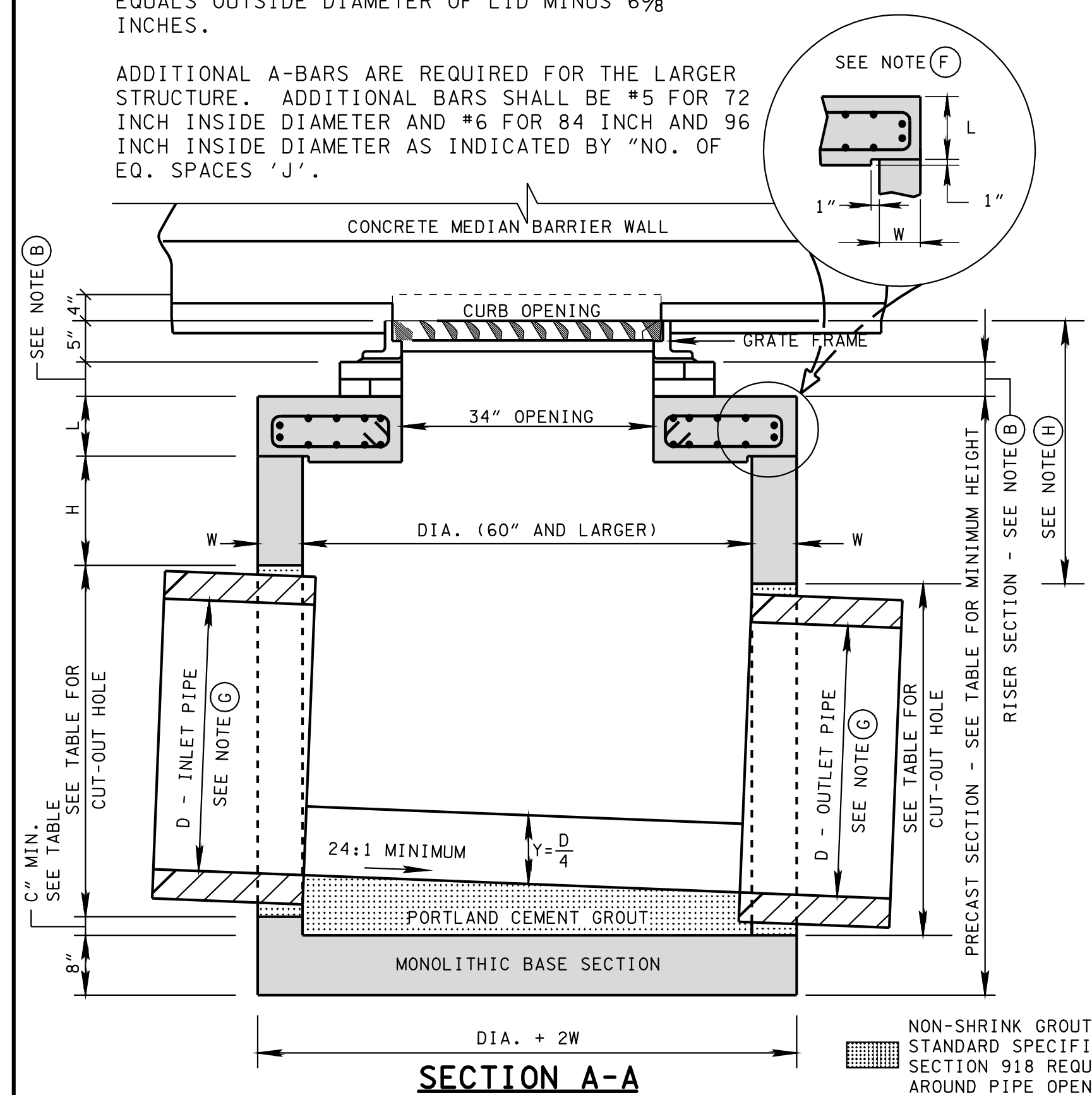
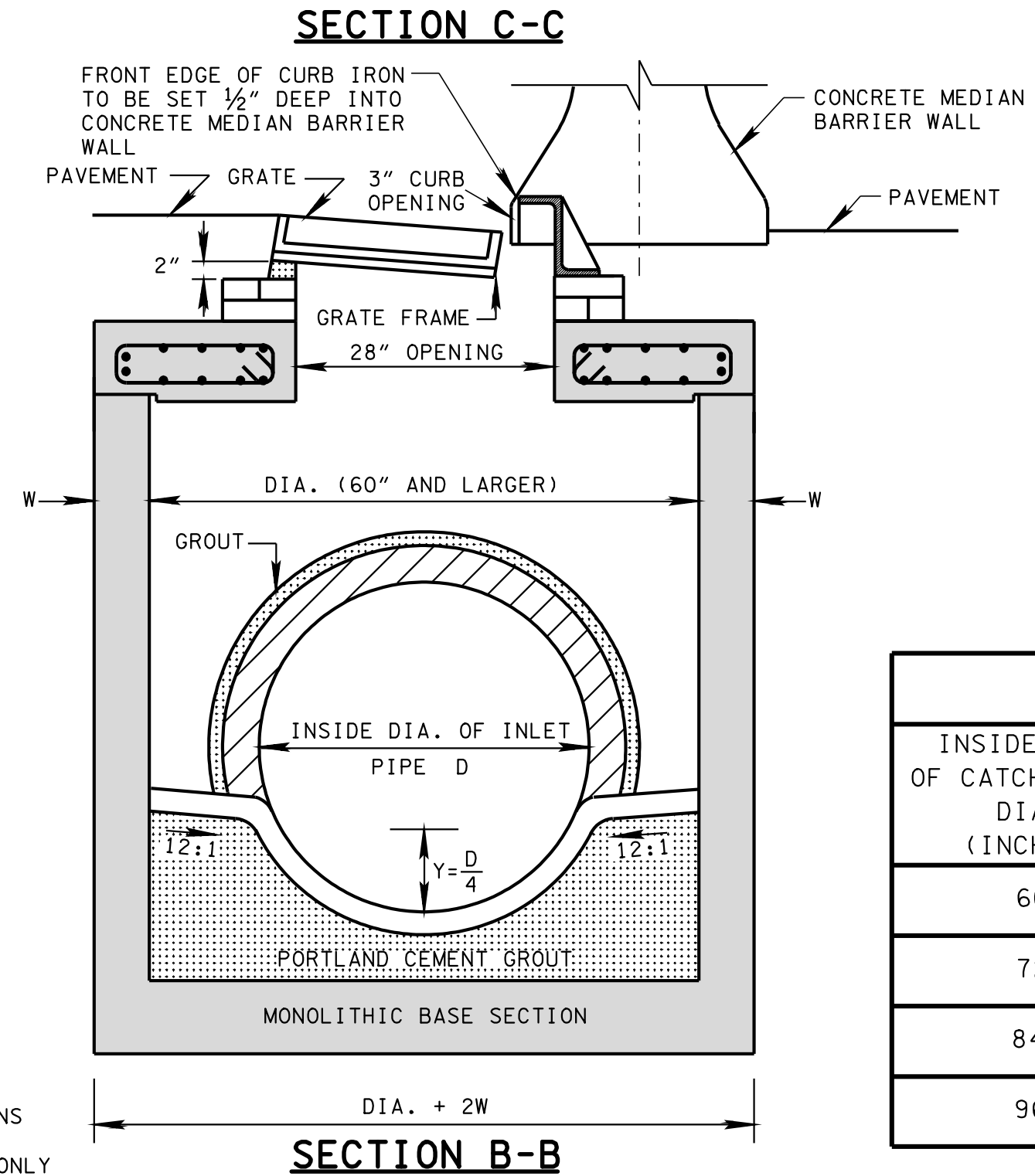
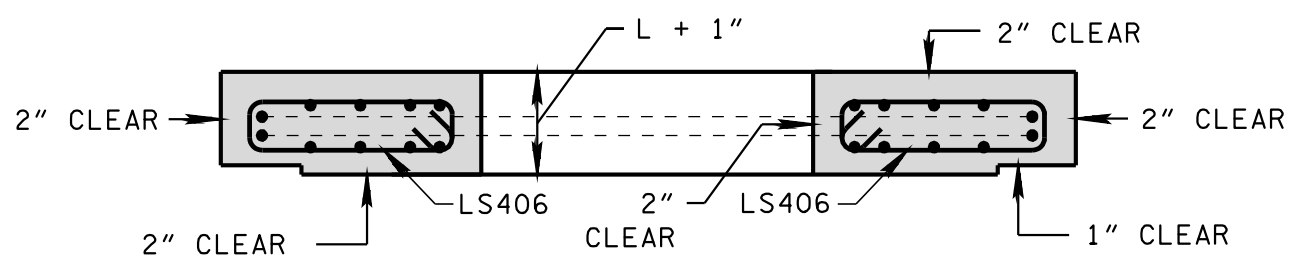
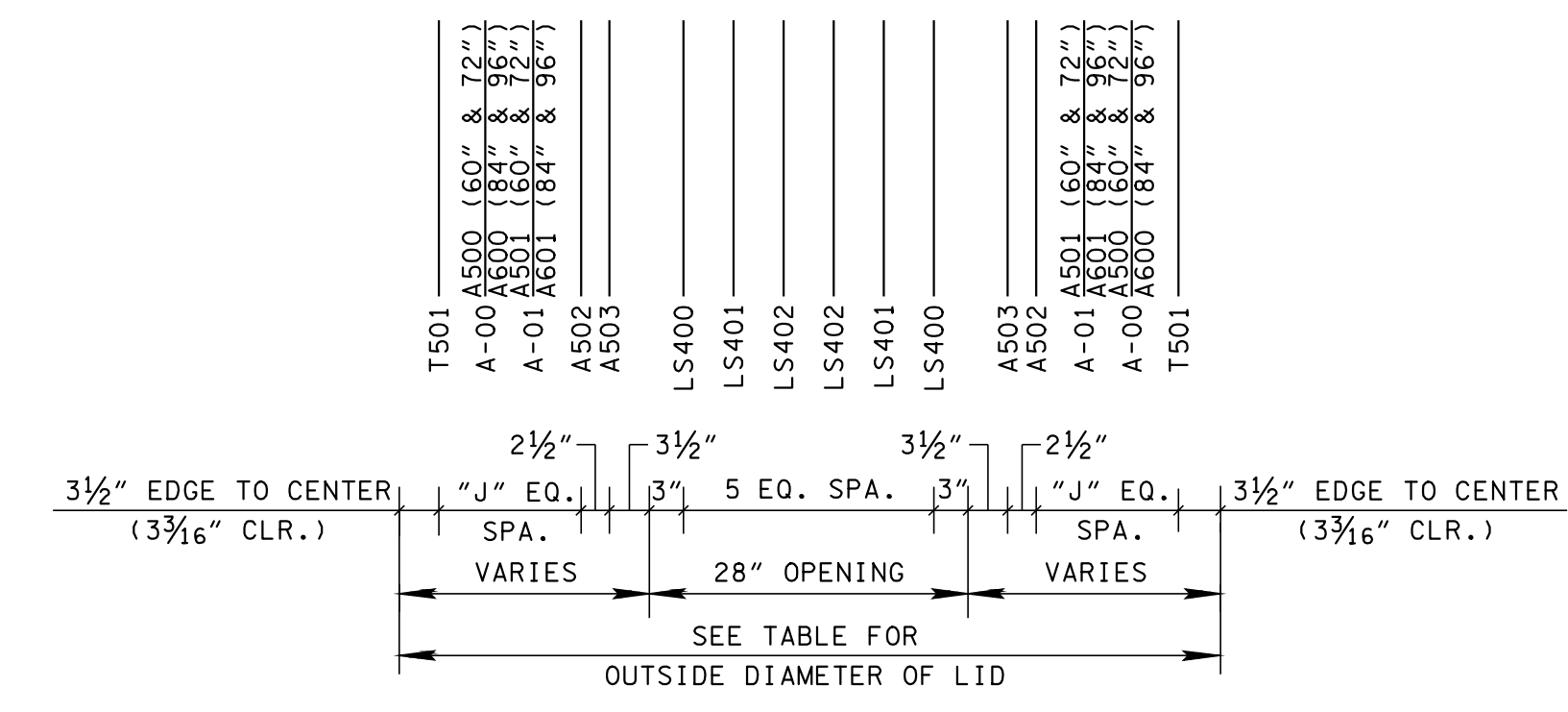
- 1 CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- 2 ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 3 CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN CUT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



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'".

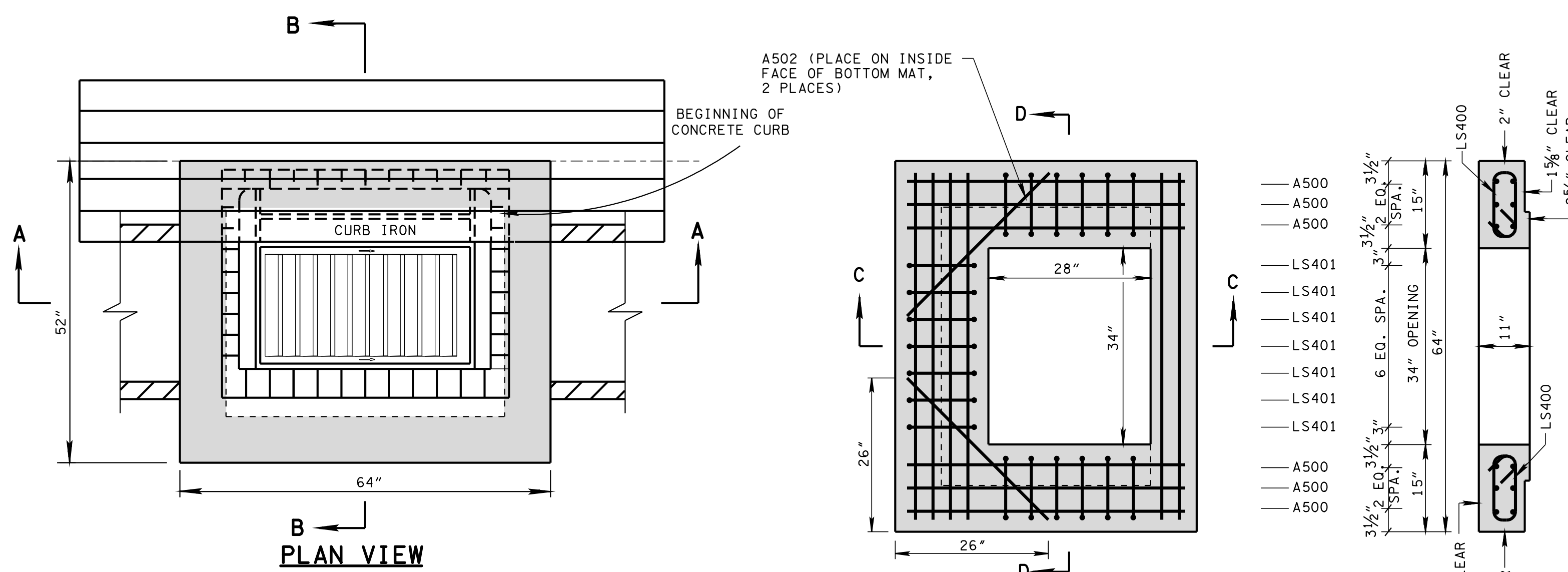


- GENERAL NOTES**
- (A) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.
 CONCRETE: $f'_c = 4,000$ POUNDS PER SQUARE INCH AT 28 DAYS
 REINFORCING STEEL: ASTM A615, $F_y = 60,000$ POUNDS PER SQUARE INCH
 ALL REINFORCING IS TO 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.

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.

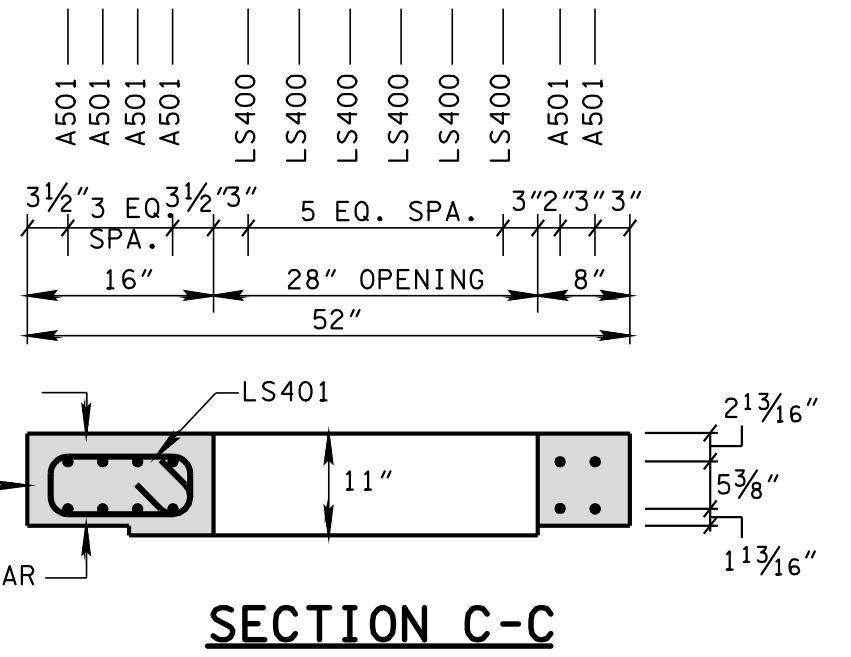
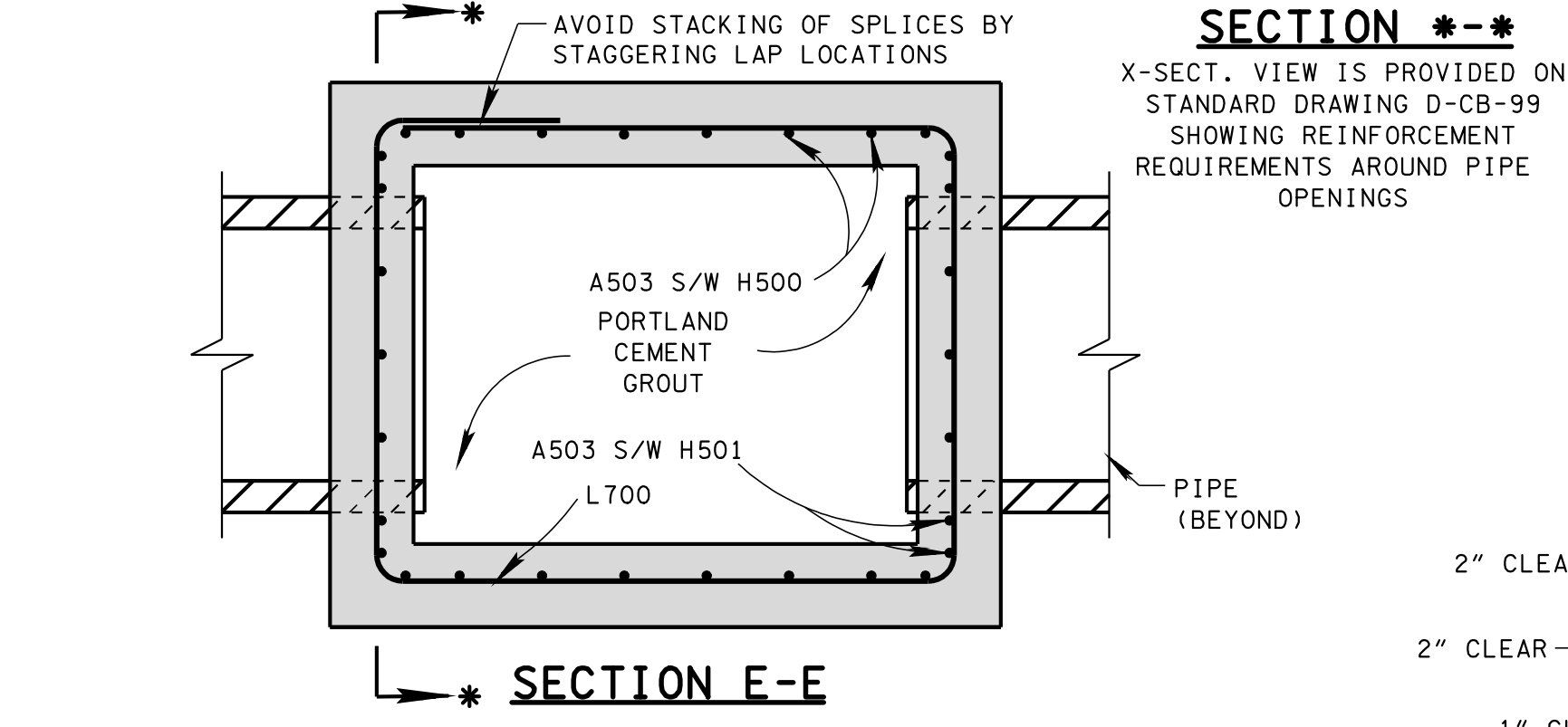
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
STANDARD PRECAST CIRCULAR NO. 41 CATCH BASIN
 (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)



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

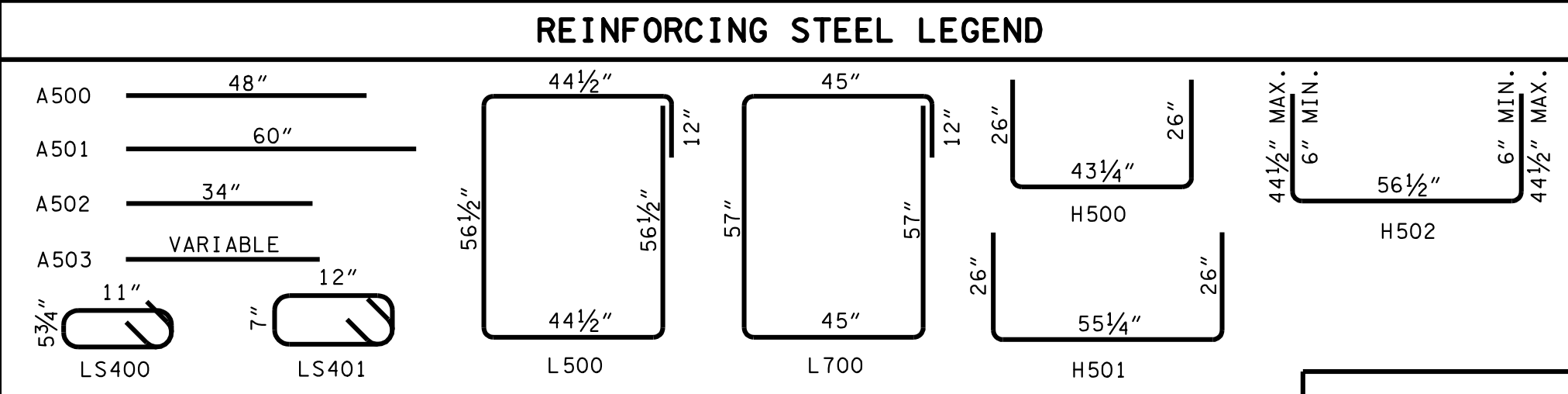
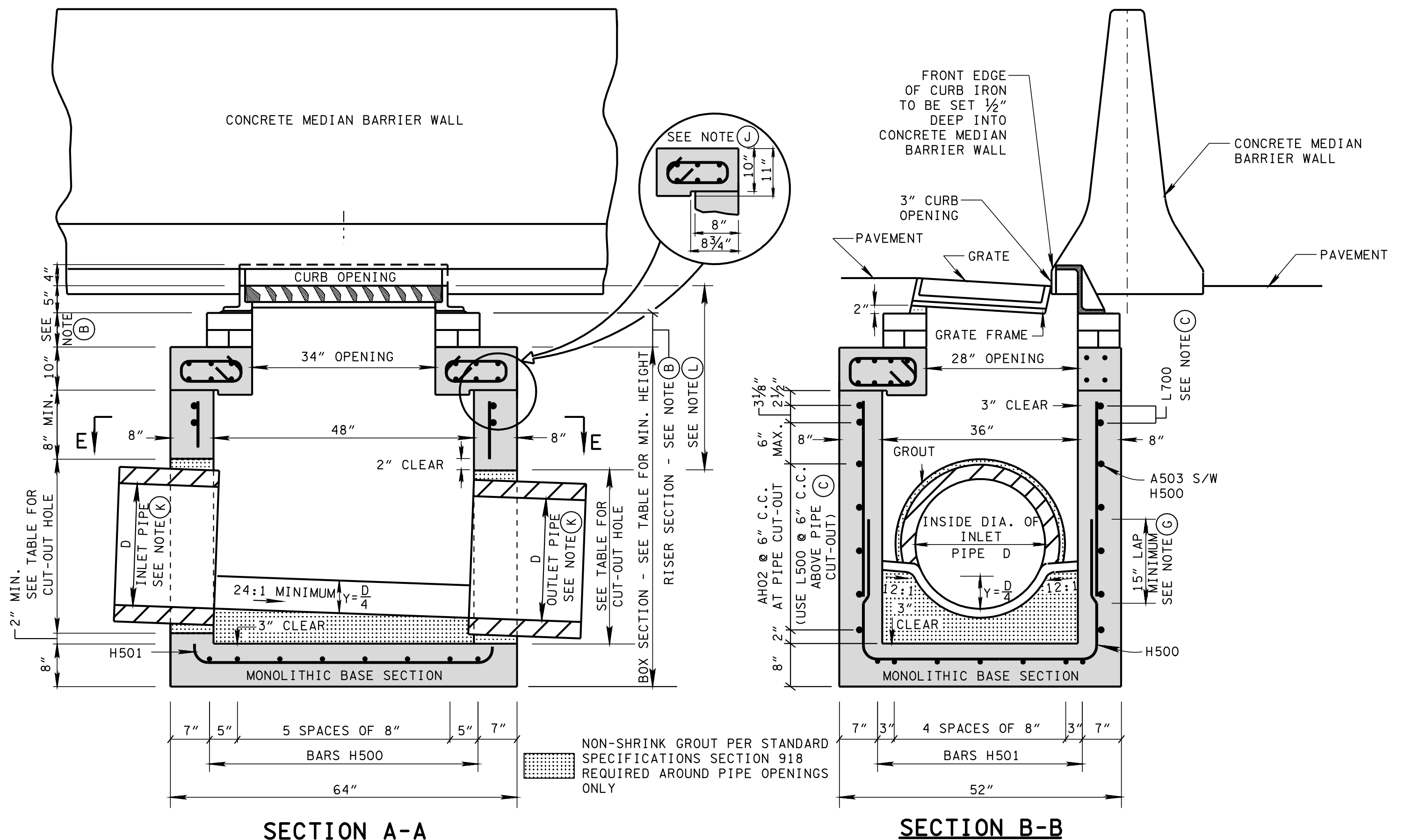
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	51	3.88
24	3	32	58	4.42
④ 30	3 1/2	39	65	4.96
④ 36	4	46	72	5.50

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN CUT WILL NOT BE PERMITTED.
- TO BE USED IN 48 INCH INTERIOR WALLS ONLY.



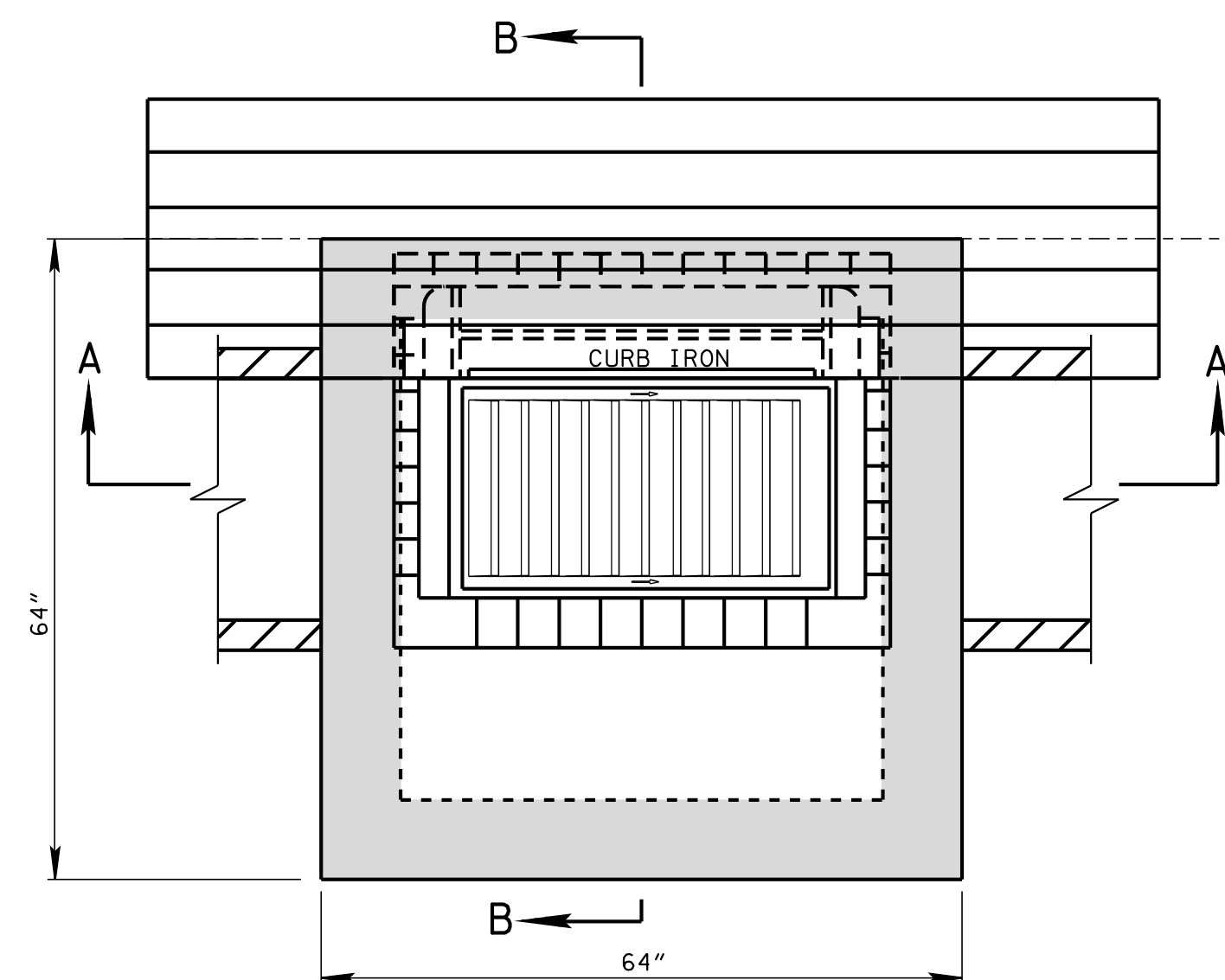
GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR MAY ELIMINATE THE A503 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500/H501 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- 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.

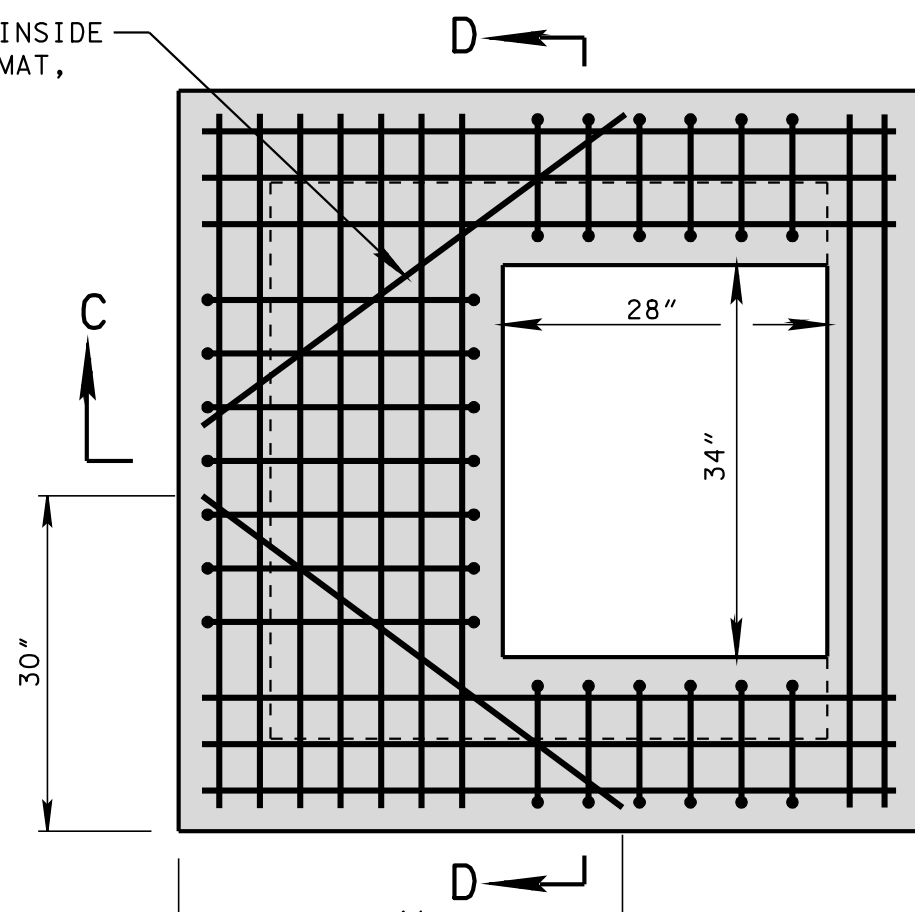


MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

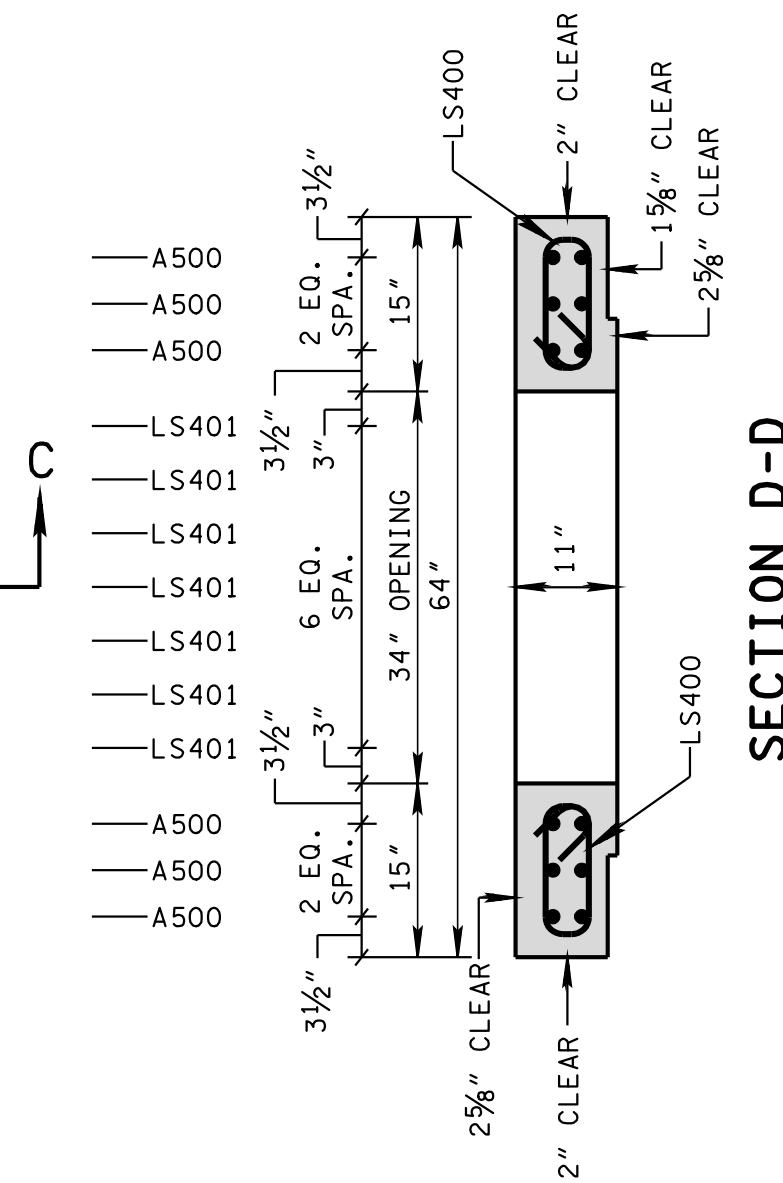
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
STANDARD 4' X 3' RECTANGULAR CONCRETE NO. 41 CATCH BASIN
 (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)



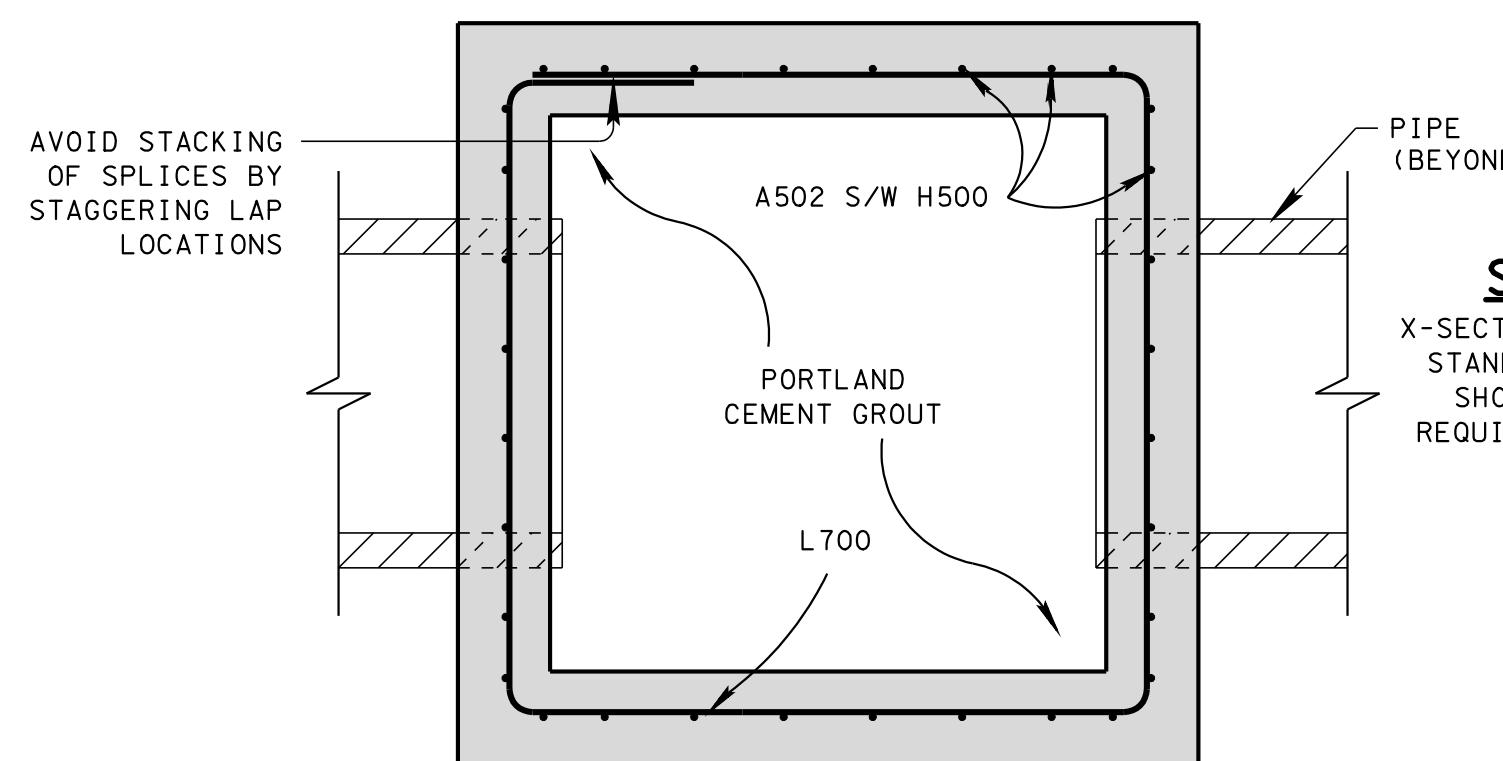
PLAN VIEW



PLAN VIEW



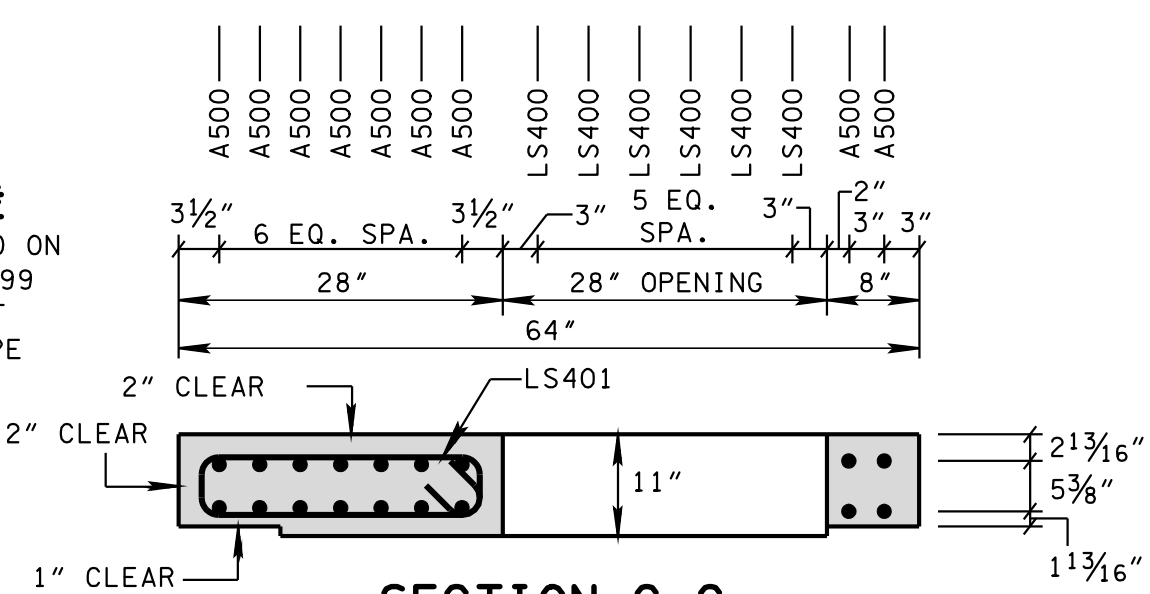
SECTION D-D



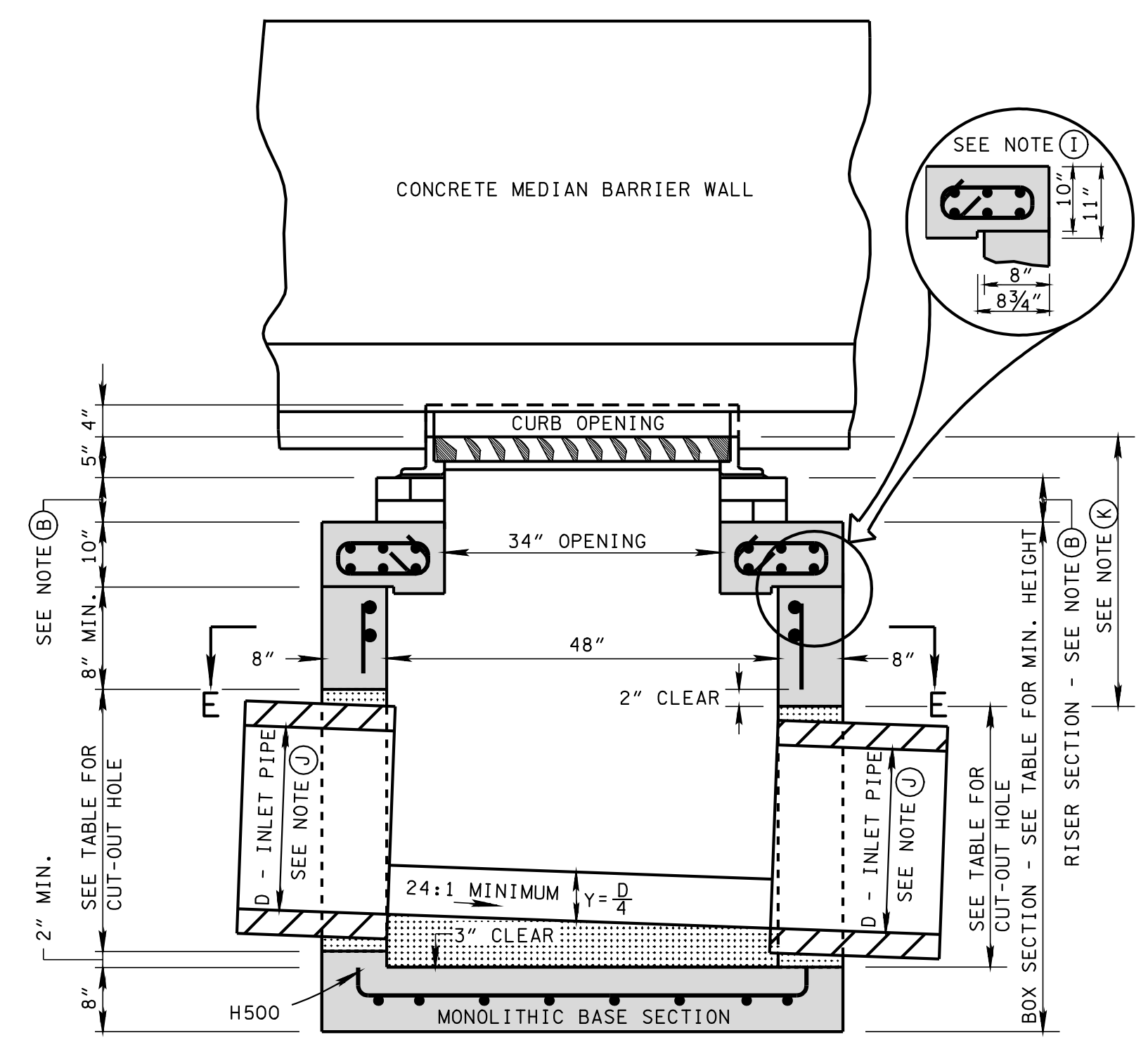
SECTION E-E

SECTION ***

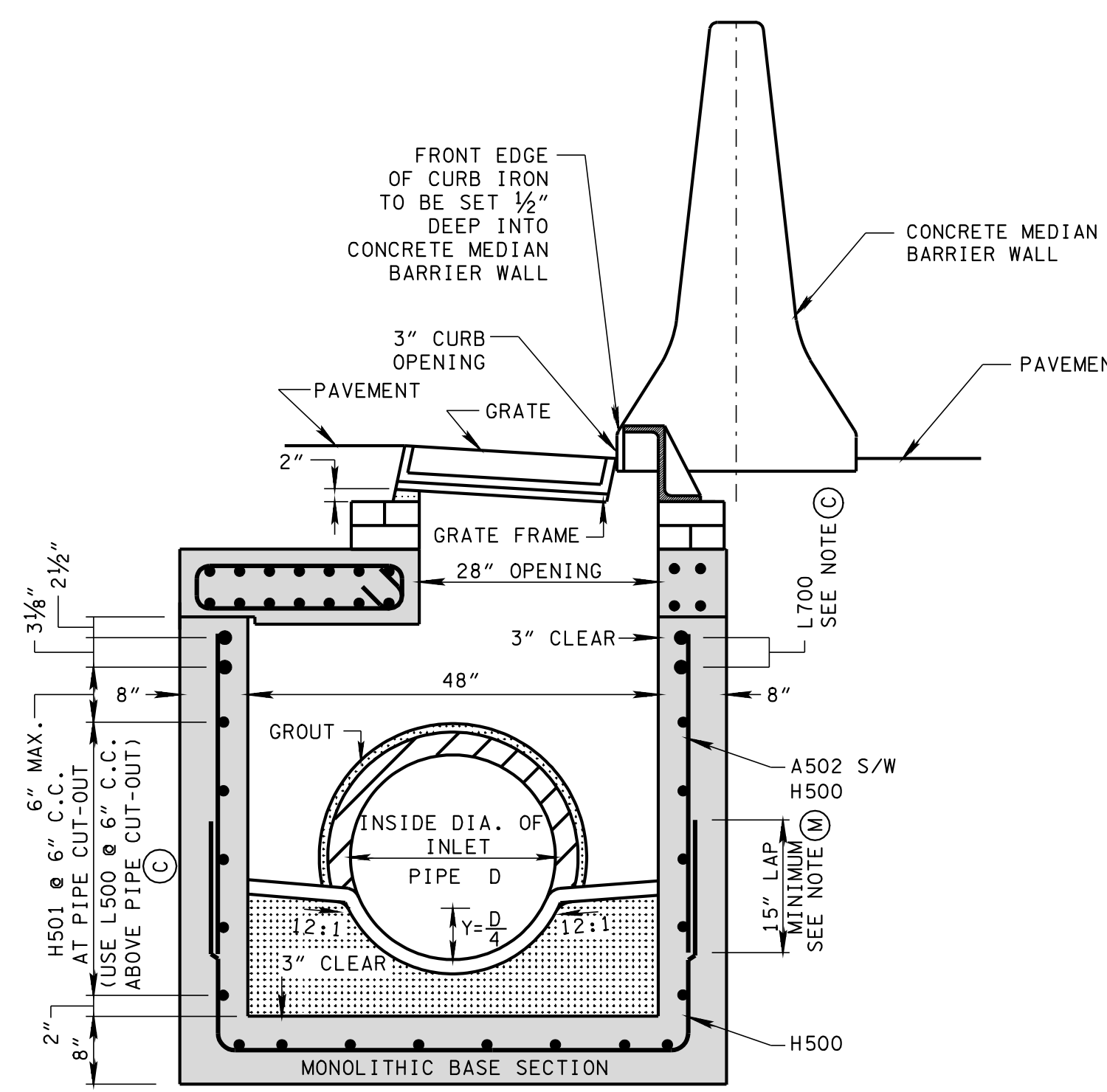
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



SECTION A-A



SECTION B-B

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	2 1/2	25	51	3.88
24	3	32	58	4.42
30	3 1/2	39	65	4.96
36	4	46	72	5.50

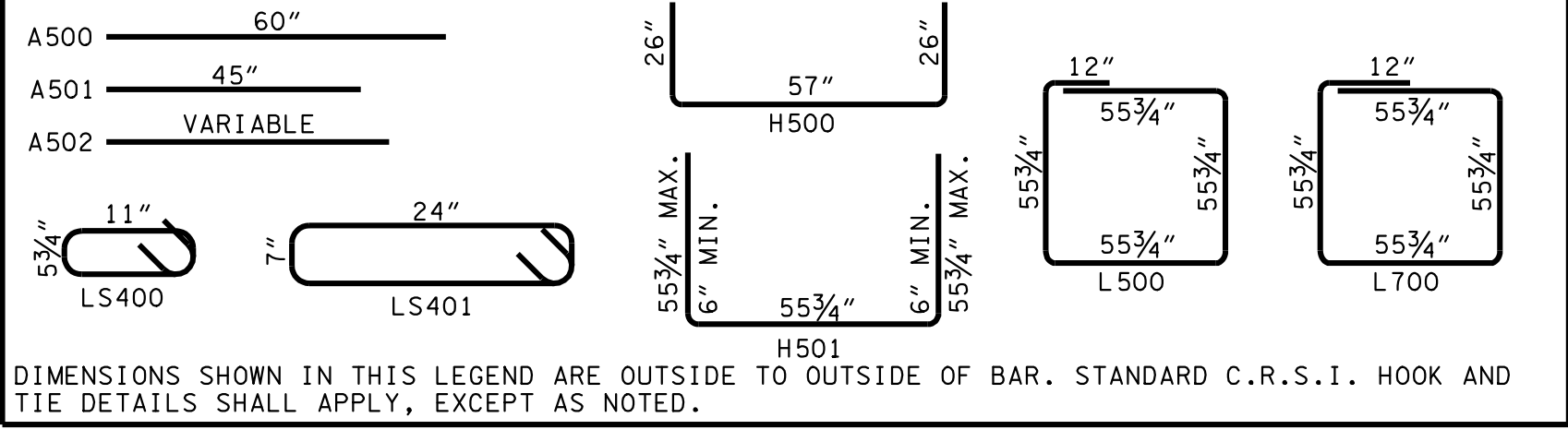
- ① CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ② ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- ③ CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN CUT WILL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

- REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.
- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE ① ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ③
- 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. 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 1 1/2 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



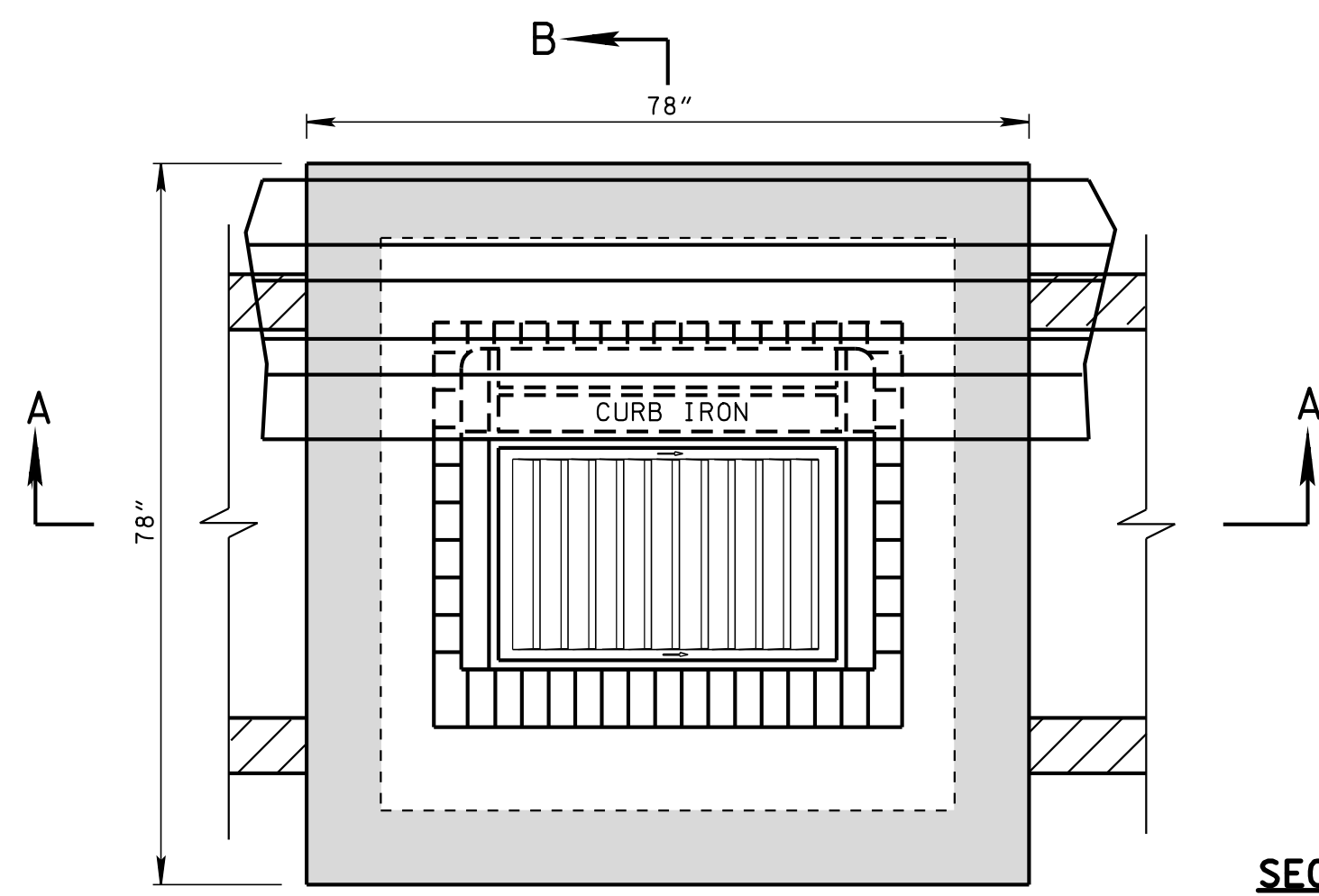
□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD 4' X 4' SQUARE CONCRETE NO. 41 CATCH BASIN
(FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

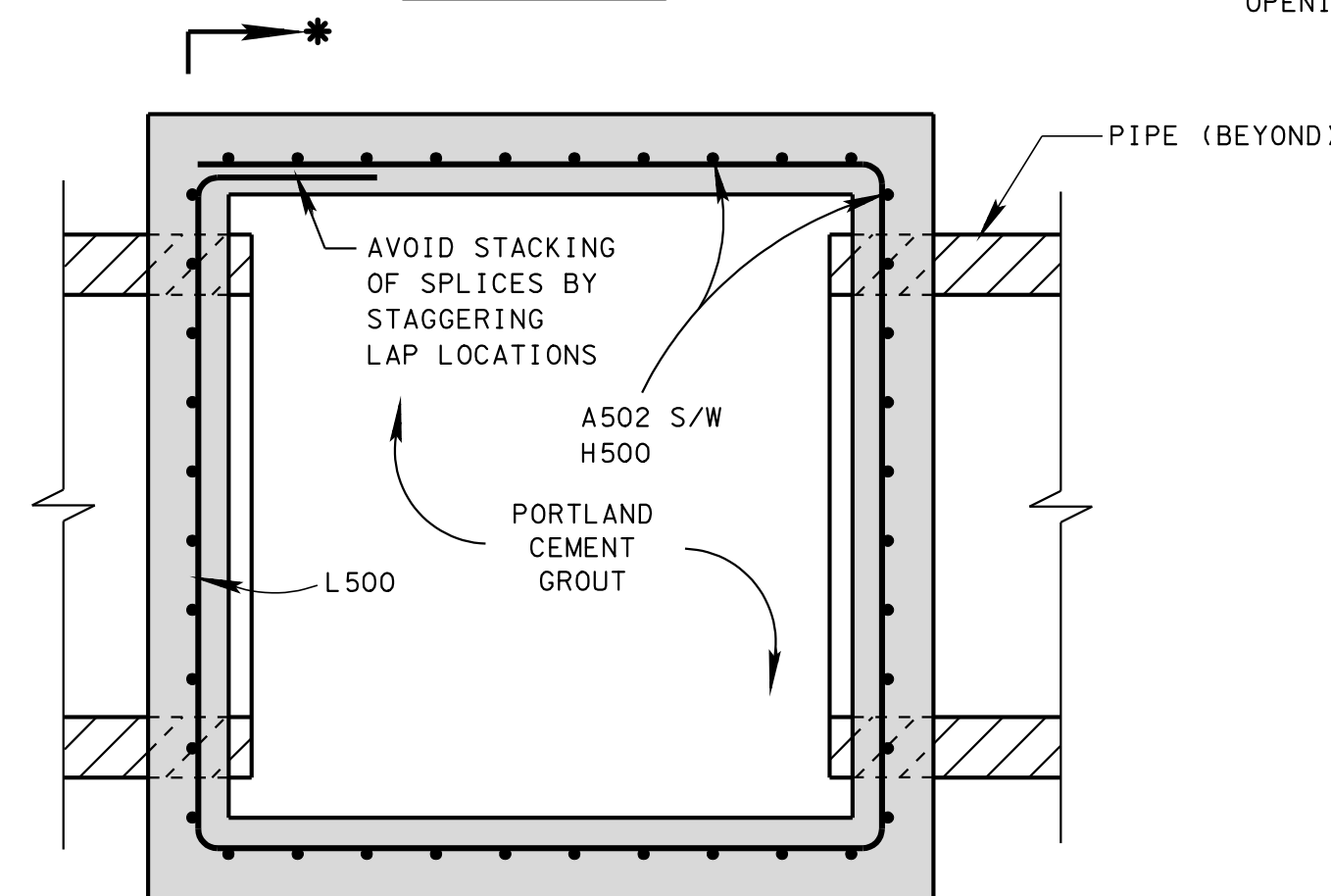
NOT TO SCALE

5-27-98 D-CB-41SB

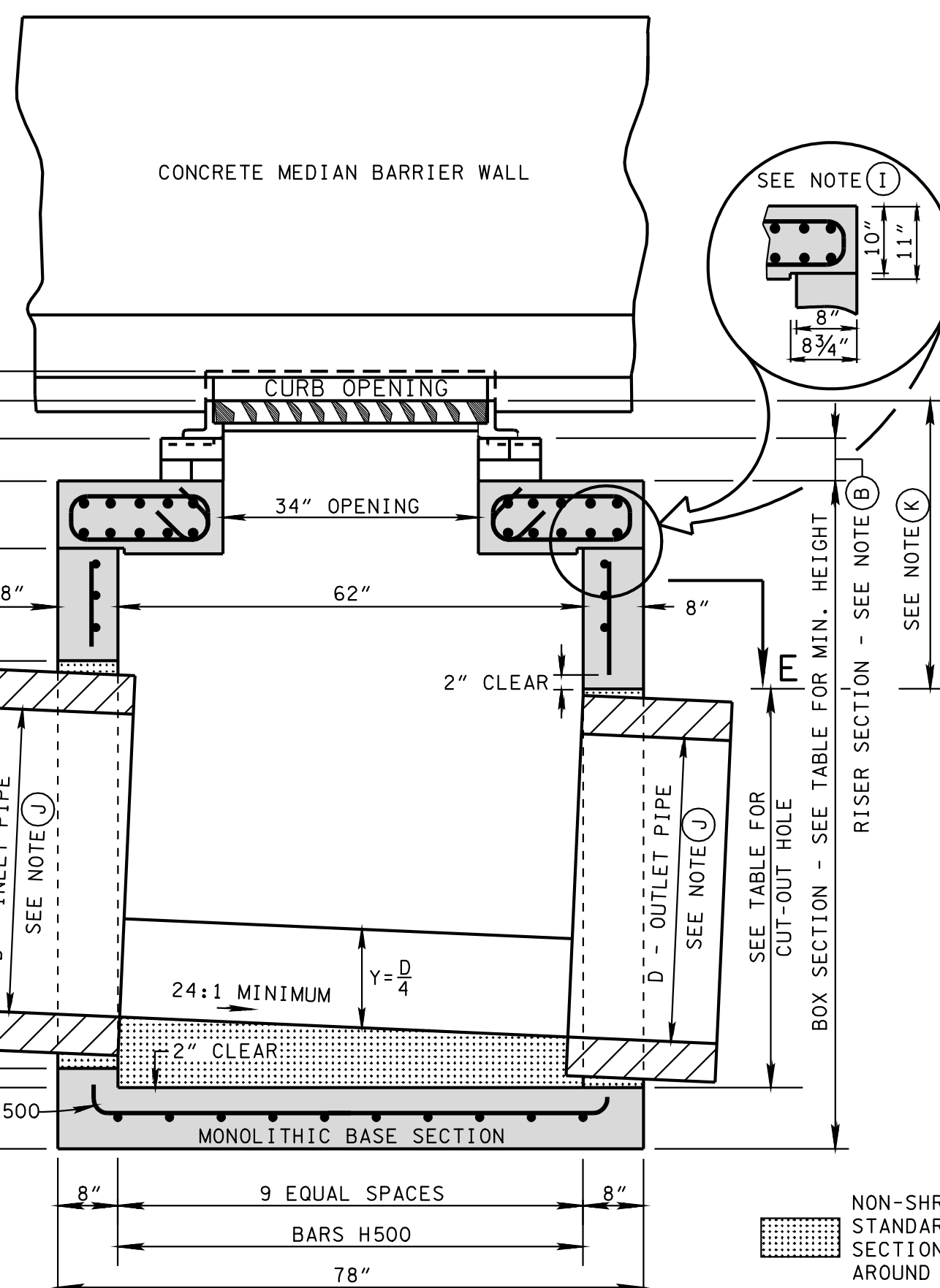


SECTION **
X-SECT. VIEW IS PROVIDED ON
STANDARD DRAWING D-CB-99
SHOWING REINFORCEMENT
REQUIREMENTS AROUND PIPE
OPENINGS

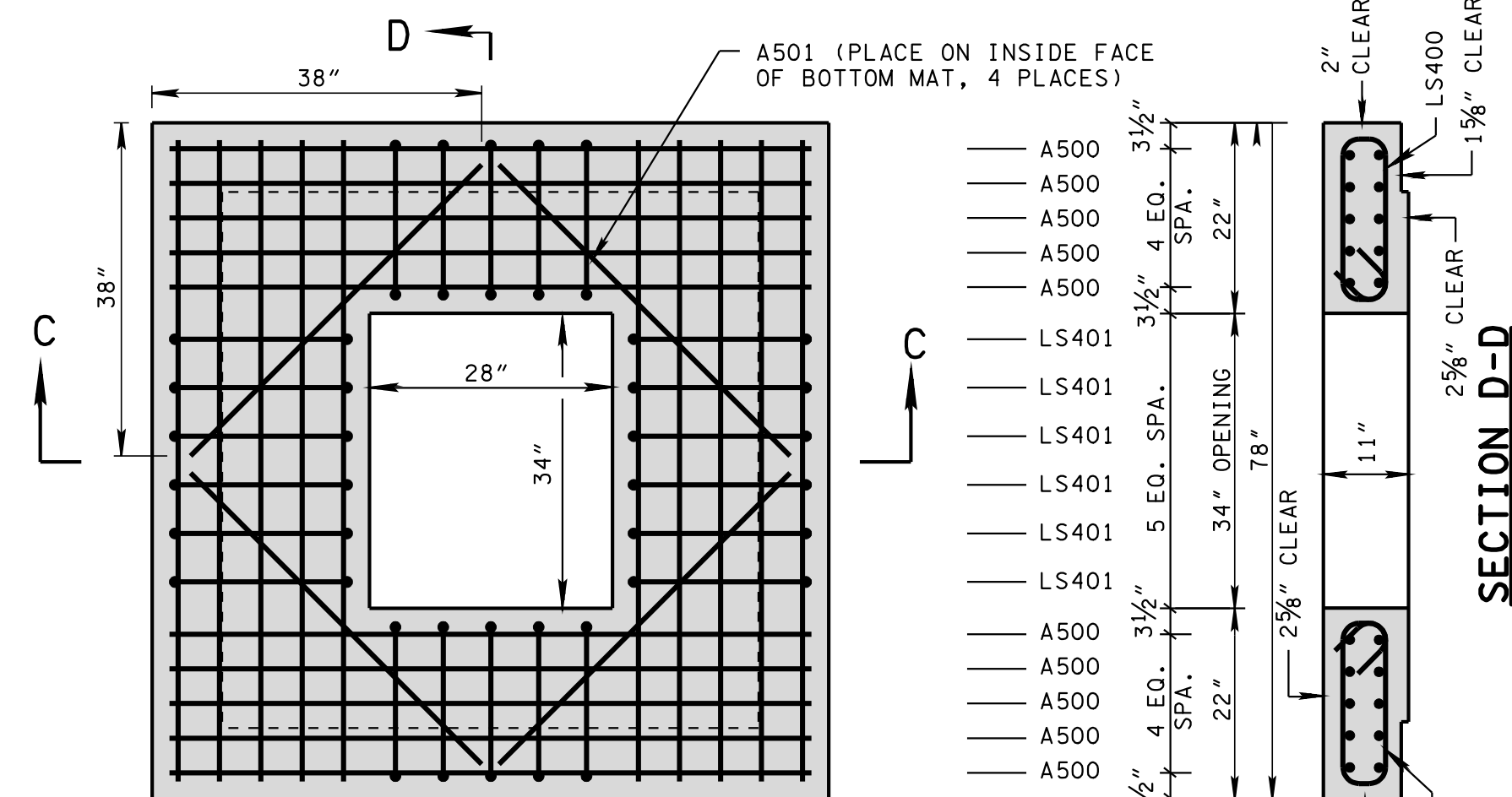
PLAN VIEW



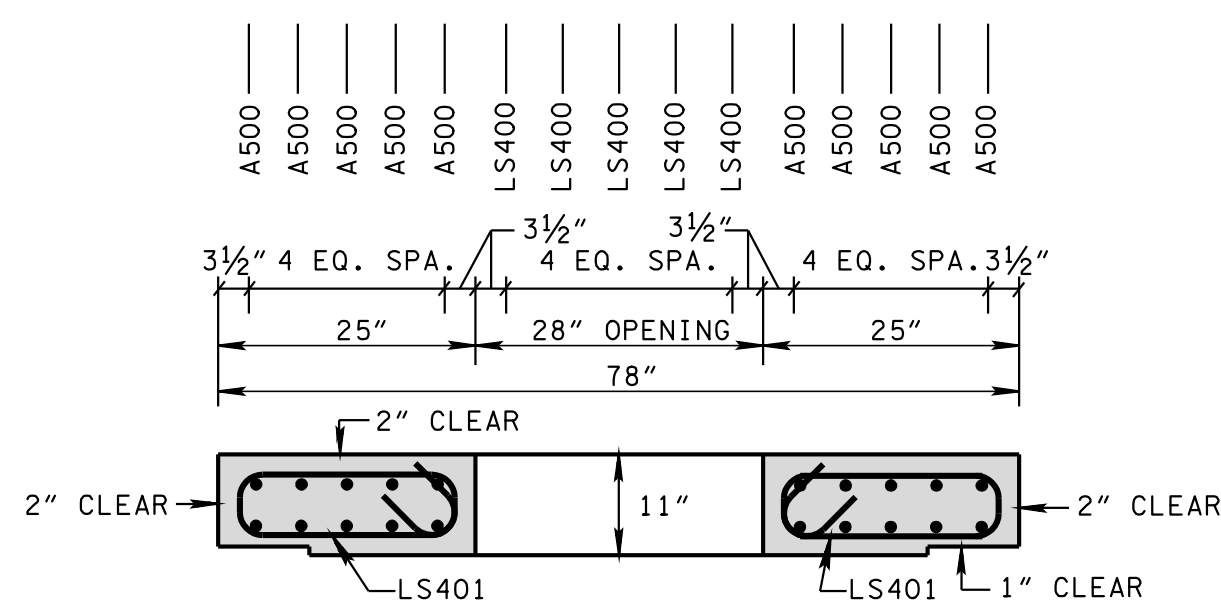
SECTION E-E



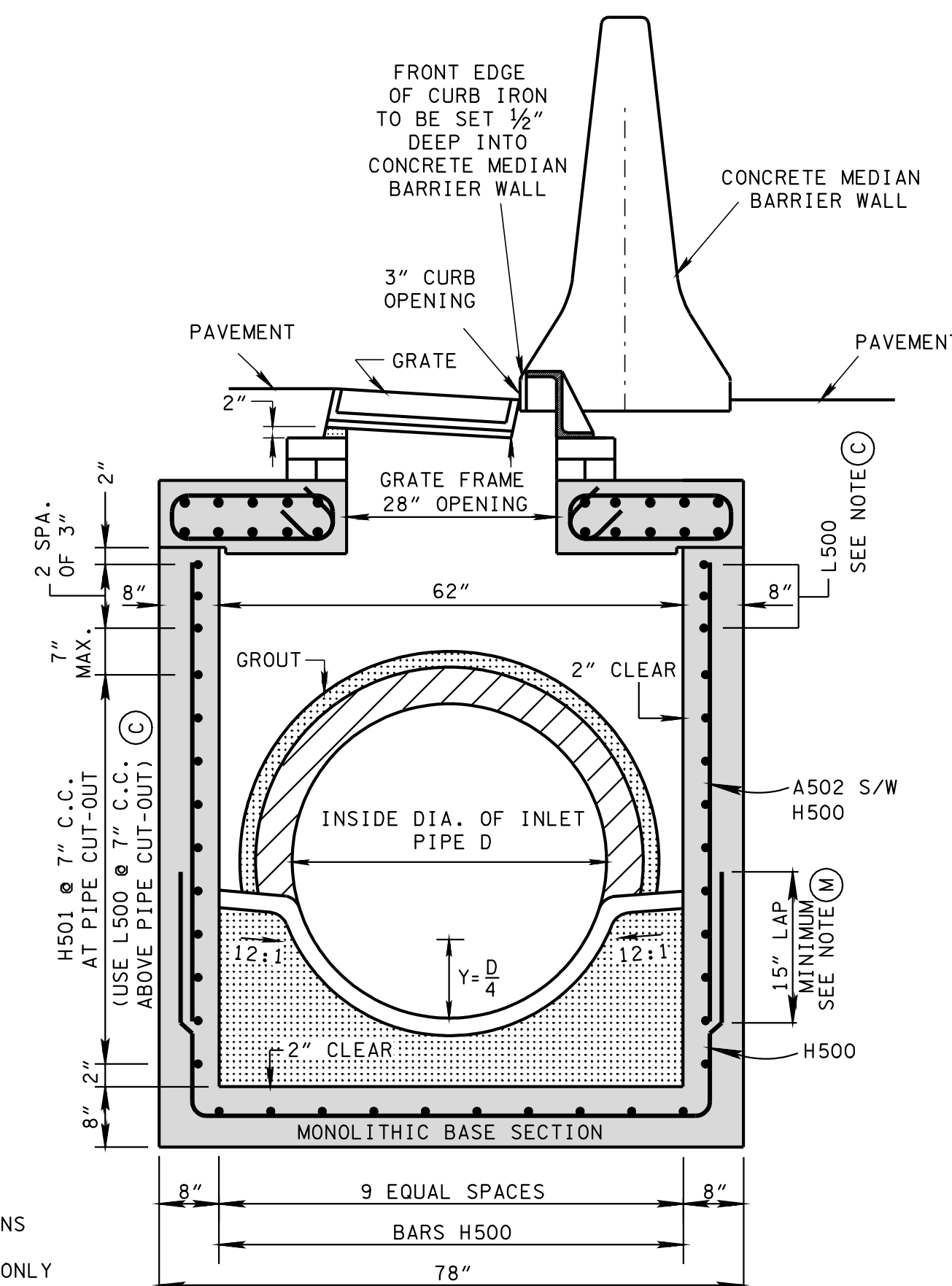
SECTION A-A



PLAN VIEW



SECTION C-C



SECTION B-B

CATCH BASIN MAXIMUM DEPTH NOTE

MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

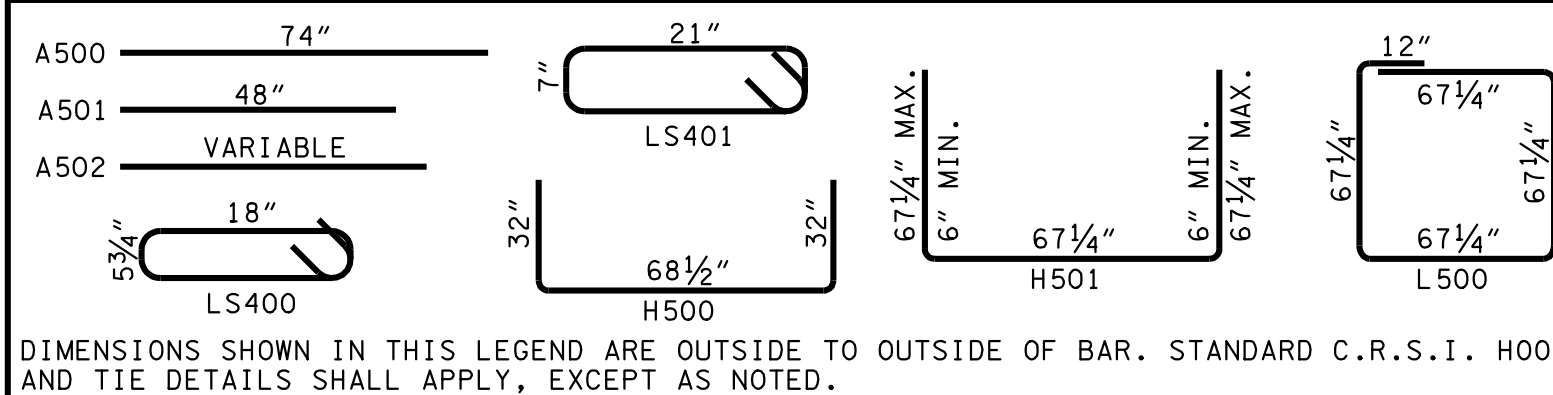
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	55	4.13
24	3	32	62	4.67
30	3½	39	69	5.22
36	4	46	76	5.76
42	4½	53	83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

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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 UN CUT WILL NOT BE PERMITTED.

GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICES WITH GROUT AND PLACE A MINIMUM OF ONE (1) INCH OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- 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.
- 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.

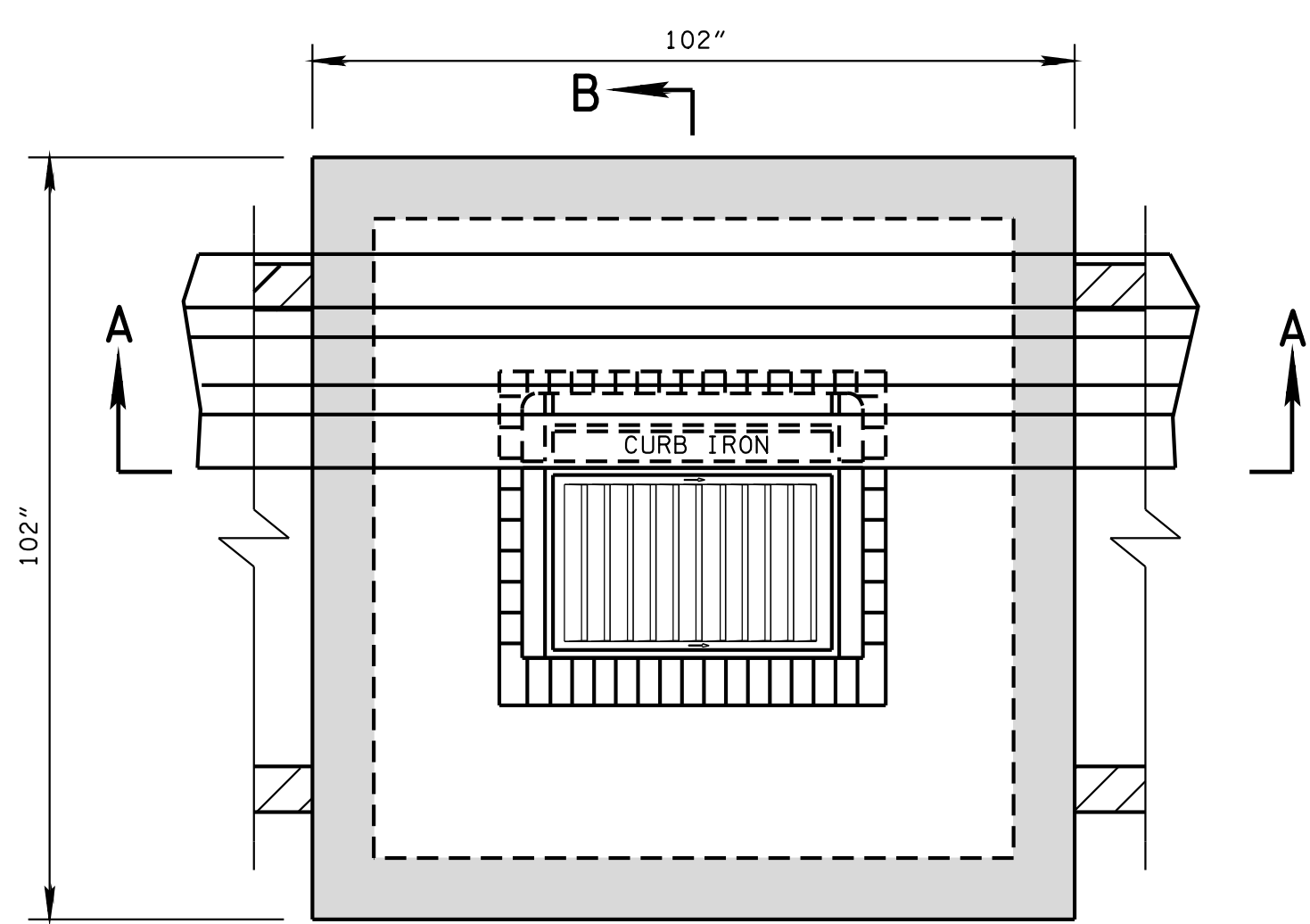
REINFORCING STEEL LEGEND



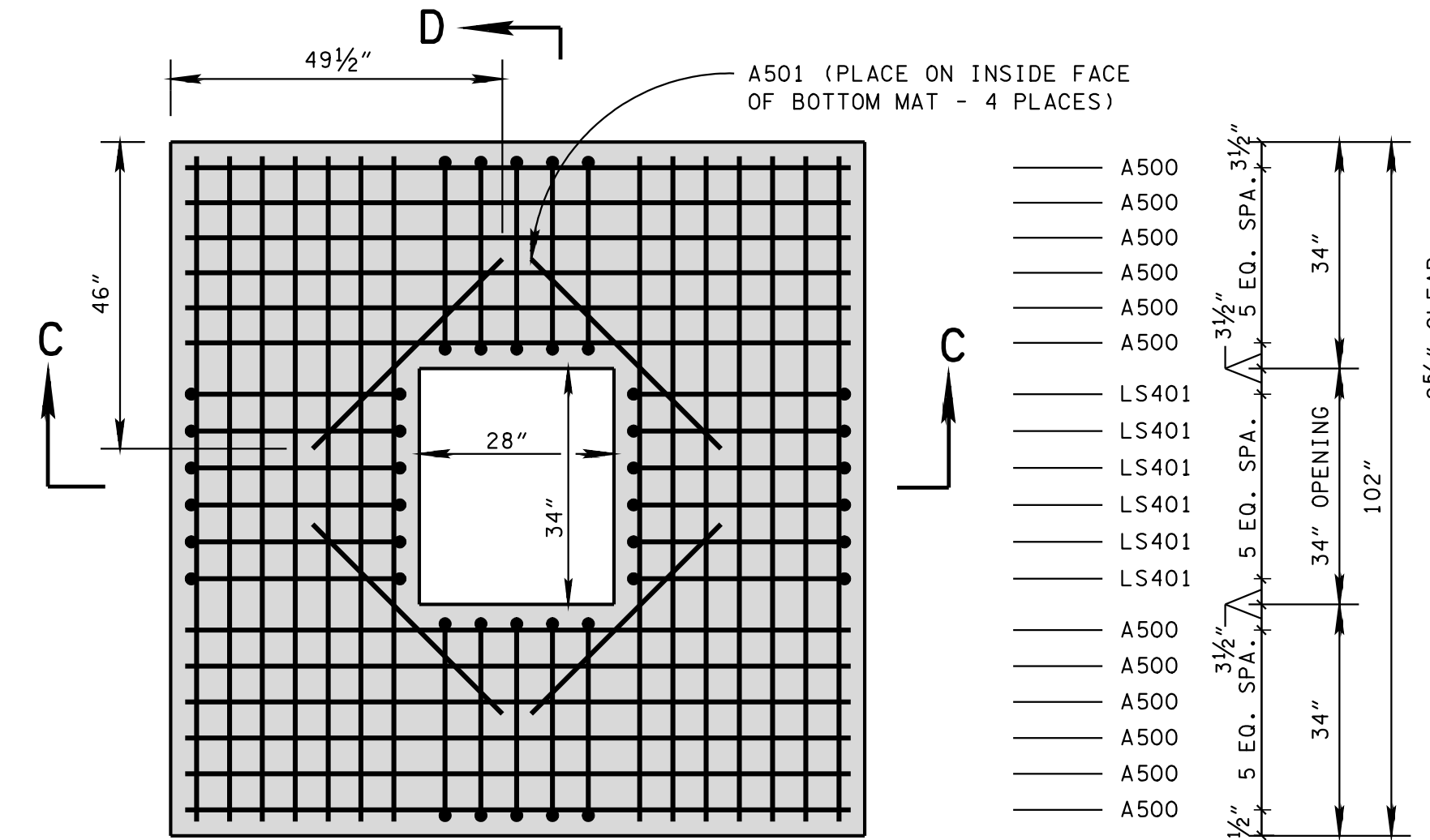
DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

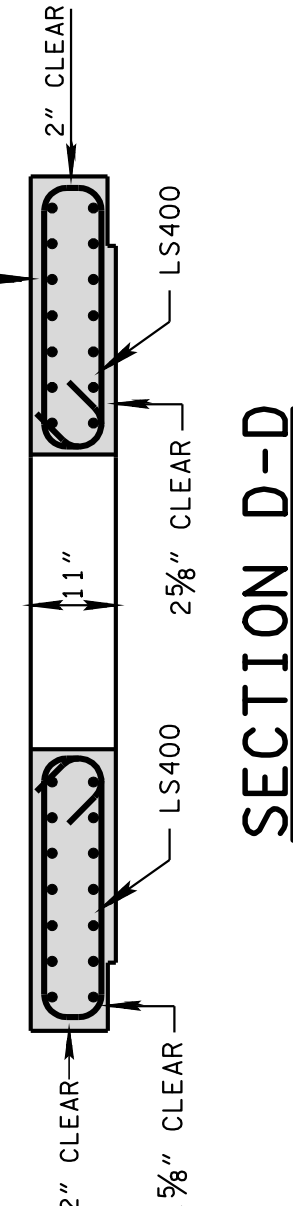
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STANDARD
5'2" X 5'2" SQUARE
CONCRETE NO. 41
CATCH BASIN
(FOR USE UNDER CONCRETE
MEDIAN BARRIER WALL)



PLAN VIEW



PLAN VIEW

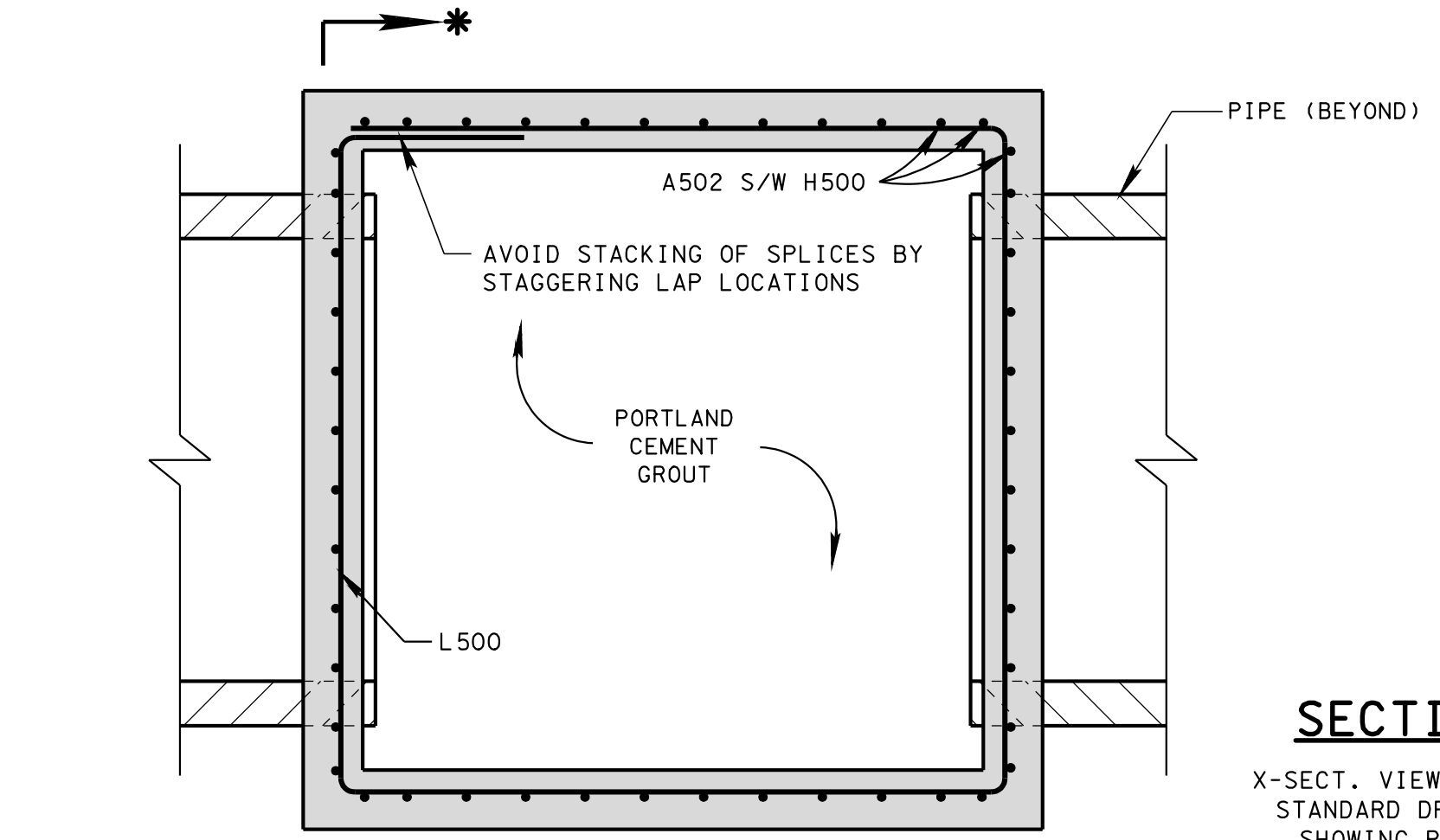


SECTION D-D

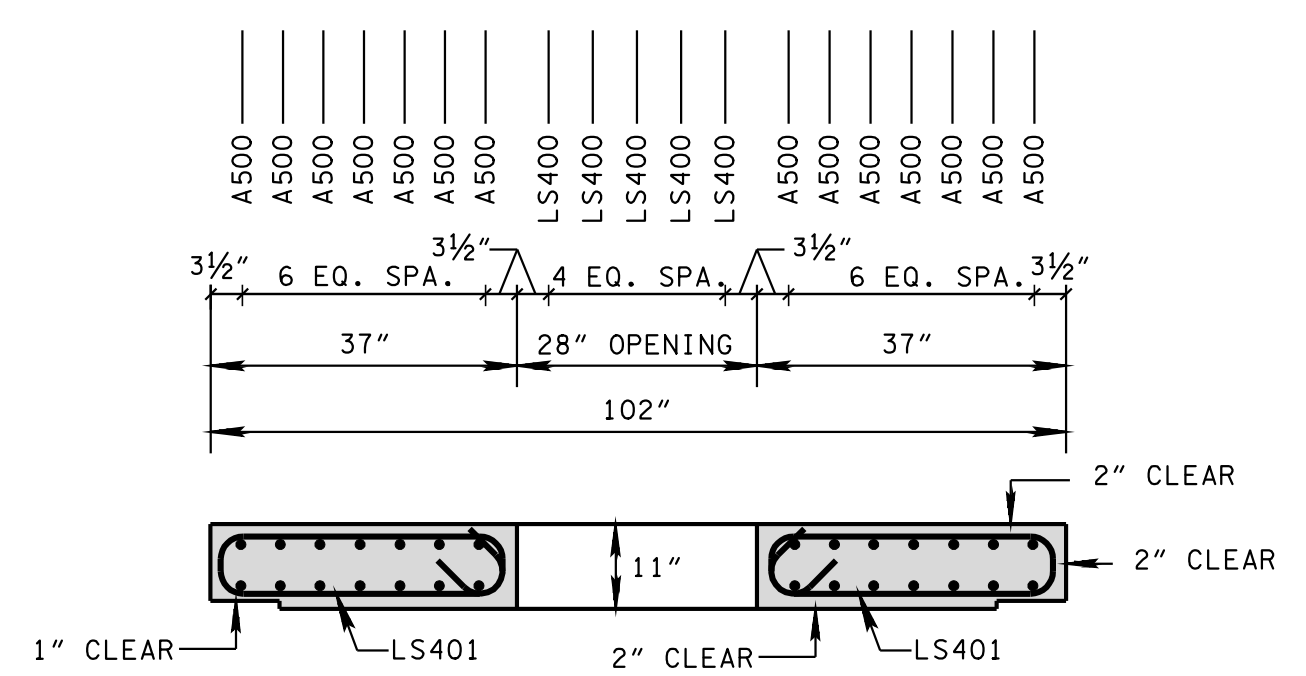
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	55 1/2	4.17
24	3	32	62 1/2	4.72
30	3 1/2	39	69 1/2	5.26
36	4	46	76 1/2	5.80
42	4 1/2	53	83 1/2	6.34
48	5	60	90 1/2	6.88
54	5 1/2	67	97 1/2	7.42
60	6	74	104 1/2	7.97
66	6 1/2	81	111 1/2	8.51

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

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

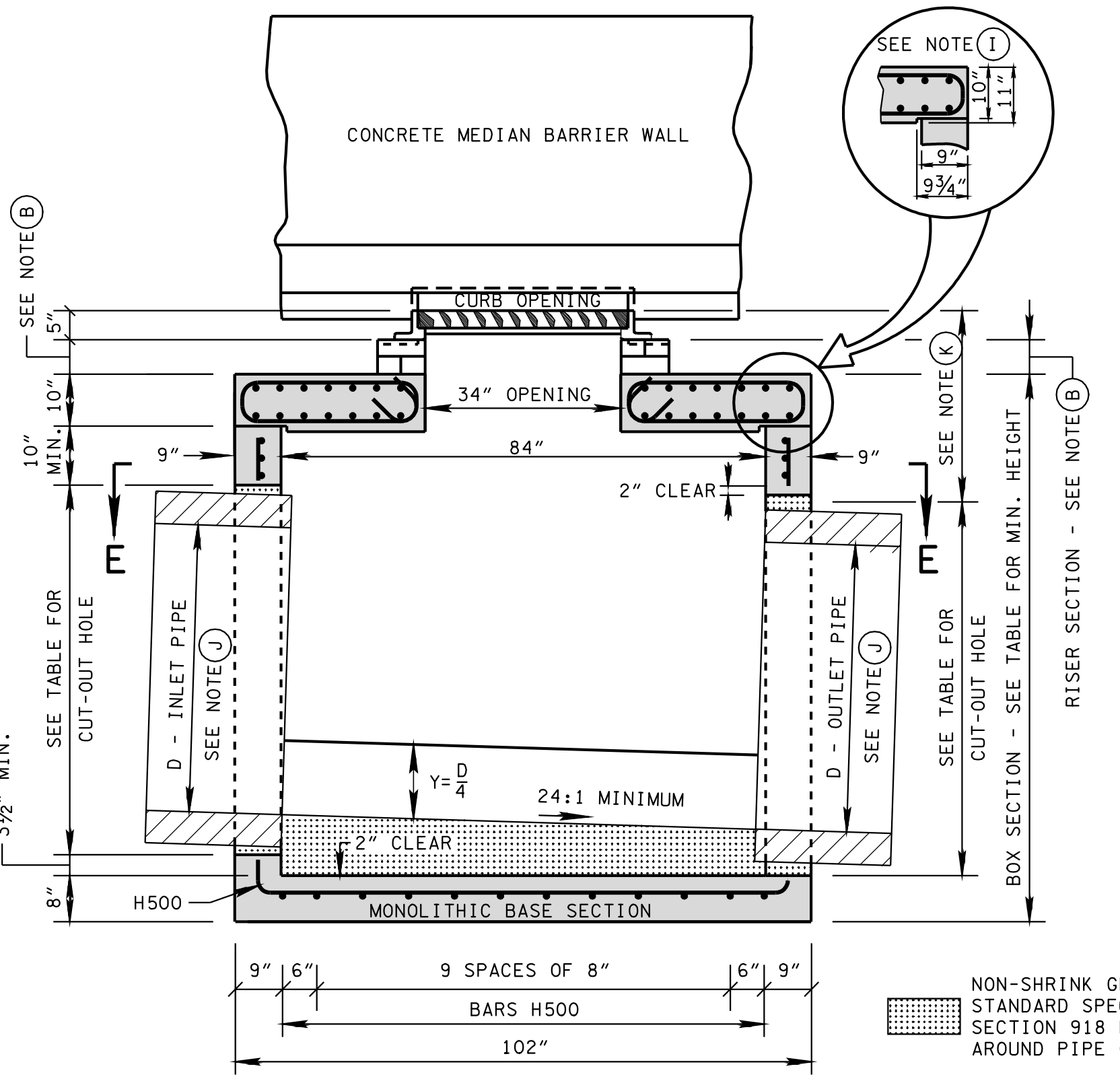


SECTION E-E

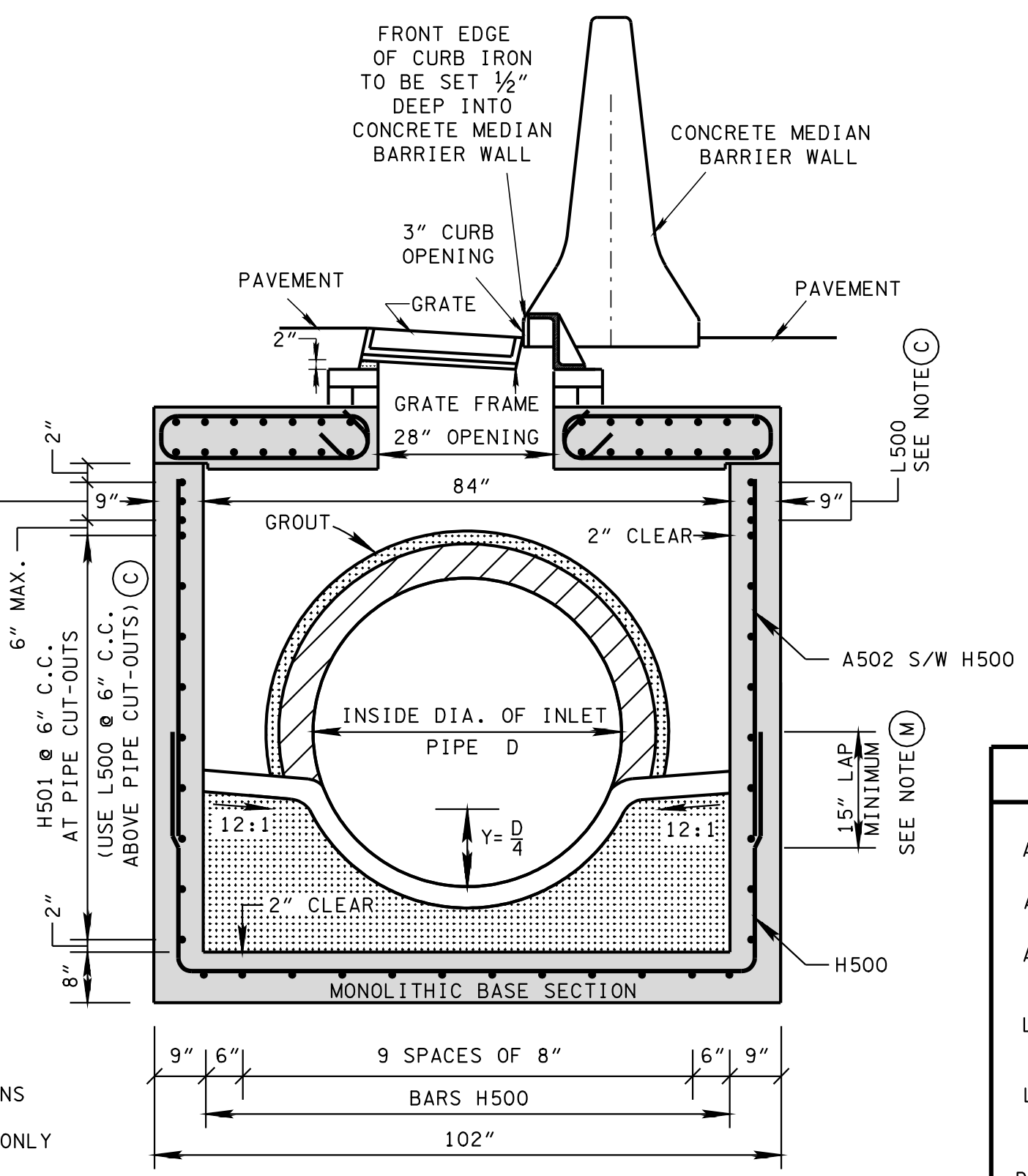


SECTION C-C

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



SECTION A-A

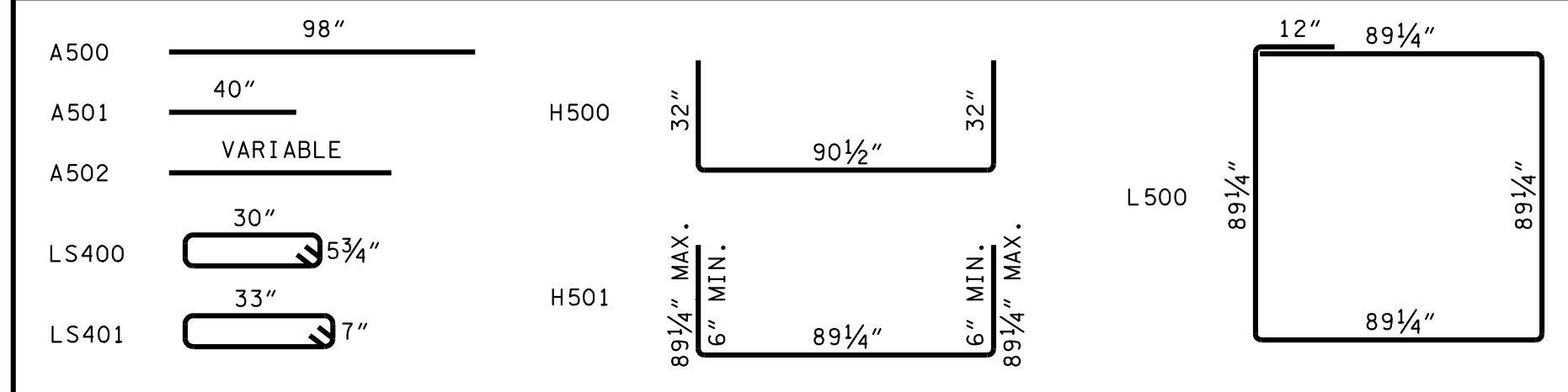


SECTION B-B

GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
- 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

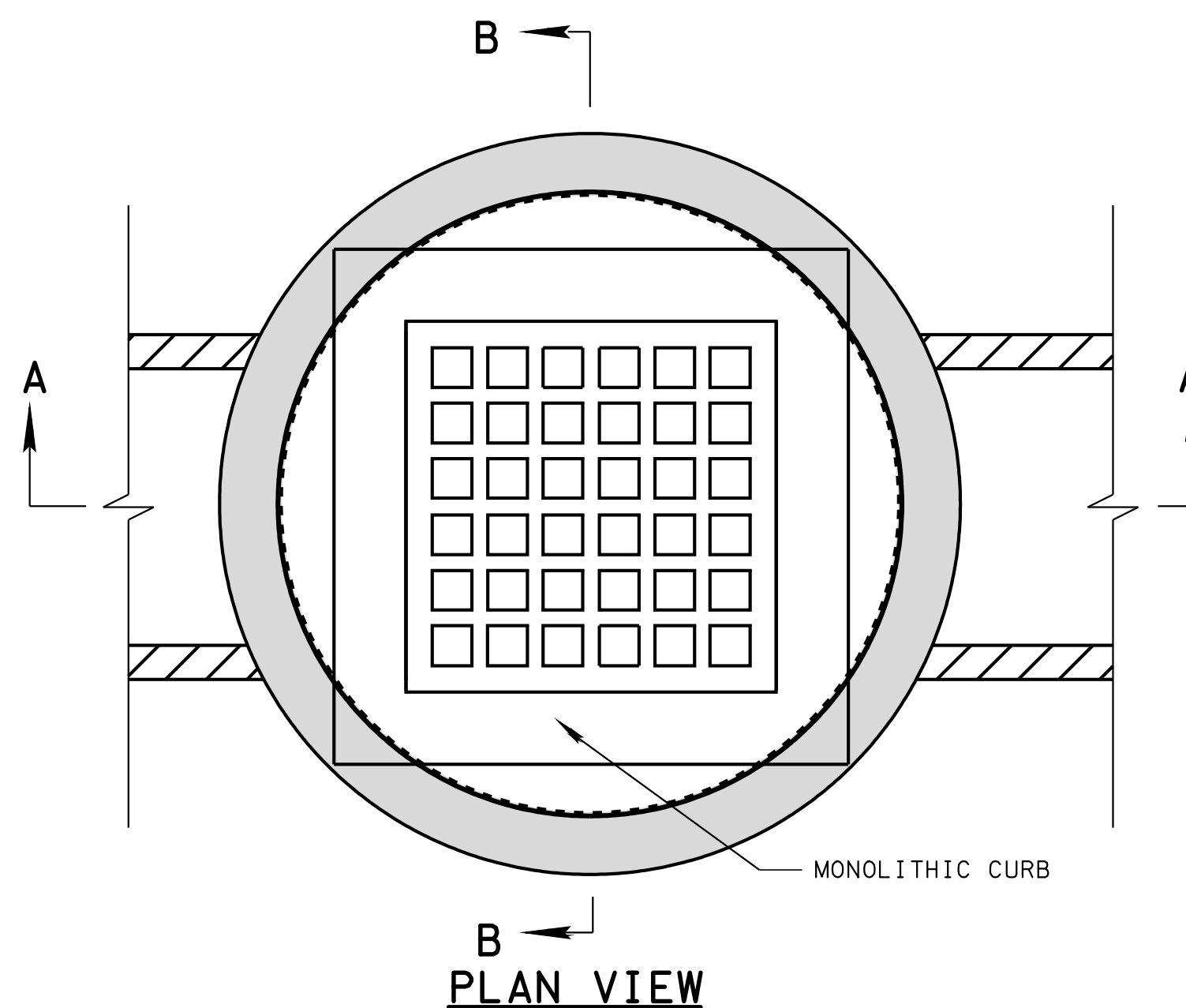


DIMENSIONS SHOWN IN THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.

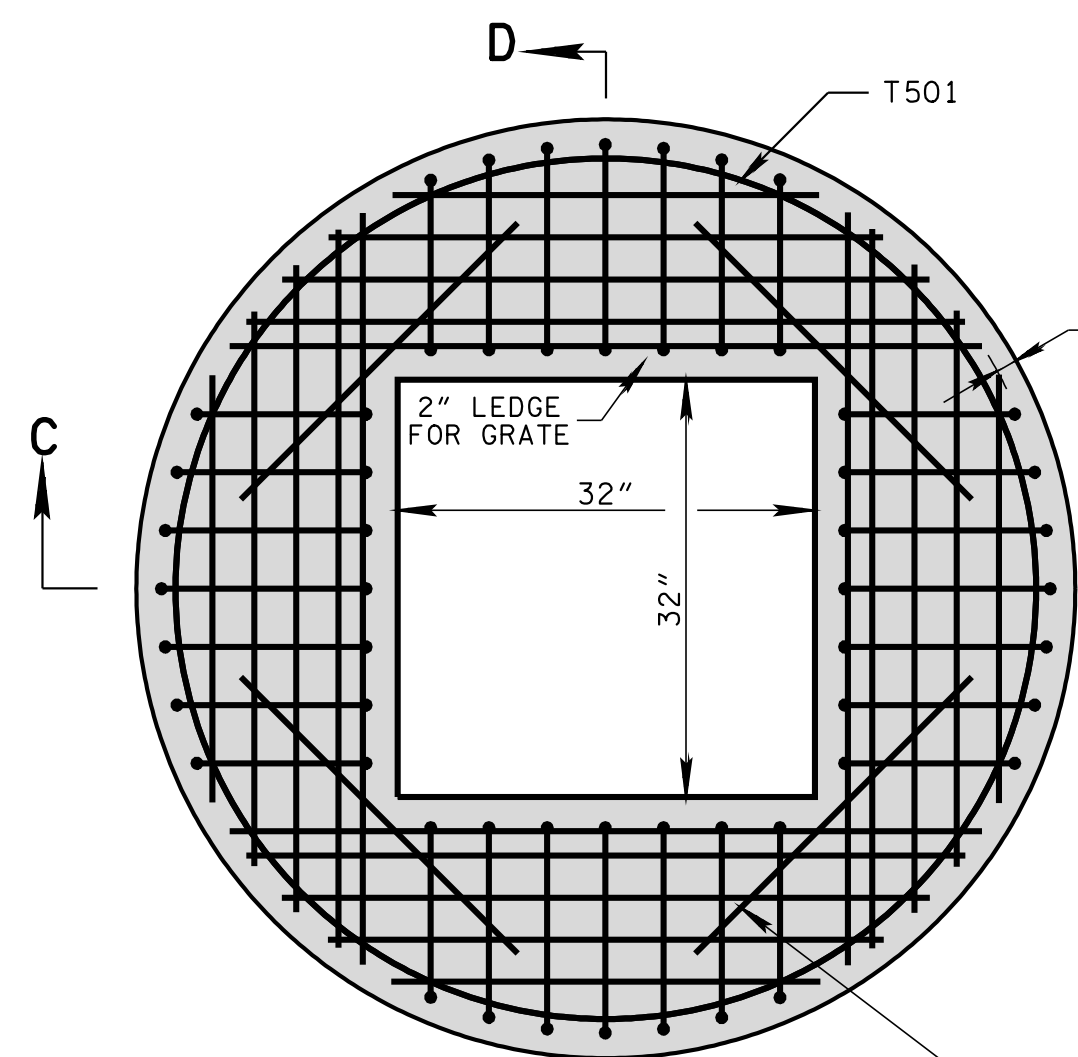
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**STANDARD
7' X 7' SQUARE
CONCRETE NO. 41
CATCH BASIN**
(FOR USE UNDER CONCRETE
MEDIAN BARRIER WALL)



PLAN VIEW

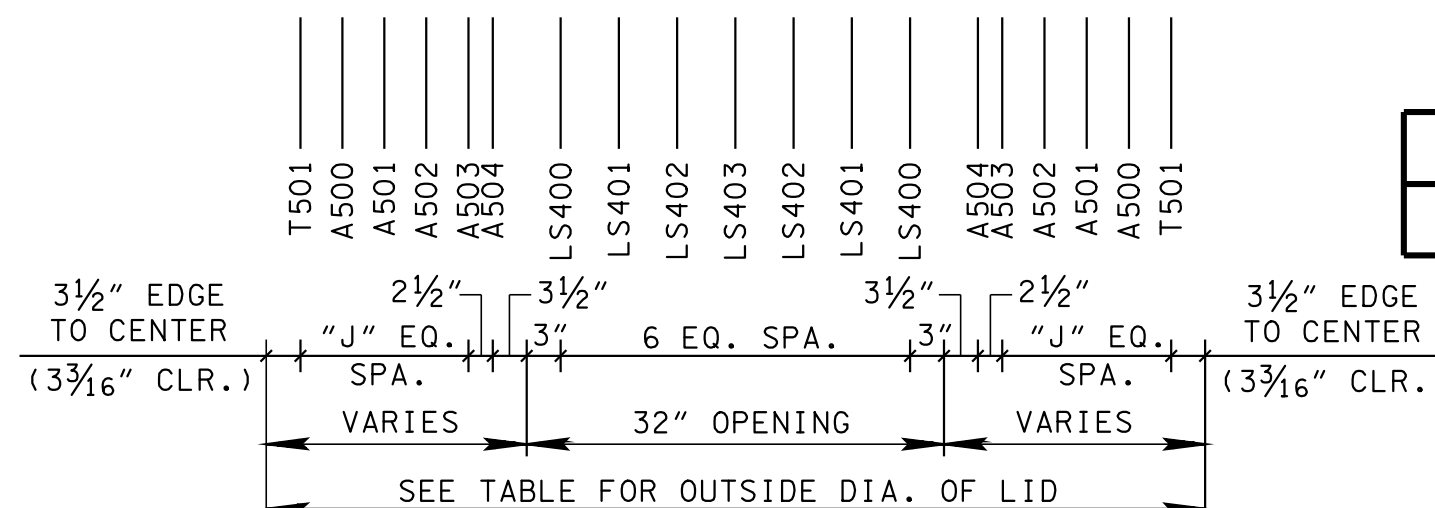


LID REINFORCING

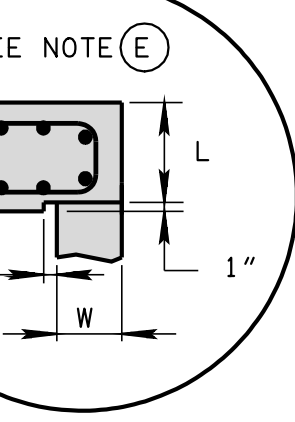
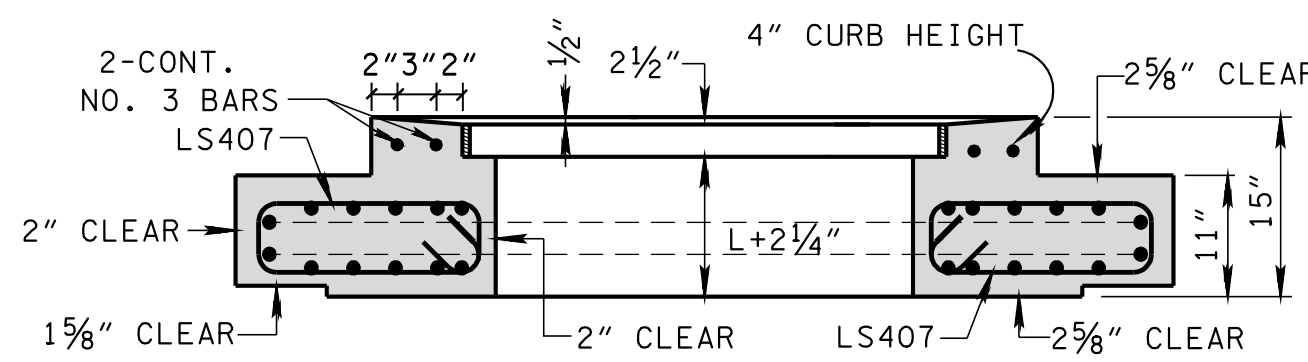
INSIDE DIA. OF CATCH BASIN (INCHES)	OUTSIDE DIA. OF LID (INCHES)	NO. OF EQUAL SPACES "J"
60	72	3
72	86	4
84	100	5
96	114	6

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

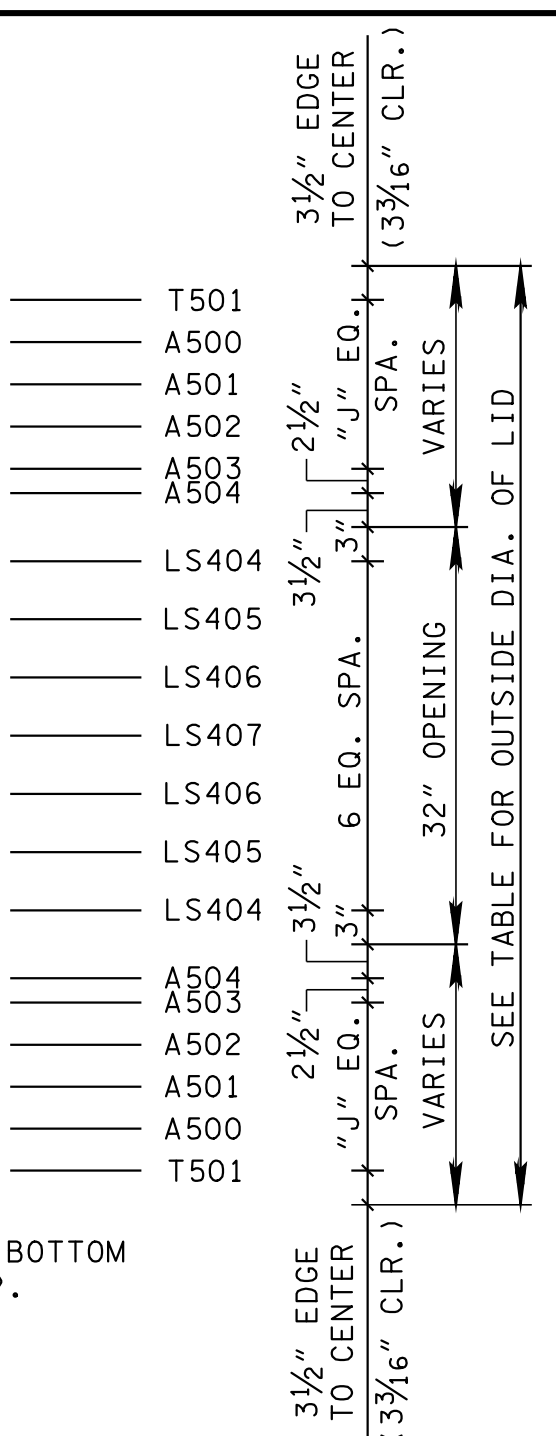
ADDITIONAL A-BARS ARE REQUIRED FOR THE LARGER STRUCTURES AS INDICATED BY "NO. OF EQ. SPACES 'J'."



SECTION C-C

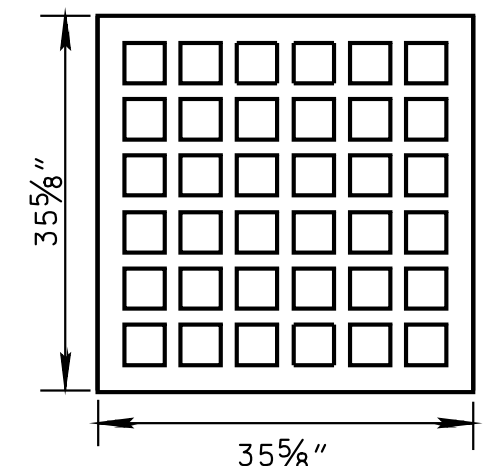


CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 40.00'.



SECTION D-D

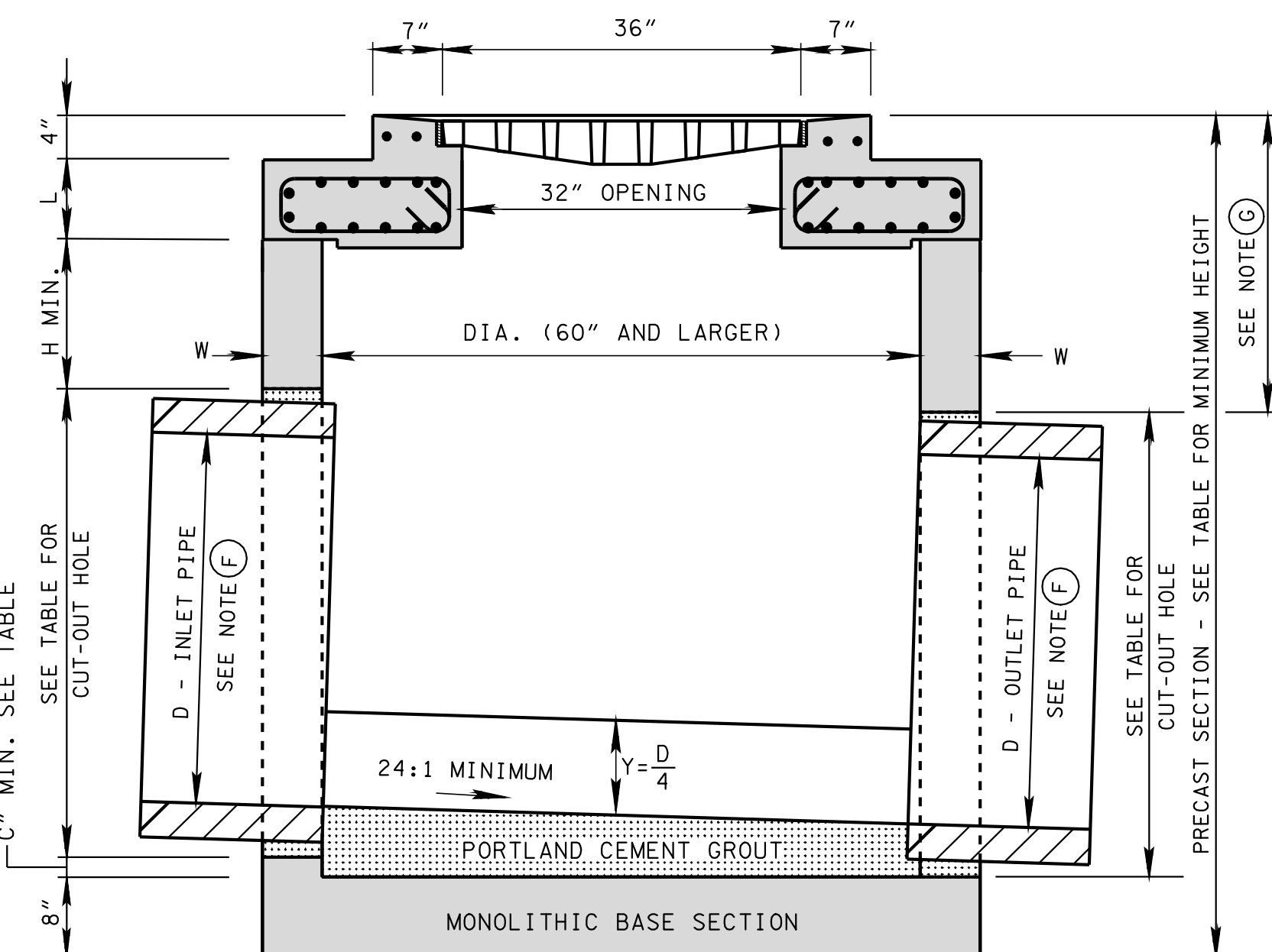
GRATE UNIT NO. 42
(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)



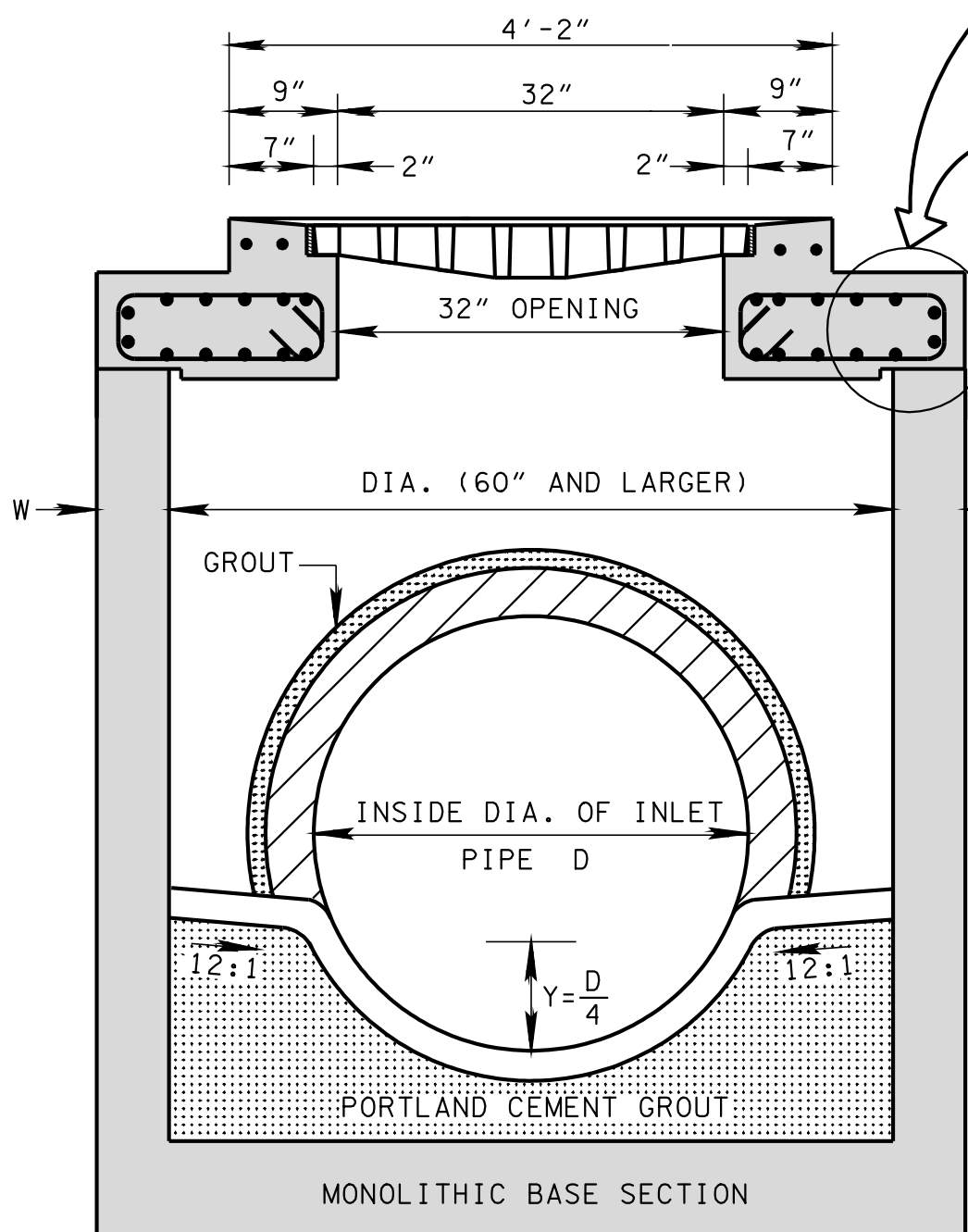
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	PRECAST SECTION MIN. HEIGHTS (INCHES)				FOR DESIGN USE ONLY CATCH BASIN MINIMUM DESIGN DEPTH (FEET)			
			60"	72"	84"	96"	60"	72"	84"	96"
18	2 1/2	25	55 1/2	57	61 1/2	63	3.88	4.26	4.27	4.29
24	3	32	62 1/2	64	68 1/2	70	4.42	4.80	4.83	4.83
30	3 1/2	39	69 1/2	71	75 1/2	77	4.97	5.34	5.38	5.38
36	4	46	76 1/2	78	82 1/2	84	5.51	5.88	5.92	5.92
42	4 1/2	53	83 1/2	85	89 1/2	91	6.05	6.42	6.46	6.46
48	5	60	90 1/2	92	96 1/2	98	6.59	6.97	7.00	7.00
54	5 1/2	67	97 1/2	99	103 1/2	105	7.13	7.51	7.54	7.54
60	6	74	104 1/2	106	110 1/2	112	7.67	8.05	8.08	8.08
66	6 1/2	81	111 1/2	113	117 1/2	119	8.22	8.59	8.63	8.63

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.



SECTION A-A

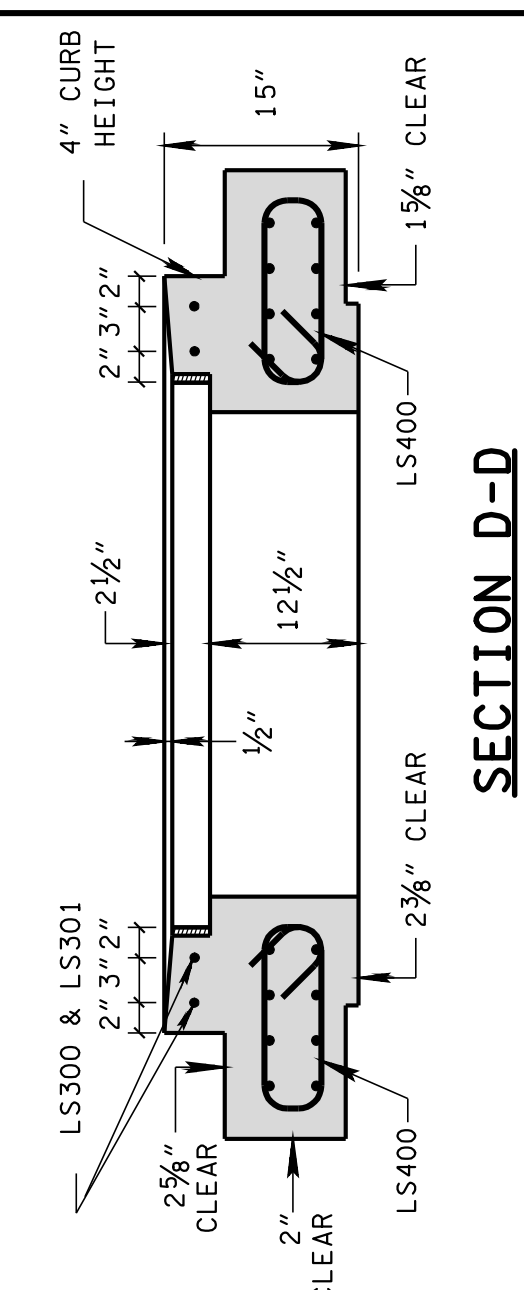
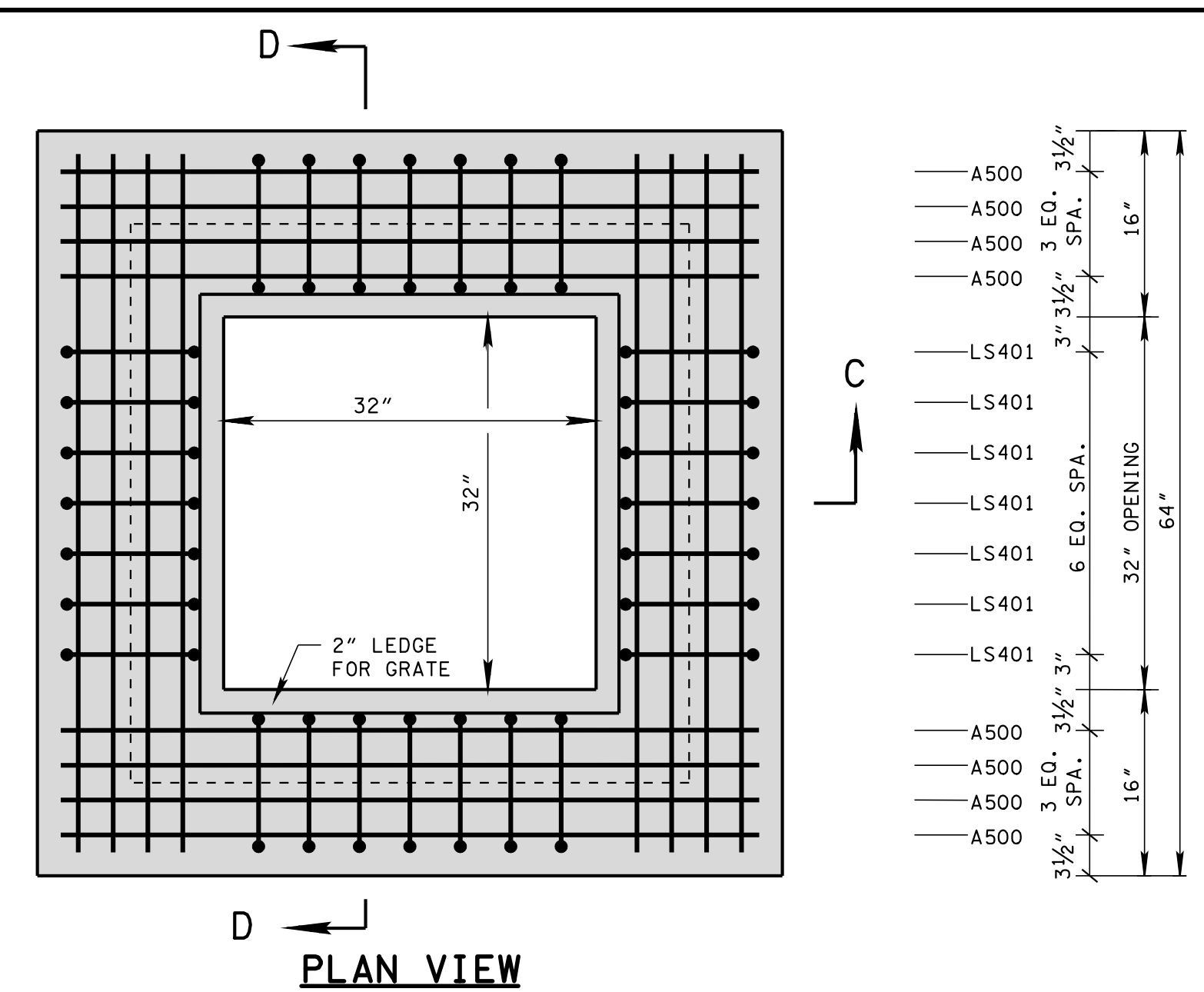
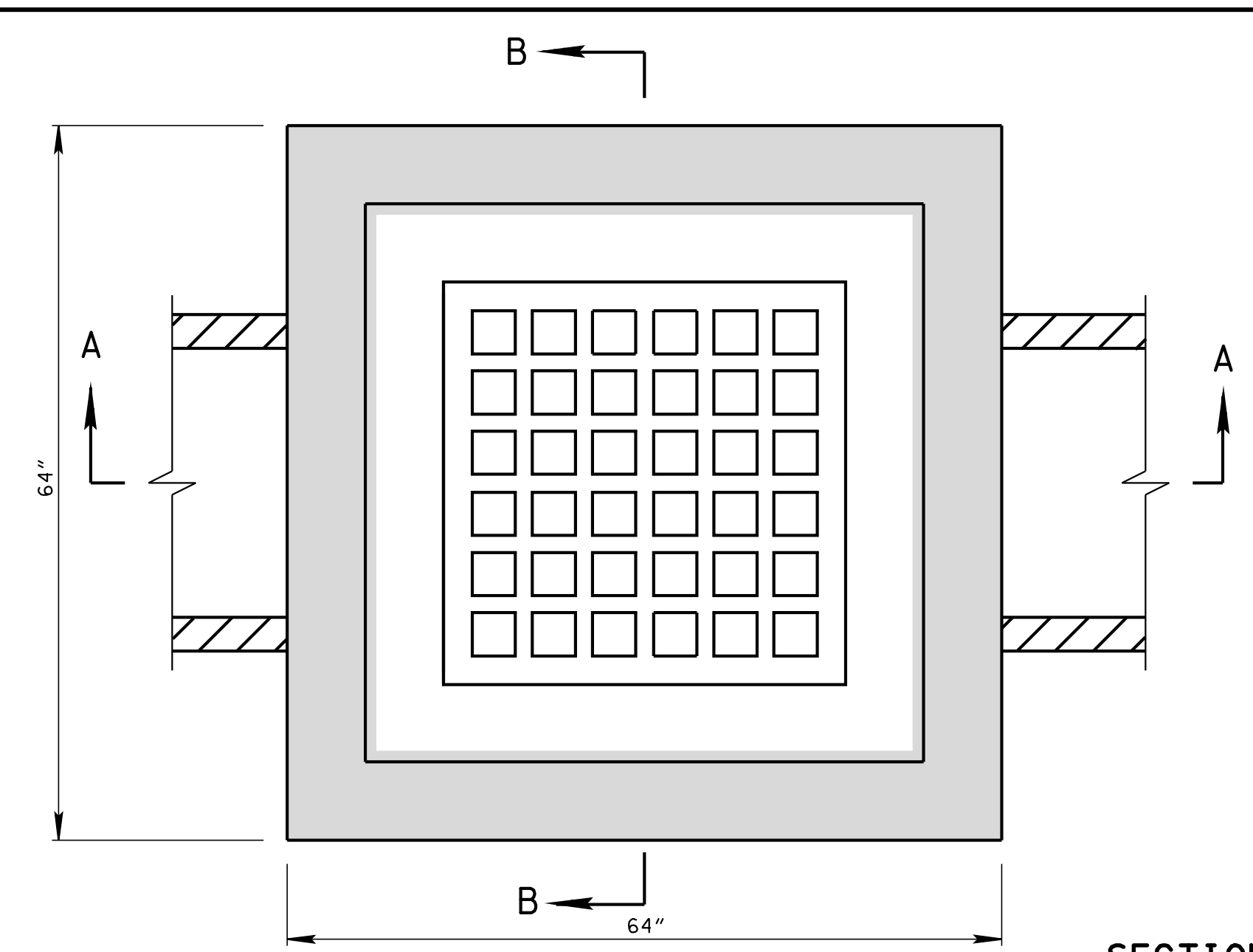


SECTION B-B

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

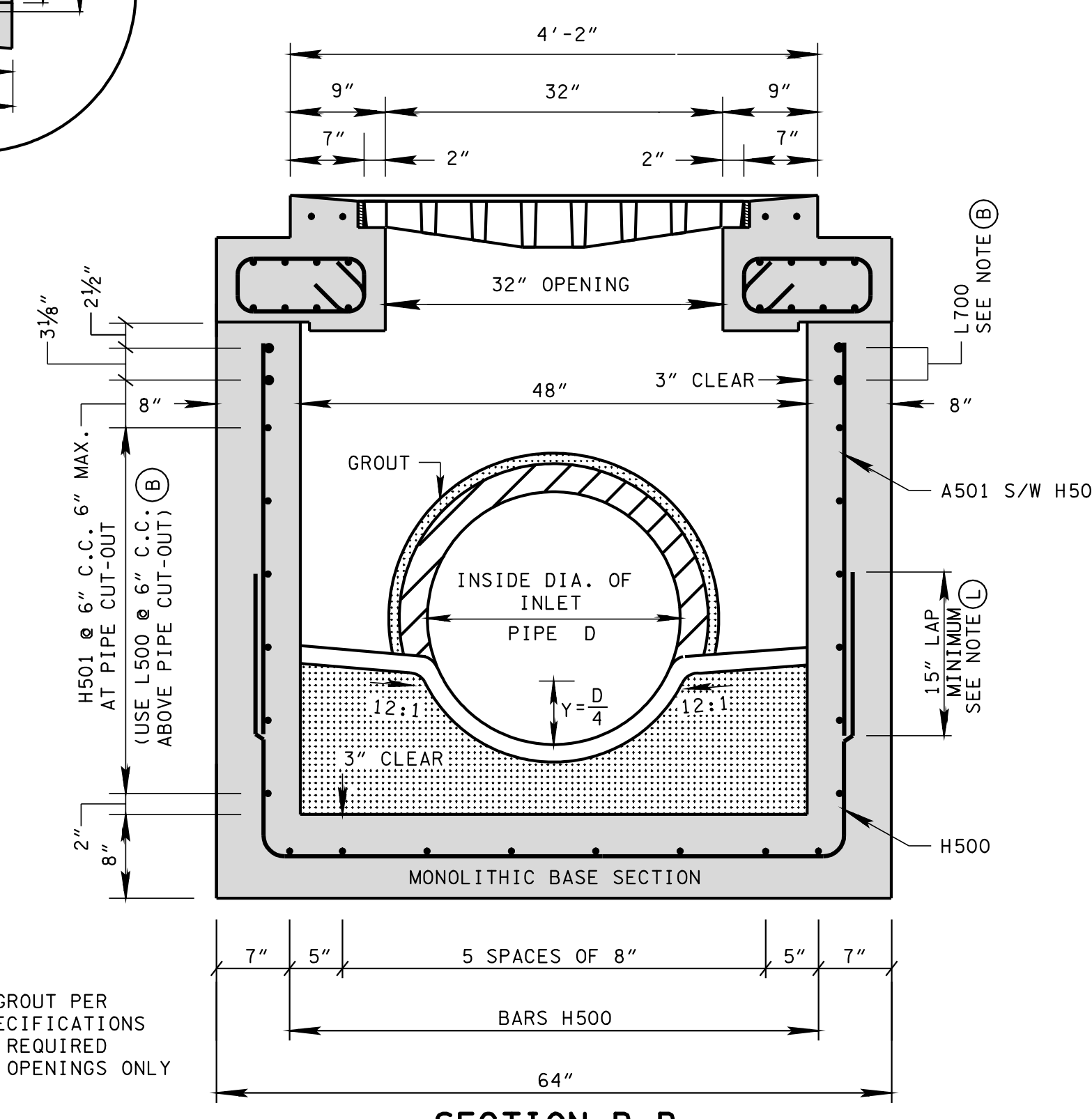
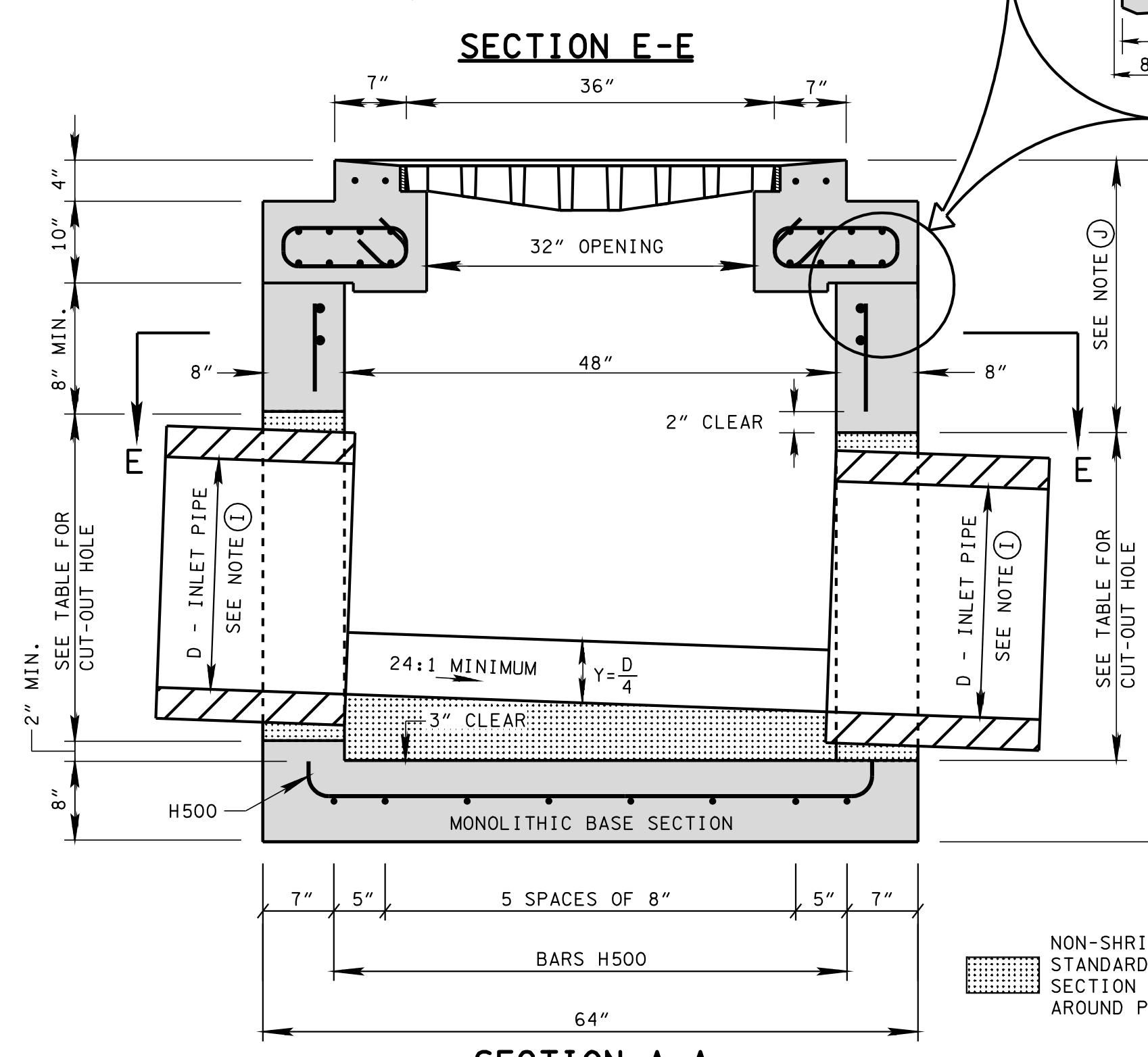
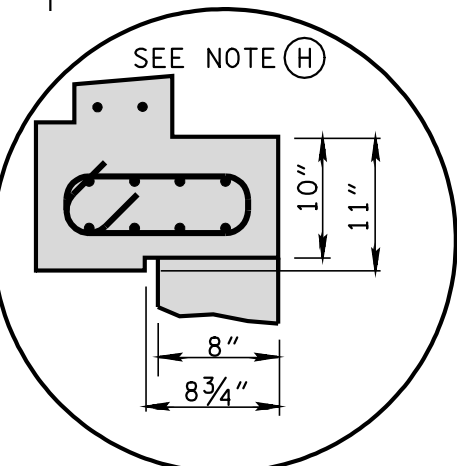
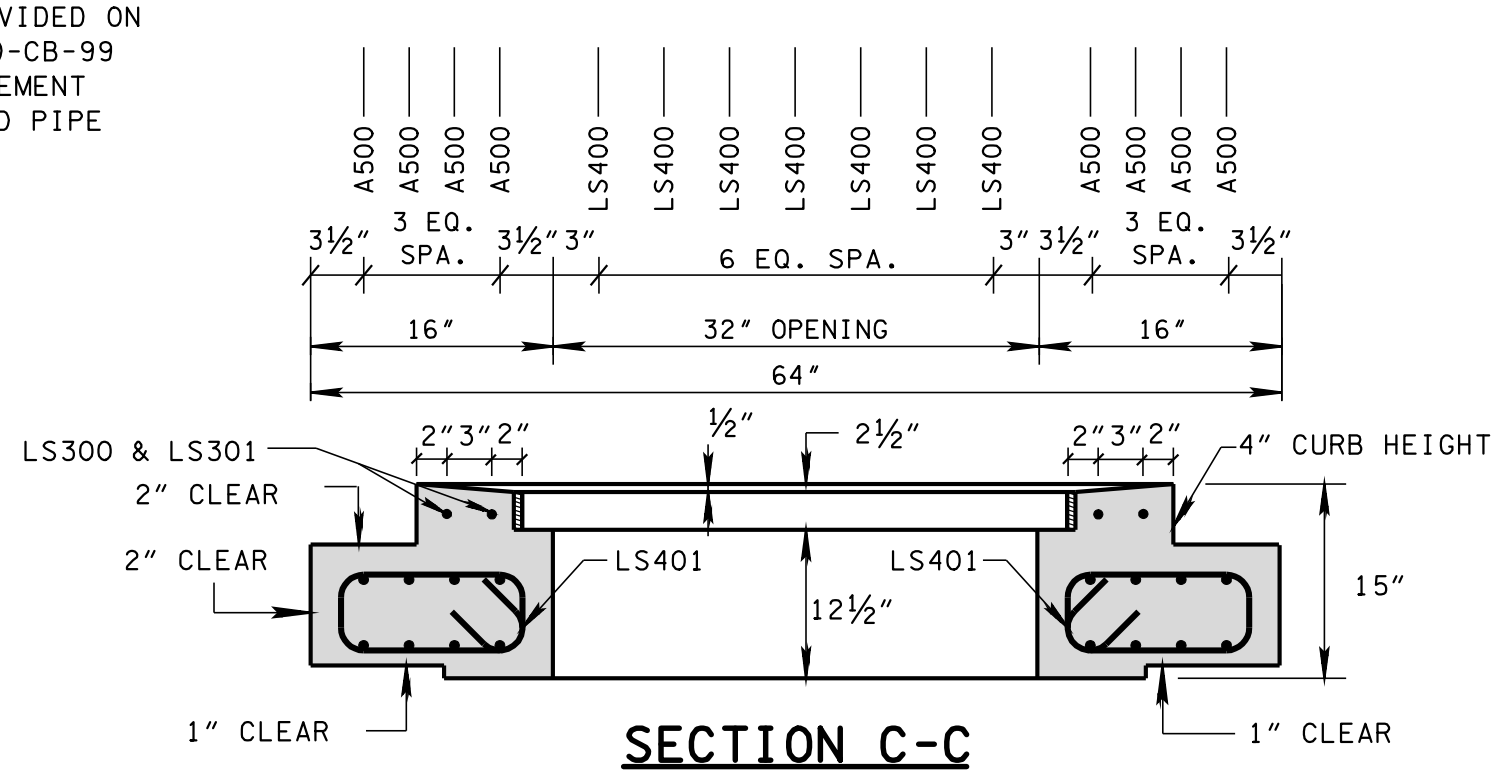
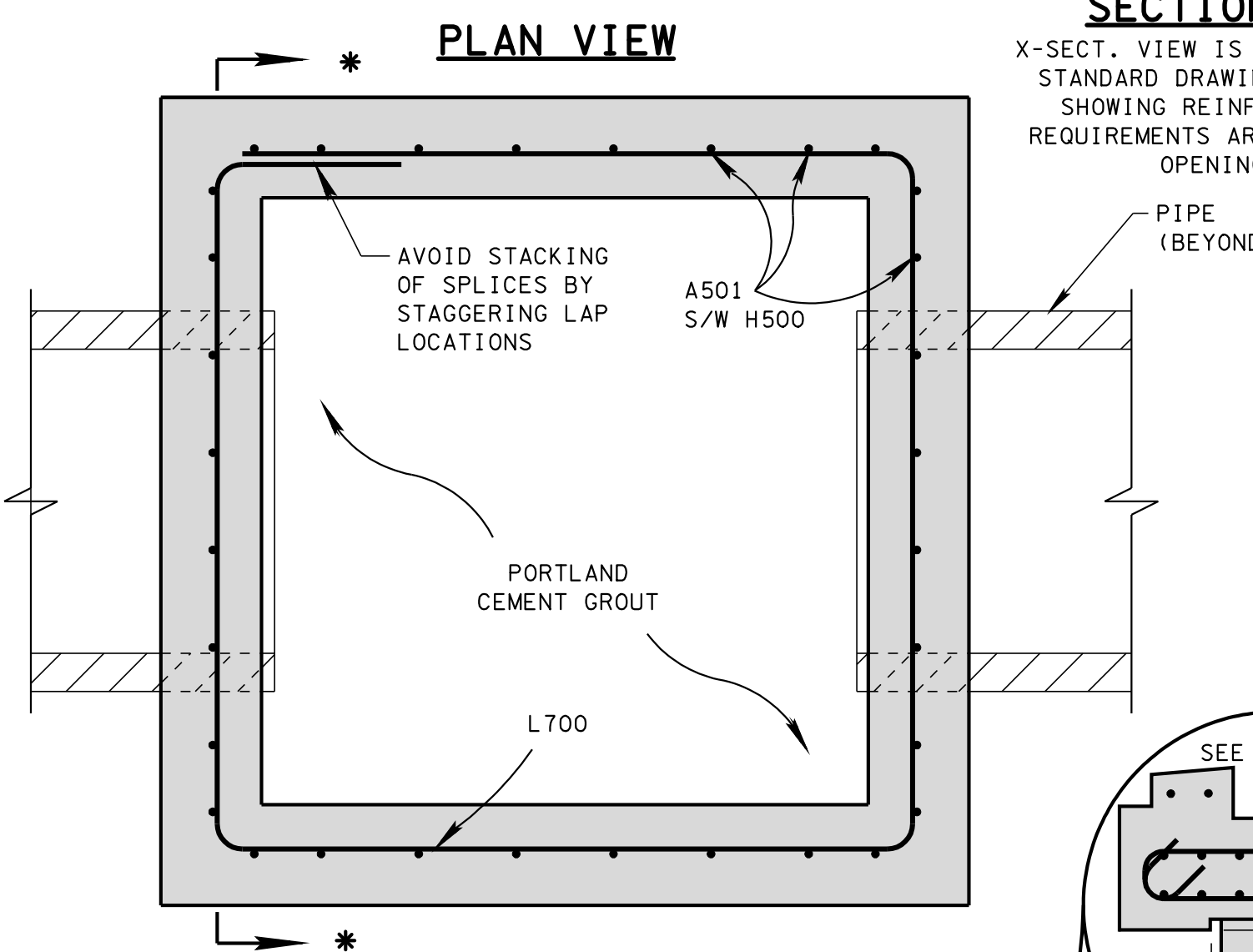


CATCH BASIN MAXIMUM DEPTH NOTE
 MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.

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	2 1/2	25	55	3.88
24	3	32	62	4.42
30	3 1/2	39	69	4.96
36	4	46	76	5.50

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

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



- GENERAL NOTES**
- 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
 - 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.
 - ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
 - 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.
 - 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.
 - SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.
 - THE CONTRACTOR MAY ELIMINATE THE A501 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
 - 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

A500	60"	26"	26"	40 3/8"	12"	55 3/4"	12"
A501	VARIABLE	57"	H500	40 3/8"	40 3/8"	55 3/4"	55 3/4"
LS400	5 3/4"	12"	55 3/4" MAX. 6" MIN.	40 3/8"	L300	55 3/4"	L500
LS401	7"	12"	55 3/4" MAX. 6" MIN.	46 3/8"	12"	55 3/4"	12"
				46 3/8"	L301	55 3/4"	L700

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

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

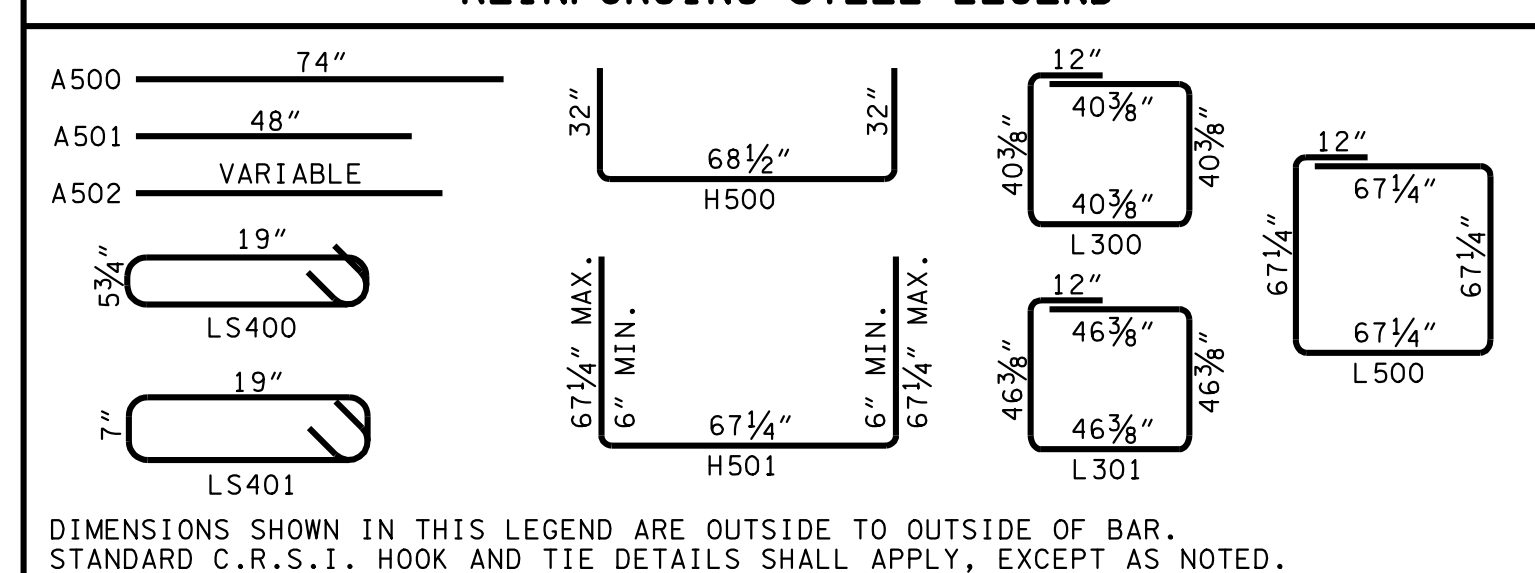
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2½	25	59	4.05
24	3	32	66	4.59
30	3½	39	73	5.13
36	4	46	80	5.67
42	4½	53	87	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.

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

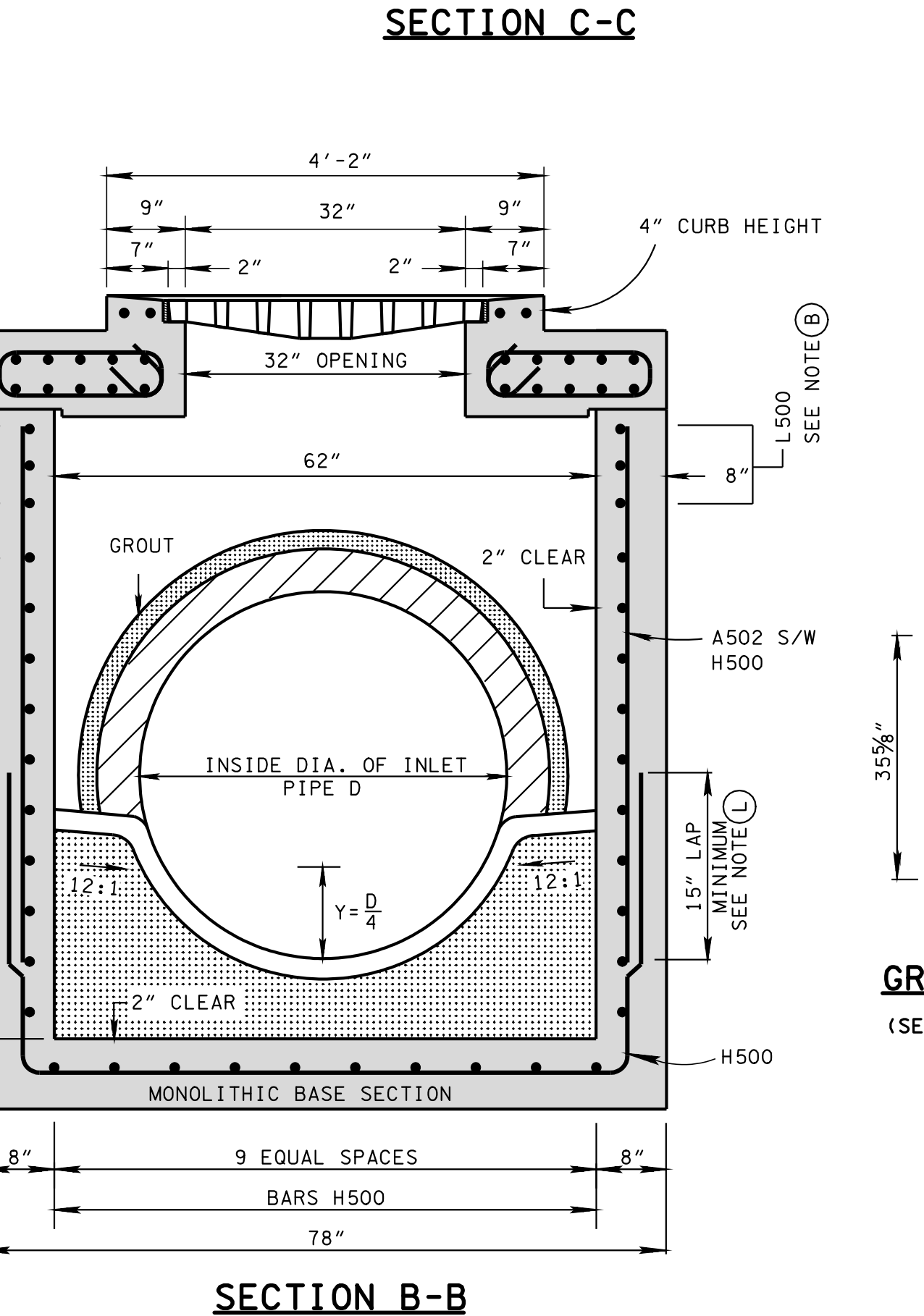
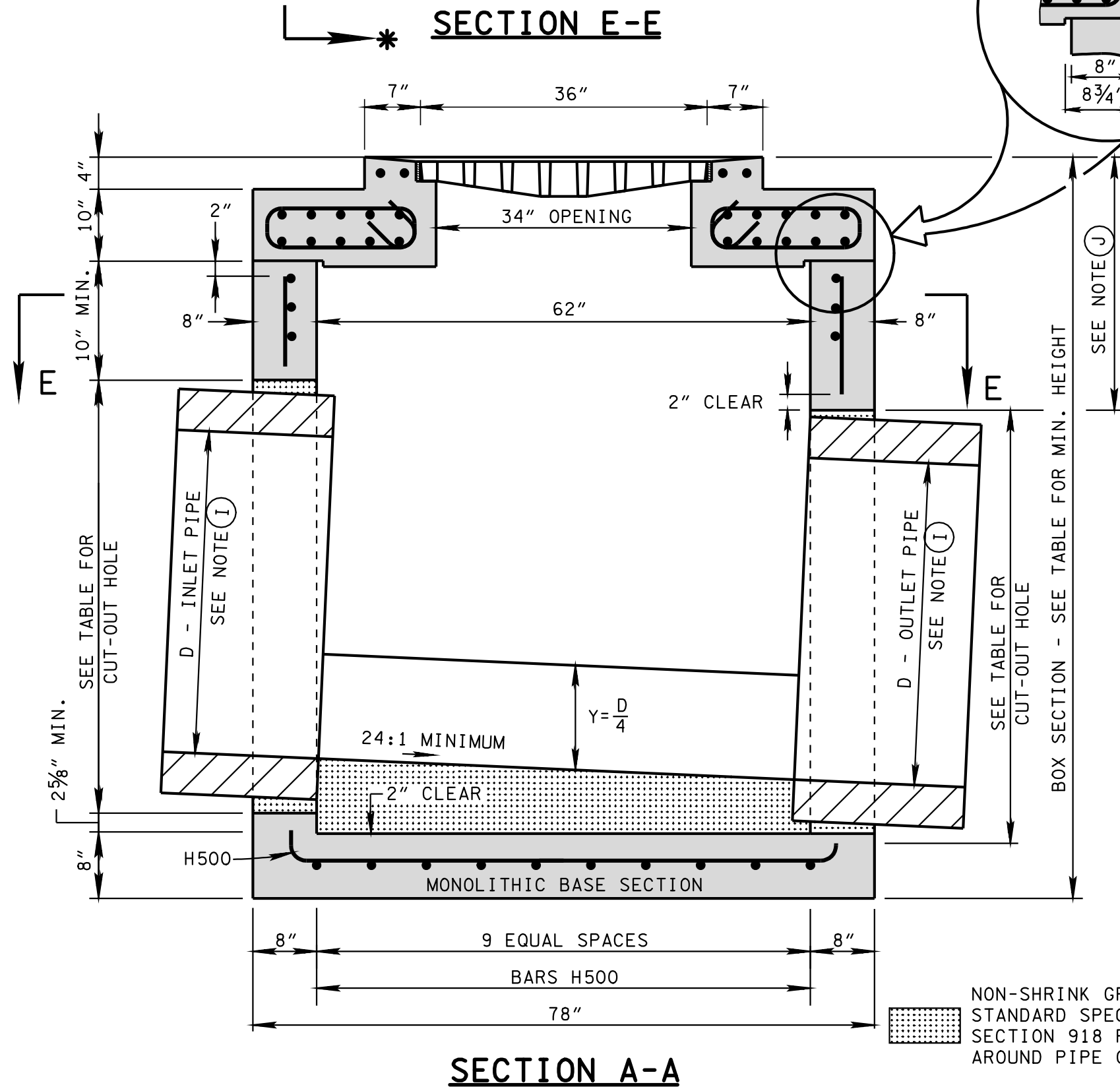
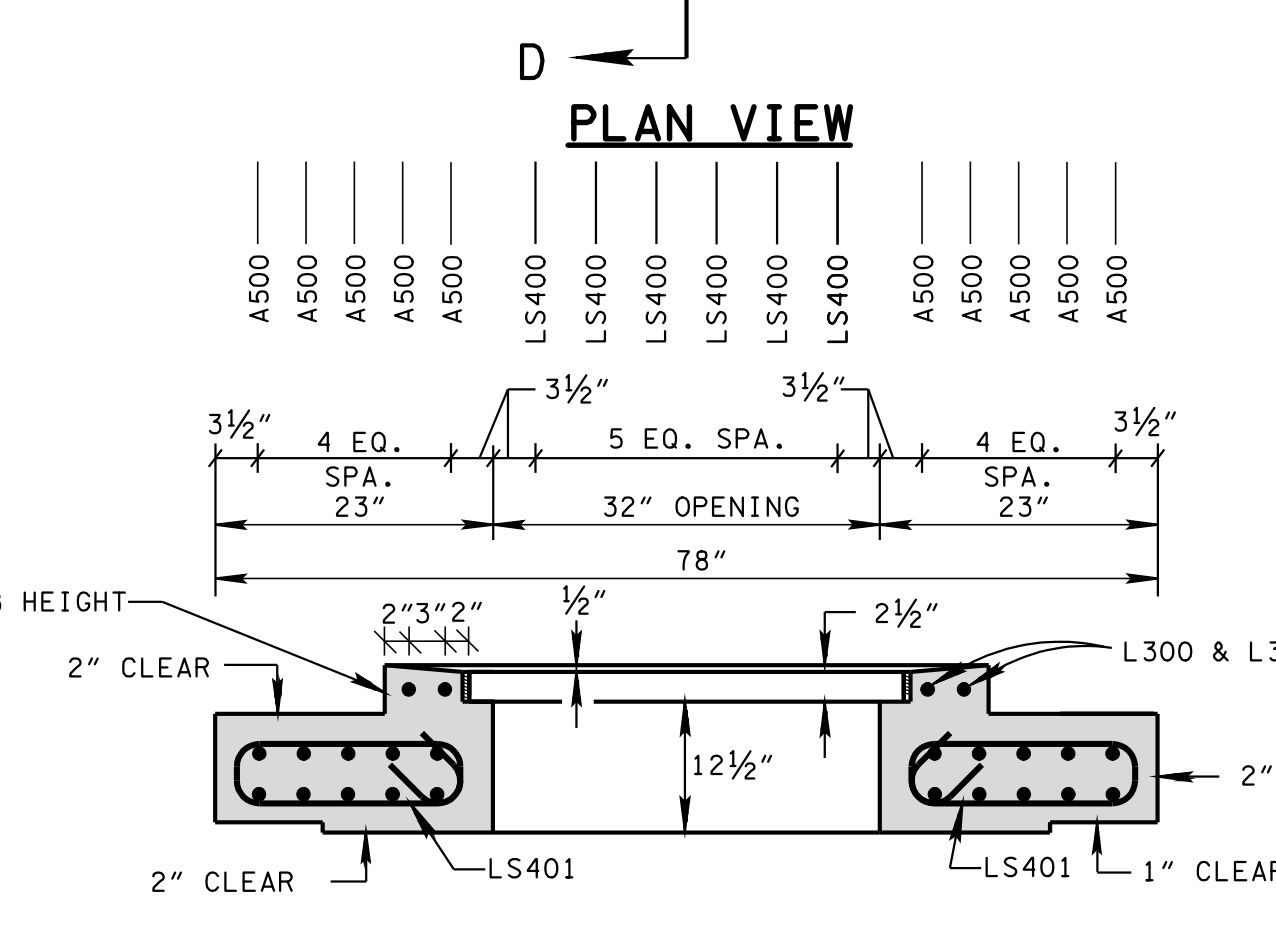
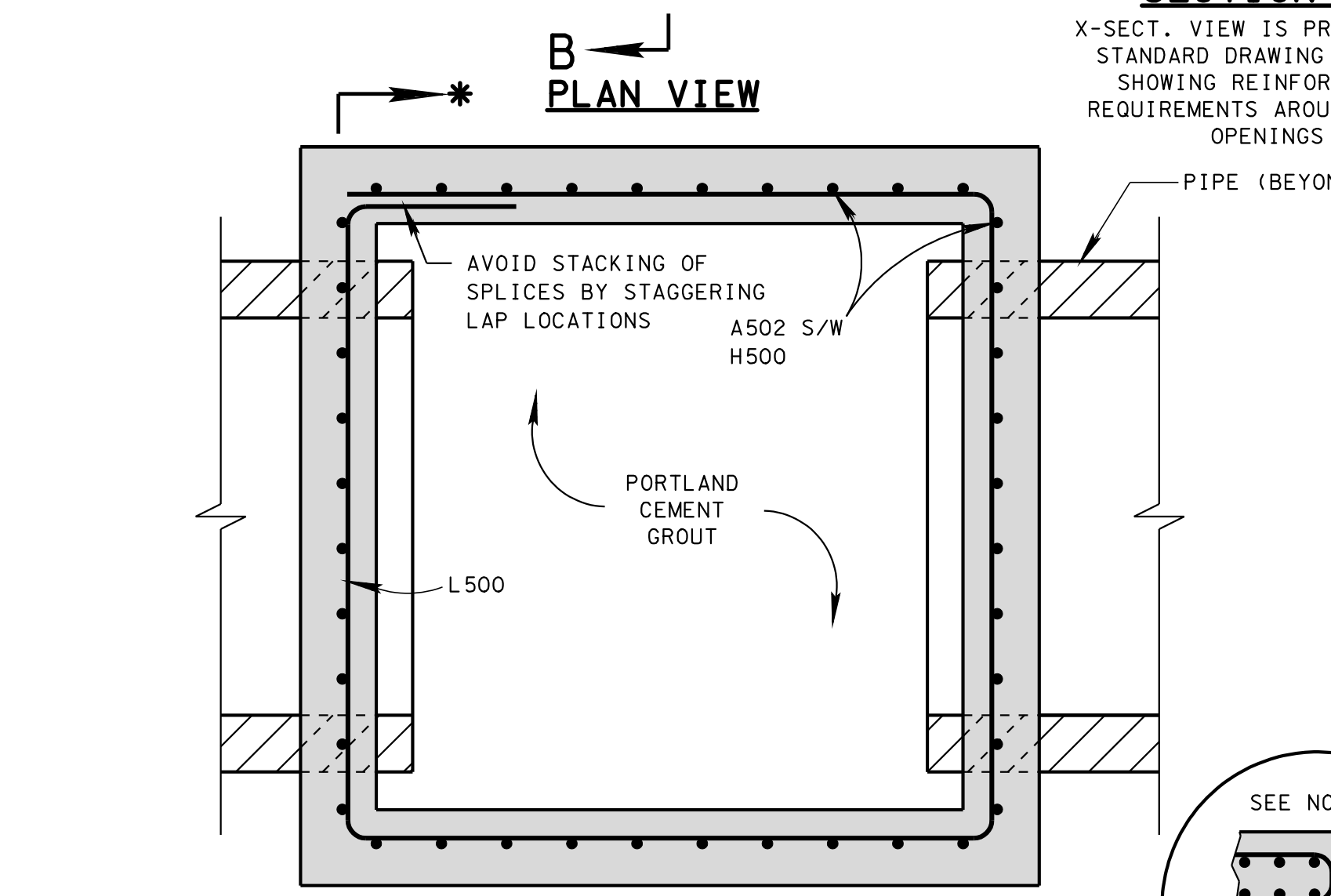
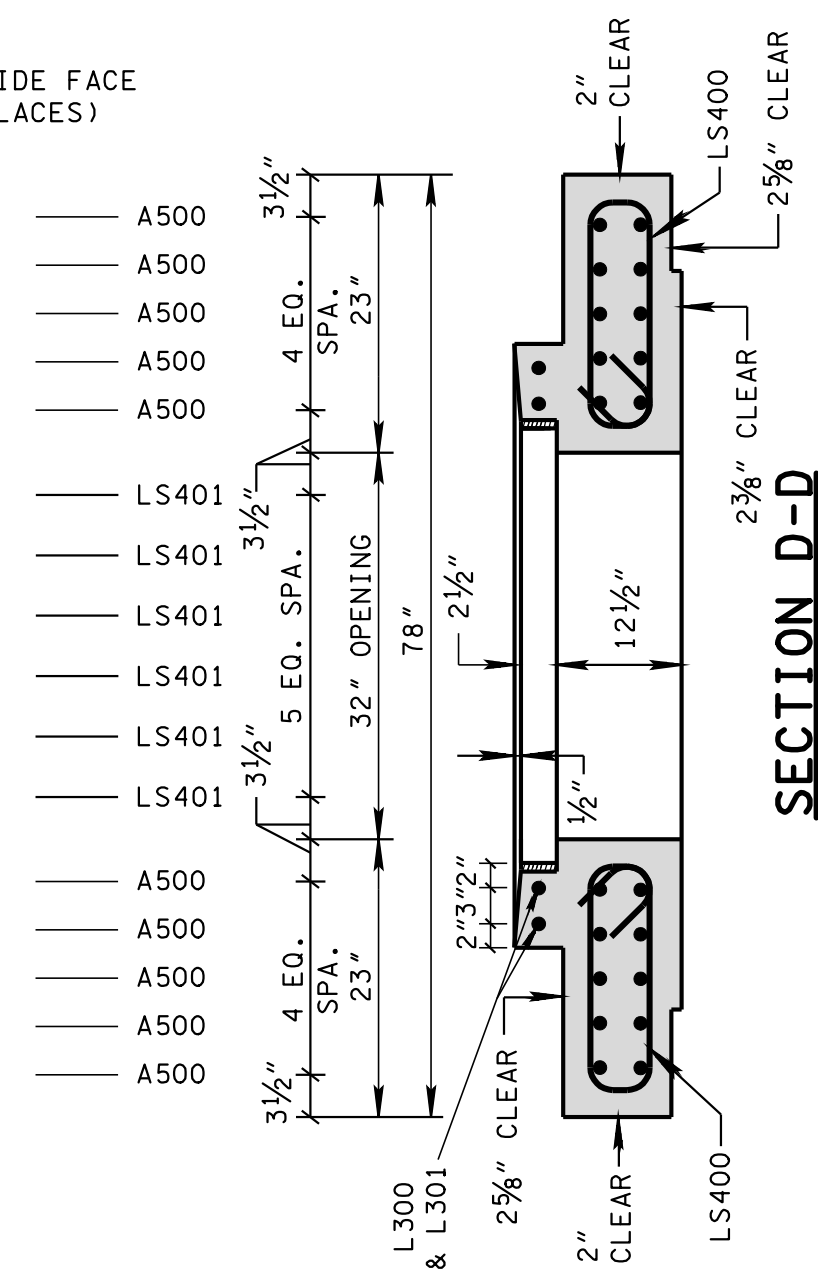
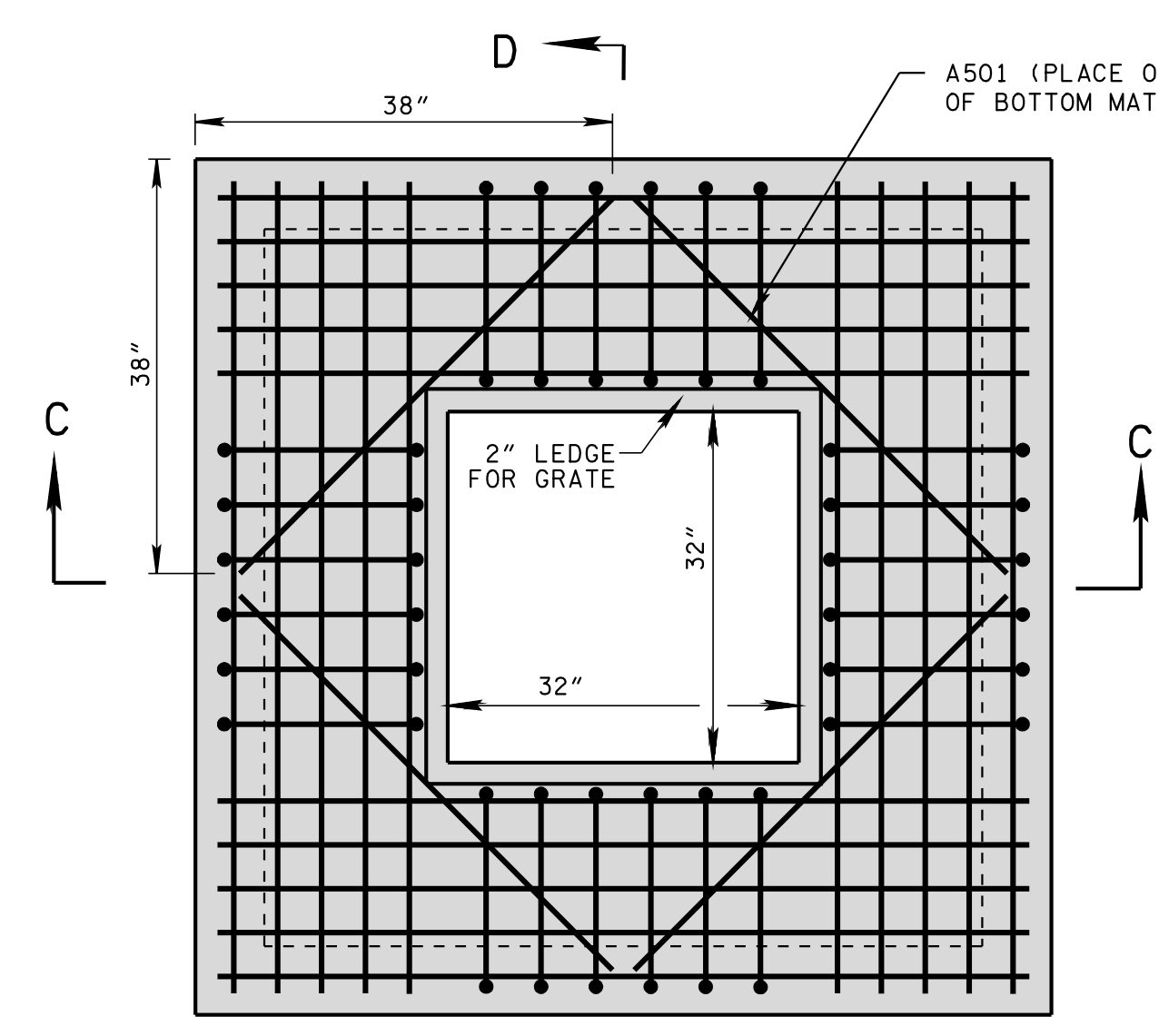
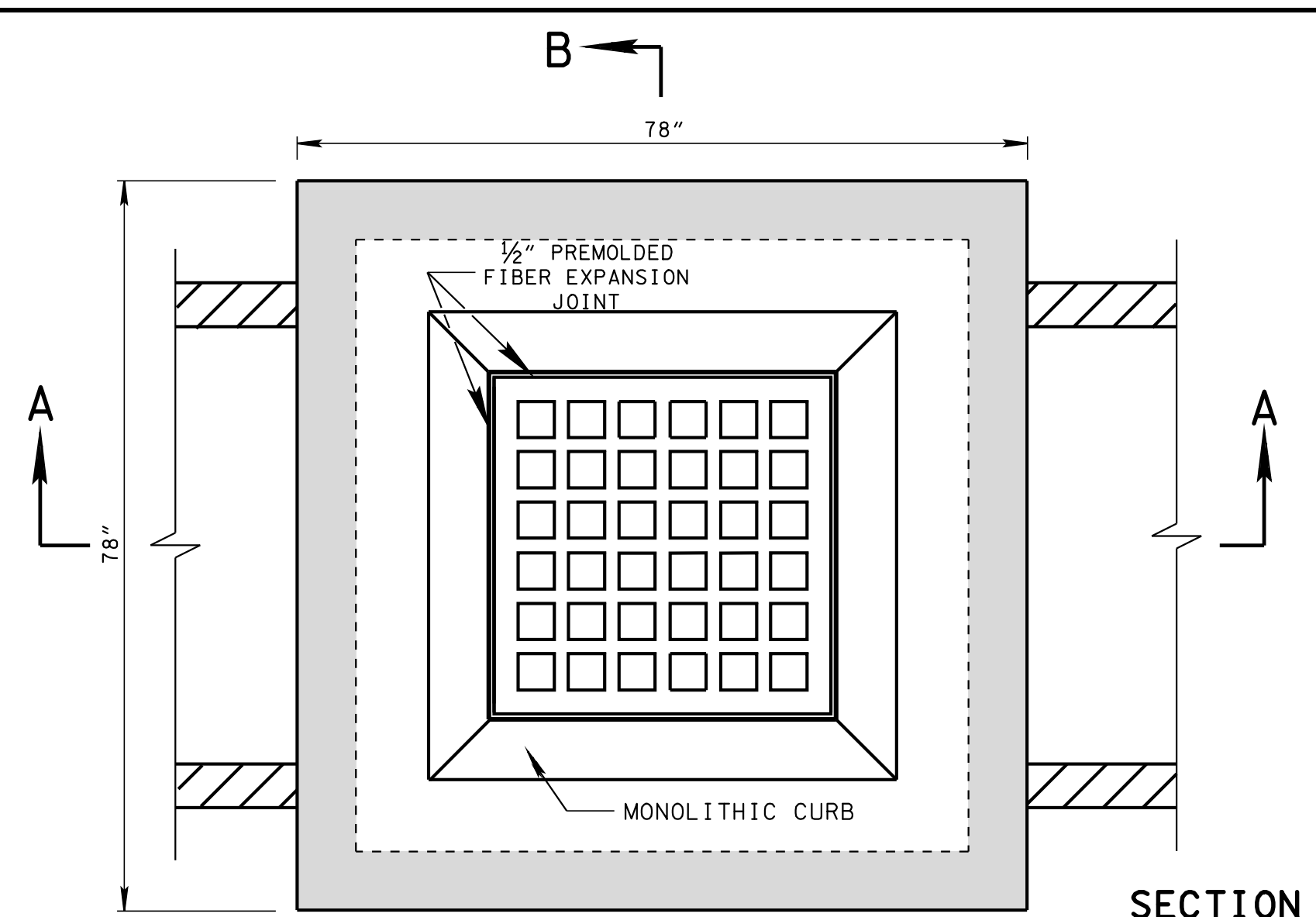


GRATE UNIT NO. 42
 (SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)

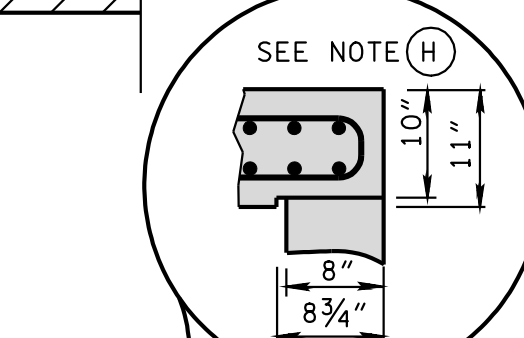
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

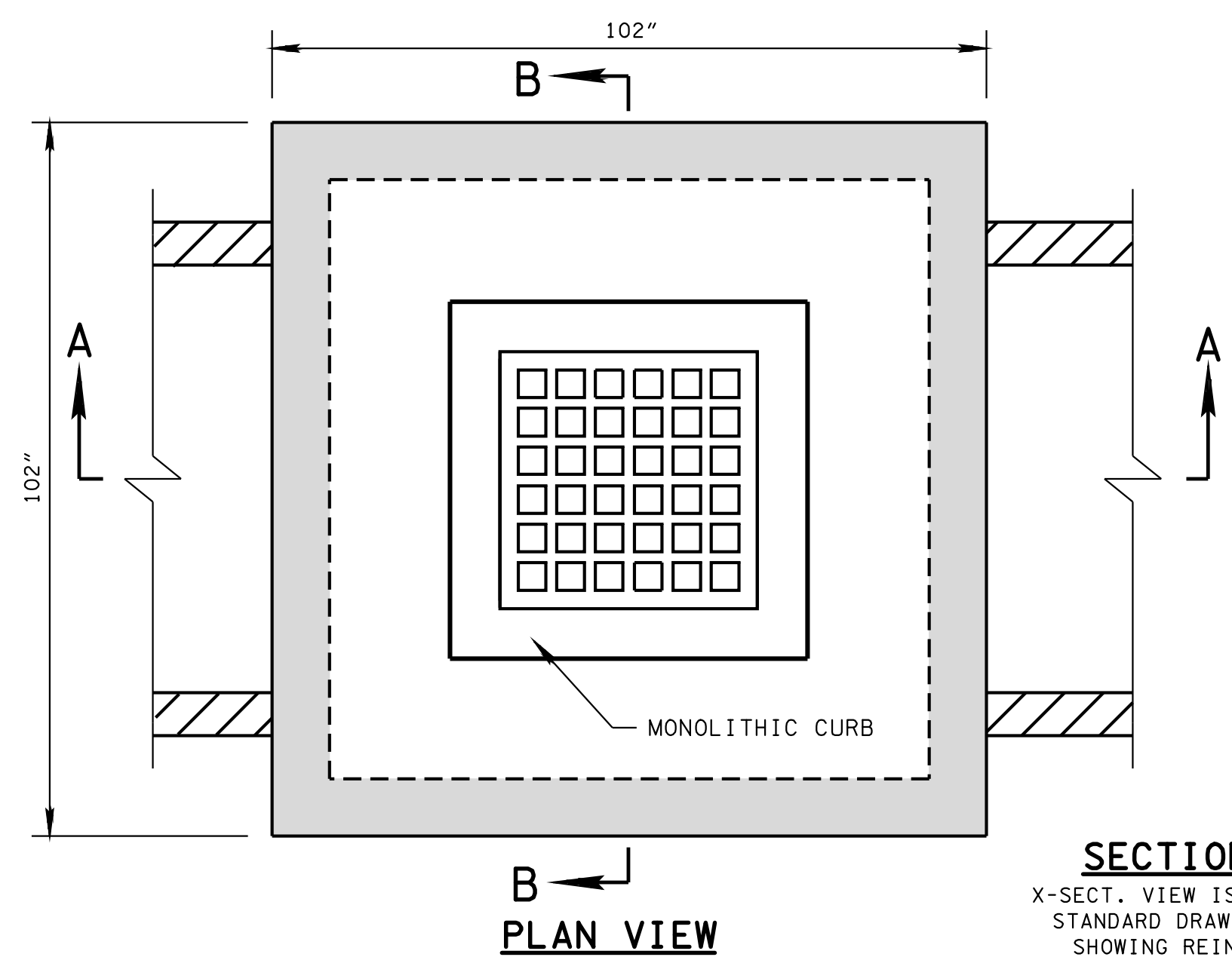
**STANDARD
 5'2" X 5'2" SQUARE
 CONCRETE NO.42
 CATCH BASIN**



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

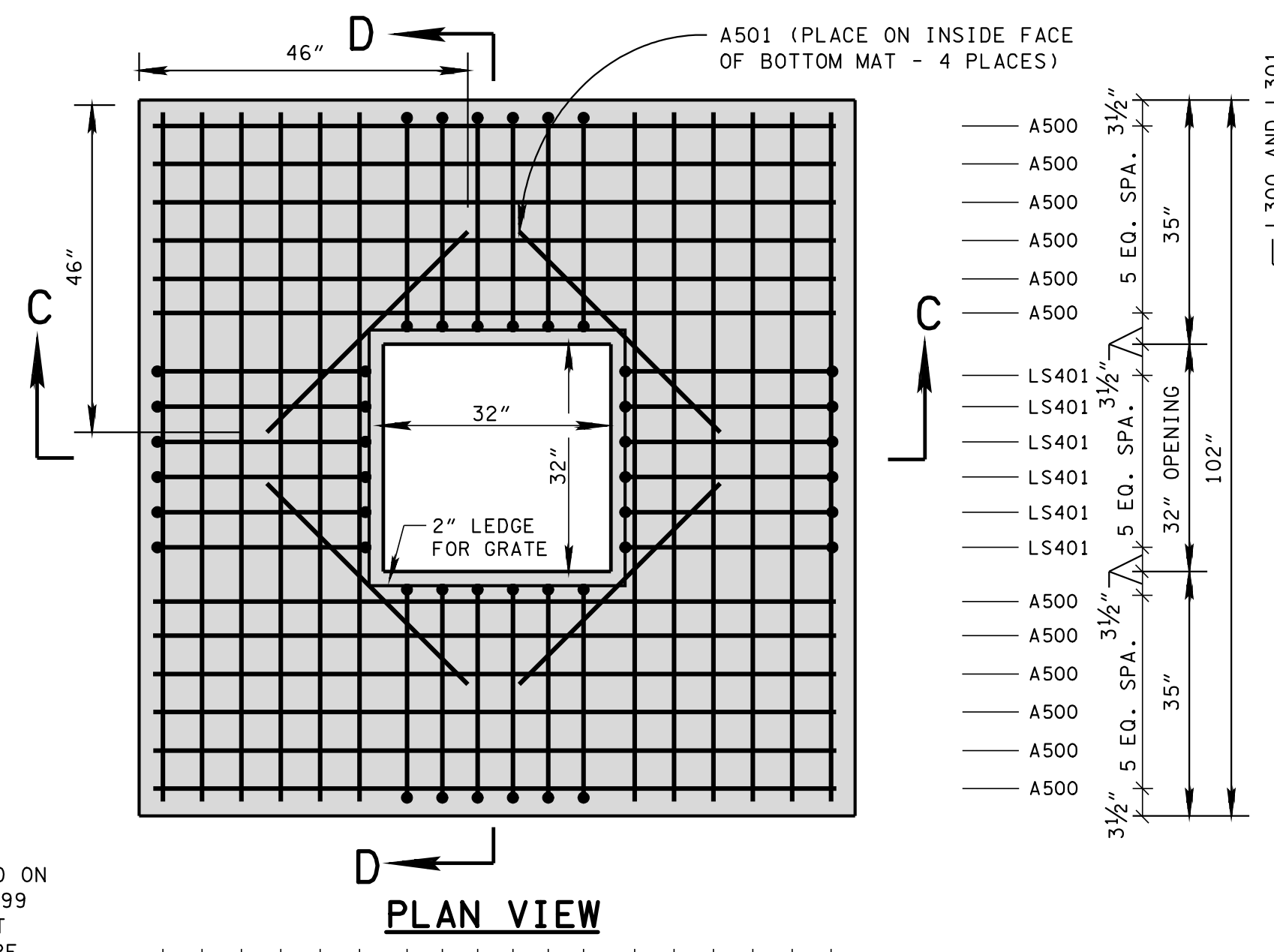


NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY

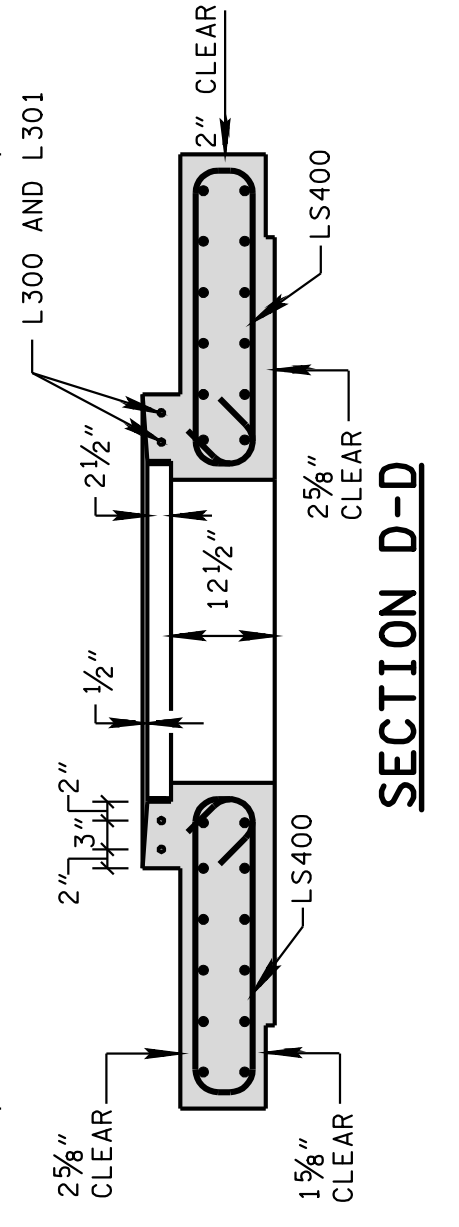


PLAN VIEW

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



PLAN VIEW

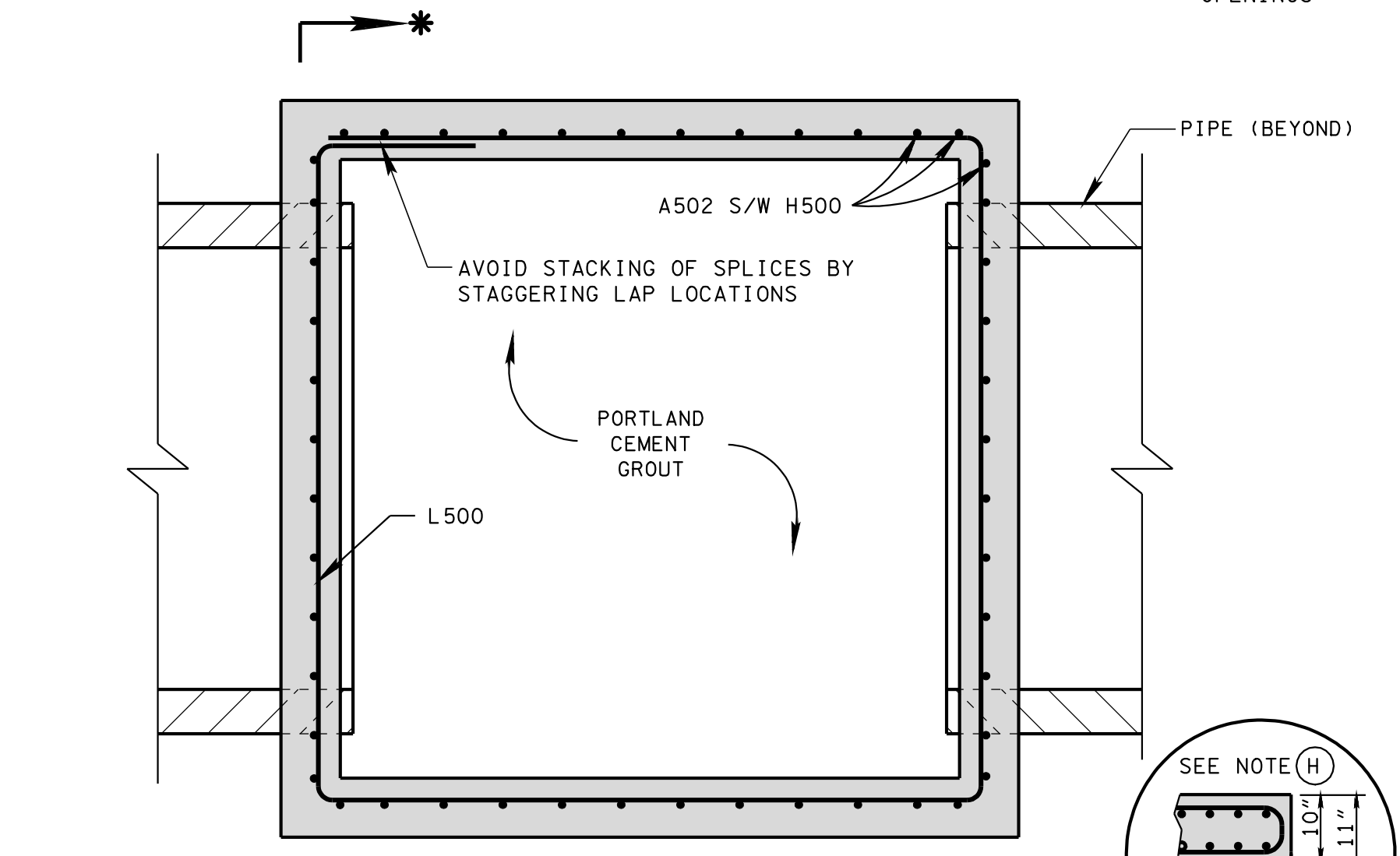


SECTION D-D

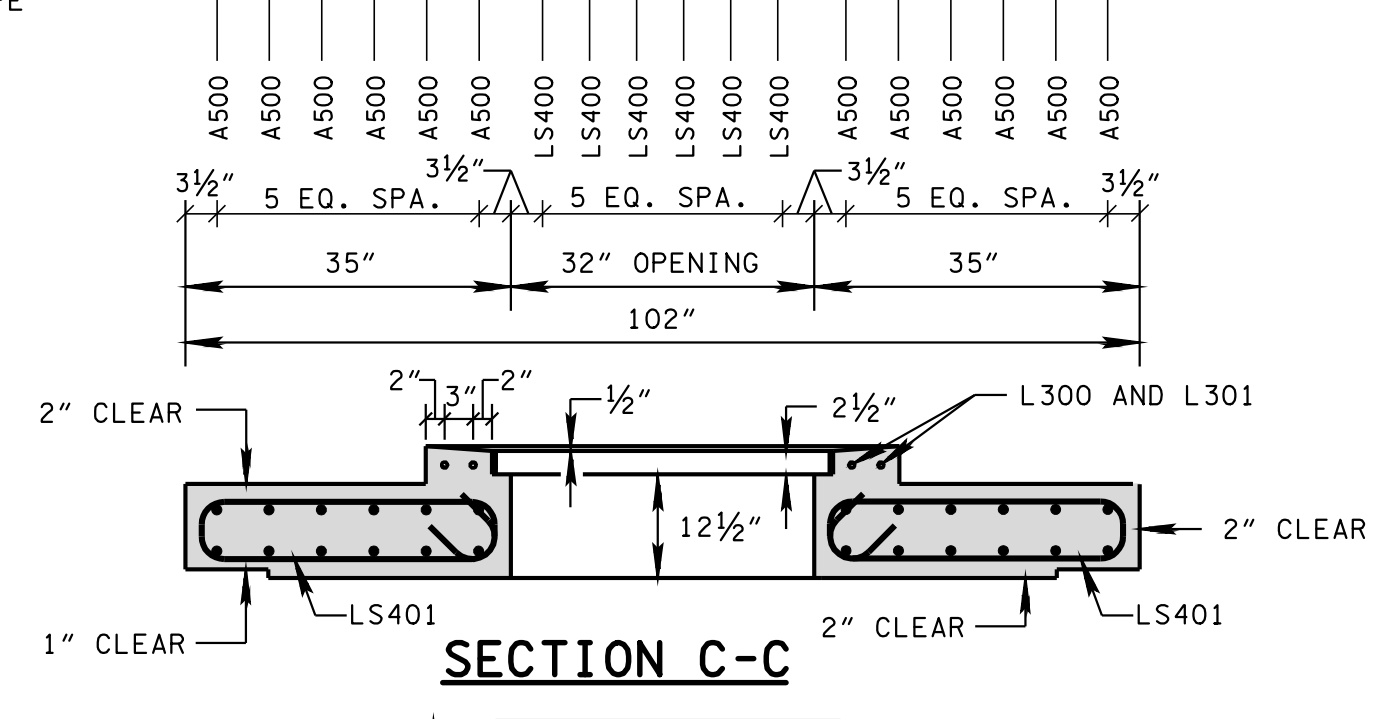
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	61 1/2	4.26
24	3	32	68 1/2	4.80
30	3 1/2	39	75 1/2	5.34
36	4	46	82 1/2	5.88
42	4 1/2	53	89 1/2	6.42
48	5	60	96 1/2	6.97
54	5 1/2	67	103 1/2	7.51
60	6	74	110 1/2	8.05
66	6 1/2	81	117 1/2	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 EGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

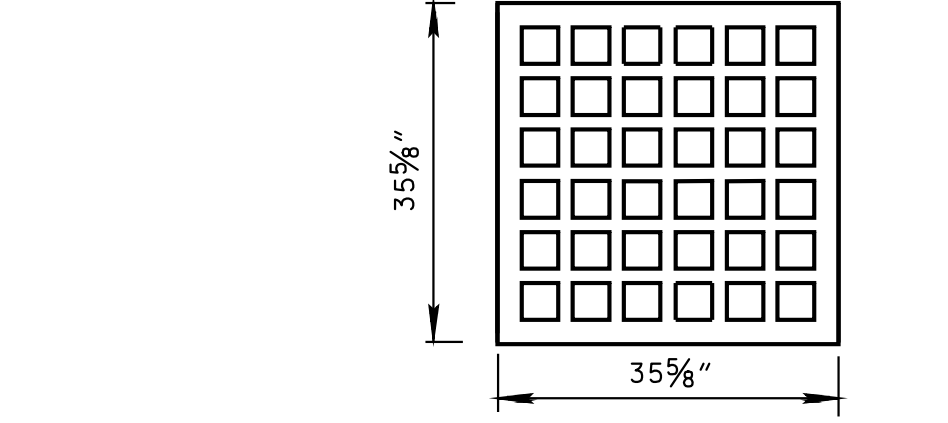
CATCH BASIN MAXIMUM DEPTH NOTE
MAXIMUM DEPTH FOR THIS STRUCTURE IS 28.00'.



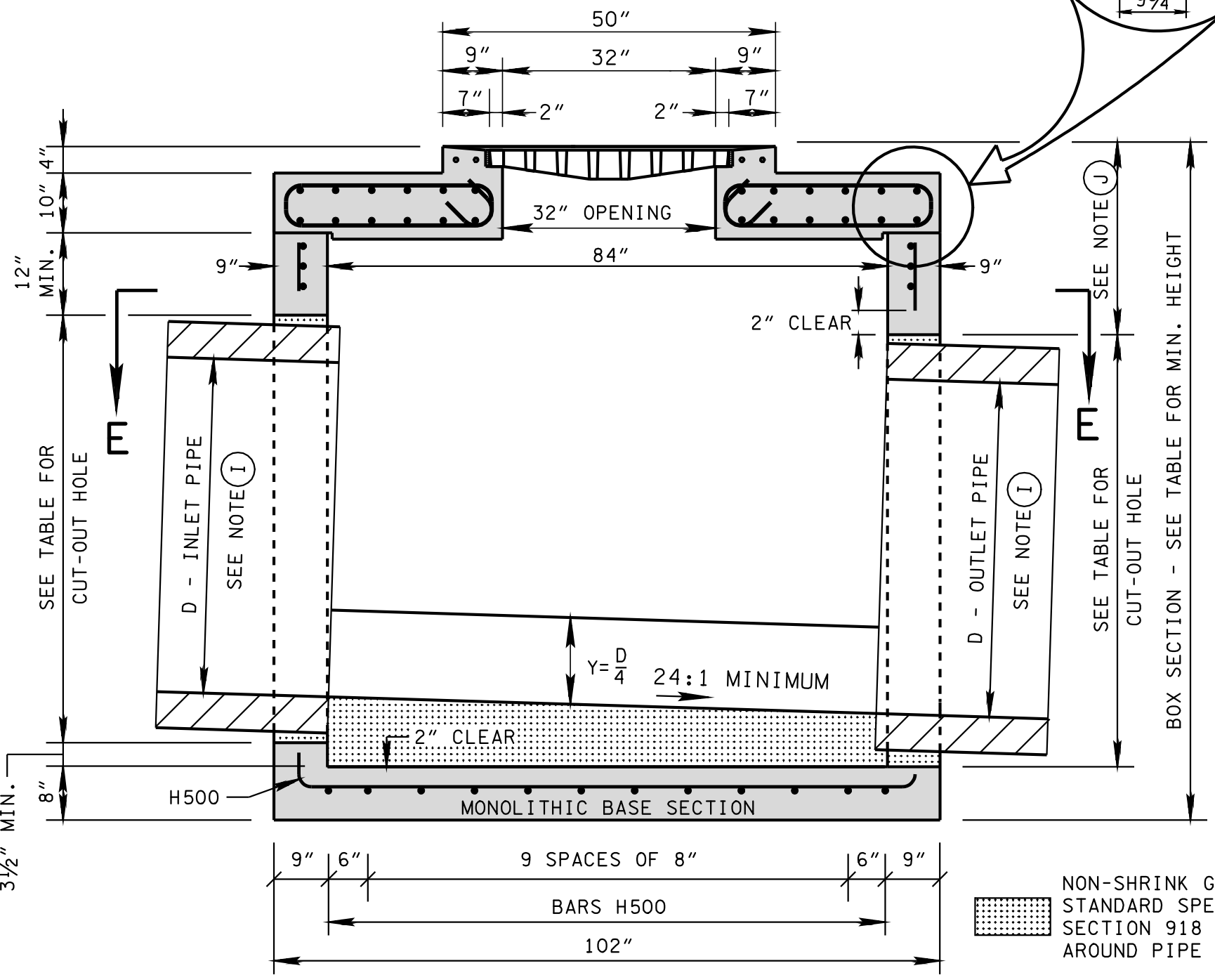
SECTION E-E



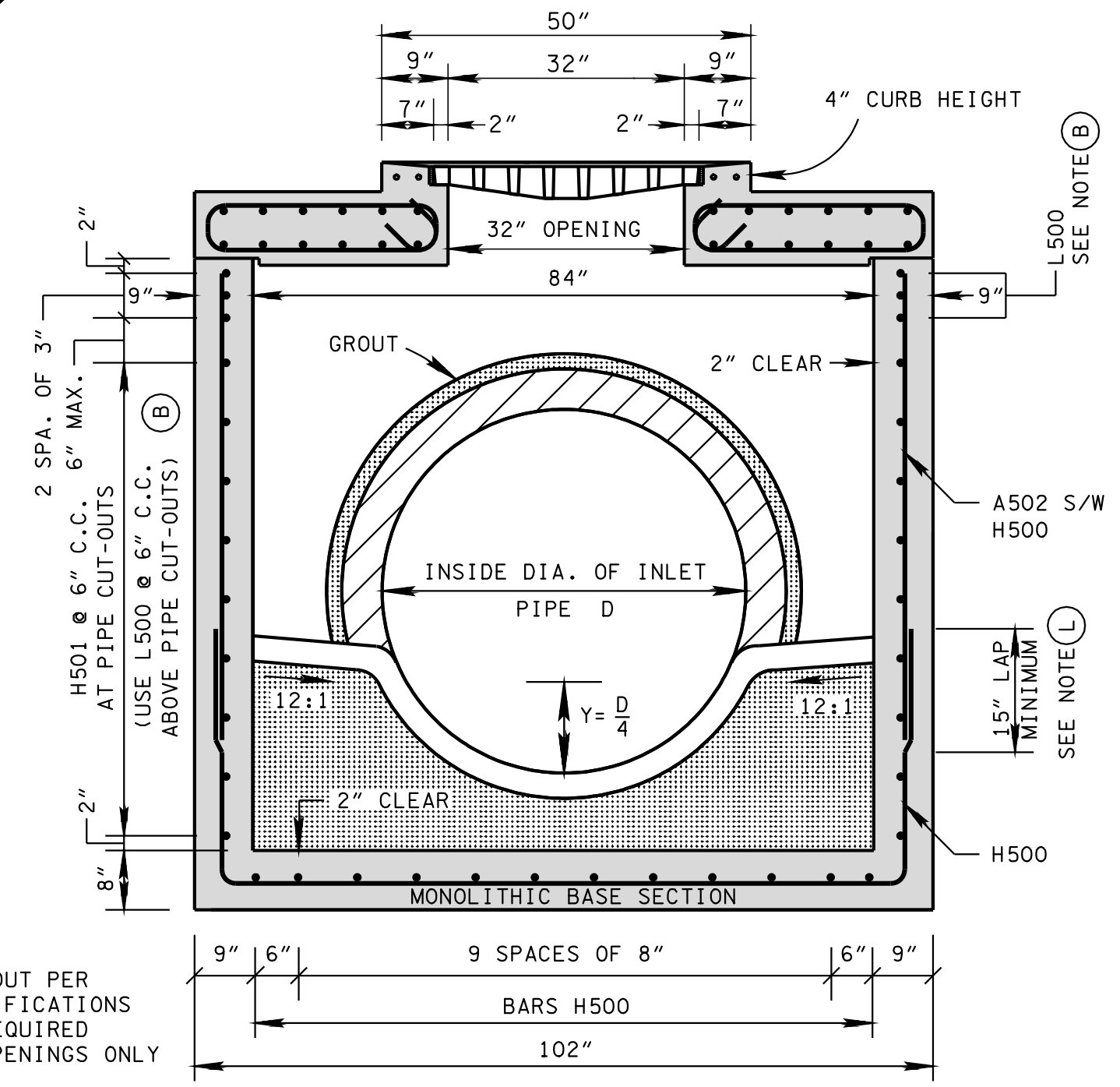
SECTION C-C



GRATE UNIT NO. 42
(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)

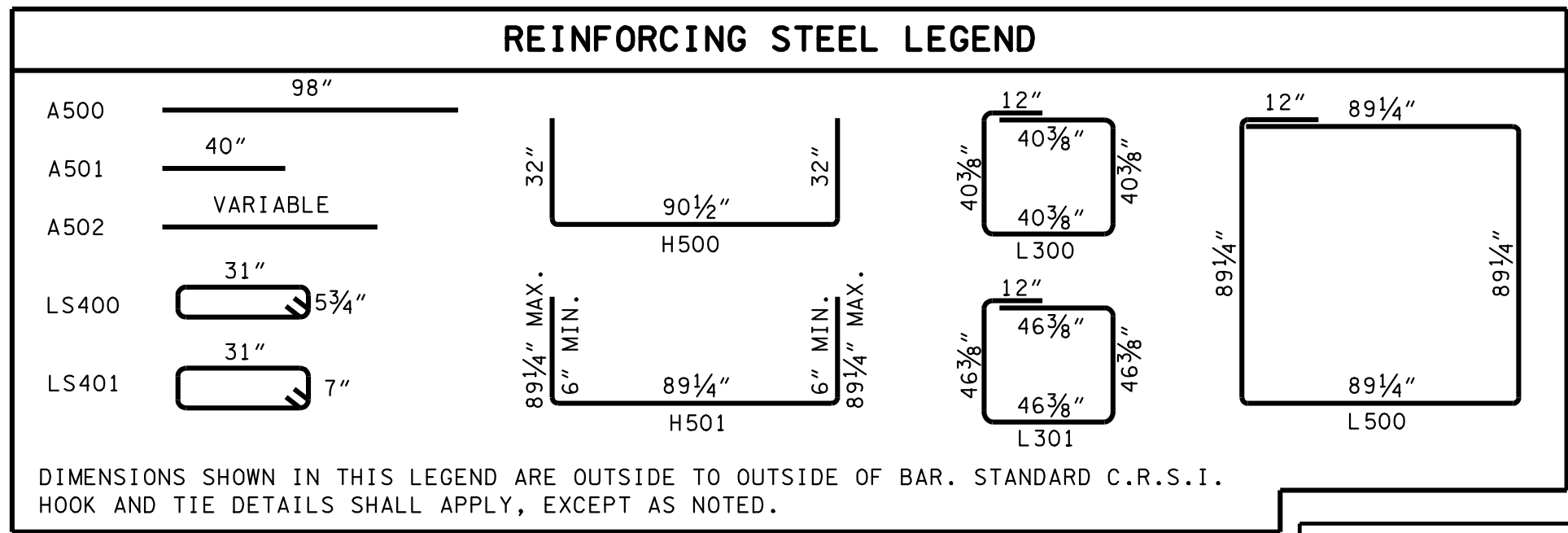


SECTION A-A



SECTION B-B

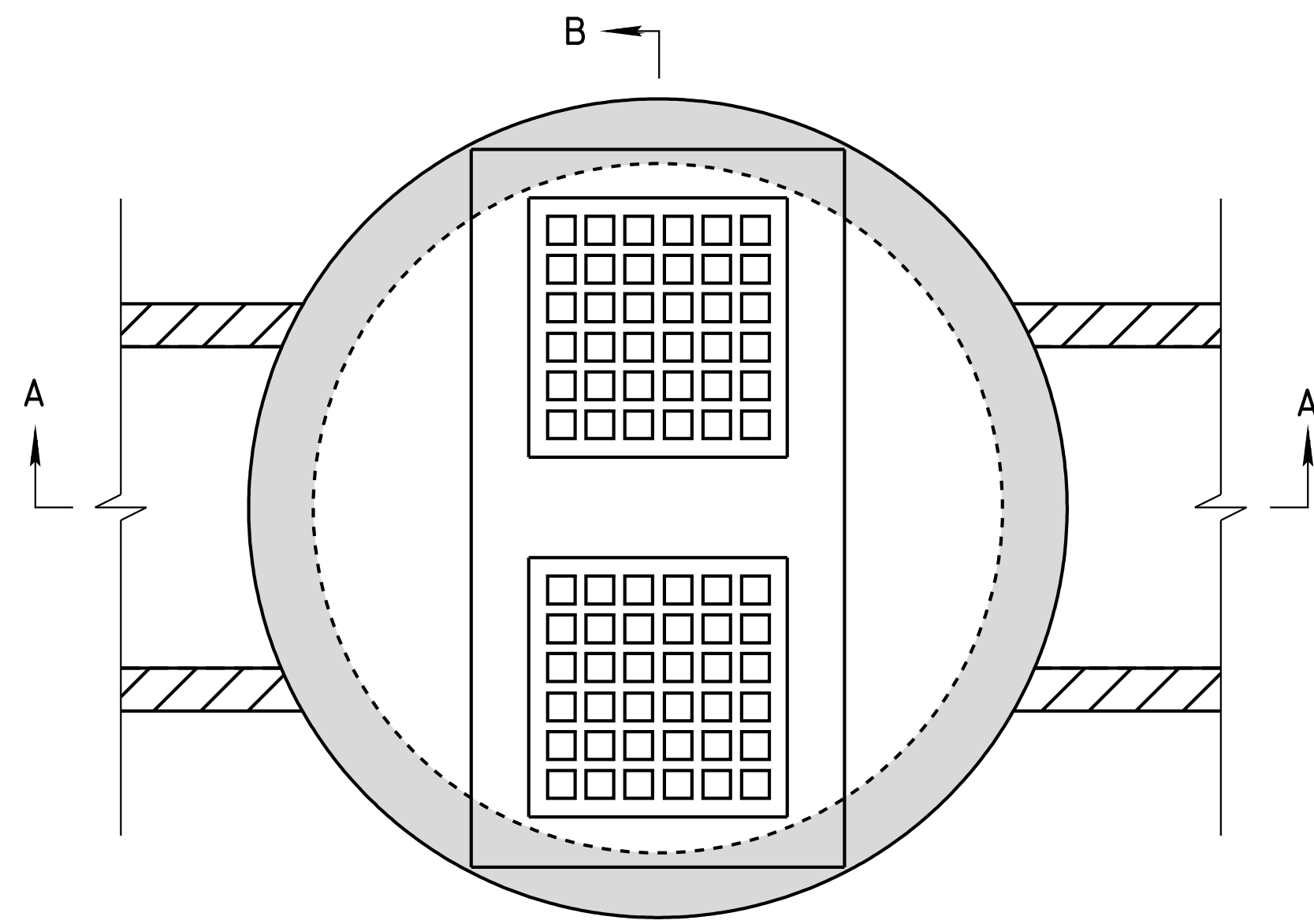
- GENERAL NOTES**
- (A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 42SD CONCRETE CATCH BASINS AND ALL PRECAST NO. 42SD CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.
 - (B) THIS DRAWING DEPICTS THE MINIMUM HORIZONTAL REINFORCING AT THE TOP OF CATCH 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 1 1/2 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.



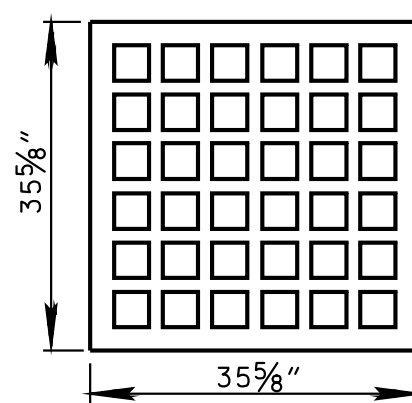
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

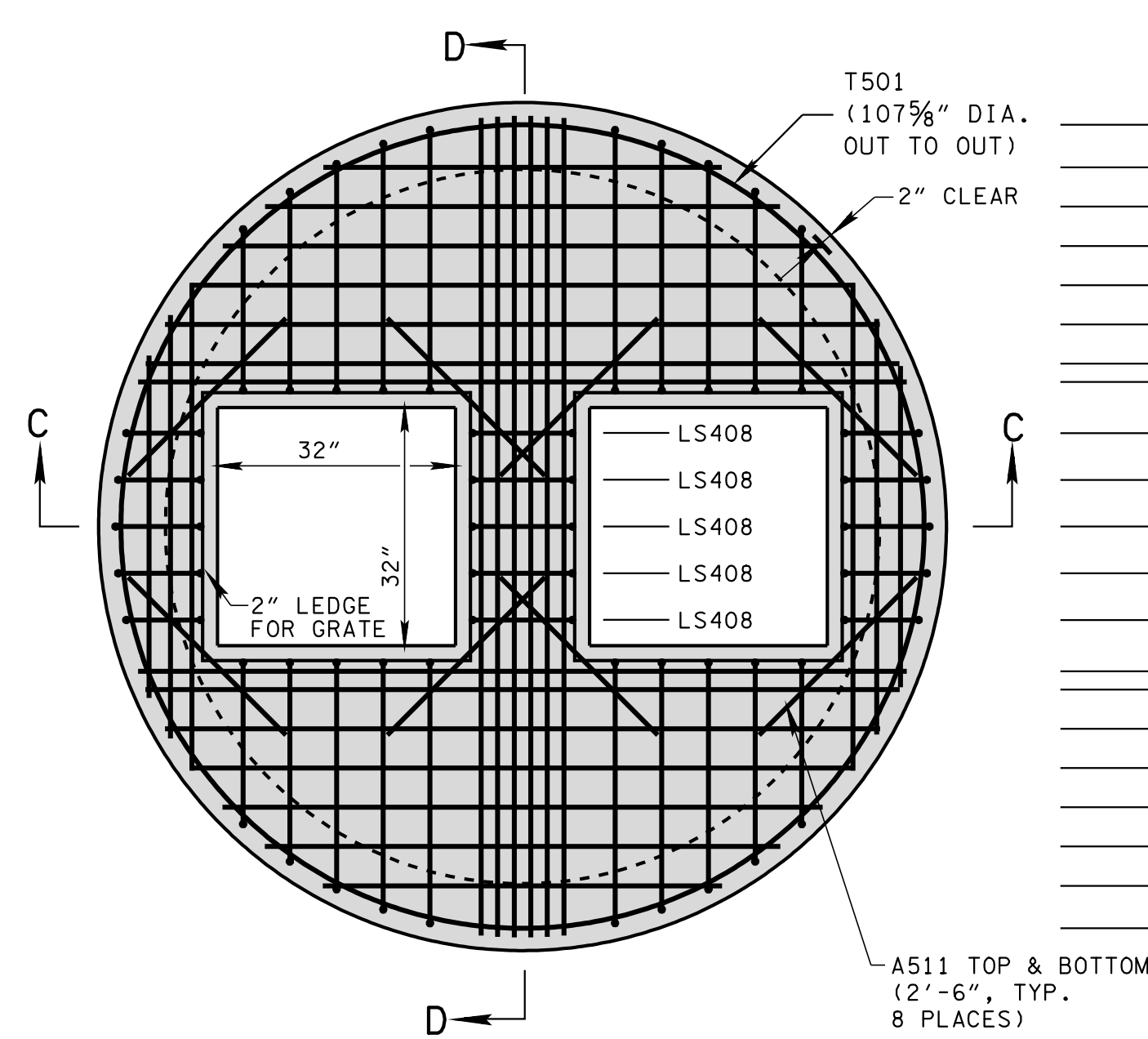
STANDARD 7' X 7' SQUARE CONCRETE NO. 42 CATCH BASIN



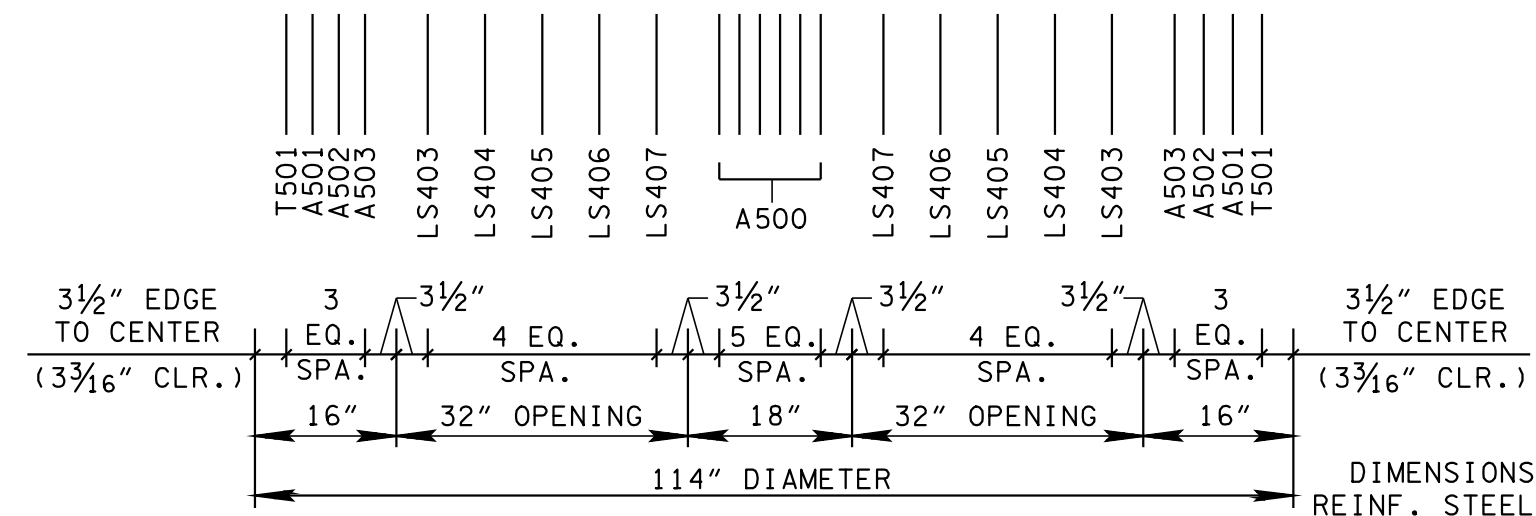
PLAN VIEW



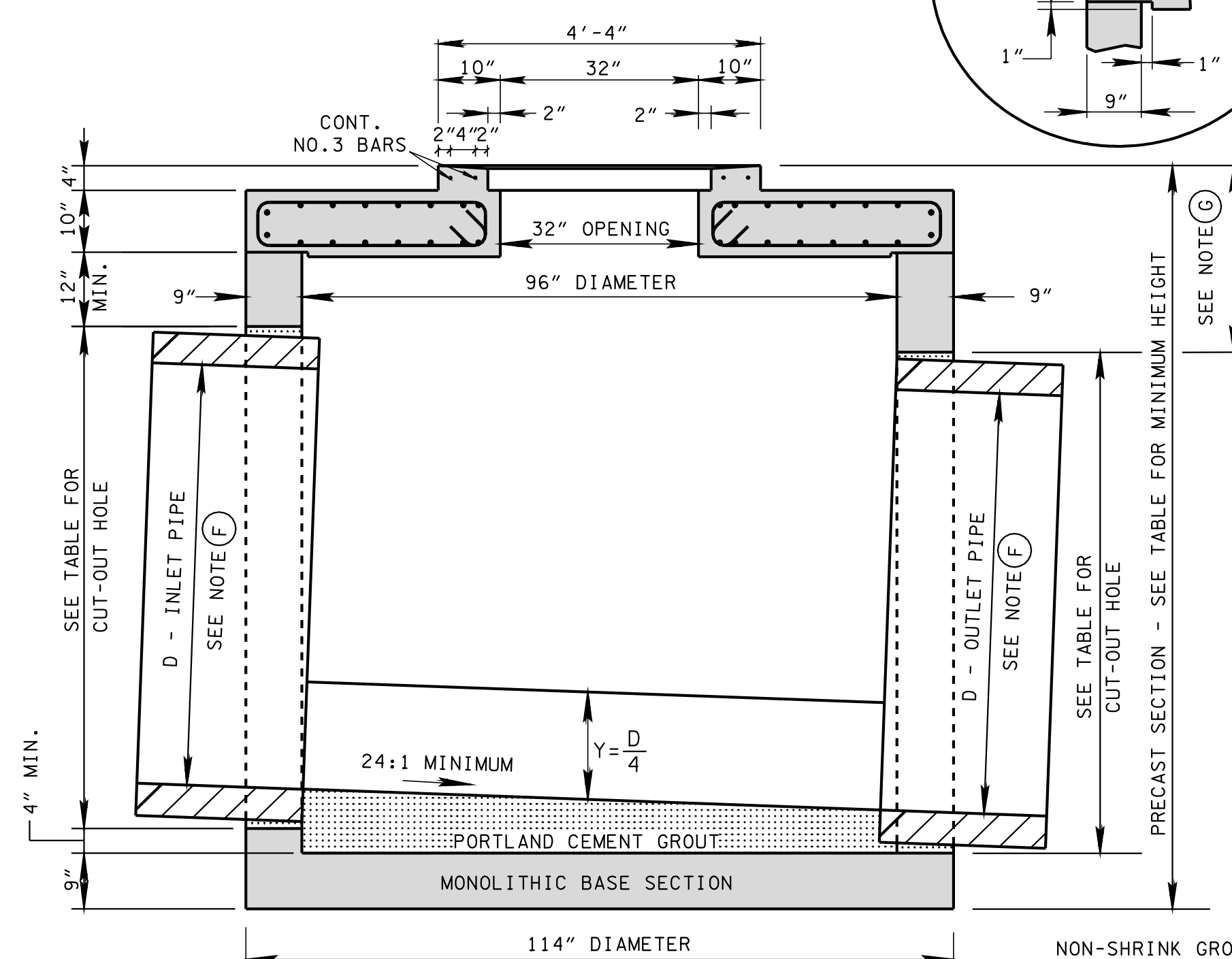
GRATE UNIT NO. 43
(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)



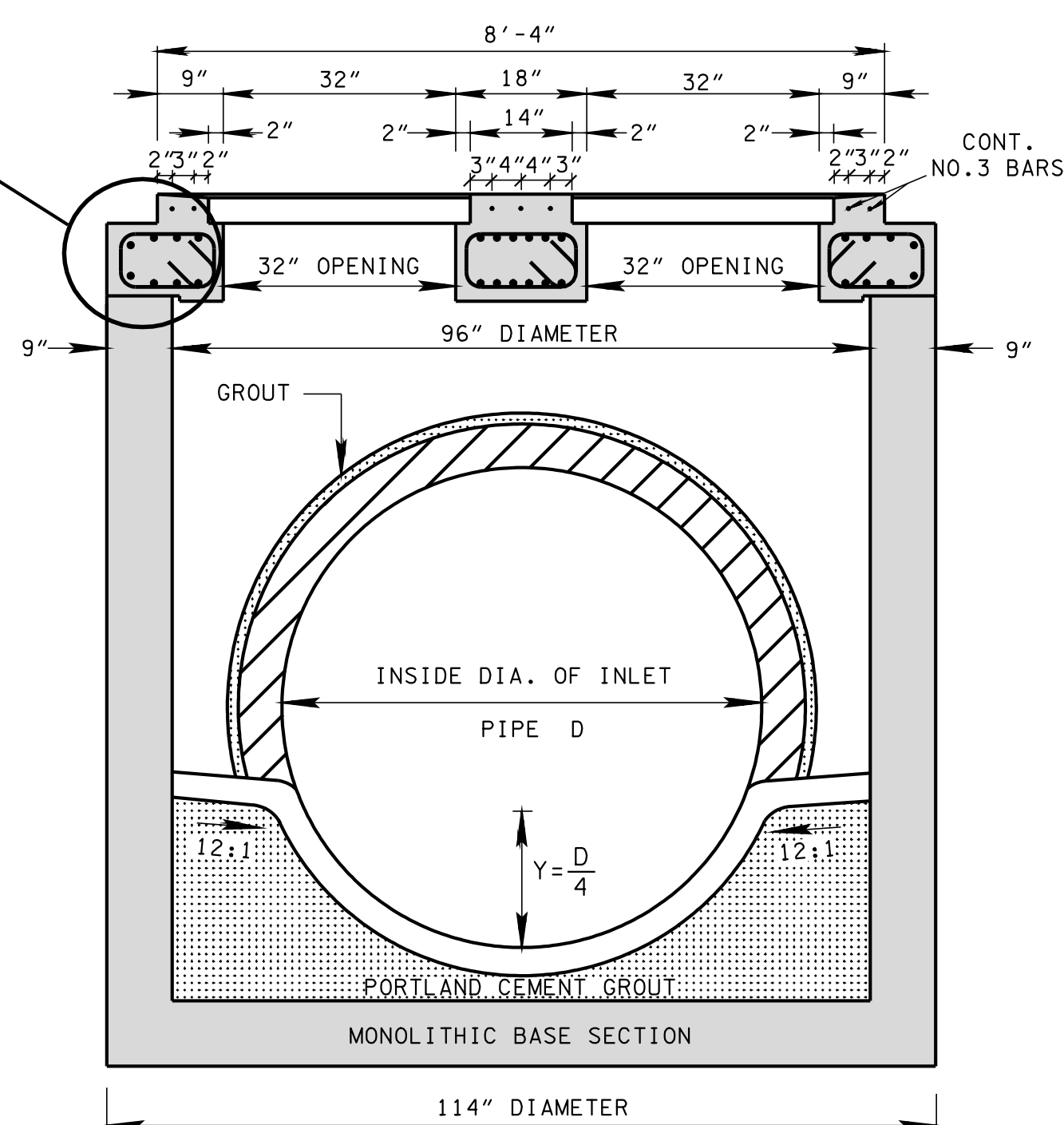
LID REINFORCING



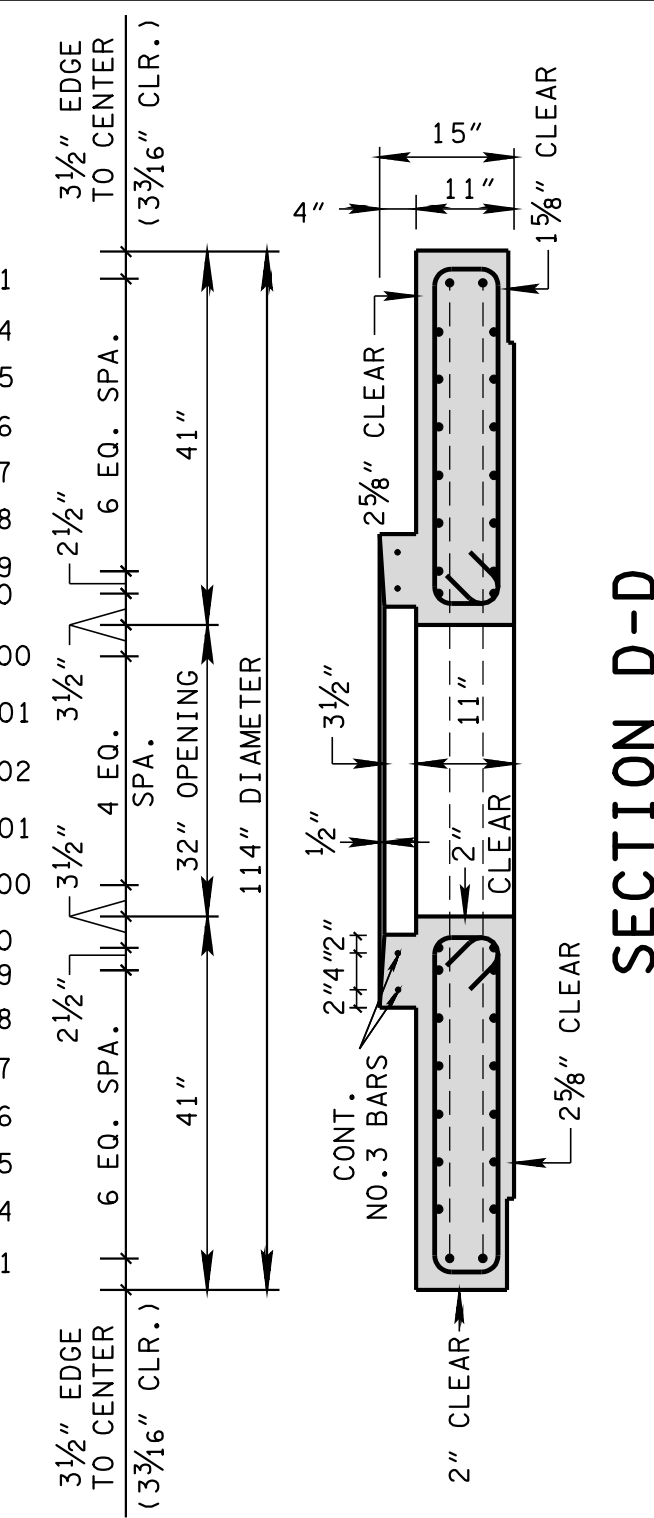
SECTION C-C



SECTION A-A



SECTION B-B



SECTION D-D

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	2 1/2	25	64	4.29
24	3	32	71	4.83
30	3 1/2	39	78	5.38
36	4	46	85	5.92
42	4 1/2	53	92	6.46
48	5	60	99	7.00
54	5 1/2	67	106	7.54
60	6	74	113	8.08
66	6 1/2	81	120	8.63

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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

- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-42 FOR DETAILS REGARDING CAST IRON GRATES.
- 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.

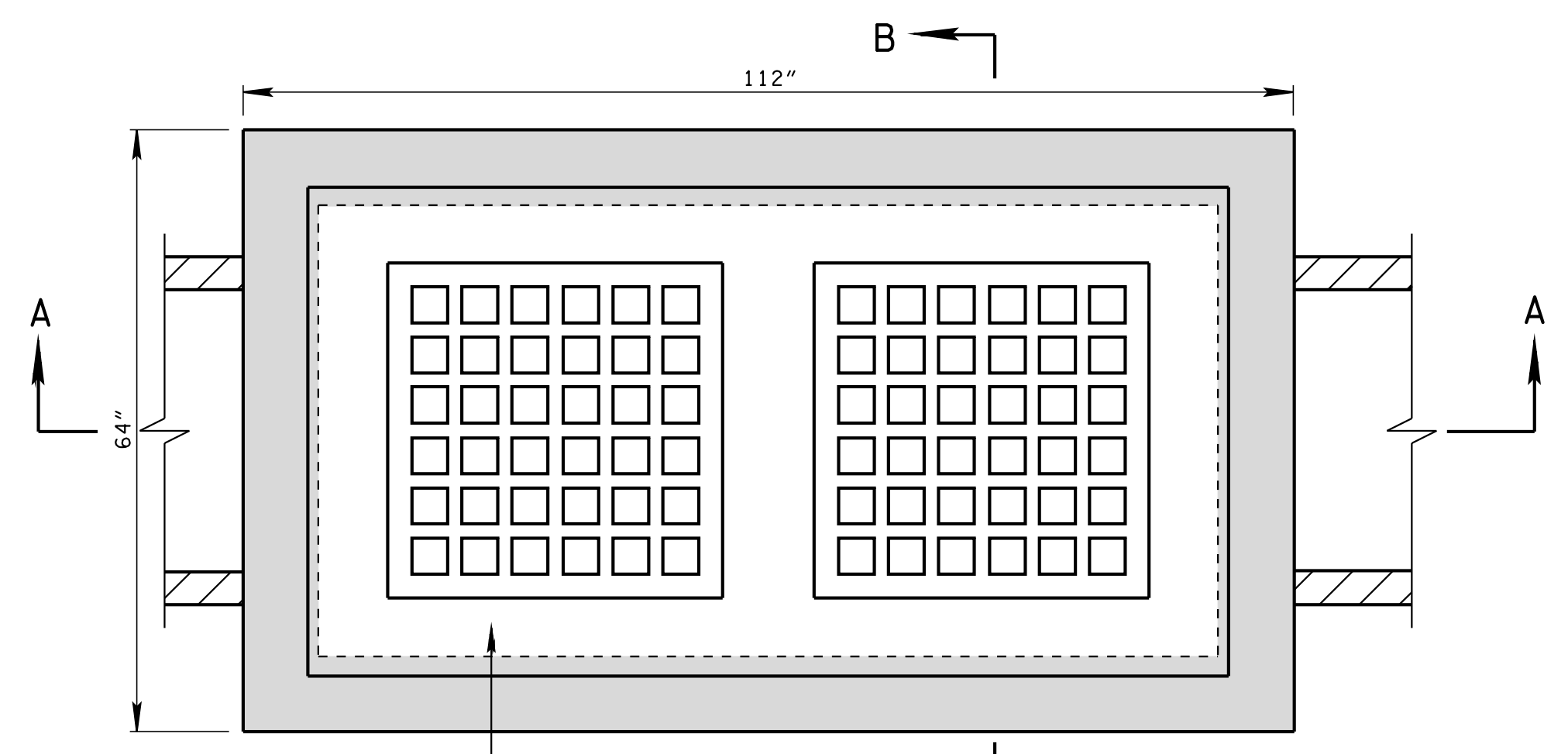
REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (H) ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
REV. 8-01-12: REVISED CATCH BASIN LID FOR COMPLIANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS. REVISED REINFORCING, GENERAL NOTES AND ADDITIONAL MISC. DRAFTING EDITS.

REV 9-24-12: ADDED BAR DESIGNATION FOR CONTINUOUS #3 BARS AROUND GRATE AND MODIFIED TOP SLAB.

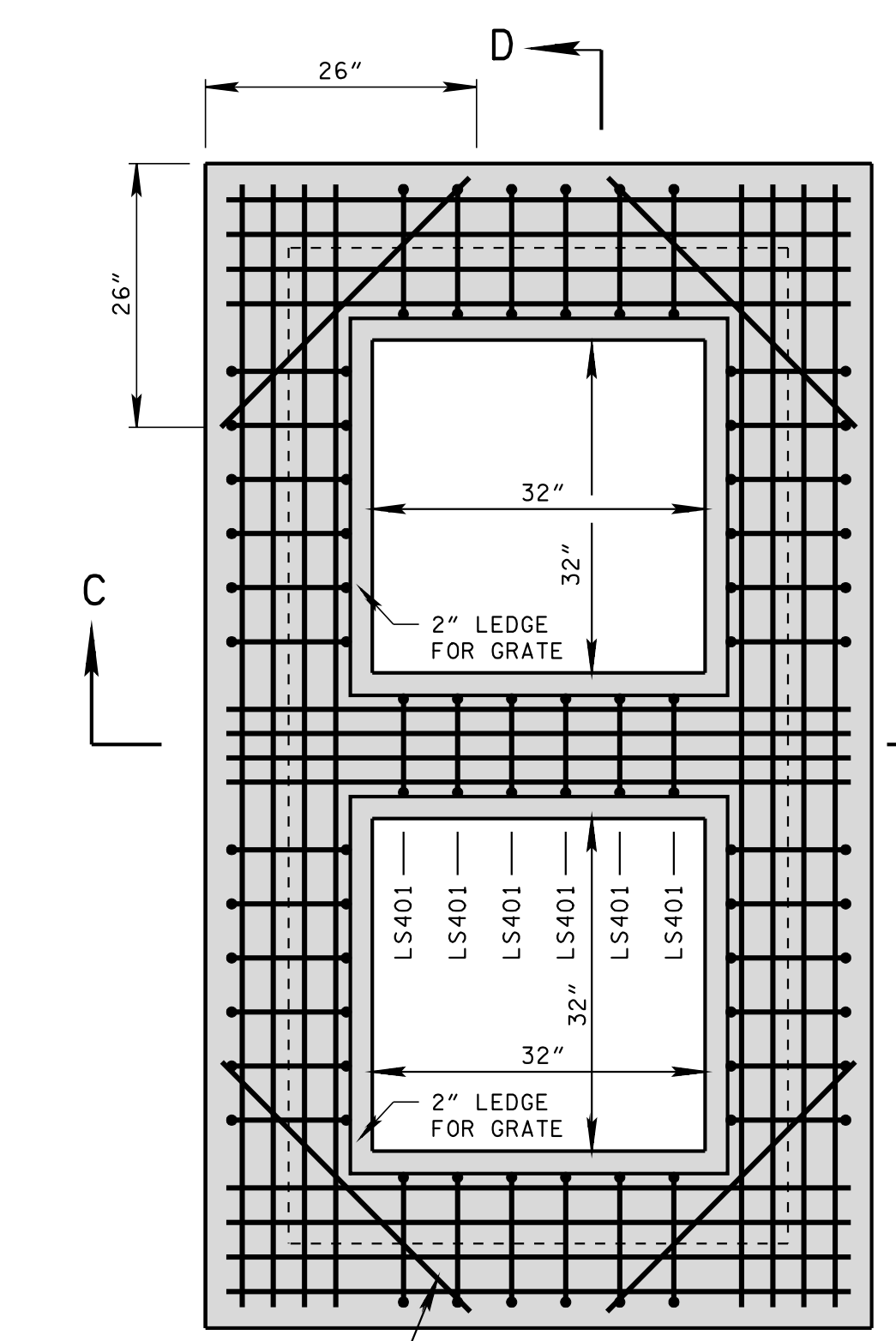
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

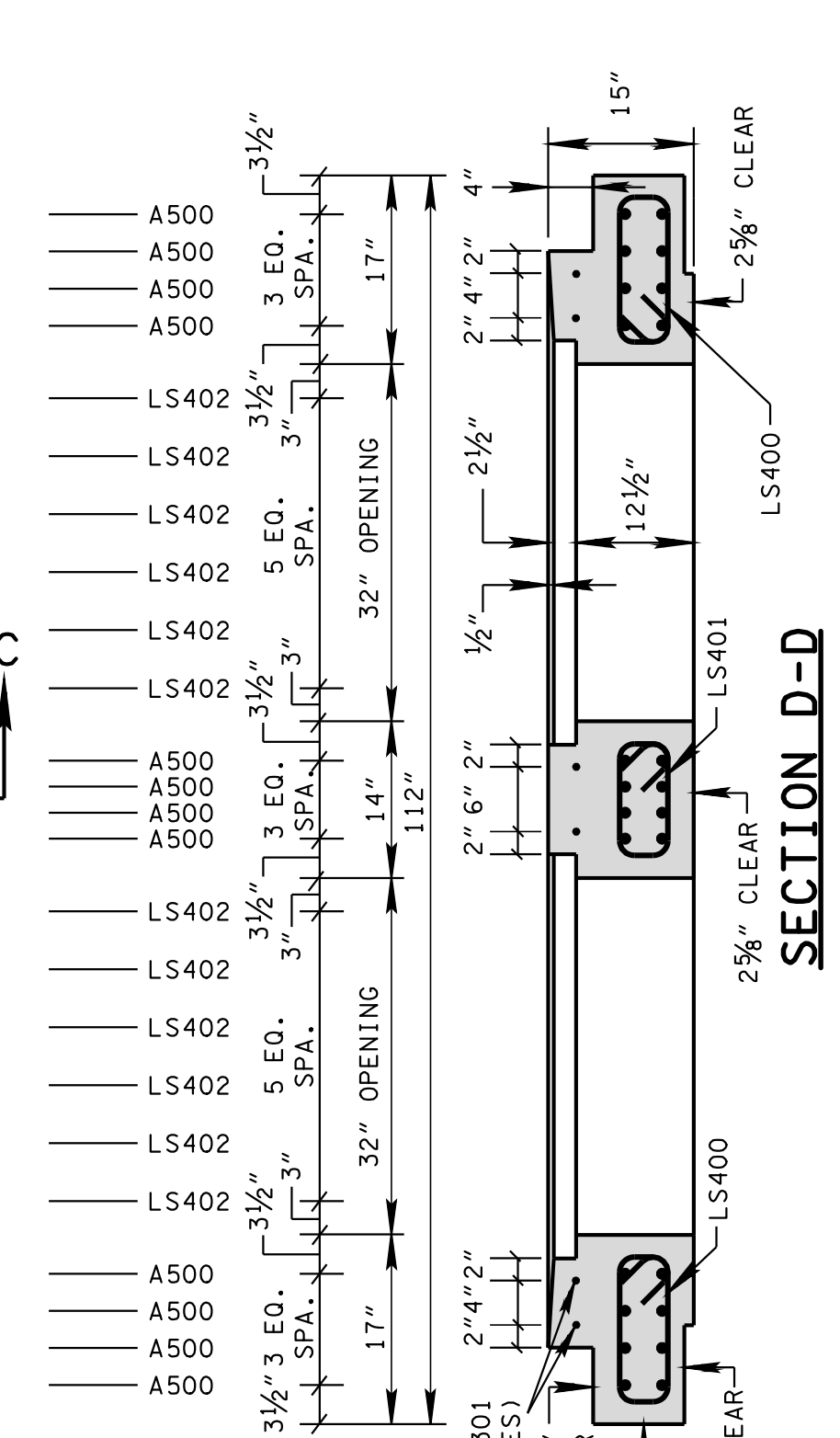
STANDARD PRECAST CIRCULAR NO. 43R CATCH BASIN



PLAN VIEW



PLAN VIEW



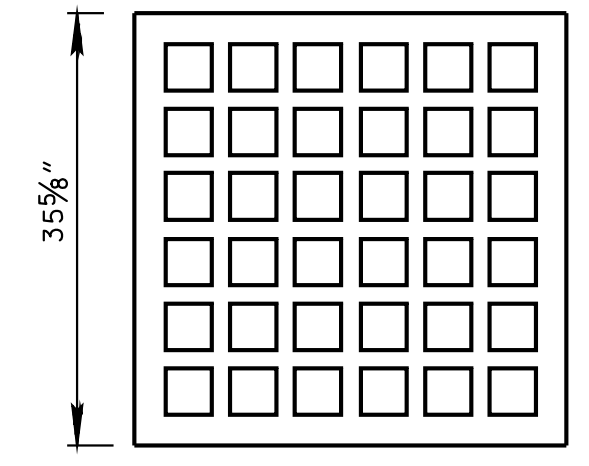
SECTION D-D

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

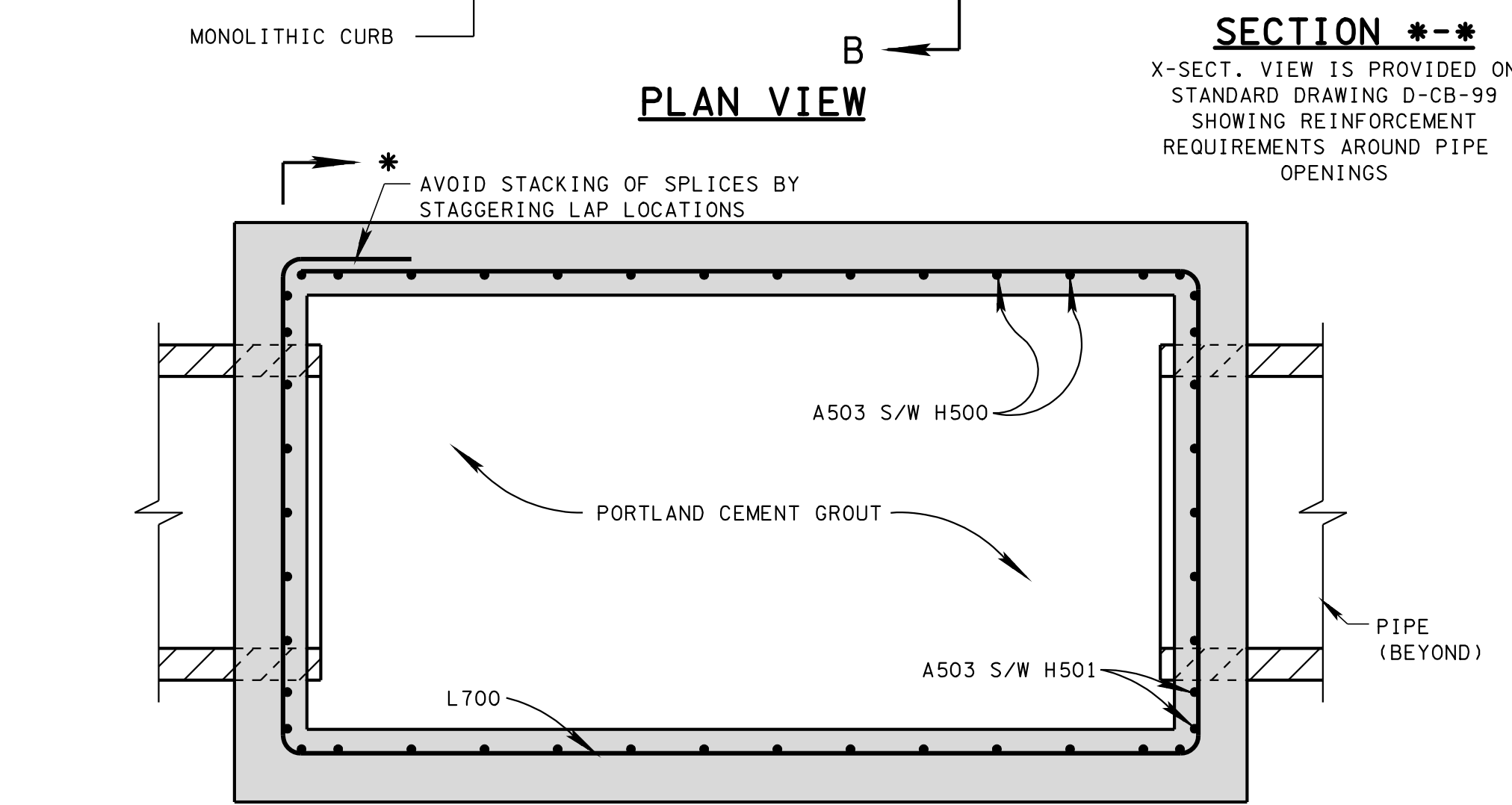
CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	57	3.88
24	3	32	64	4.42
30	3 1/2	39	71	4.97
36	4	46	78	5.51
42	4 1/2	53	85	6.05
48	5	60	92	6.59
54	5 1/2	67	99	7.13
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 EDGE HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUPT WILL NOT BE PERMITTED.
- ④ TO BE USED IN 96 INCH INTERIOR WALL ONLY.

- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE ① ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ②
- 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.



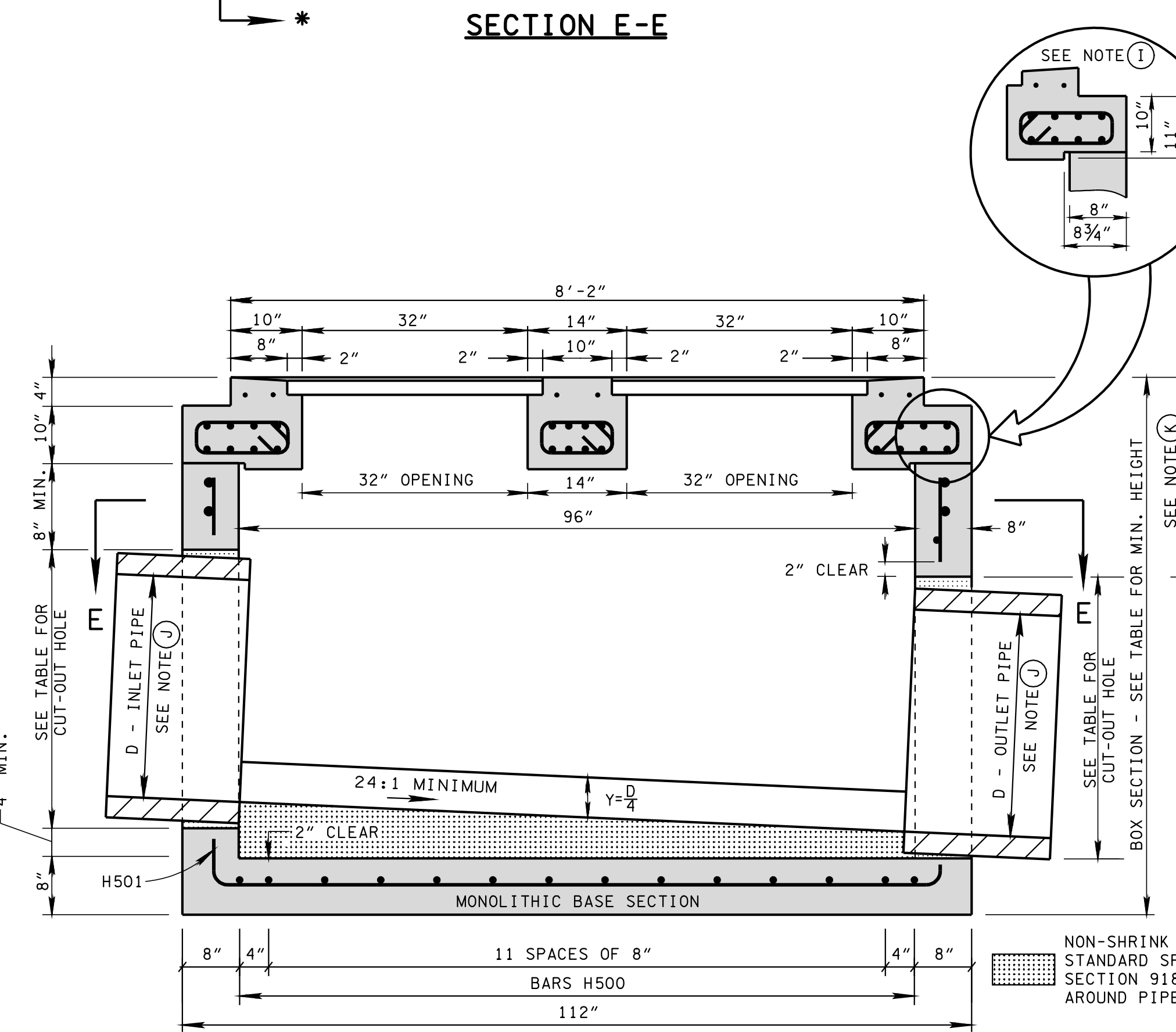
GRATE UNIT NO. 43
(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)



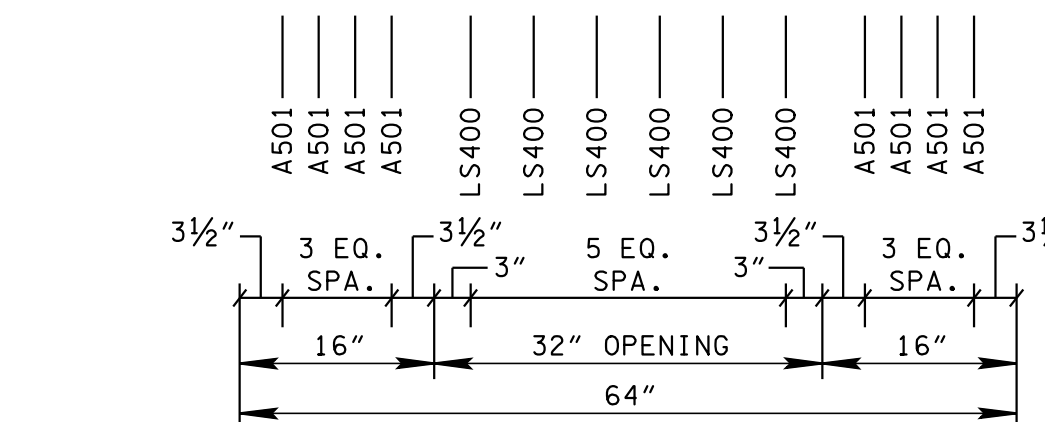
SECTION E-E



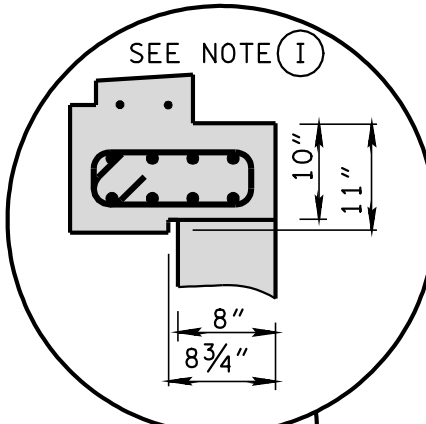
SECTION C-C



SECTION A-A



SECTION B-B



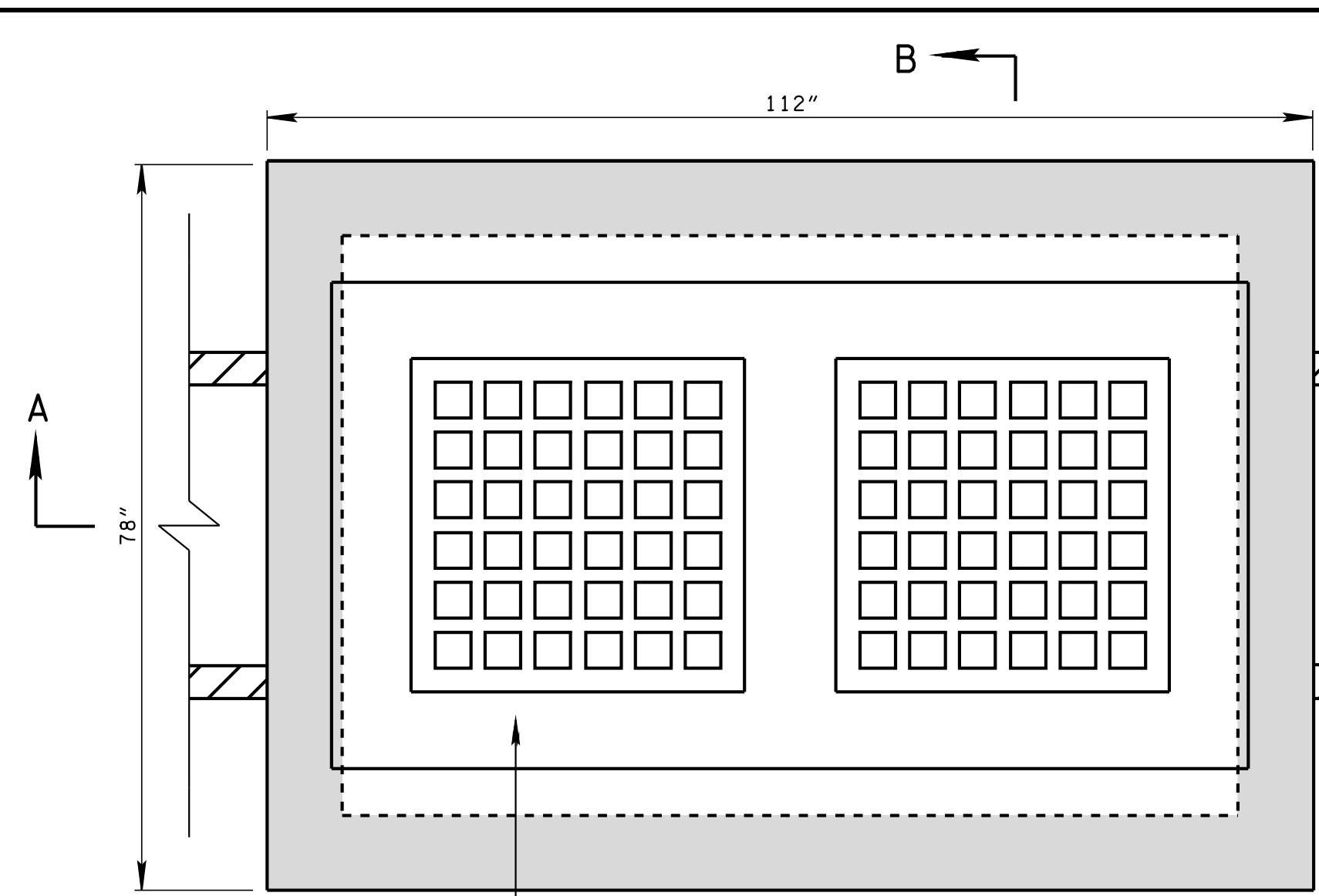
SEE NOTE ①

- 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 1 1/2 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

A500	60"	12"	101 1/4"	53 1/4"	H501	26"	102 1/2"	26"	H500	26"	54 1/2"	26"
A501	108"	53 1/4"	101 1/4"	53 1/4"	H502	53 1/4" MAX.	101 1/4"	6" MIN.	53 1/4" MAX.	13"	13"	13"
A502	34"	L500	101 1/4"	53 1/4"	H502	53 1/4" MAX.	101 1/4"	6" MIN.	53 1/4" MAX.	10"	10"	10"
A503	VARIABLE	12"	104 1/4"	56 1/4"	L700	56 1/4"	104 1/4"	56 1/4"	L700	7"	12"	12"
A300	94"	56 1/4"	104 1/4"	56 1/4"								
A301	48"	L700	104 1/4"	56 1/4"								

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.

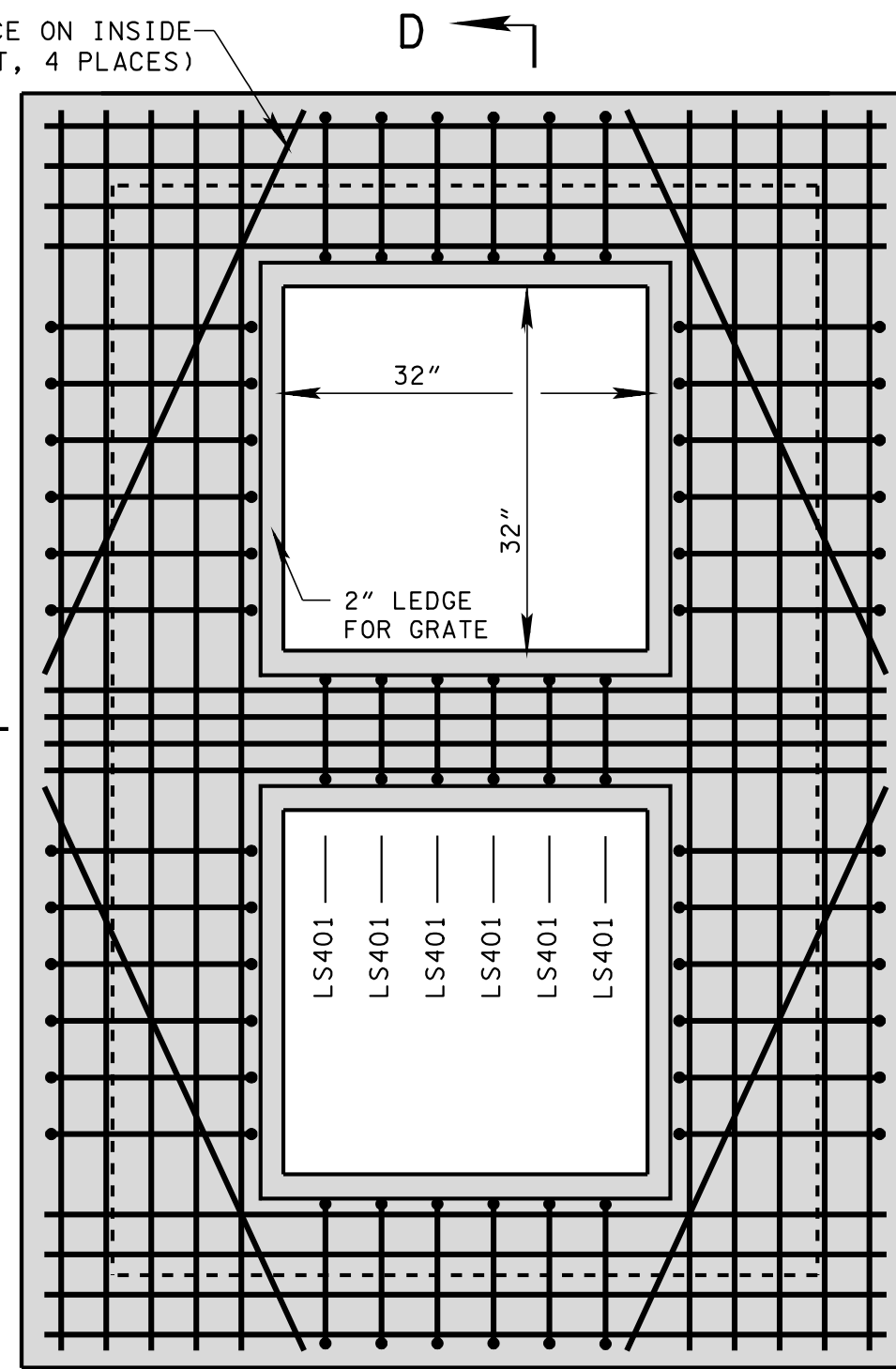


PLAN VIEW

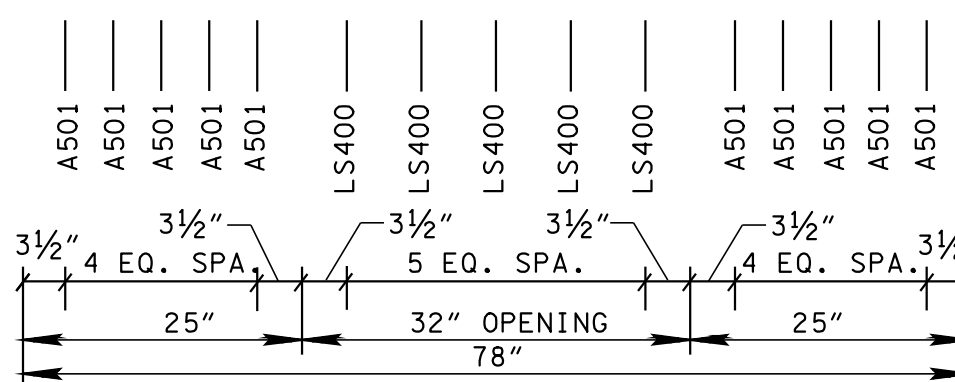
A502 (PLACE ON INSIDE FACE OF BOTTOM MAT, 4 PLACES)

SECTION *--

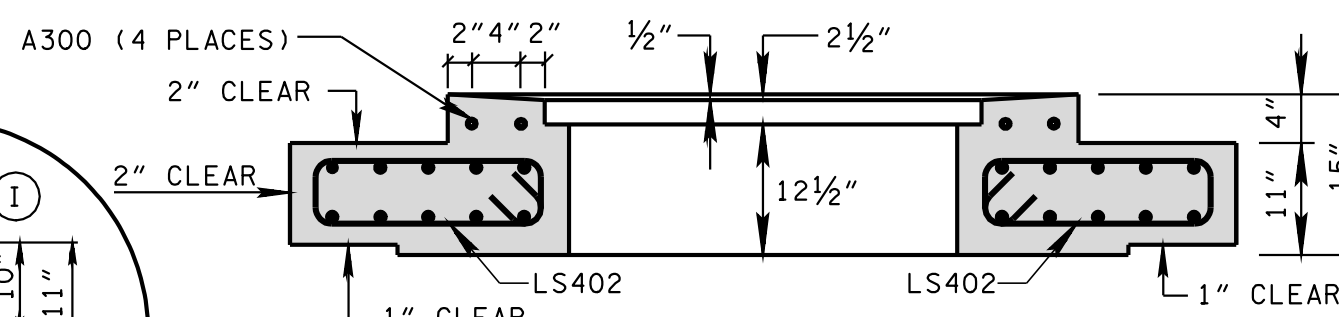
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



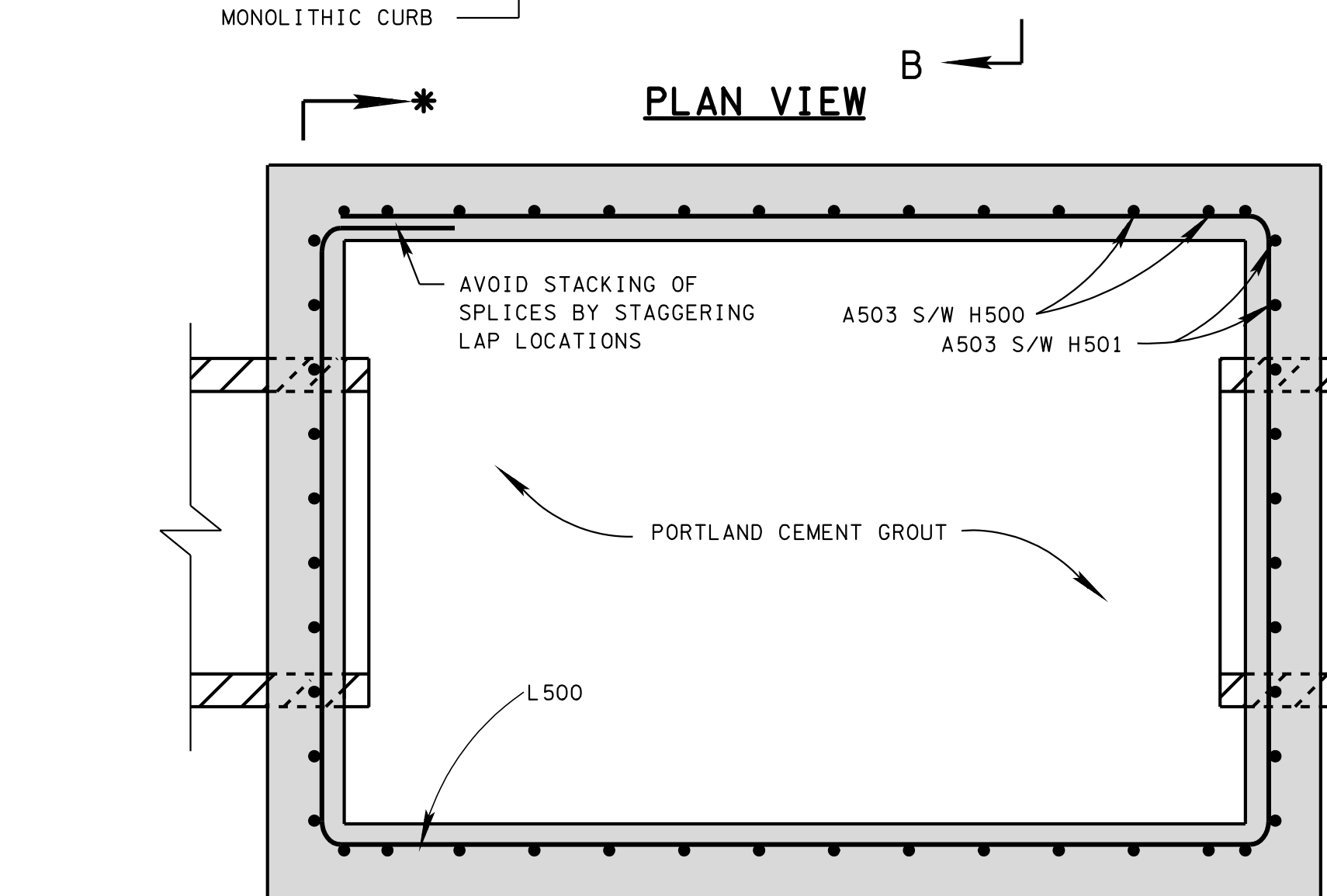
PLAN VIEW



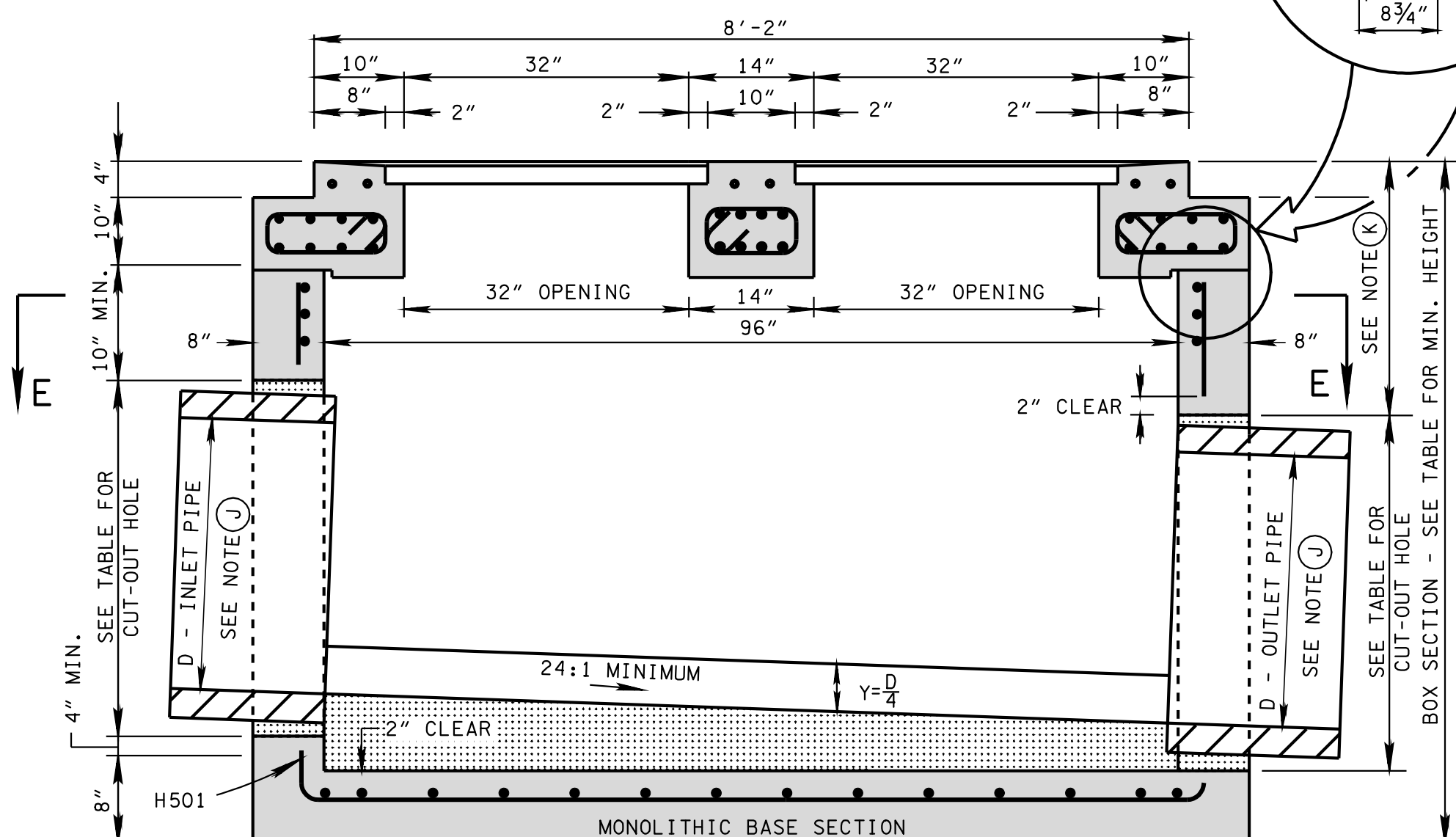
SECTION C-C



SECTION E-E

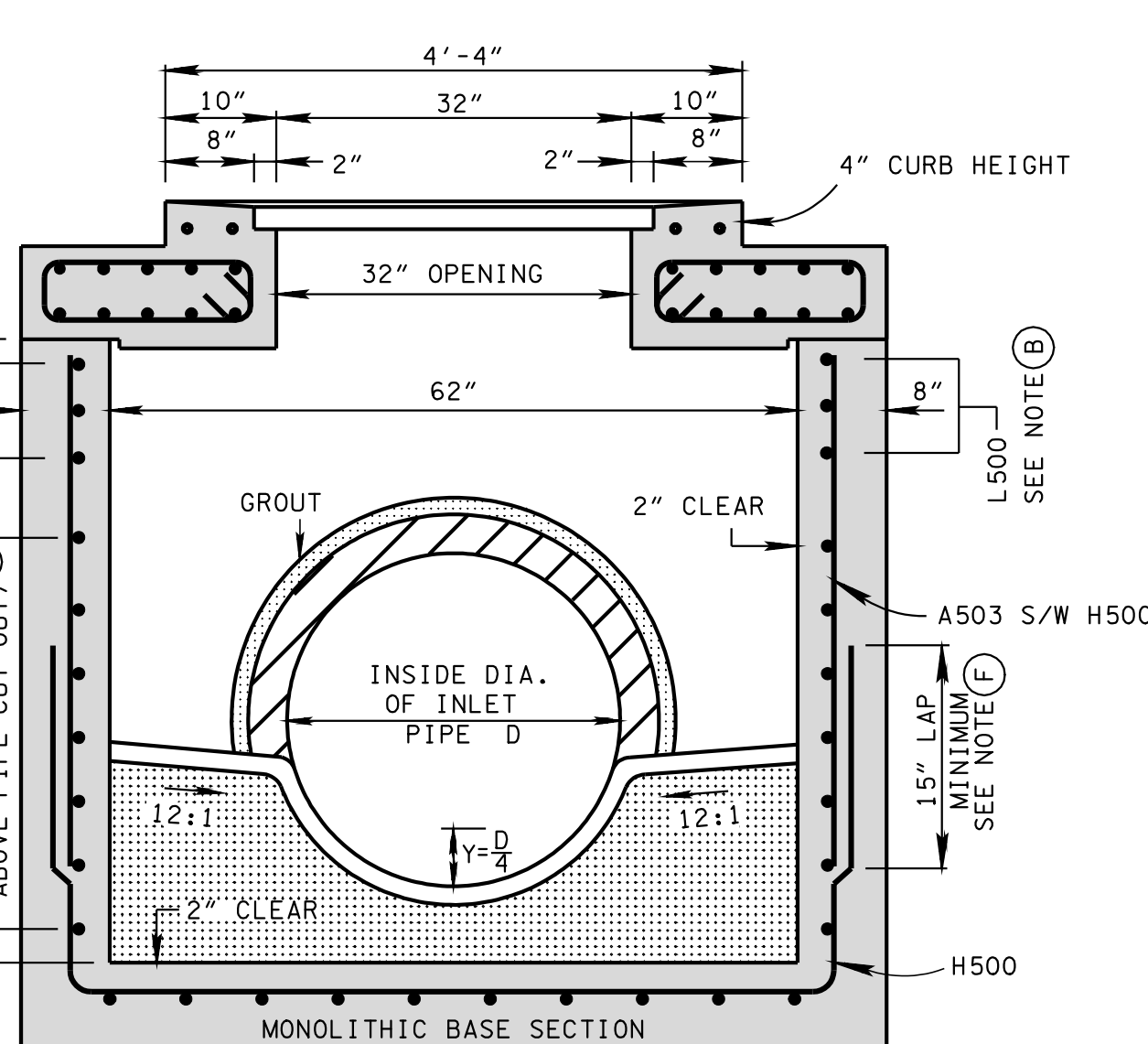


SECTION A-A

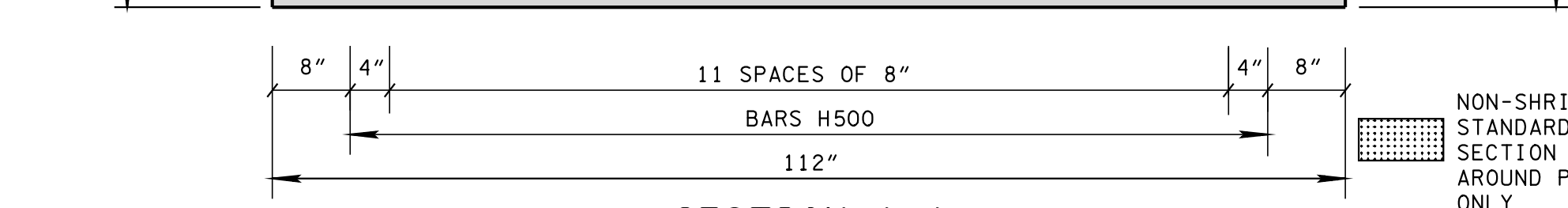


SECTION B-B

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



SECTION A-A

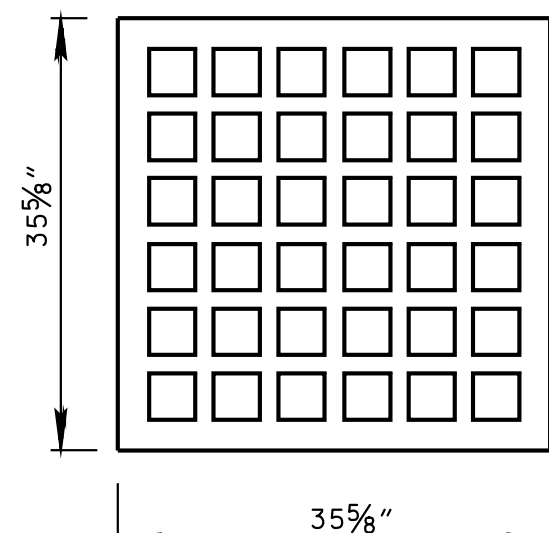


SECTION B-B

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

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	2 1/2	25	60	4.13
24	3	32	67	4.67
30	3 1/2	39	74	5.22
36	4	46	81	5.76
42	4 1/2	53	88	6.30
48	5	60	95	6.84
54	5 1/2	67	102	7.38
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 EGGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN CUT WILL NOT BE PERMITTED.
- ④ TO BE USED IN 96 INCH INTERIOR WALL ONLY.

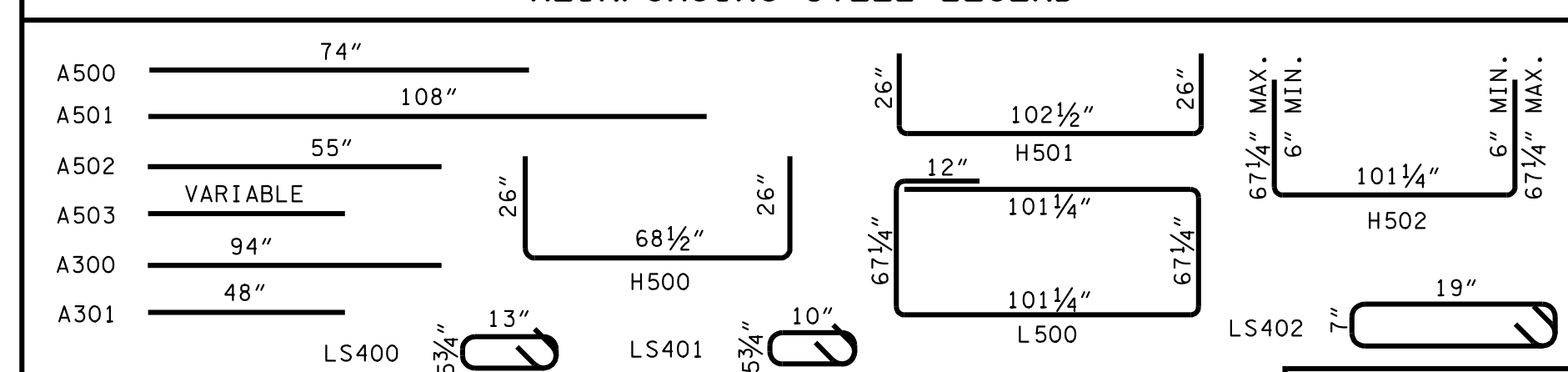


GRATE UNIT NO. 43
(SEE STD. DWG. D-CBB-42 FOR GRATE DETAILS)

GENERAL NOTES

- (A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 43SC CONCRETE CATCH BASINS AND ALL PRECAST 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 1 1/2 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



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.

- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE ① ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ②
- 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 8' X 5'2" RECTANGULAR CONCRETE NO. 43SC CATCH BASIN

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	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

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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 UN CUT WILL NOT BE PERMITTED.
- TO BE USED IN 96 INCH INTERIOR WALL ONLY.

GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- 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.

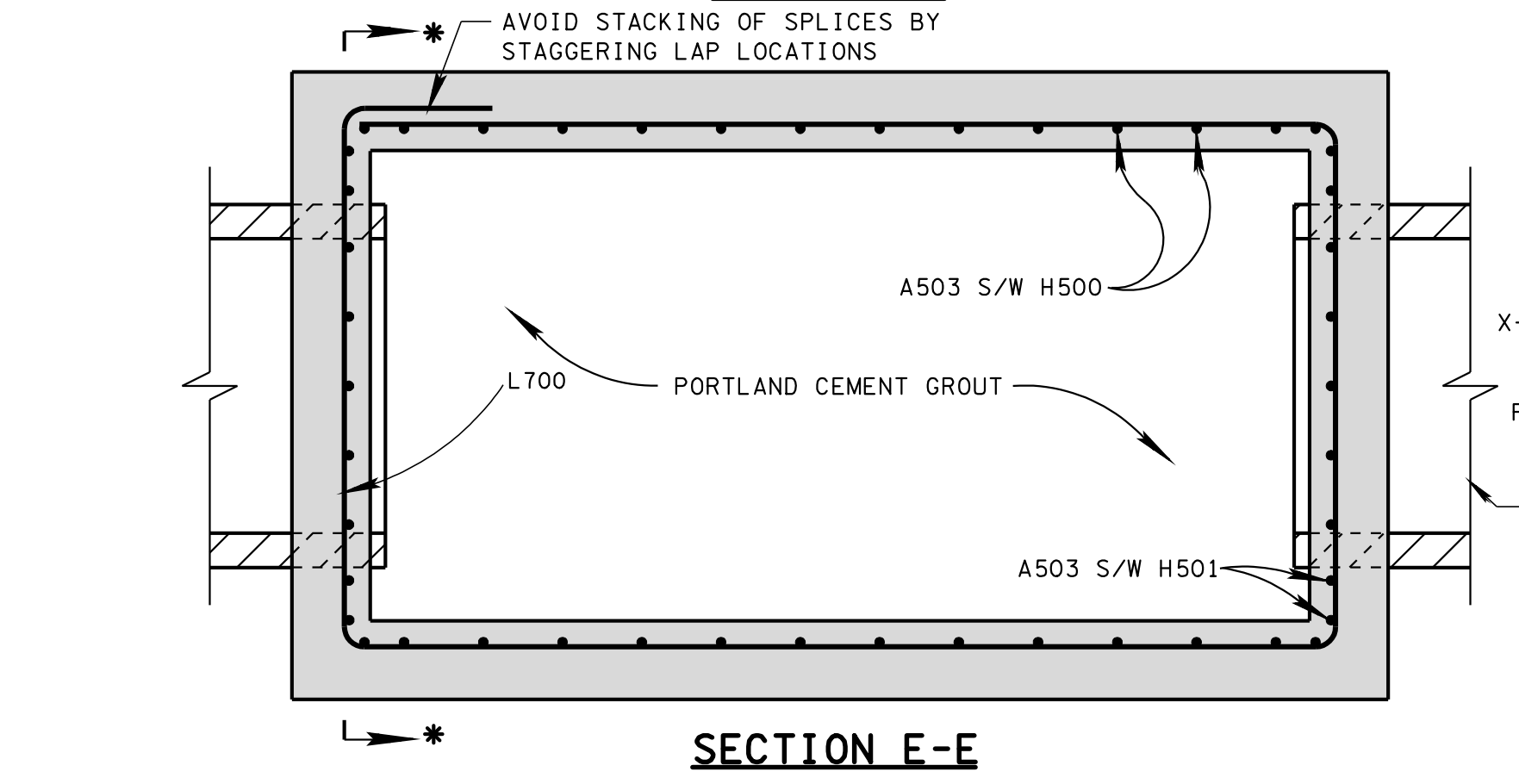
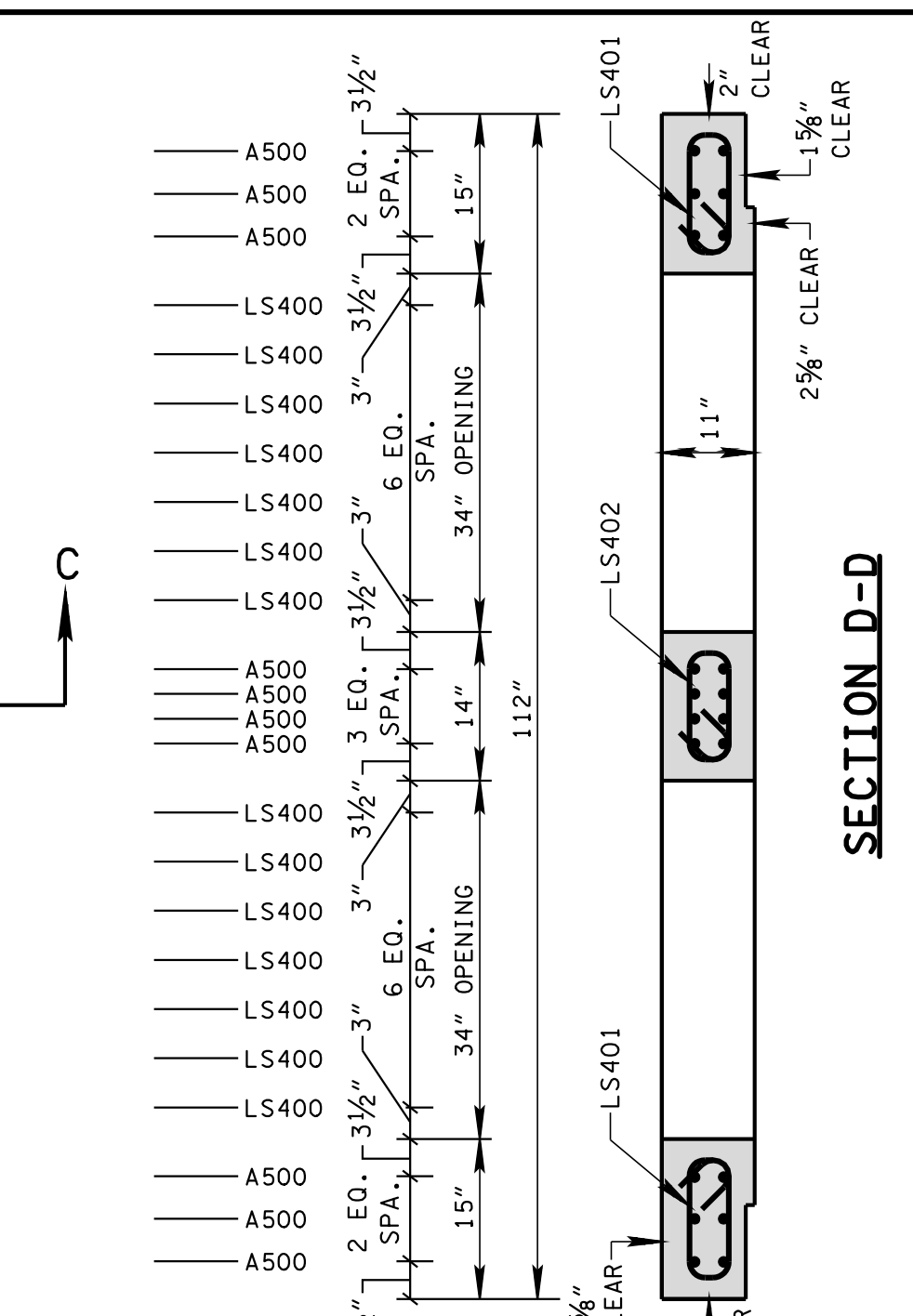
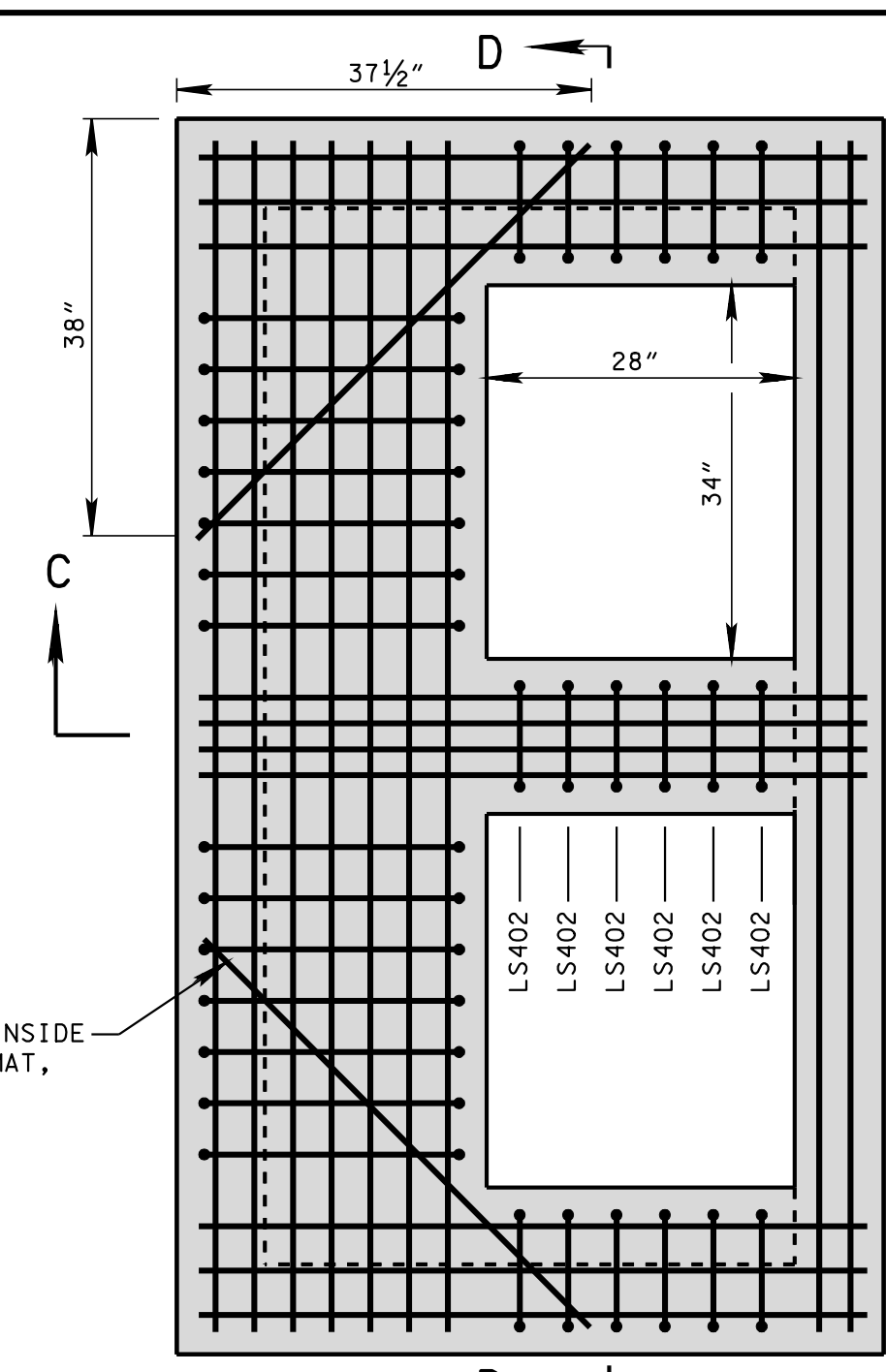
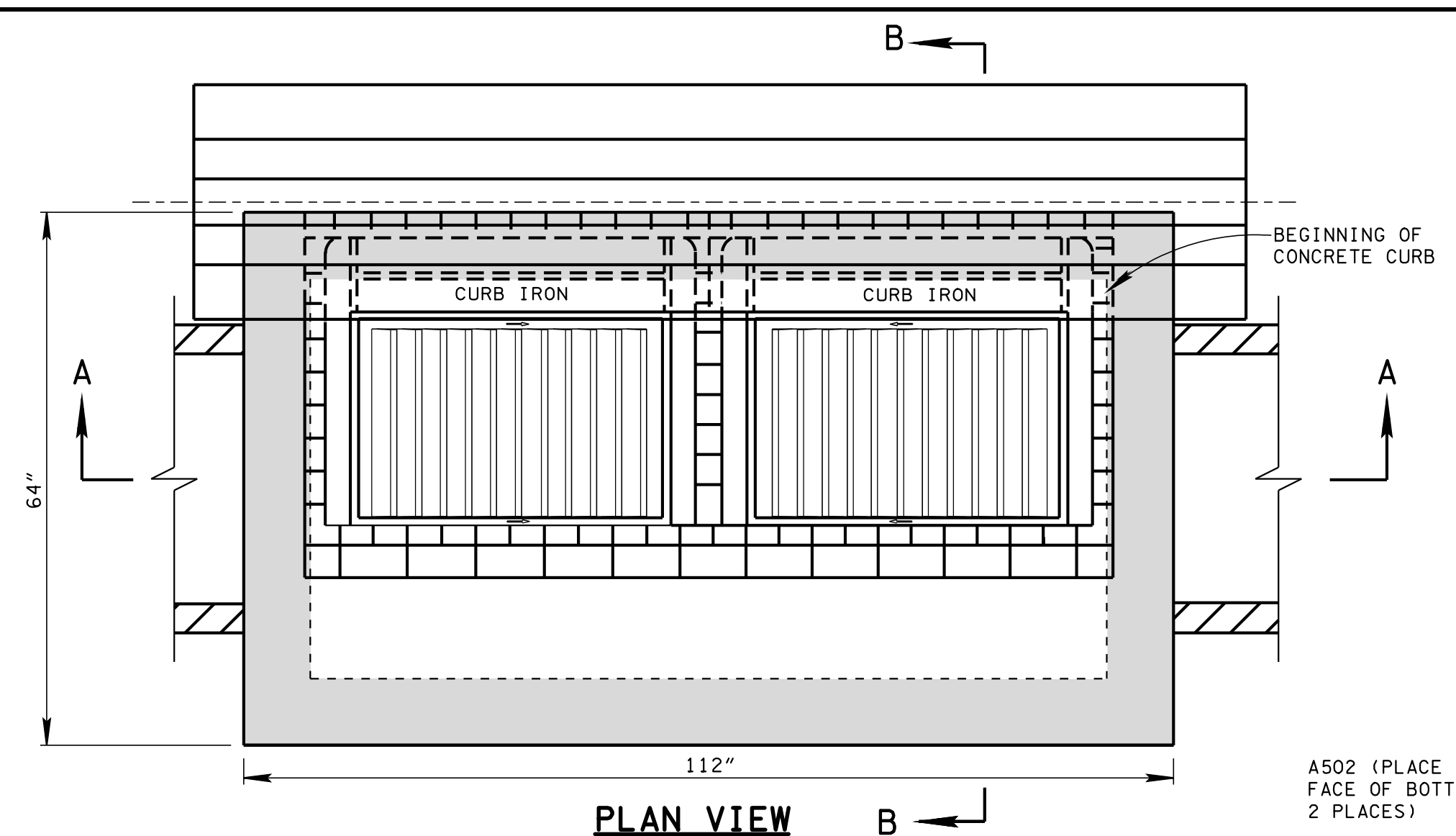
MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
STANDARD 8' X 4' RECTANGULAR CONCRETE NO. 45 CATCH BASIN
 (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

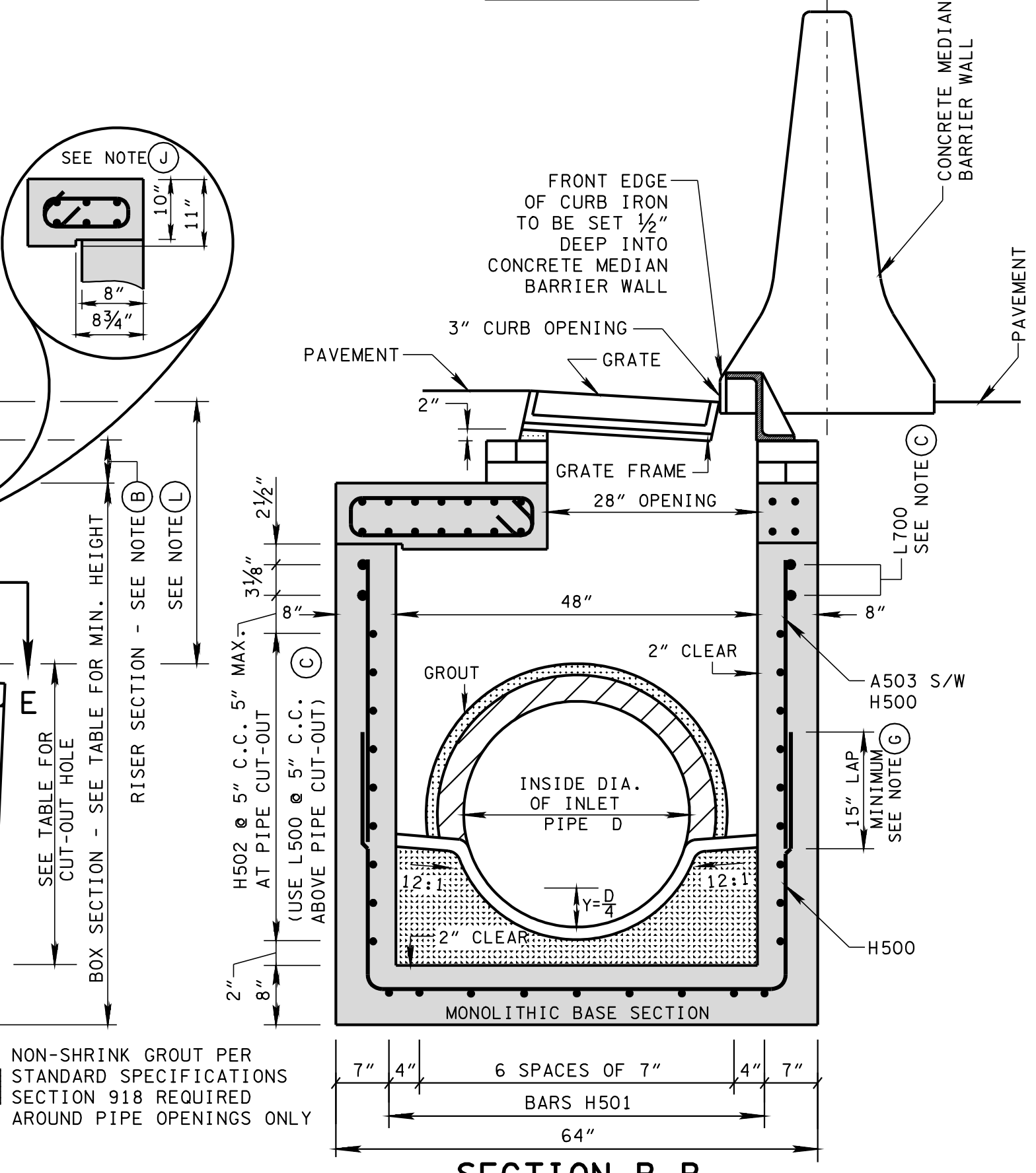
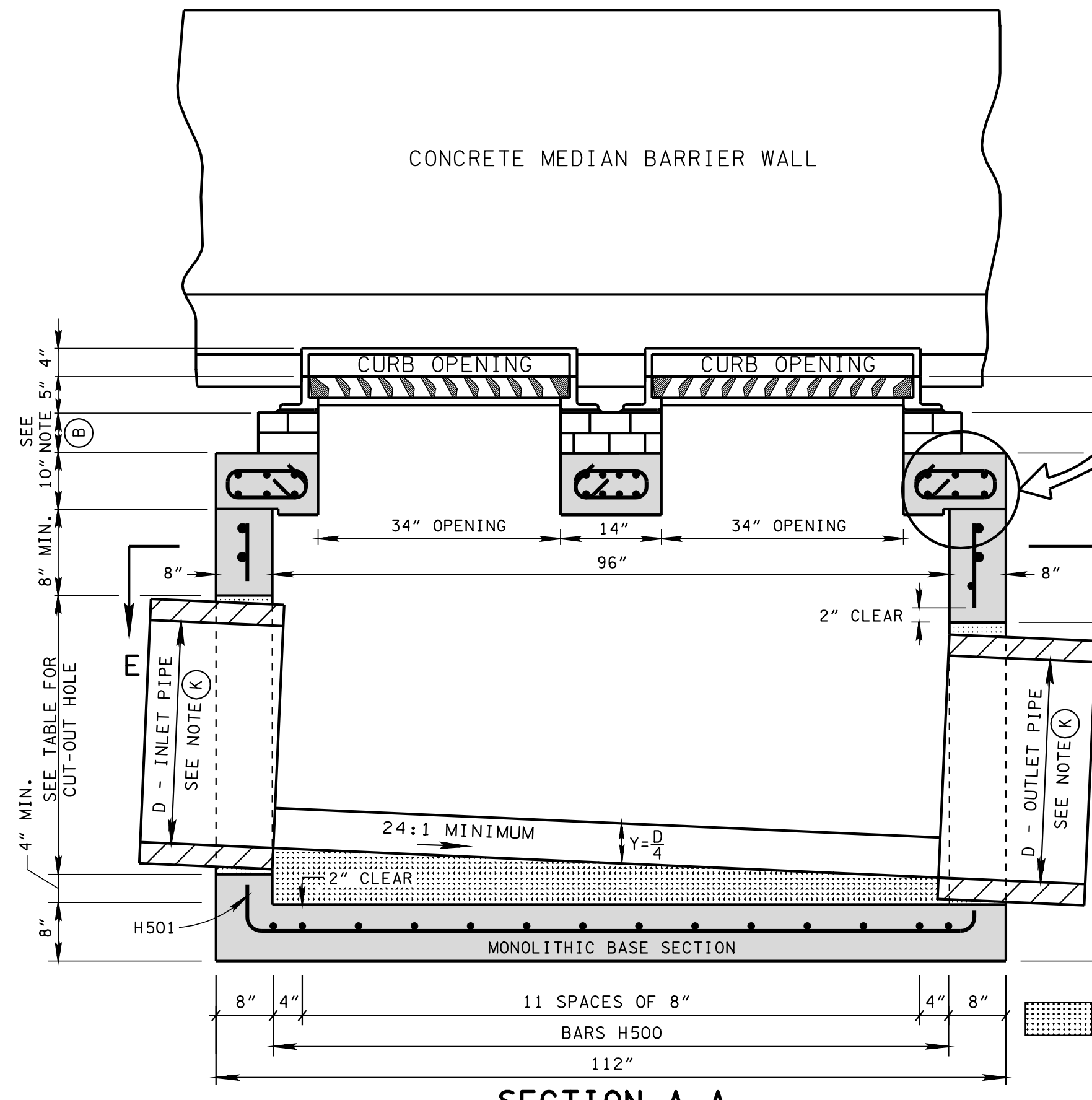
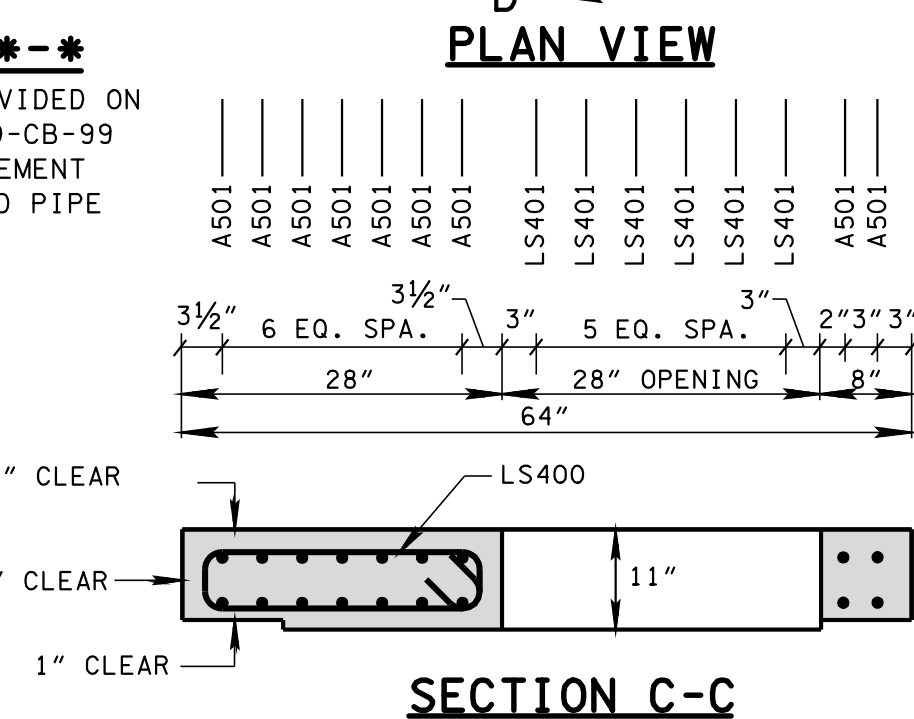
REINFORCING STEEL LEGEND

A500	60"	12"	101¼"	H501	26"	102½"	26"	H500	54½"	26"	
A501	108"	53¼"	101¼"	53¼"	H501	26"	102½"	26"	H500	54½"	26"
A502	51"	L500	101¼"	53¼"	H501	26"	102½"	26"	H500	54½"	26"
A503	VARIABLE	12"	104¼"	H502	53¼" MAX.	101¼"	6" MIN.	53¼" MAX.	LS401	11"	
LS400	24"	L700	104¼"	56¼"	53¼" MAX.	101¼"	6" MIN.	53¼" MAX.	LS402	10"	

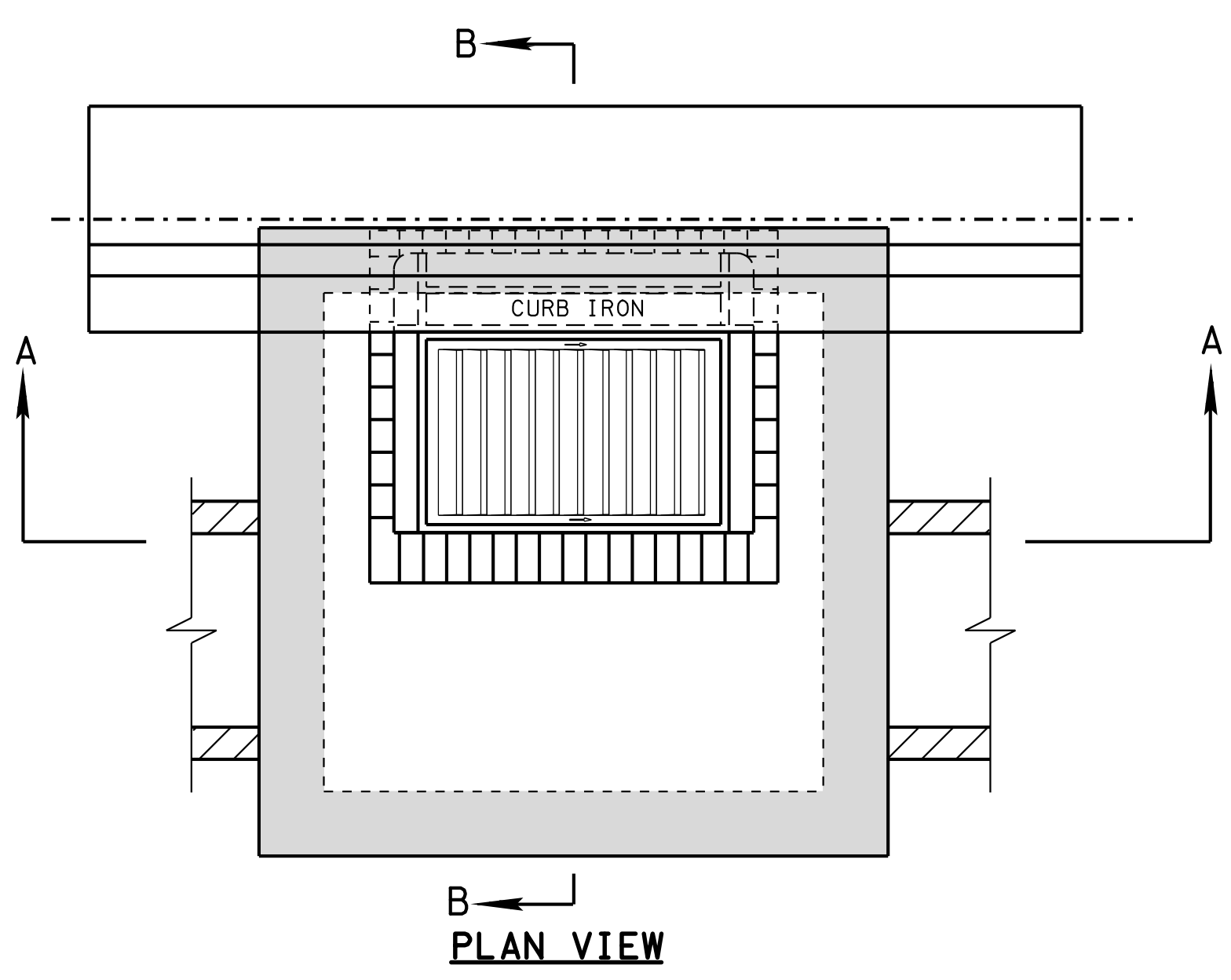
DIMENSIONS SHOWN ON THIS LEGEND ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK AND TIE DETAILS SHALL APPLY, EXCEPT AS NOTED.



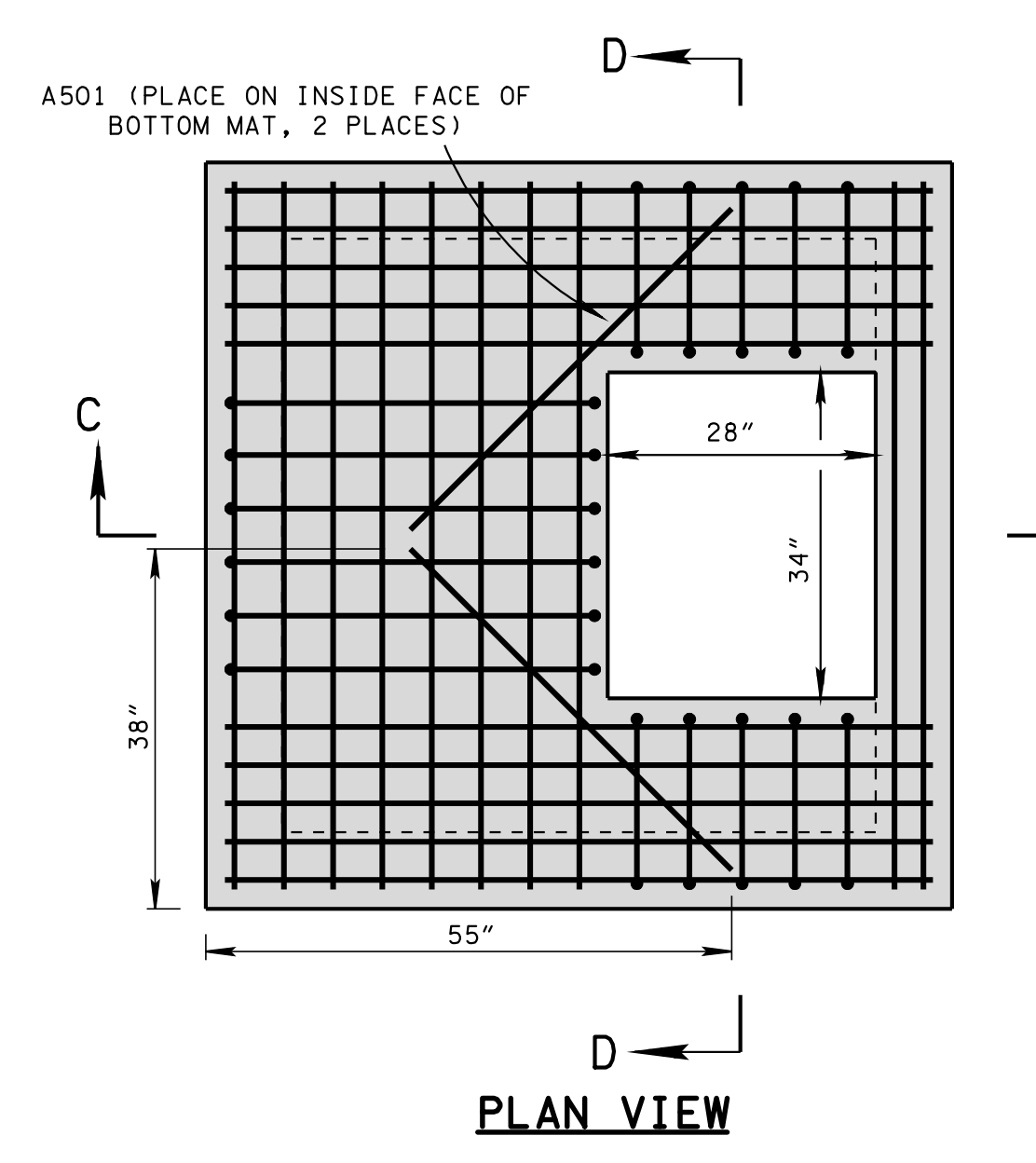
SECTION *-*
 X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



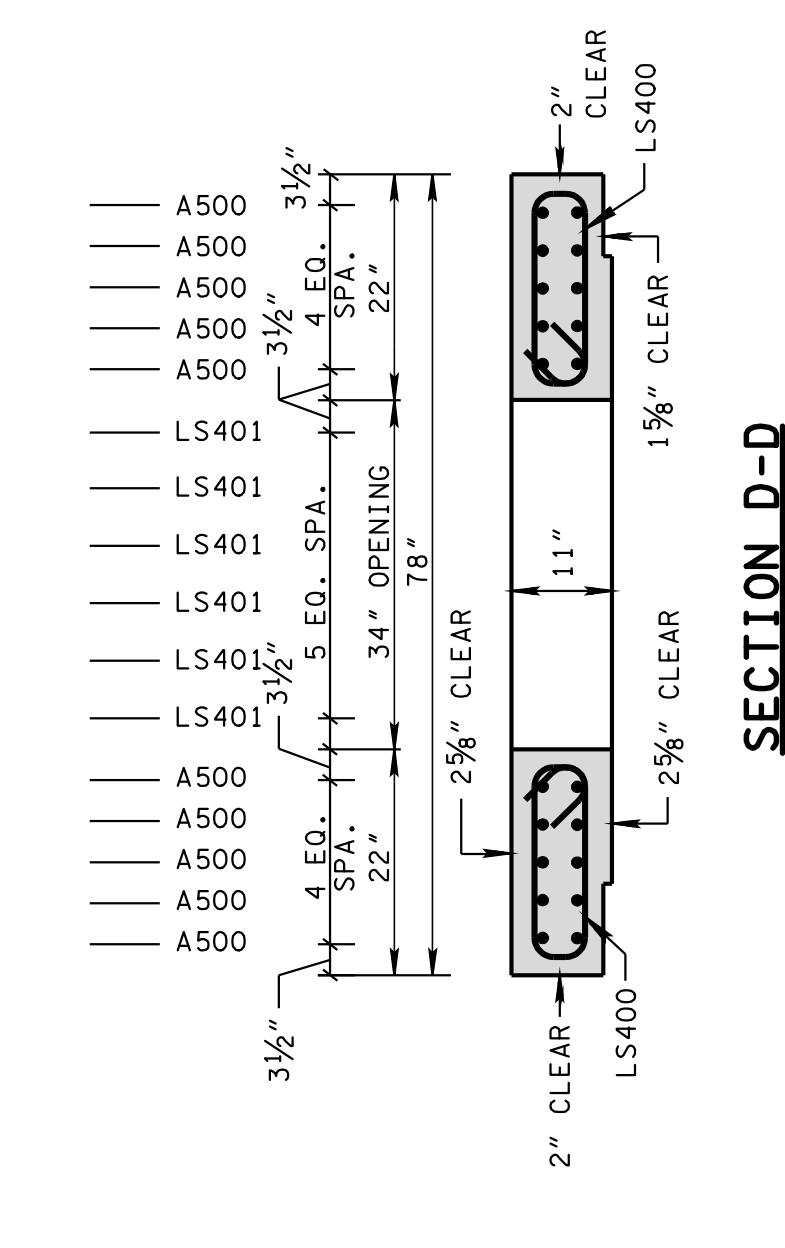
NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



PLAN VIEW



PLAN VIEW



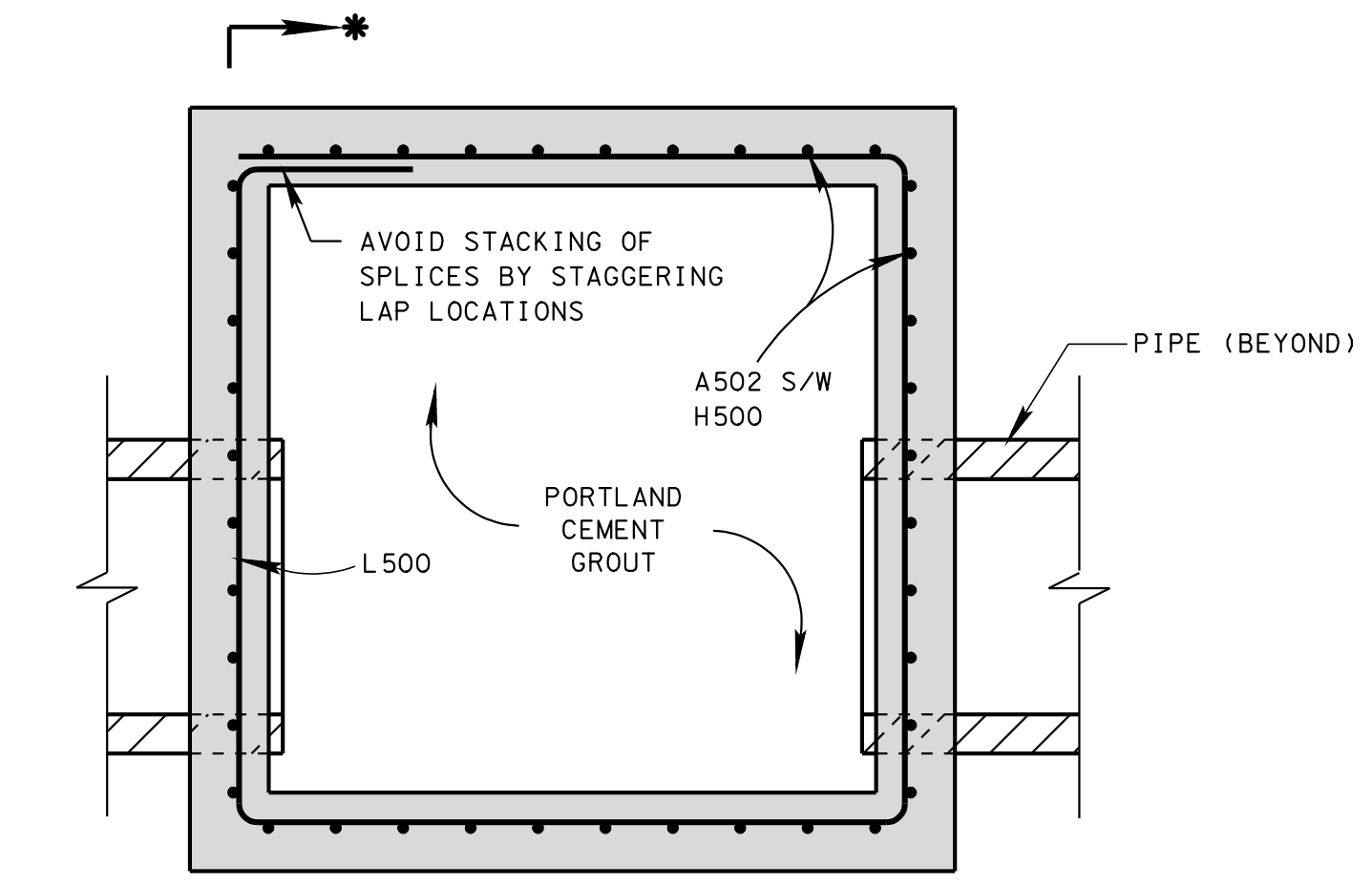
SECTION D-D

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	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

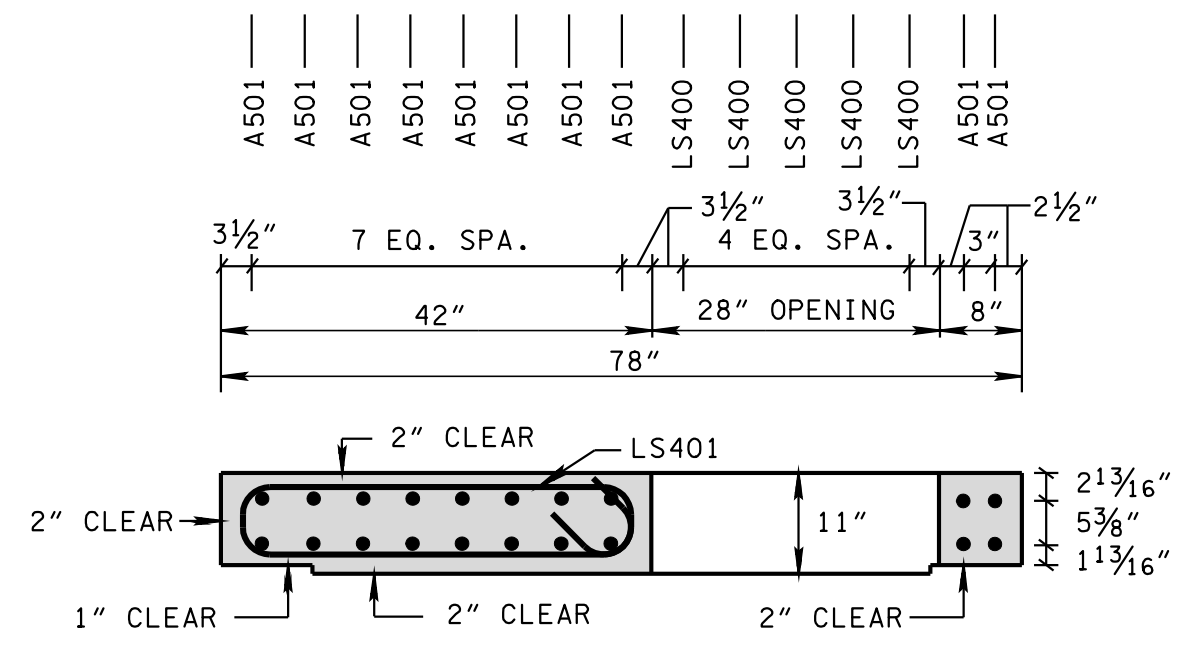
- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UN CUT WILL NOT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

- REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE ① ADDED CATCH BASIN MAXIMUM DEPTH NOTE.
- REV. 7-29-02: CHANGED ASTM SPECIFICATION IN GENERAL NOTE ②
- 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.

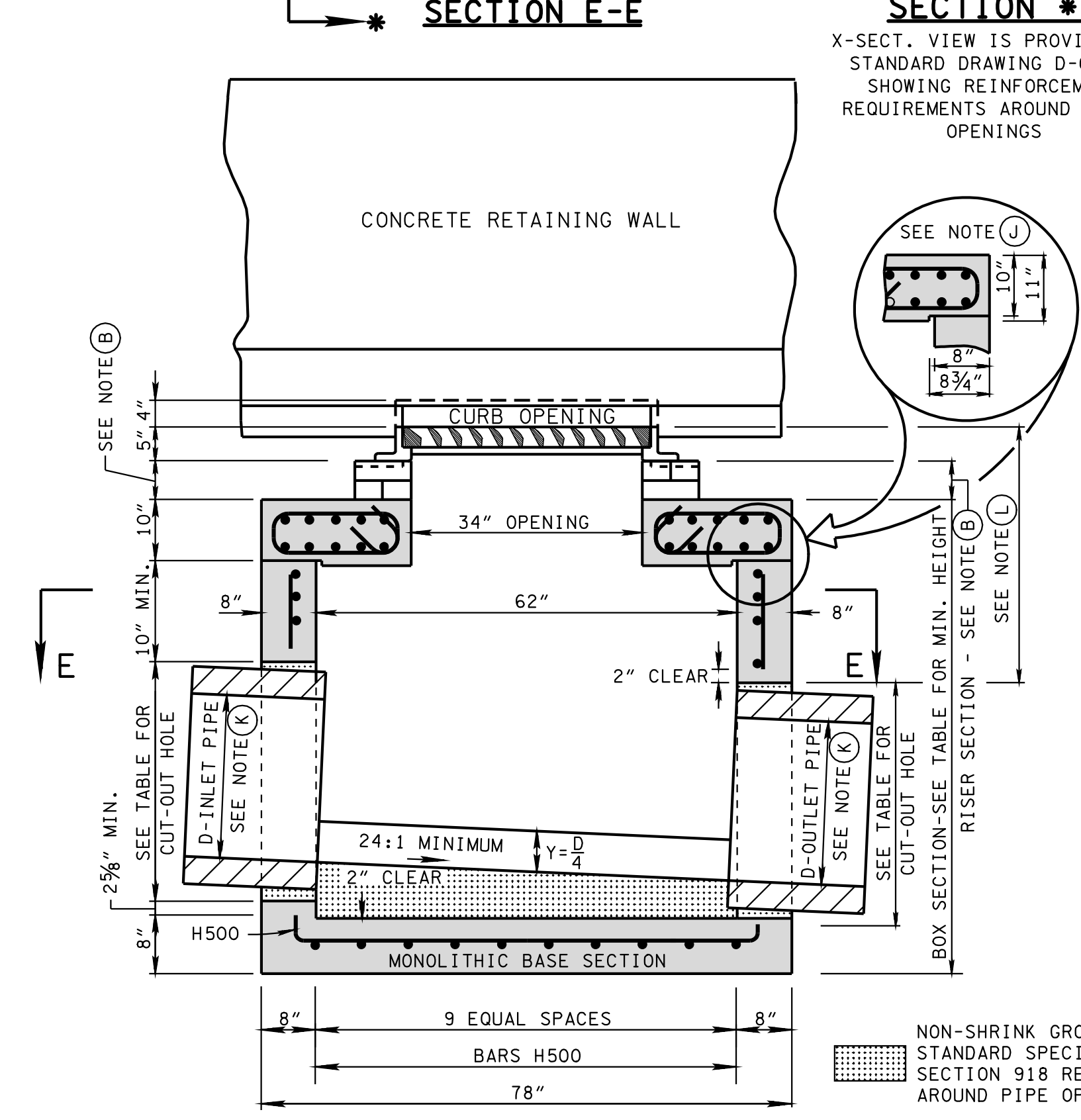


SECTION E-E

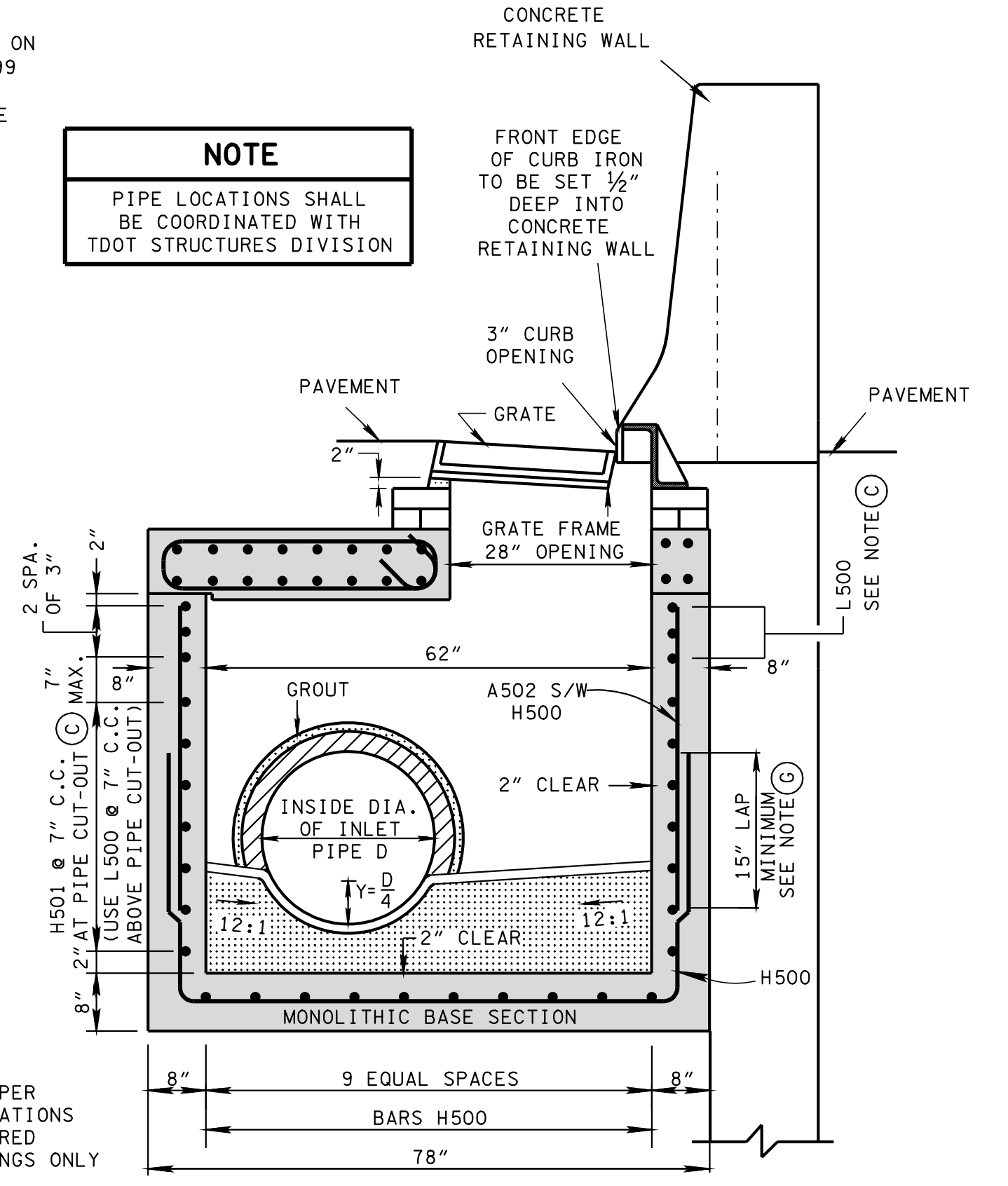
SECTION *-*
 X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



SECTION C-C



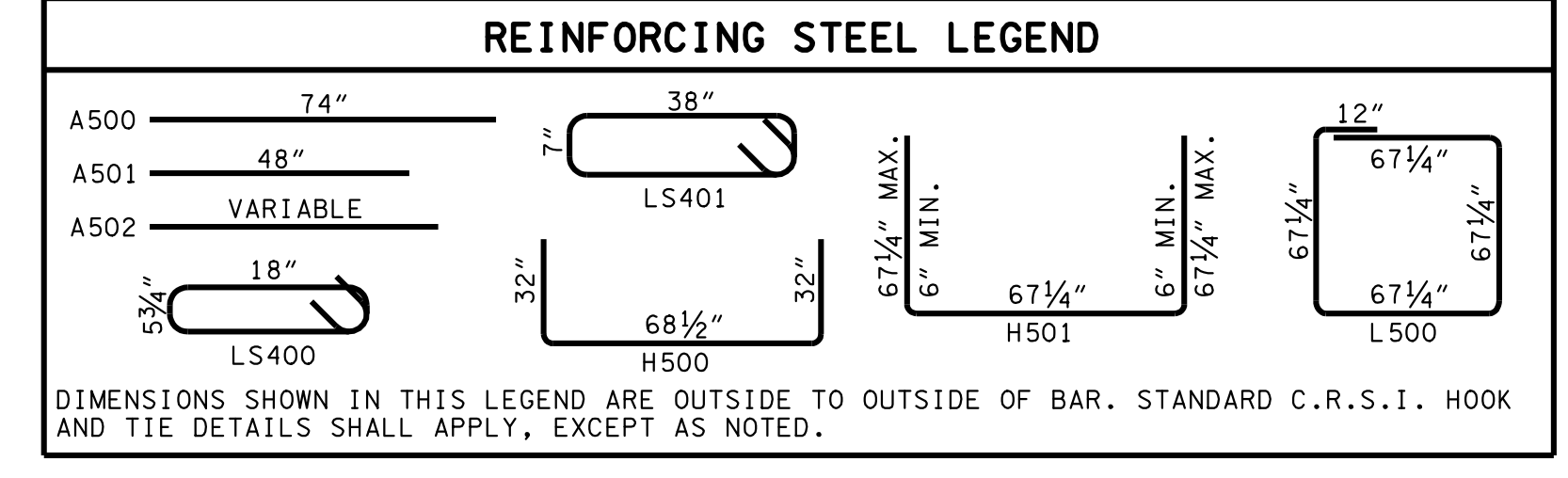
SECTION A-A



SECTION B-B

NOTE
 PIPE LOCATIONS SHALL BE COORDINATED WITH TDOT STRUCTURES DIVISION

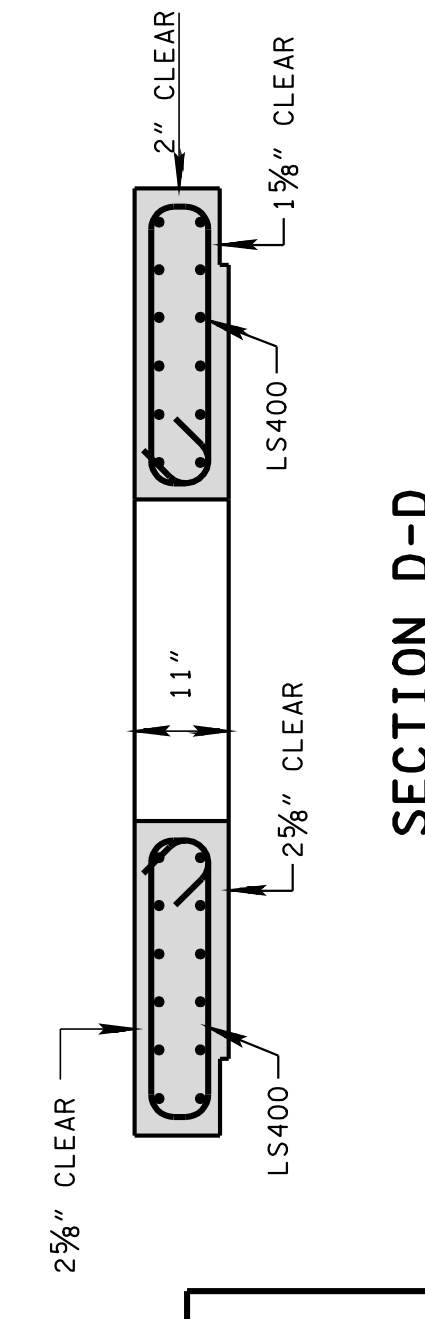
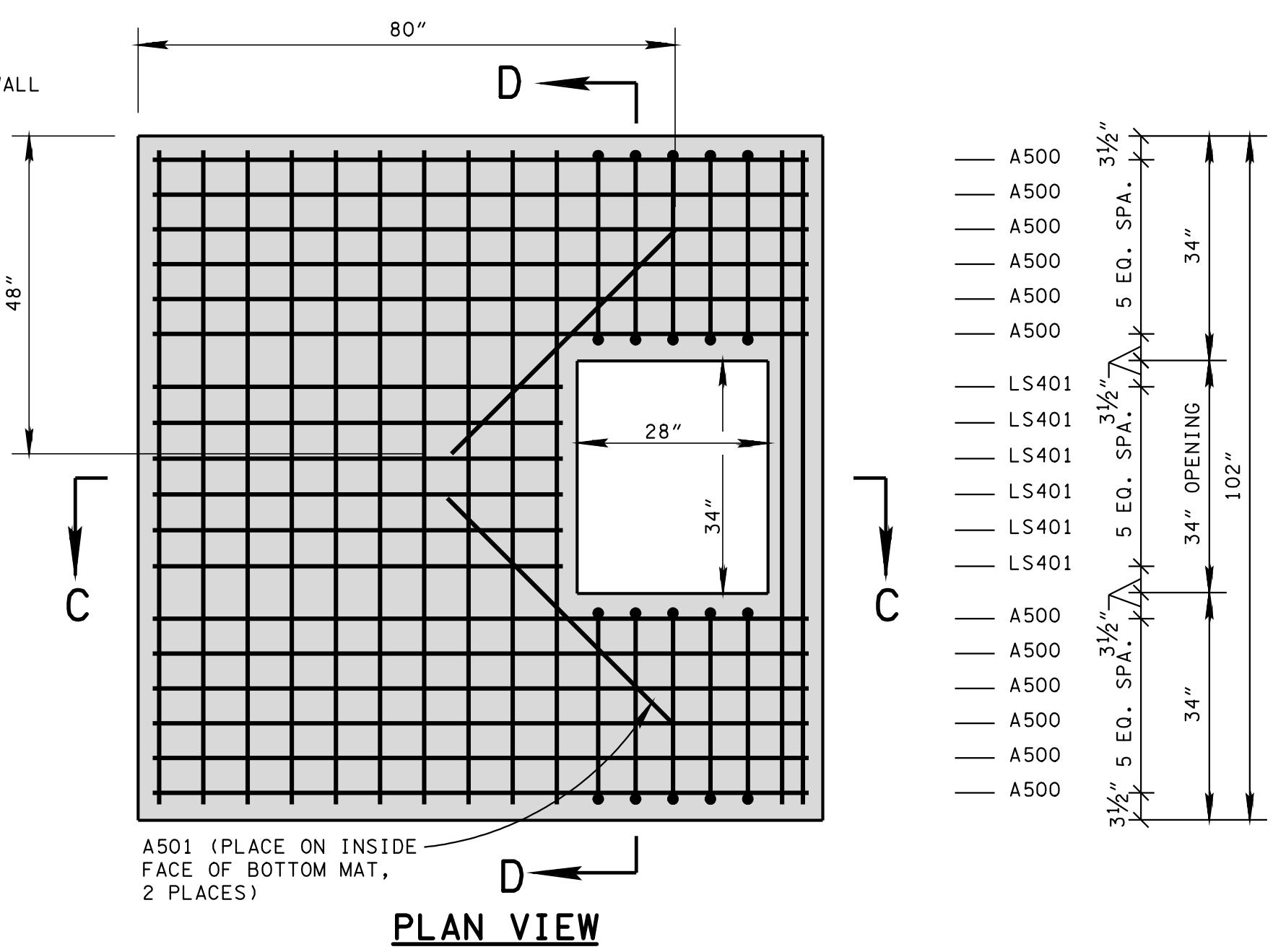
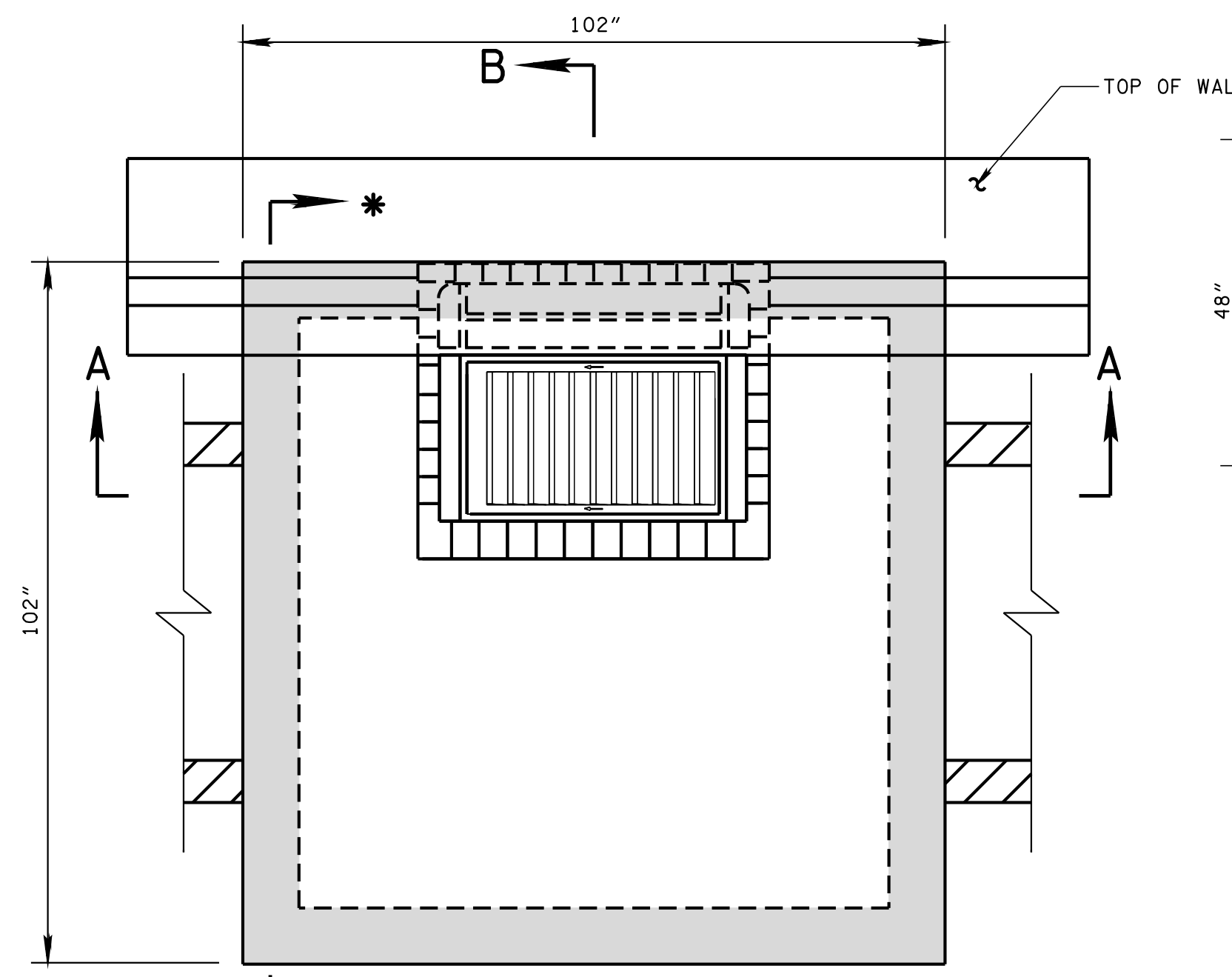
- GENERAL NOTES**
- DRAWING TO BE USED FOR ALL CAST-IN-PLACE NO. 51SC CONCRETE CATCH BASINS AND ALL PRECAST NO. 51SC CONCRETE CATCH BASINS. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL CONSTRUCTION NOTES & DETAILS.
 - THIS DIMENSION MAY VARY FROM A MINIMUM OF 0 INCHES TO A MAXIMUM OF 24 INCHES AS LONG 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
 - 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.
 - ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
 - 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.
 - 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.
 - SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
 - 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.



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)

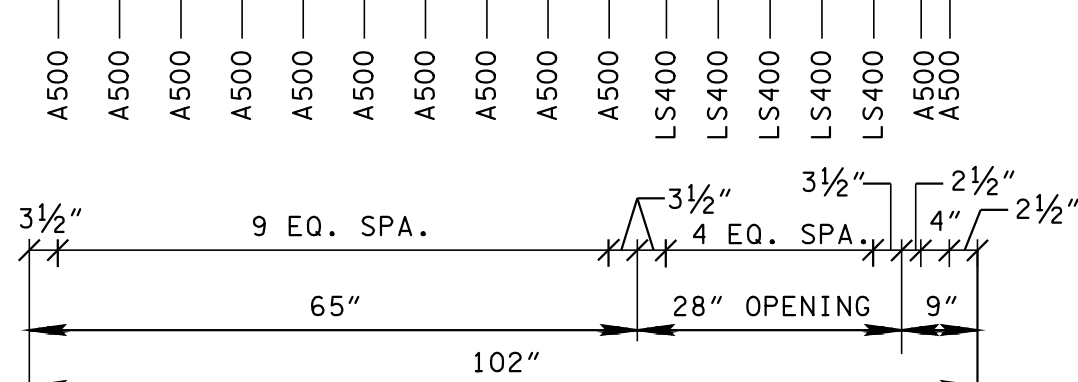


CATCH BASIN DIMENSIONS				FOR DESIGN USE ONLY
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)	BOX SECTION MINIMUM HEIGHTS (INCHES)	CATCH BASIN MINIMUM DESIGN DEPTH (FEET)
18	2 1/2	25	57 1/2	4.34
24	3	32	64 1/2	4.88
30	3 1/2	39	71 1/2	5.42
36	4	46	78 1/2	5.97
42	4 1/2	53	85 1/2	6.51
48	5	60	92 1/2	7.05
54	5 1/2	67	99 1/2	7.59
60	6	74	106 1/2	8.13
66	6 1/2	81	113 1/2	8.67

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

- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- 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 UN CUT WILL NOT BE PERMITTED.

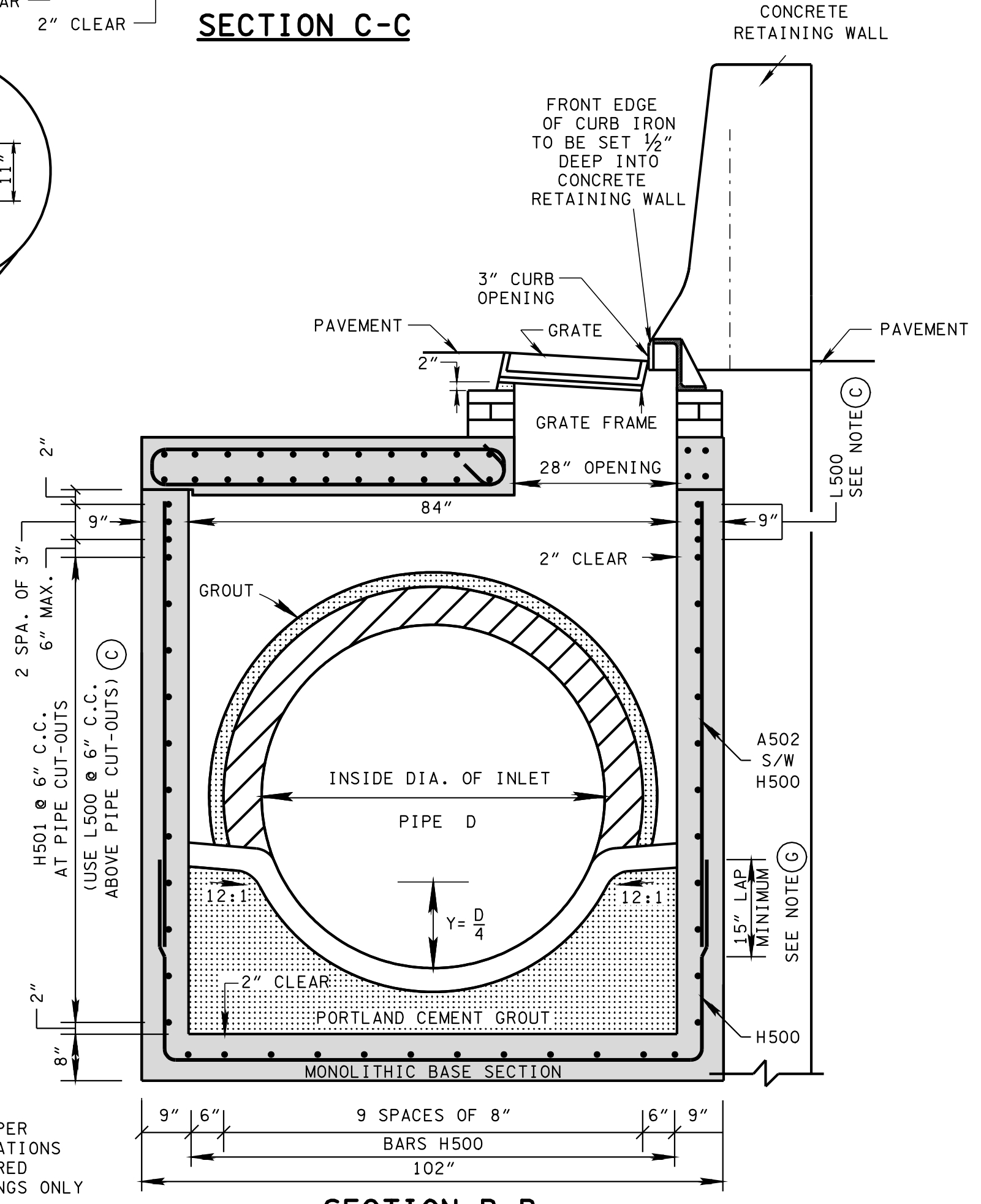
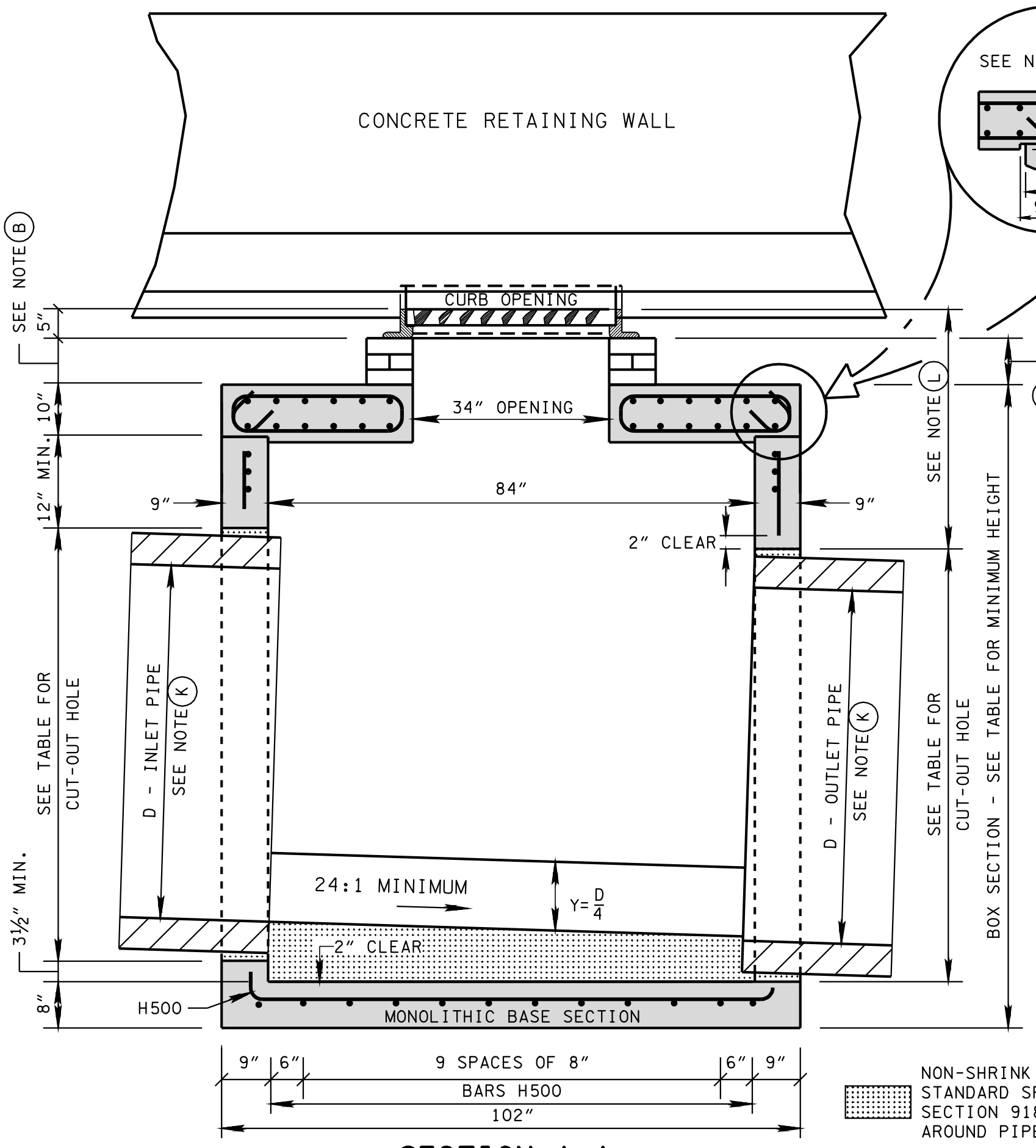
SECTION *-*-
X-SECT. VIEW IS PROVIDED ON STANDARD DRAWING D-CB-99 SHOWING REINFORCEMENT REQUIREMENTS AROUND PIPE OPENINGS



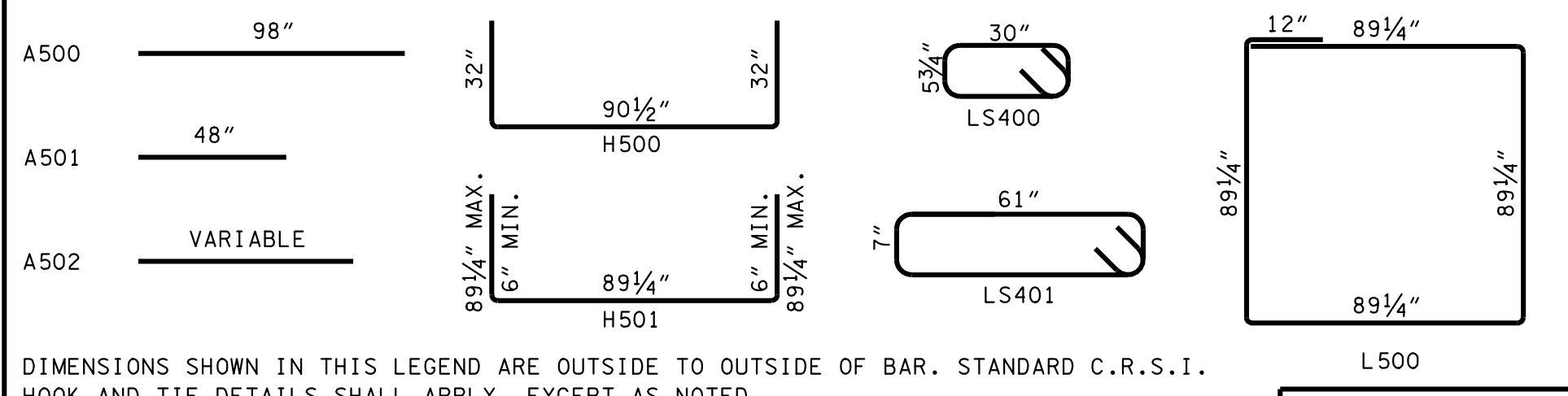
NOTE
PIPE LOCATIONS SHALL BE COORDINATED WITH TDOT STRUCTURES DIVISION

GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR MAY ELIMINATE THE A502 BARS BY LENGTHENING THE VERTICAL LEG OF THE H500 BARS SO THAT 1 1/2 INCHES OF CLEAR COVER IS PROVIDED AT THE TOP OF THE STRUCTURE.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- 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.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99 FOR ADDITIONAL DETAILS.
- 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.
- 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.
- SEE STANDARD DRAWING D-CBB-31 FOR DETAILS REGARDING CAST IRON GRATES, FRAMES AND CURB INLETS.
- 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



MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

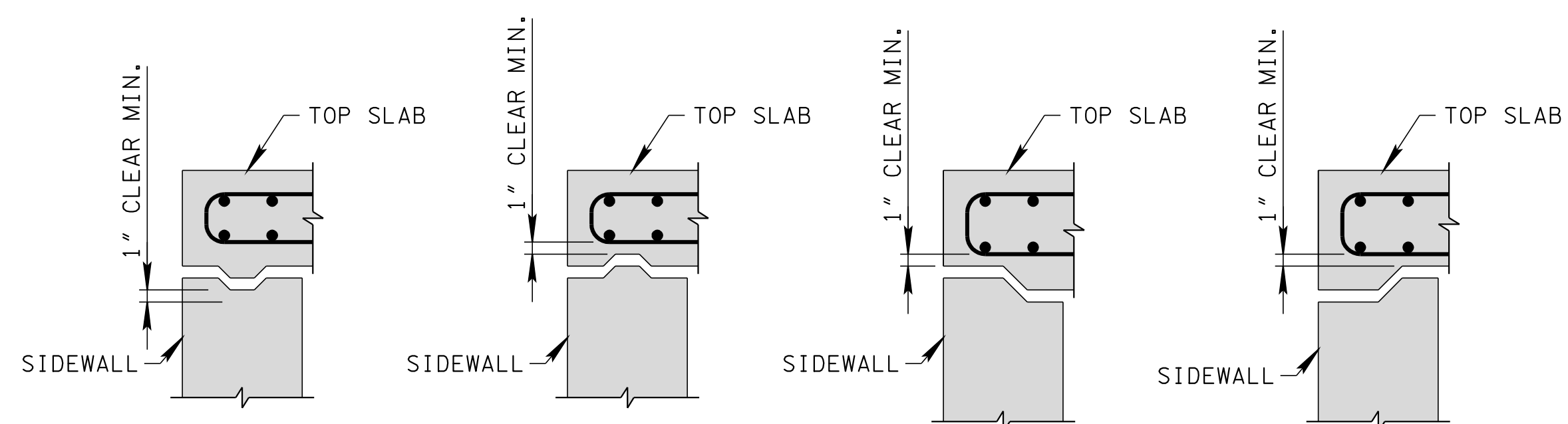
STANDARD 7' X 7' SQUARE CONCRETE NO. 51 CATCH BASIN
(FOR USE IN FRONT OF CONCRETE RETAINING WALL)

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 AxB-WCxD

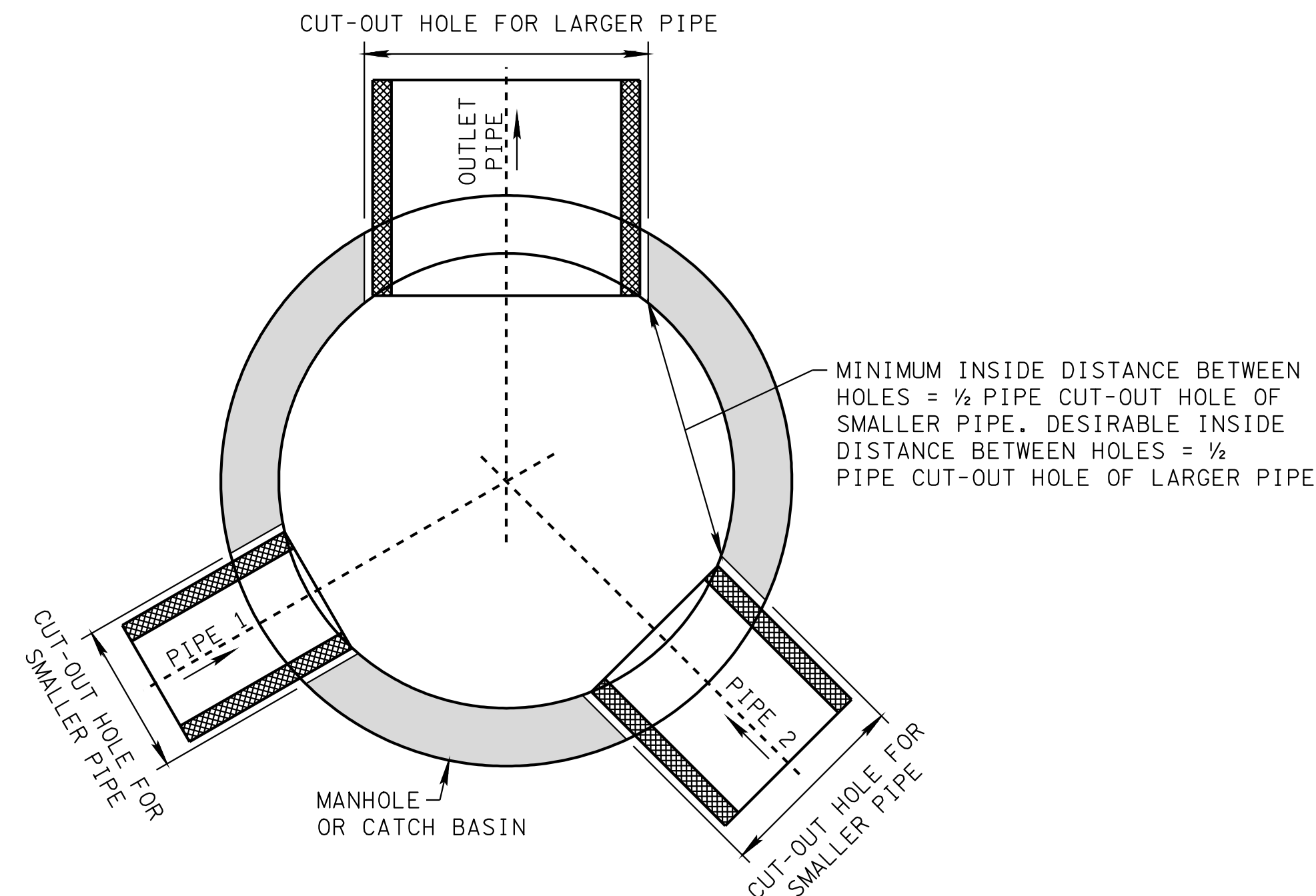
A = SPACING OF HORIZONTAL WIRES, IN.
 B = SPACING OF VERTICAL WIRES, IN.
 C = HORIZONTAL WIRE SIZE
 D = VERTICAL WIRE SIZE

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.

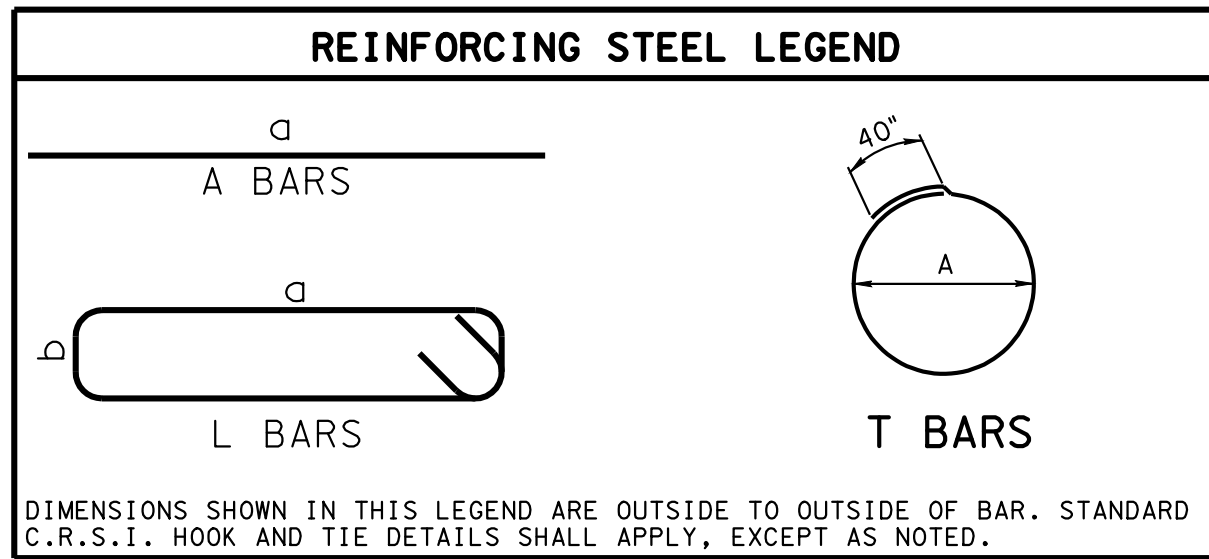
ALTERNATE JOINT DETAILS



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

		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	LS400		LS401		LS402		LS403		LS404		LS405		LS406		LS407		LS408		LS301		LS302		A301			
		a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b						
10RA	48	51.625		36.5	44.4	47.3	31.3	37								7.1	4.75	7.9	4.75	11.4	4.75	13.5	4.75	14.6	4.75	15	4.75														
12RA	48	51.625		318	37.7	42.2	31.3	37								5.8	4.75	7.2	4.75	7.9	4.75	7.4	4.75	9.5	4.75	10.6	4.75	11	4.75												
12RB	60		65.625	40.4	49.4	55.9	58.9	37.7	45.4	51.4	55.2					13.3	4.75	14.4	4.75	14.9	4.75	15.2	4.75	16.8	4.75	17.7	4.75	18	4.75												
12RB	72		79.625	51.1	63.7	72.1	74.6	48.6	60.4	68.7	71.6					20.6	4.75	21.5	4.75	21.9	4.75	22.7	6	24	6	24.8	6	25	6												
12RC	84		93.625	52.7	65.6	75.1	82.3	87.7	89.7	50.9	63	72.2	79.3	84.8	87.2	27.9	4.75	28.7	4.75	29	4.75	30.1	6	31.2	6	31.8	6														
12RC	96		107.625	61.1	77	88.4	96.7	102.8	104	59.3	74.6	85.7	94	100.3	102	35	5.75	35.8	5.75	36	5.75	37.4	7	38.3	7	38.8	7														
12RC	108		121.625	69.5	88.4	102	111	117.6	119	67.7	86	99	108.5	115.4	117	42.1	5.75	42.8	5.75	43	5.75	44.6	7	45.4	7	45.8	7														
12RC	120		135.625	77.9	99.7	115	125.2	132.2	134	76.2	97.4	112	122.9	130.3	132	49.2	5.75	49.8	5.75	50	5.75	51.7	7	52.4	7	52.9	7														
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		107.625	109.5	47.6	57	64.7	56.4	70.4	81	89.2	95.7	100.7	102.8	104	14	7	23.1	5.75	27.7	5.75	31.2	5.75	34	5.75	36.1	5.75	37.6	5.75												
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		93.625	95.4	47	57.3	54.3	67.9	77.6	84.8	87.2					14	5.25	16.1	4.75	20.3	4.75	23.4	4.75	25.7	4.75	27.4	4.75														
38RB	60		65.625	36.2	43.1	48.5	53	56.5								13.6	4.75	14.9	4.75	15.7	4.75	16	4.75	13.6	4.75	14.9	4.75	15.7	4.75	16	4.75										
38RB	72		79.625	45.6	56.1	63.9	69.9	72.6								21	6	22.1	6	22.8	6	23	6	21	4.75	22.1	4.75	22.8	4.75	23	4.75										
38RB	84		93.625	55	68.9	78.7	85.8	88.1								28.3	6	29.2	6	29.8	6	30	6	28.3	4.75	29.2	4.75	29.8	4.75	30	4.75										
38RB	96		107.625	64.3	81.4	93.1	101.2	103.1								35.5	7	36.3	7	36.84	7	37	7	35.5	5.75	36.3	5.75	36.8	5.75	37	5.75										
39RB	84		93.625	52.8	65.7	75.2	79.5									20.3	7	21.2	7	21.8	7	22	7	20.3	5.75	21.2	5.75	21.8	5.75	22	5.75			52	52	60	60				
39RB	96		107.625	63.8	80.7	92.3	95.9									27.5	8	28.3	8	28.8	8	29	8	27.5	6.75	28.3	6.75	28.8	6.75	29	6.75			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		107.625	109.5	48.9	59	67.2	56.7	70.8	81.4	89.7	96.1	101.2	103		14	7	36.7	7	37	7	22.9	5.75	27.7	5.75	31.2	5.75	33.8	5.75	35.6	5.75	14	5.75	96	48	90	46	36			



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.