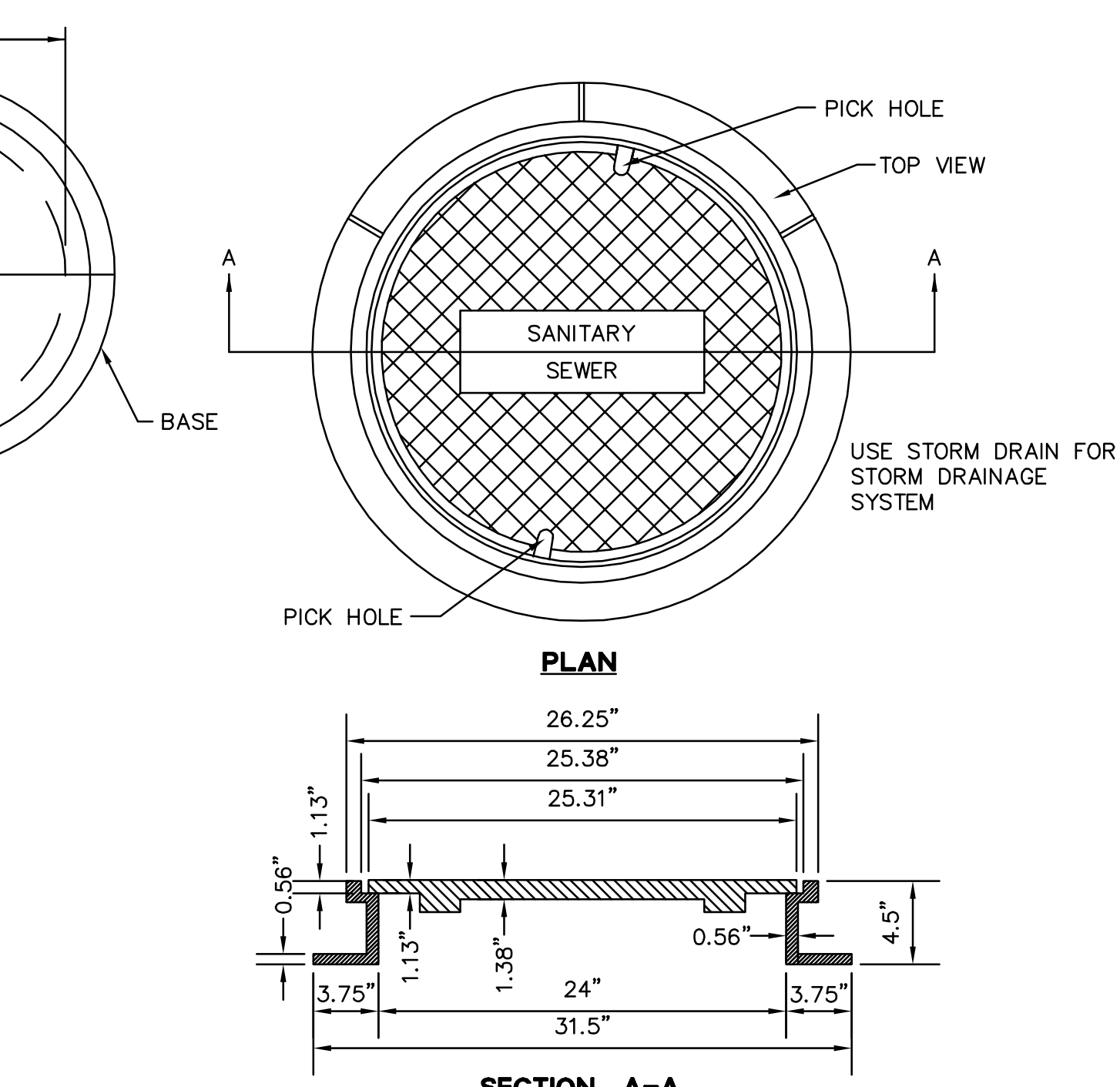


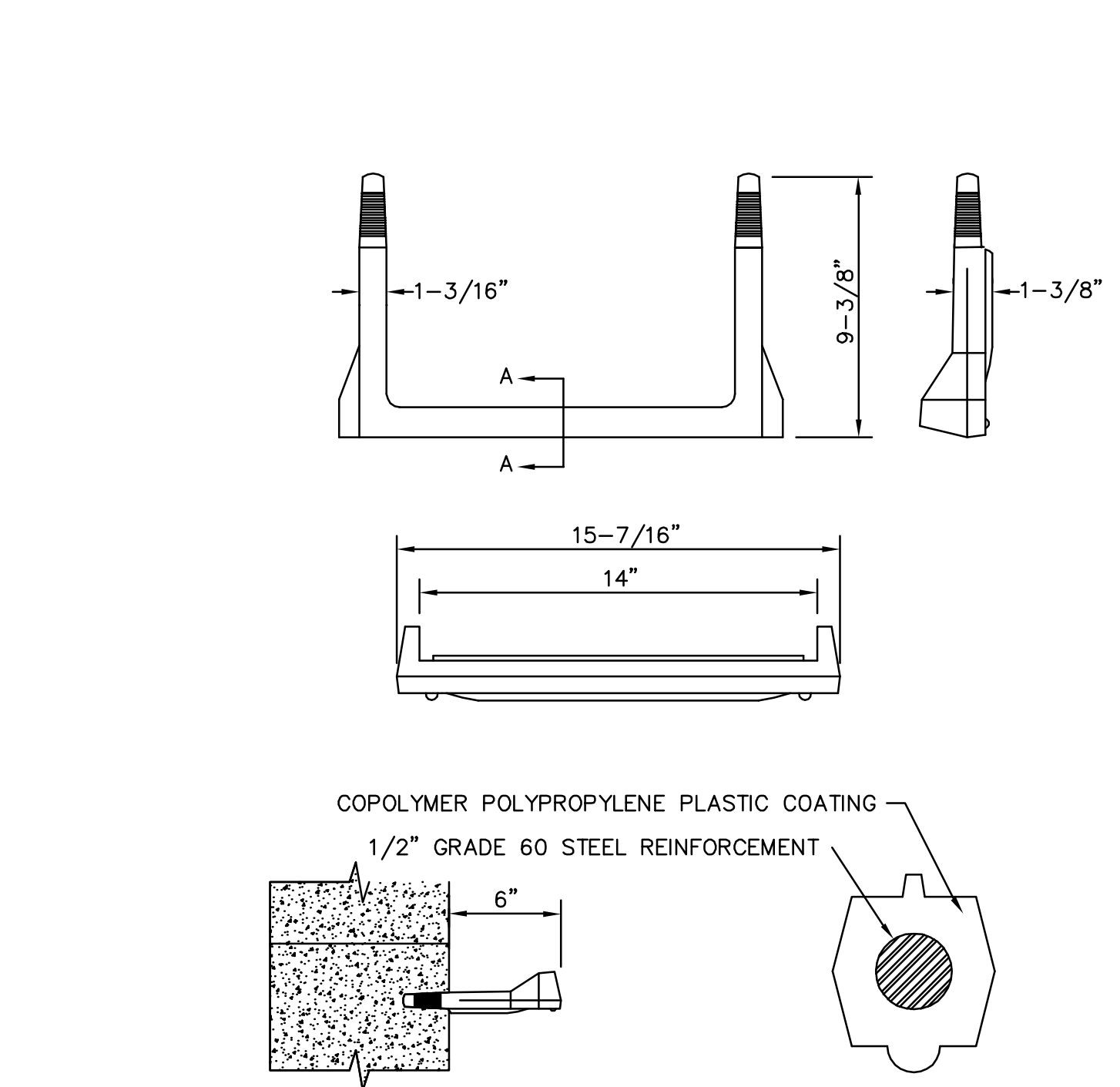
- NOTES:
- PRE-CAST MANHOLE MATERIAL SHALL BE MANUFACTURED TO ASTM SPECIFICATION C478.
 - GROUT JOINTS WITH 1:3 MORTAR MIX OR USE RAM-NEK JOINT COMPOUND.
 - A 36\"/>

1 MANHOLE (PIPES 6" TO 21") NTS



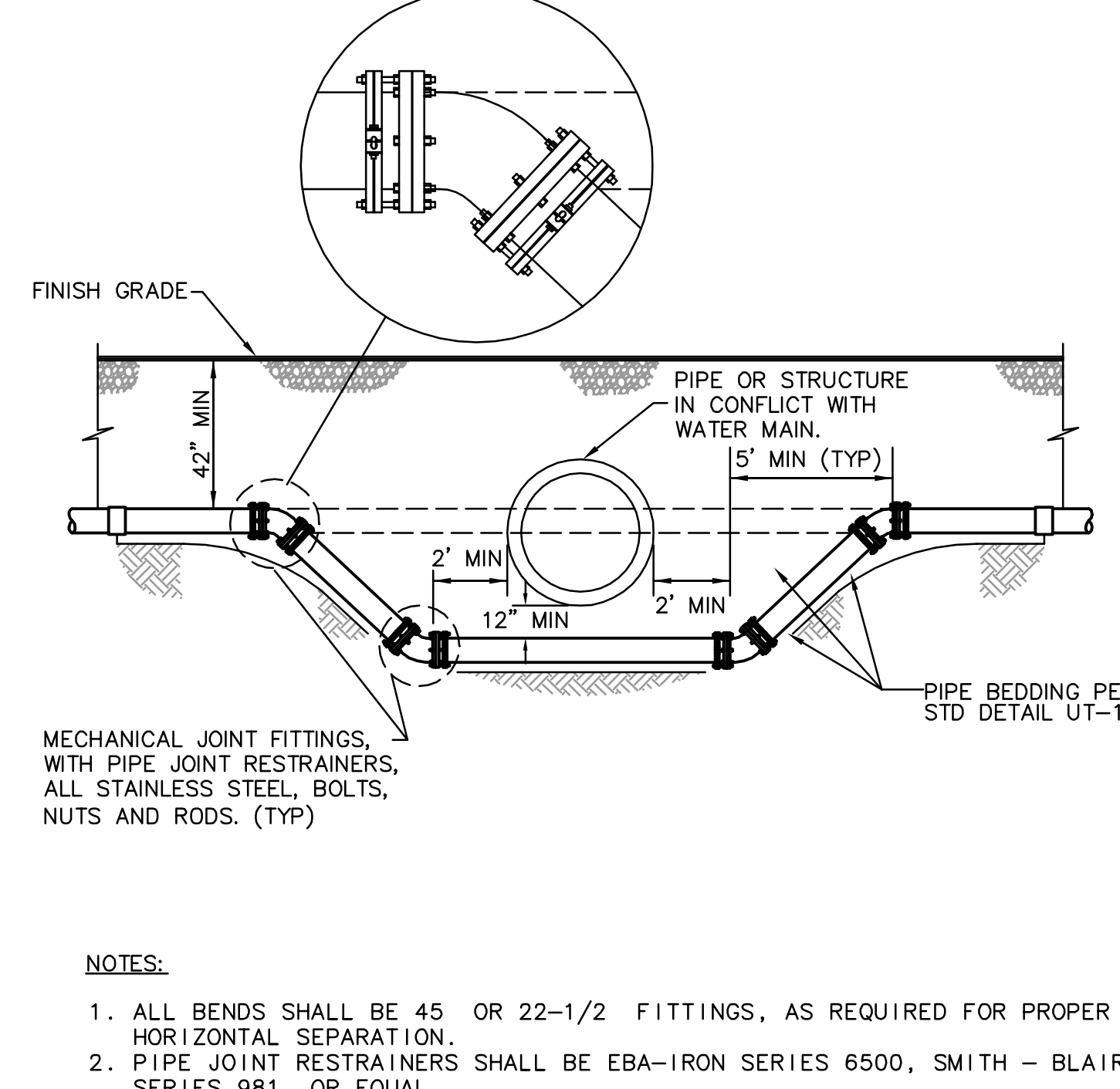
- NOTES:
- ALL MATERIAL USED IN MANUFACTURING SHALL CONFORM TO A.S.T.M. A48, CLASS 30.
 - ALL CASTINGS TO BE COMPLETELY CLEANED AND PAINTED WITH ASPHALTIC VARNISH, AFTER MANUFACTURE.
 - USE PHOENIX P-1090, D&L SUPPLY A-1024, OR EQUAL.

2 MANHOLE FRAME AND COVER NTS



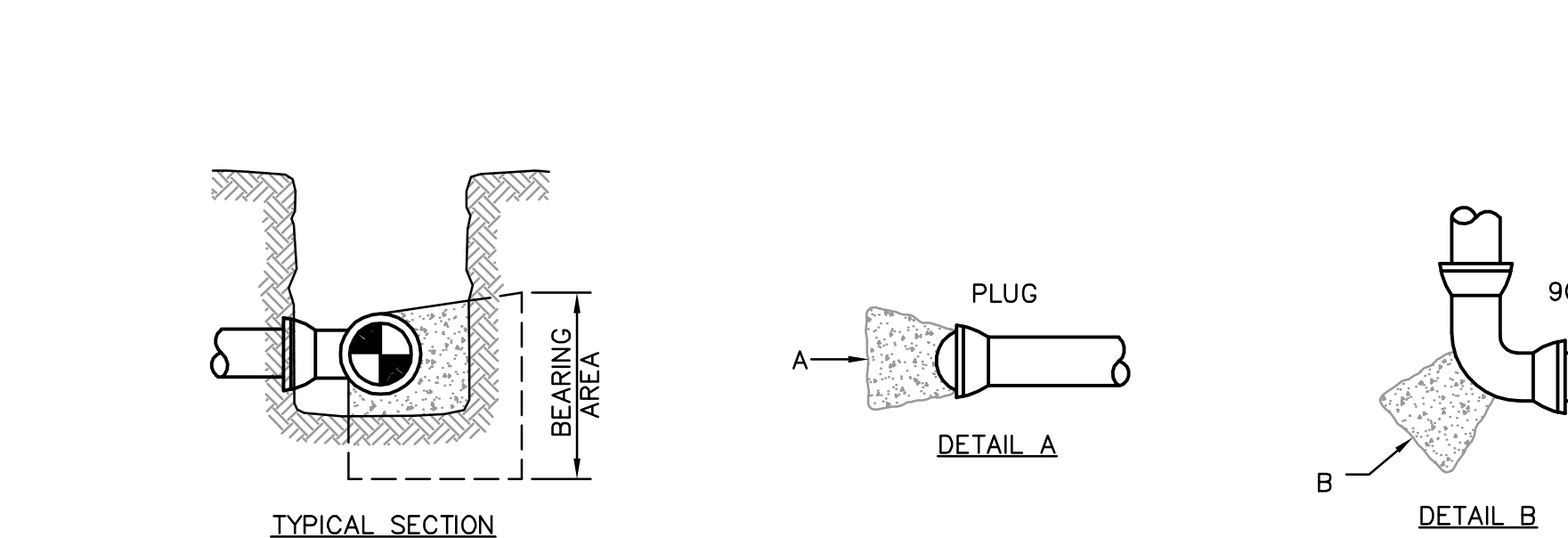
- NOTES:
- STEPS TO BE CAST IN PLACE DURING MANUFACTURE OF PRECAST PIPE RINGS.
 - INSERT STEPS THROUGH FORMWORK PRIOR TO POURING CAST-IN-PLACE STRUCTURES.
 - STEPS ARE AS MANUFACTURED BY M.A. INDUSTRIES, INC. OR EQUAL.

3 MANHOLE STEP FOR PRECAST MANHOLE NTS

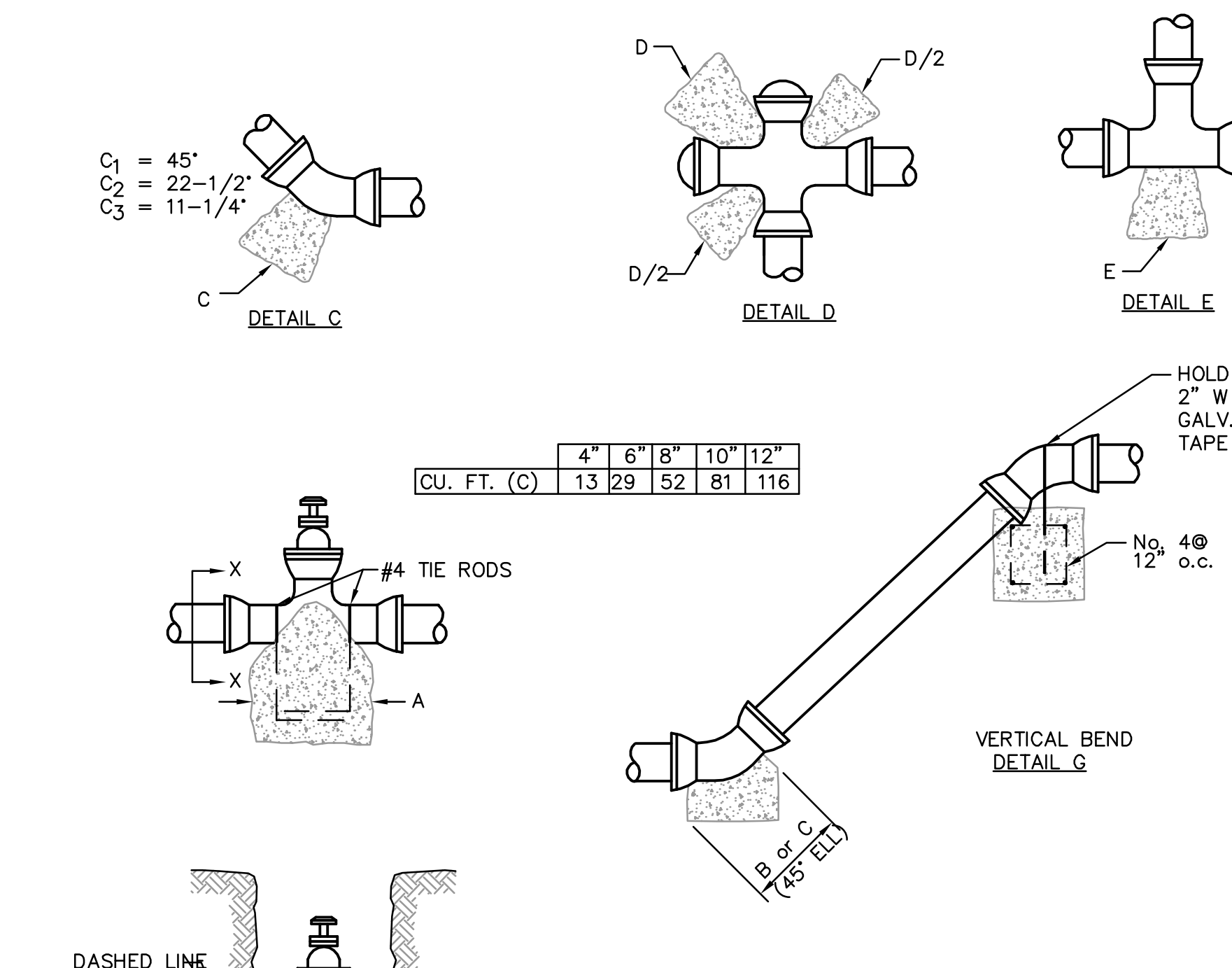


- NOTES:
- ALL BENDS SHALL BE 45 OR 22-1/2 FITTINGS, AS REQUIRED FOR PROPER HORIZONTAL SEPARATION.
 - PIPE JOINT RESTRAINTERS SHALL BE EBA-IRON SERIES 6500, SMITH - BLAIR SERIES 981, OR EQUAL.

4 WATER MAIN LOWERING NTS



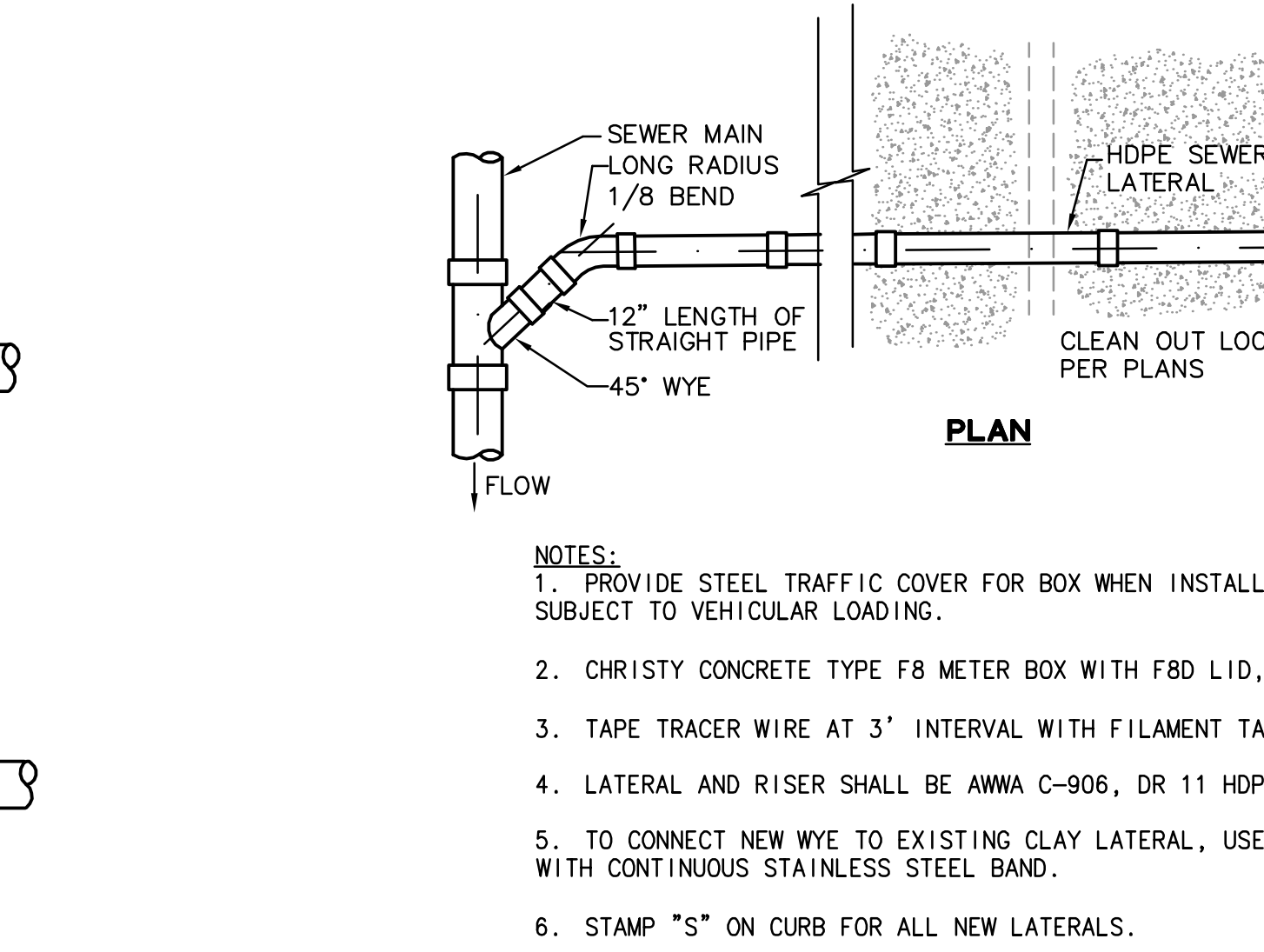
5 WATER MAIN THRUST BLOCK NTS



PIPE SIZE	A	B	C1	C2	C3	D	E
4"	2.0	1.0	1.0	1.0	1.0	1.0	2.0
6"	3.0	2.0	1.0	1.0	1.0	2.0	3.0
8"	5.0	3.0	2.0	1.0	1.0	3.0	5.0
10"	7.0	5.0	3.0	2.0	1.0	5.0	7.0
12"	10.0	7.0	4.0	2.0	1.0	7.0	10.0

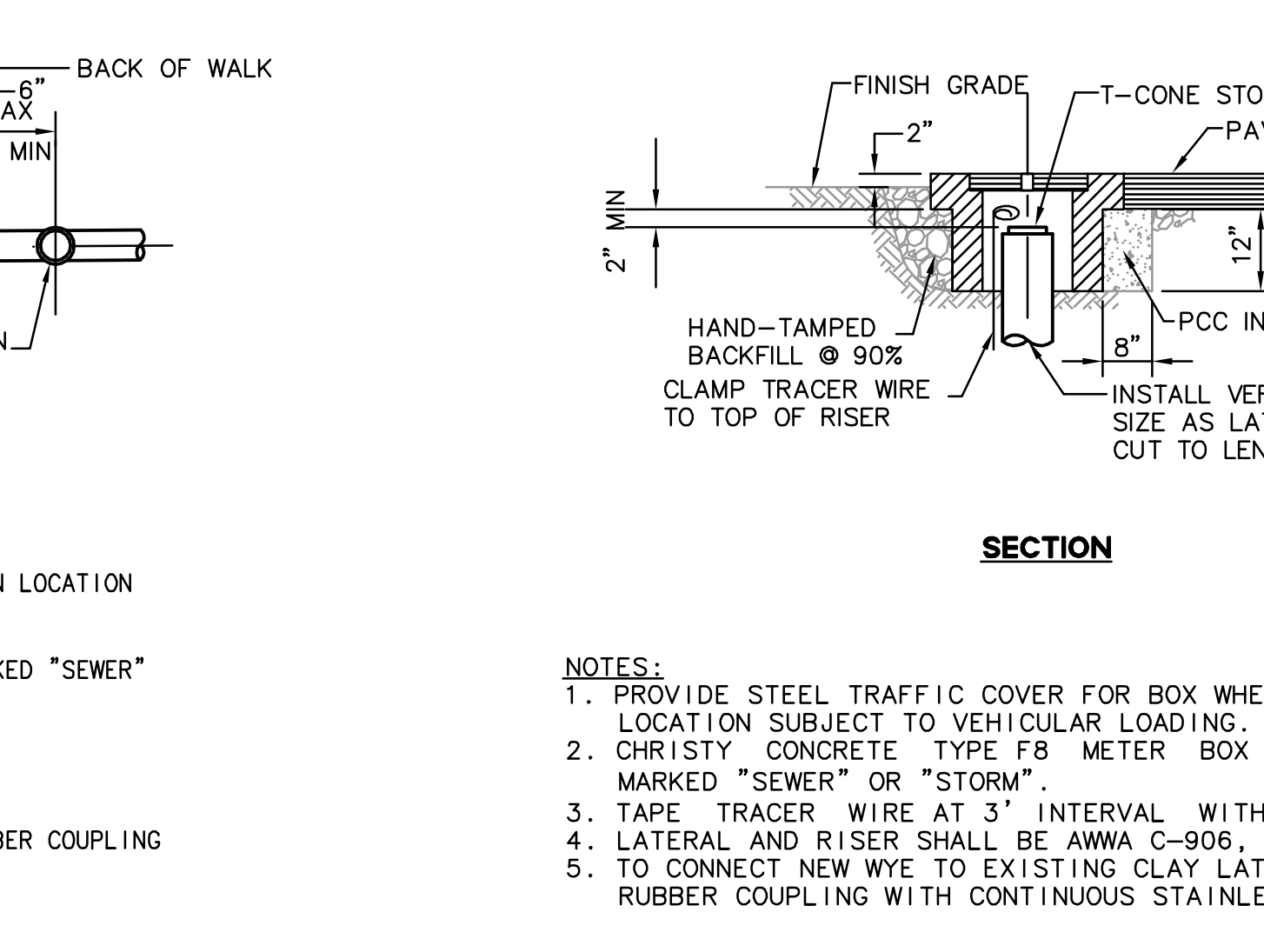
- NOTES:
- CONCRETE SHALL BE PCC.
 - FORM SURFACES OF CONCRETE NOT CAST AGAINST EARTH. KEEP CONCRETE OFF MECHANICAL JOINTS AND FLANGE BOLTS.
 - LETTERS ON DETAILS REFER TO MINIMUM REQUIRED BEARING AREA AS INDICATED IN THE TABLE ABOVE. CALCULATION OF BEARING AREAS IS BASED ON 200 PSI WATER TEST PRESSURE AND 5000 PSF ALLOWABLE SOIL BEARING PRESSURE.
 - THRUST BLOCKS FOR CASES NOT SHOWN SHALL BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.
 - POUR THRUST BLOCKS AGAINST UNDISTURBED EARTH OR ENGINEERED FILL.
 - THE BARS SHOWN IN DETAIL F WILL BE USED WHEN BEARING AREA IS NOT SYMMETRICAL ABOUT PIPE.
 - USE DETAIL G FOR THRUST RESTRAINT OF 11-1/4" AND 22-1/2" VERTICAL BENDS. VERTICAL BENDS GREATER THAN 22-1/2" SHALL BE AS DIRECTED BY THE ENGINEER. TABLE FOR VERTICAL BENDS INDICATES VOLUME OF CONCRETE IN CUBIC FEET.

5 WATER MAIN THRUST BLOCK NTS



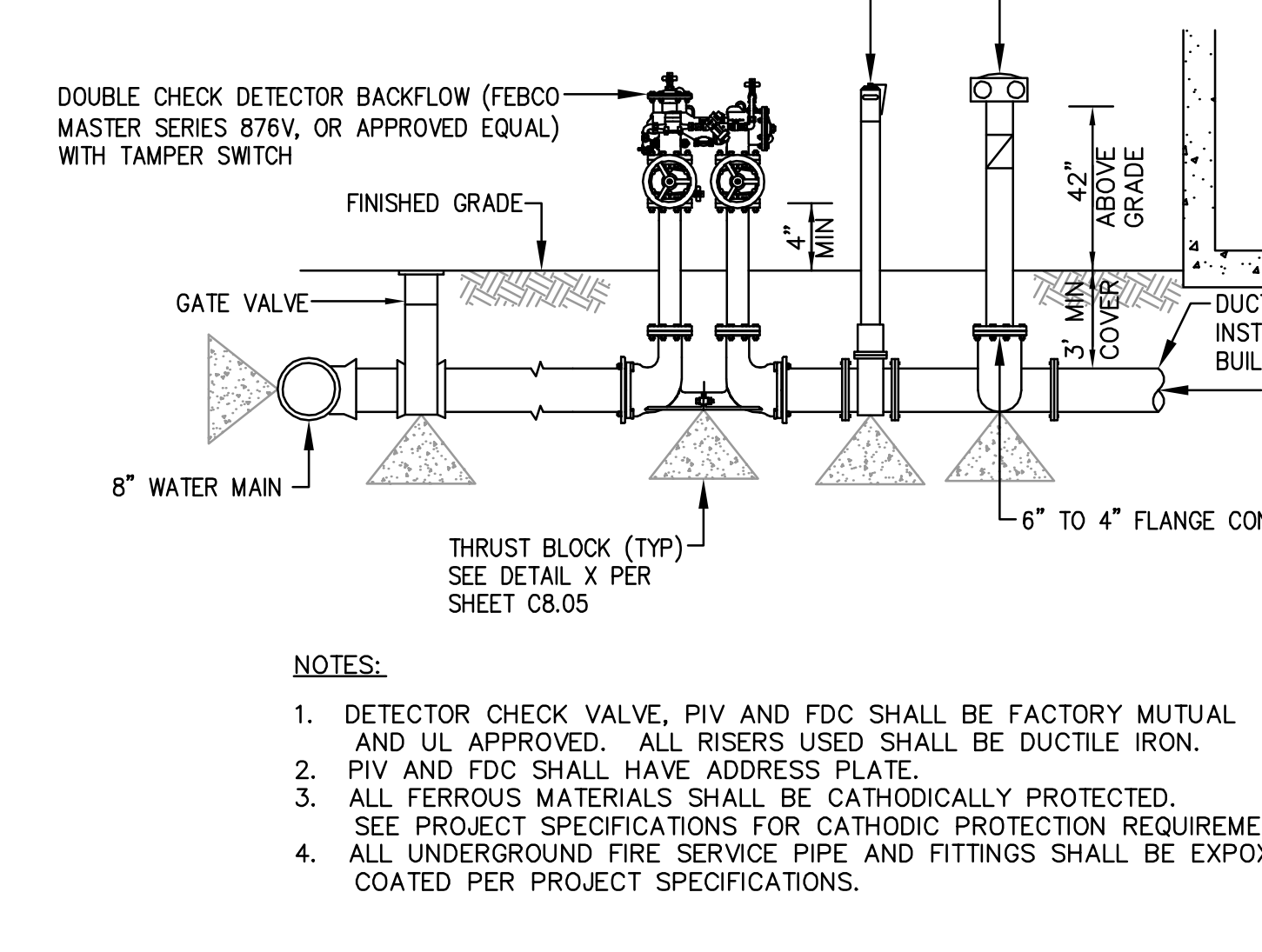
- NOTES:
- PROVIDE STEEL TRAFFIC COVER FOR BOX WHEN INSTALLED IN LOCATION SUBJECT TO VEHICULAR LOADING.
 - CHRISTY CONCRETE TYPE F8 METER BOX WITH F8D LID, MARKED "SEWER"
 - TAPE TRACER WIRE AT 3' INTERVAL WITH FILAMENT TAPE.
 - LATERAL AND RISER SHALL BE AWWA C-906, DR 11 HDPE.
 - TO CONNECT NEW WYE TO EXISTING CLAY LATERAL, USE RUBBER COUPLING WITH CONTINUOUS STAINLESS STEEL BAND.
 - STAMP "S" ON CURB FOR ALL NEW LATERALS.

6 SANITARY SEWER LATERAL (NEW PIPE) NTS



- NOTES:
- PROVIDE STEEL TRAFFIC COVER FOR BOX WHEN INSTALLED IN LOCATION SUBJECT TO VEHICULAR LOADING.
 - CHRISTY CONCRETE TYPE F8 METER BOX WITH F8D LID, MARKED "SEWER" OR "STORM".
 - TAPE TRACER WIRE AT 3' INTERVAL WITH FILAMENT TAPE.
 - LATERAL AND RISER SHALL BE AWWA C-906, DR 11 HDPE.
 - TO CONNECT NEW WYE TO EXISTING CLAY LATERAL, USE RUBBER COUPLING WITH CONTINUOUS STAINLESS STEEL BAND.

7 CLEANOUT BOX NTS



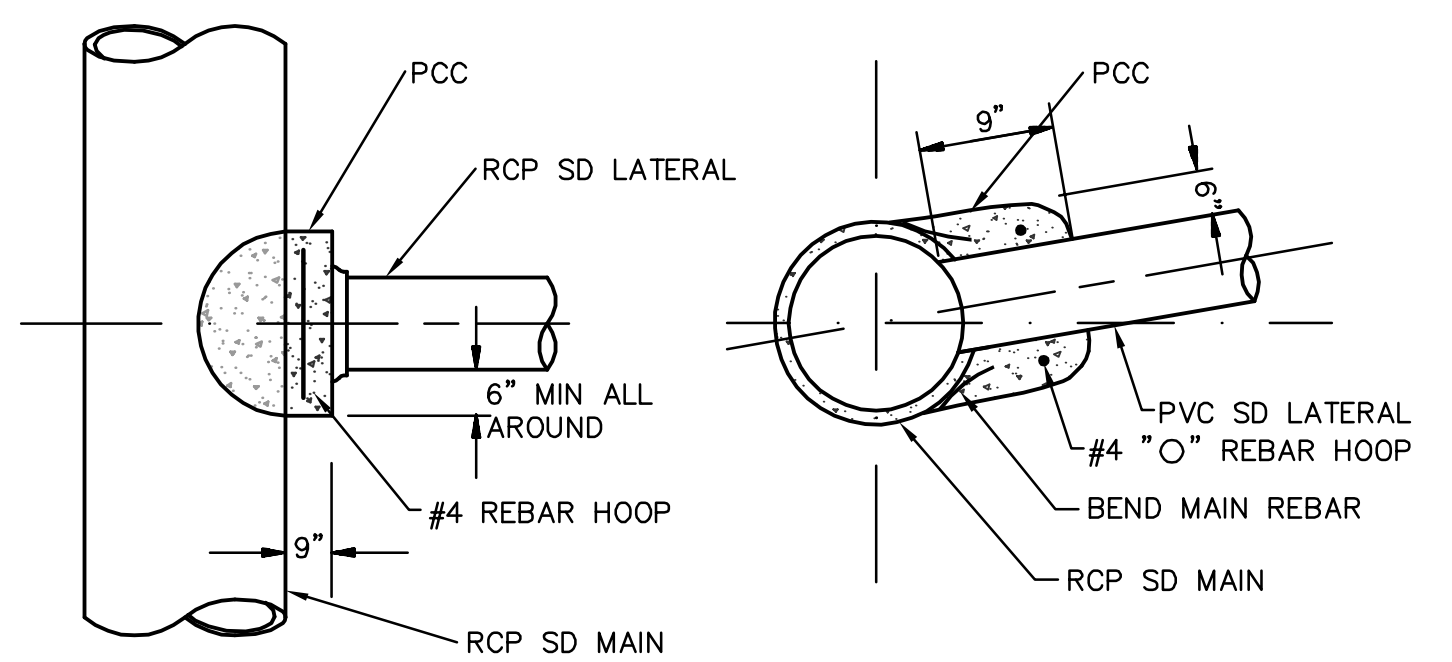
- NOTES:
- DETECTOR CHECK VALVE, PIV AND FDC SHALL BE FACTORY MUTUAL AND UL APPROVED. ALL RISERS USED SHALL BE DUCTILE IRON.
 - PIV AND FDC SHALL HAVE ADDRESS PLATE.
 - ALL FERROUS MATERIALS SHALL BE CATHODICALLY PROTECTED. SEE PROJECT SPECIFICATIONS FOR CATHODIC PROTECTION REQUIREMENTS.
 - ALL UNDERGROUND FIRE SERVICE PIPE AND FITTINGS SHALL BE EPOXY COATED PER PROJECT SPECIFICATIONS.

8 6" FIRE SERVICE - TYPICAL SECTION NTS

RECORD DRAWINGS

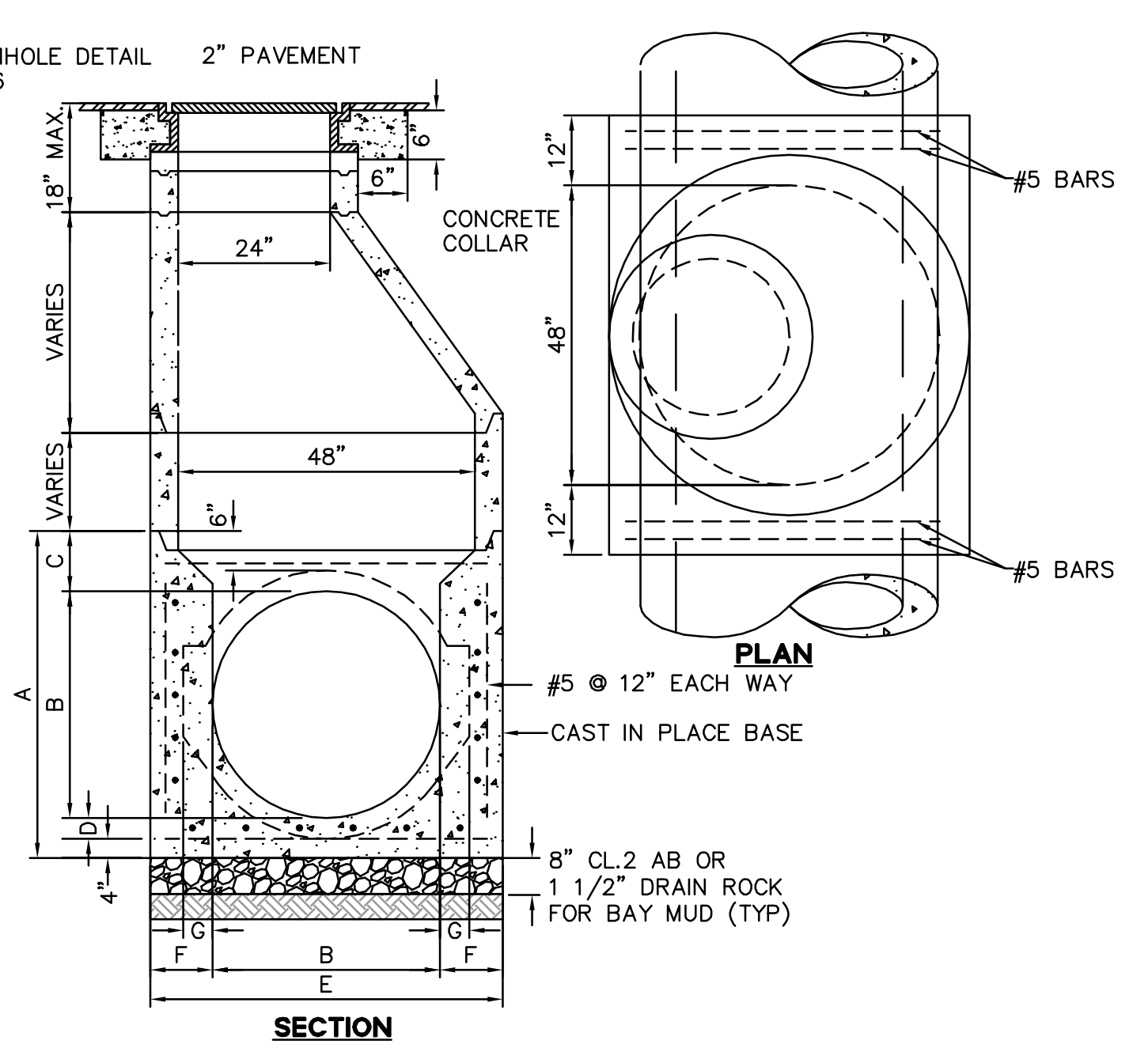
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BY: BKF ENGINEERS DATE: JUNE 2011



- NOTE:
- RCP SD LATERAL SHALL BE CUT TO MATCH INSIDE FACE OF RCP SD MAIN AND INSTALLED FLUSH. OPENING FOR RCP SD LATERAL SHALL BE CORED HOLE, WITH DIM LARGER THAN SD LATERAL 1" PIPE SHALL BE CORED AND ADAPTOR INSTALLED PRIOR TO PLACEMENT IN THE TRENCH.

9 PVC TO RCP CONNECTION NTS



- NOTES:
- PROVIDE A MINIMUM DROP OF 0.10' ACROSS MANHOLE WHEN LINE BENDS AND/OR PIPE DIAMETER CHANGES.
 - CONCRETE SHALL BE CLASS A.
 - ALL JOINTS SHALL BE MADE WATER-TIGHT WITH NEOPRENE GASKETS OR RAM-NEK.
 - MINIMUM CROWN ELEVATION OF SMALLER DIAMETER INLET PIPE SHALL BE NO LESS THAN THE CROWN ELEVATION OF THE OUTLET PIPE WITHOUT APPROVAL OF THE CITY ENGINEER. MAXIMUM DROP FROM INVERT OF INLET PIPE TO CROWN OF OUTLET PIPE SHALL BE 1'-0".
 - LAY PIPE THROUGH MANHOLE WHEN POSSIBLE.
 - TOP OF PIPE TO BE REMOVED WITHIN MANHOLE. TRIM TO NEAT LINE AND FINISH OFF WITH GROUT TO LEAVE A SMOOTH FINISH.
 - PROVIDE TWO JOINTS AT ALL ENTRY POINTS TO MANHOLES.
 - REINFORCE CONCRETE MANHOLE SECTIONS SHALL BE PRECAST AND SHALL CONFORM TO ASTM C-478.

10 TYPE II MANHOLE NTS



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San Francisco, California 94104
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F 415 | 397-5999



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
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College of San Mateo
Site Package
San Mateo, CA

Developed for
San Mateo County Community College District

Revision	Description	Date

Revision	Description	Date

Job No.	27082.30
Date	02 APRIL 2009
Drawn by	MD, JT
Checked by	RH
Scale	AS SHOWN

CONSTRUCTION DETAILS

C8.04