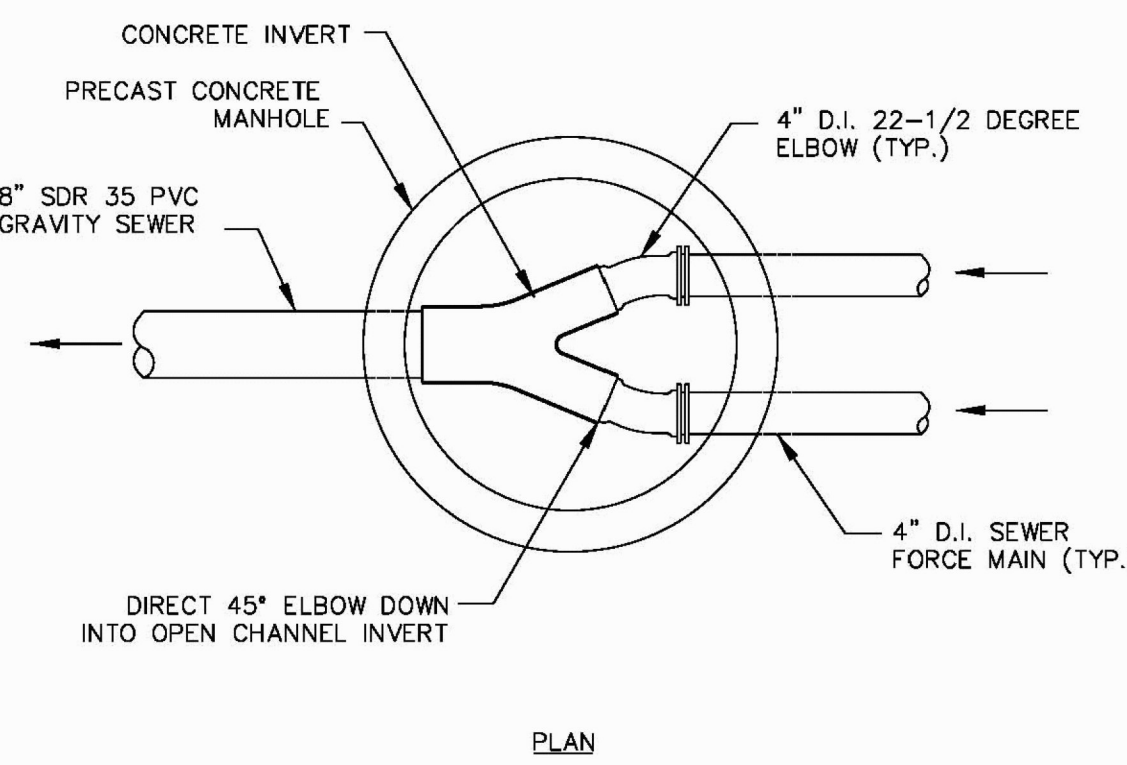
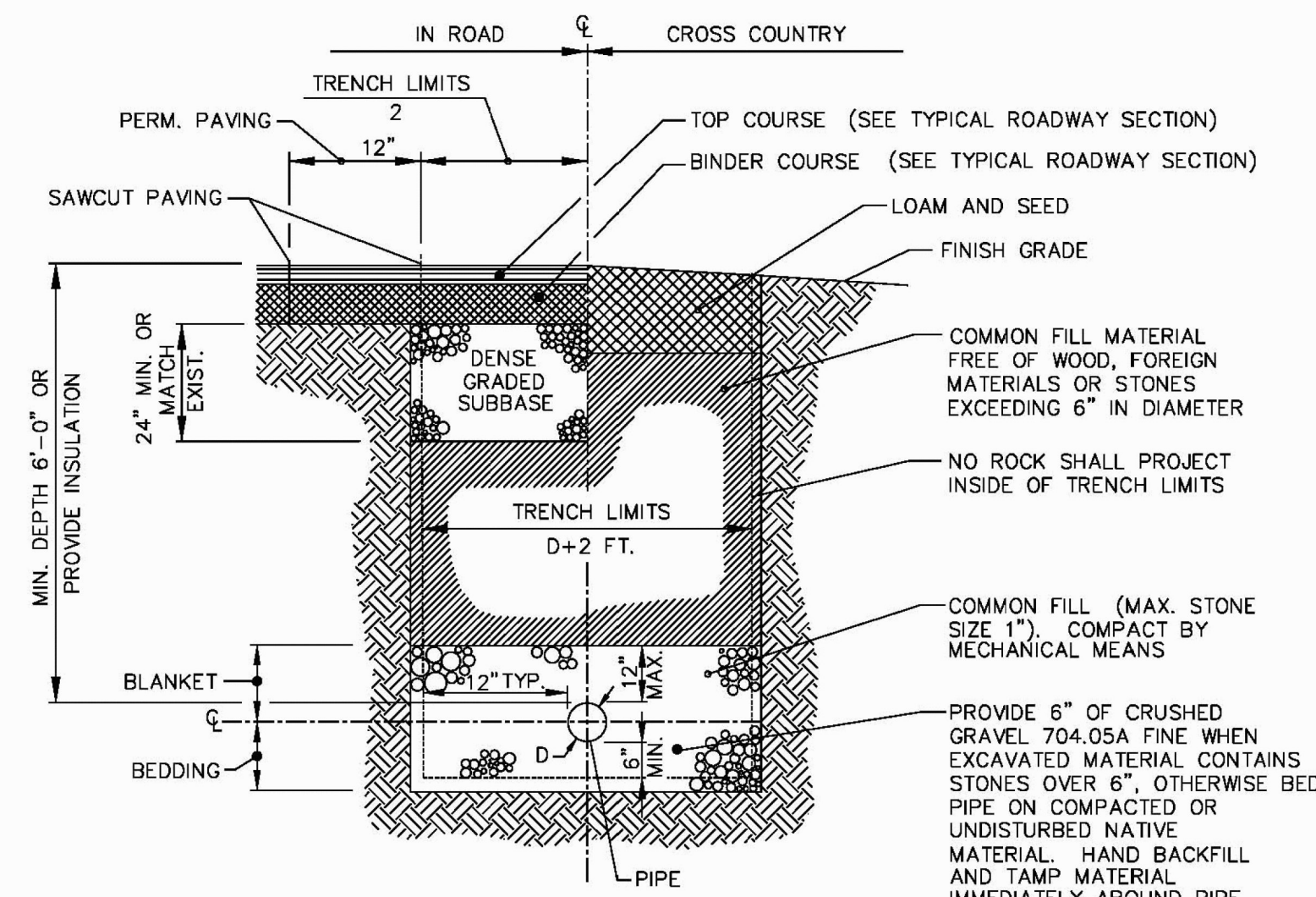


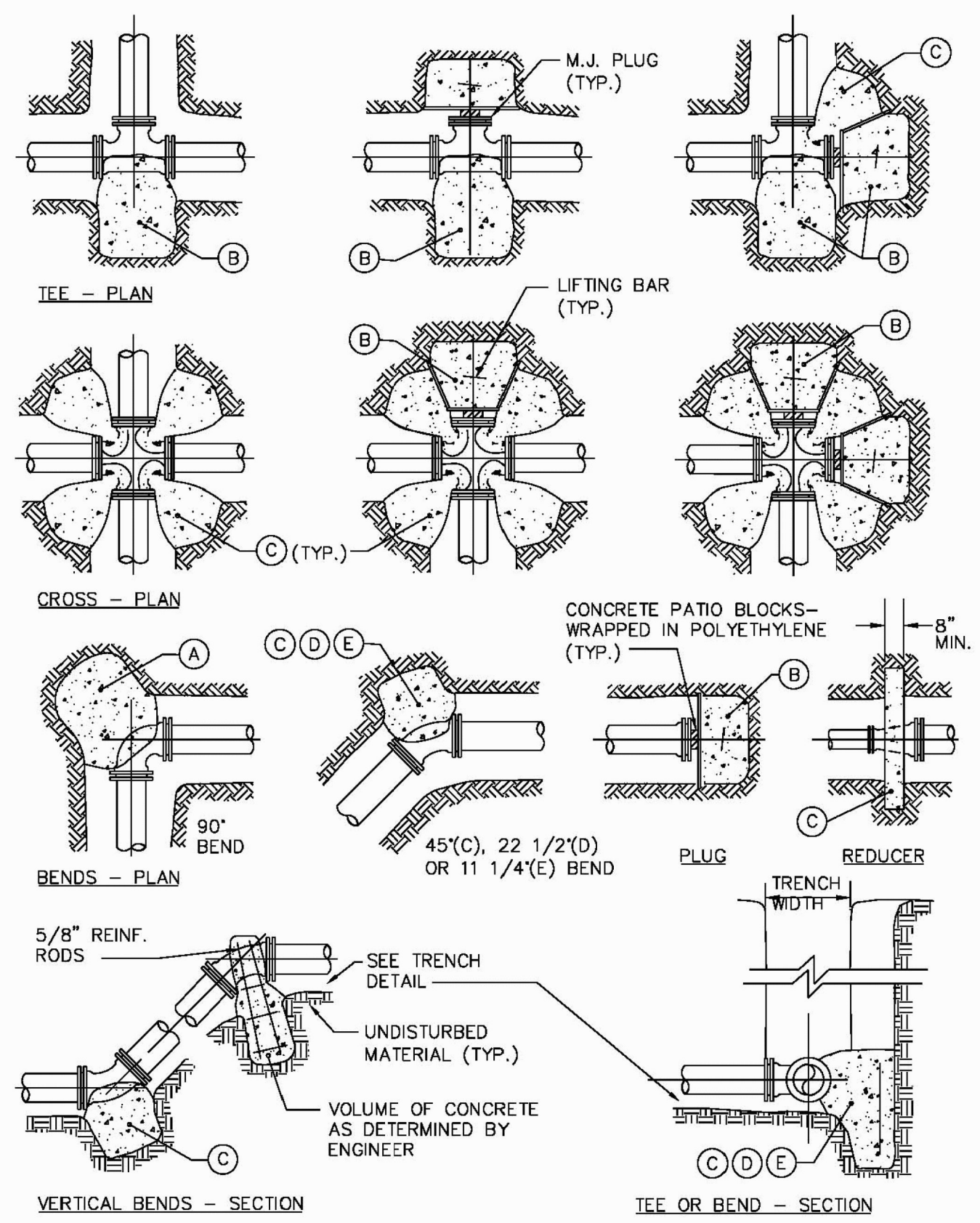
FORCE MAIN CONNECTION TO MANHOLE
NOT TO SCALE



FORCE MAIN CONNECTION TO MANHOLE
NOT TO SCALE



DUCTILE IRON FORCE MAIN TRENCH DETAIL
NOT TO SCALE



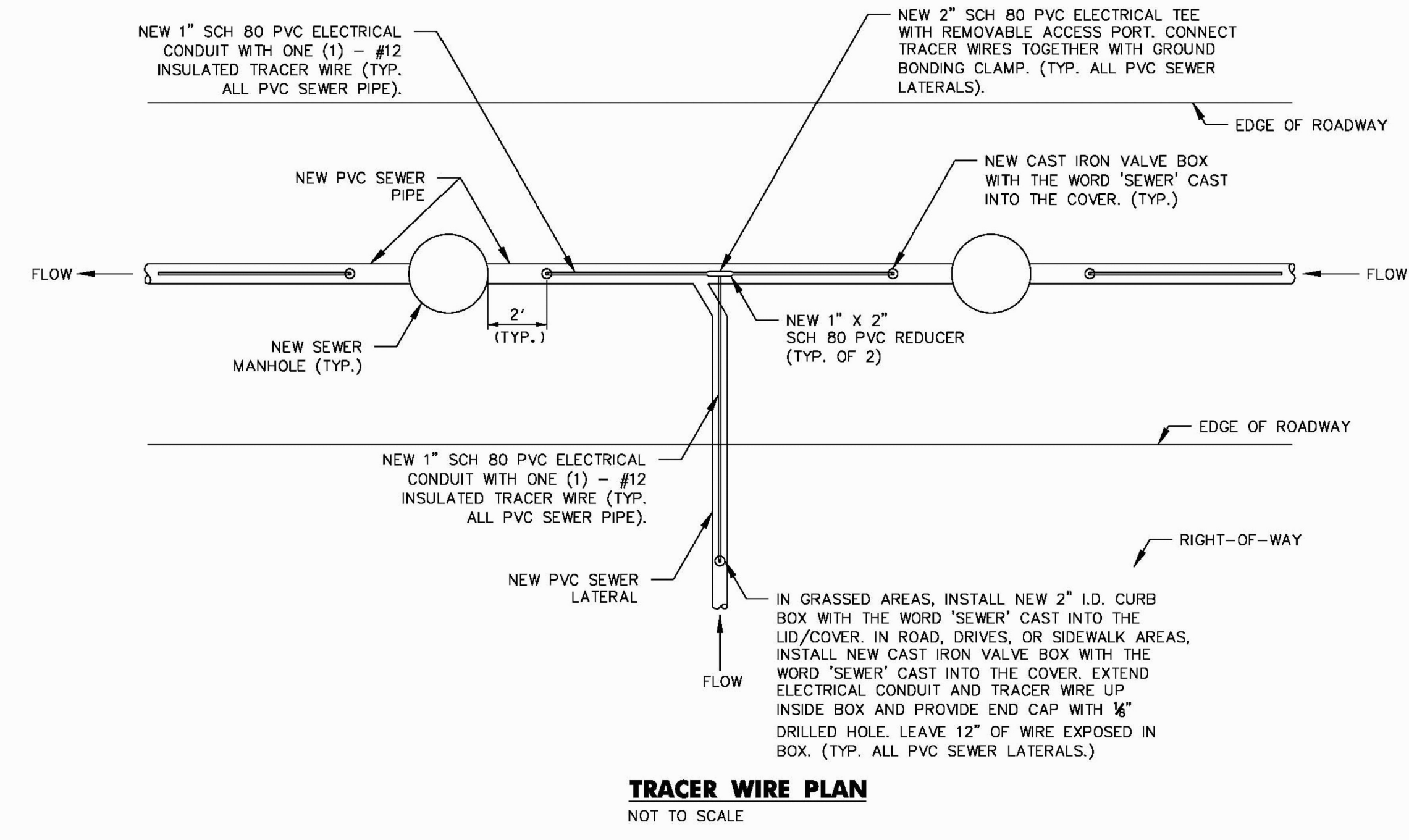
THRUST BLOCK DETAILS
NOT TO SCALE

- NOTES:**
- THRUST BLOCKS SHALL BE CONSTRUCTED WITH CLASS B CONCRETE. FOUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
 - ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
 - PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
 - REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT, AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
 - MEGALUG RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
 - ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
 - THREADED ROD SHALL BE ANSI A242 F550 PIPE RESTRAINT NUTS TO MATCH AWWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
 - THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR CROSSES.
 - INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.

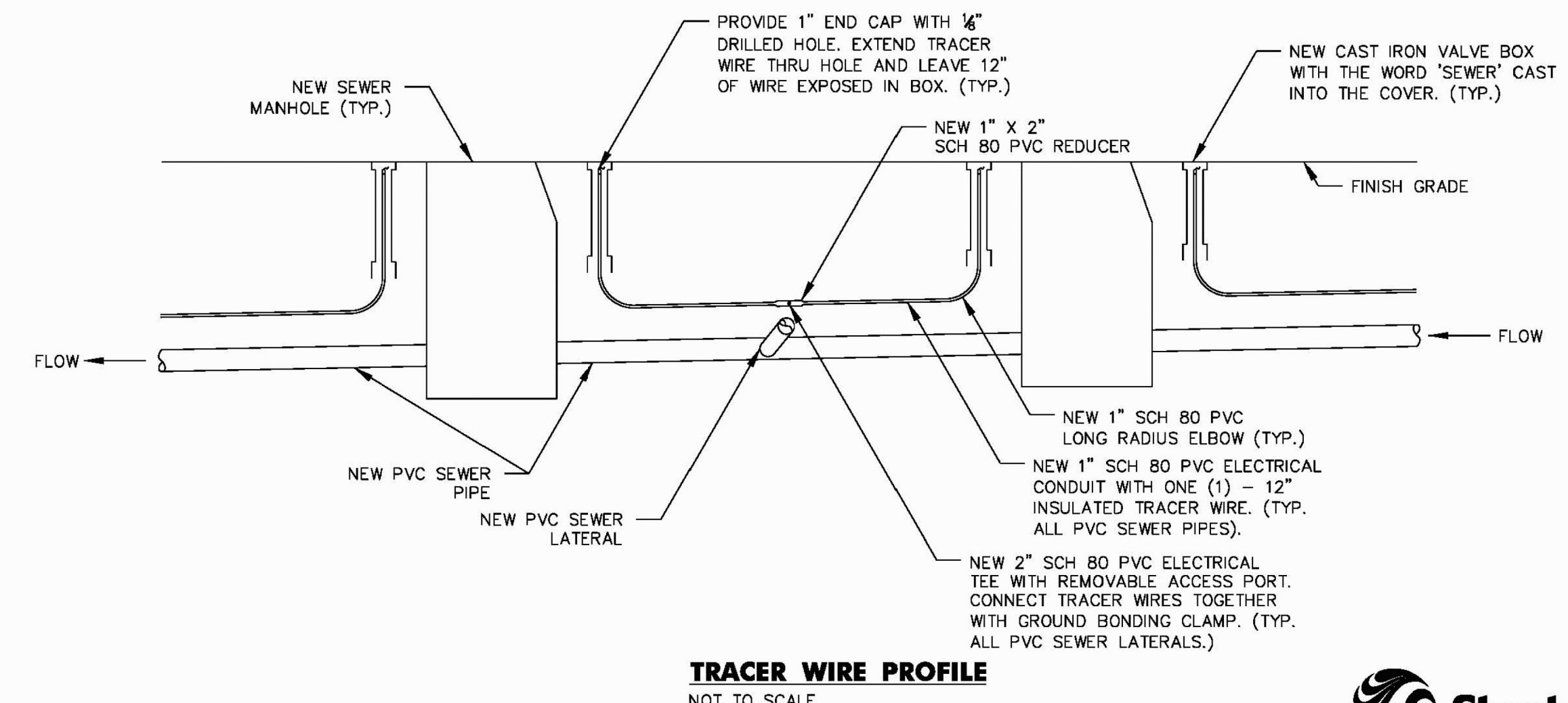
REACTION TYPE	THRUST BLOCK SCHEDULE SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL	
	4"	6"
(A)	0.89	2.19
(B)	0.65	1.55
(C)	0.48	1.19
(D)	0.25	0.60
(E)	0.13	0.30

OTHER TEST PRESSURES FOR THE ABOVE REACTIONS

SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 200 PSI TEST PRESSURE FOR ABOVE NUMBERS DOUBLE.



TRACER WIRE PLAN
NOT TO SCALE



TRACER WIRE PROFILE
NOT TO SCALE

- PVC SEWER PIPE TRACER WIRE NOTES:**
- CONTRACTOR SHALL INSTALL NEW 1" SCH 80 PVC ELECTRICAL CONDUIT WITH ONE (1) #12 TRACER WIRE OVER ALL NEWLY INSTALLED PVC SEWER PIPE, INCLUDING NEW PVC SEWER FORCE MAIN. TRACER WIRE IN ELECTRICAL CONDUIT SHALL BE INSTALLED AT THE TOP OF THE SEWER PIPE BEDDING MATERIAL. TRACER WIRE SHALL BE MADE ACCESSIBLE IN A CAST IRON VALVE BOX IN ROADWAYS, DRIVES AND SIDEWALK AREAS. IN GRASSED AREAS, TRACER WIRE SHALL BE MADE ACCESSIBLE IN A 2" I.D. CAST IRON CURB BOX. BOXES SERVING PVC SEWER LATERALS SHALL BE INSTALLED AT, BUT INSIDE, THE RIGHT-OF-WAY LINE.
 - CONDUIT IS NOT FOR ELECTRICAL PURPOSES. NATIONAL ELECTRICAL CODE (NEC) DOES NOT APPLY. USE IS FOR CONTAINMENT OF TRACER WIRE ONLY.
 - VALVE BOXES
 - ALL TRACER WIRE CONDUIT TERMINATIONS SHALL BE PROVIDED WITH VALVE BOXES IN ROADWAYS, DRIVES AND SIDEWALK AREAS.
 - VALVE BOXES SHALL BE CAST IRON, HEAVY PATTERN, SLIDING ADJUSTABLE TYPE WITH CAST IRON COVER.
 - THE UPPER SECTION SHALL HAVE A FLANGE TO PREVENT SETTLING.
 - BOXES SHALL HAVE BARRELS NOT LESS THAN 5 INCH INSIDE DIAMETER. THE BARRELS SHALL LAP AT LEAST 6 INCHES WHEN IN THE MOST EXTENDED POSITION.
 - THE WORD "SEWER" SHALL BE CAST INTO THE COVER.
 - CURB BOXES
 - ALL TRACER WIRE CONDUIT TERMINATIONS SHALL BE PROVIDED WITH CURB BOXES IN GRASSED AREAS.
 - CURB BOXES SHALL HAVE A CAST IRON BASE SECTION WITH A STEEL PIPE UPPER SECTION, ADJUSTABLE TYPE WITH CAST IRON LID/COVER. MINIMUM INSIDE DIAMETER SHALL BE 2".
 - THE WORD "SEWER" SHALL BE CAST INTO THE LID/COVER.
 - COPPER TRACER WIRE SHALL BE INSULATED #12 AWG SOLID WIRE FOR DIRECT BURY.
 - ELECTRICAL CONDUIT AND FITTINGS SHALL BE RIGID NON-METALLIC SCH 80 PVC.
 - ELECTRICAL TEES WITH REMOVABLE ACCESS PORT SHALL BE RIGID NON-METALLIC.
 - PAYMENT FOR PVC SEWER PIPE TRACER WIRE AND ALL APPURTENANCES INCLUDING, BUT NOT LIMITED TO, WIRE, CONDUIT, FITTINGS, VALVE BOXES, AND CURB BOXES IS TO BE INCIDENTAL TO ITEM 900.6403 SPECIAL PROVISION (PVC SEWER PIPE) (8"), ITEM 900.6402 SPECIAL PROVISION (PVC SEWER PIPE) (6"), ITEM 900.6401 SPECIAL PROVISION (PVC SEWER PIPE) (4") AND ITEM 900.6404 SPECIAL PROVISION (SANITARY SEWER FORCE MAIN) (2") (SDR 26 PVC).

RECORD DRAWING
DATE: DECEMBER 21, 2012

REVISION	BY	DATE
△	REVIEW COMMENTS	DMC 11/5/10

PROJECT NAME: COLCHESTER CAMPUS CONNECTOR
PROJECT NUMBER: TCSP TCSE (007)

FILE NAME: ...N13-I14.Sewerdet.ptf **PLOT DATE:** 12/2/2010
PROJECT LEADER: JBL **DRAWN BY:** RAW
DESIGNED BY: TDM **CHECKED BY:** DMC
SEWER DETAIL SEW-2 **SHEET 110 OF 153**

