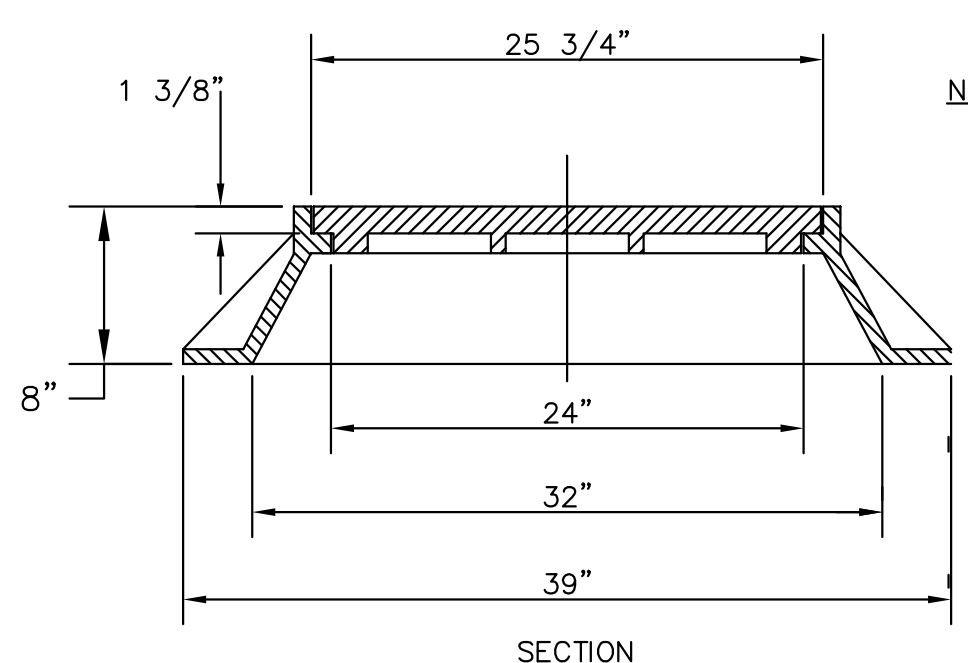
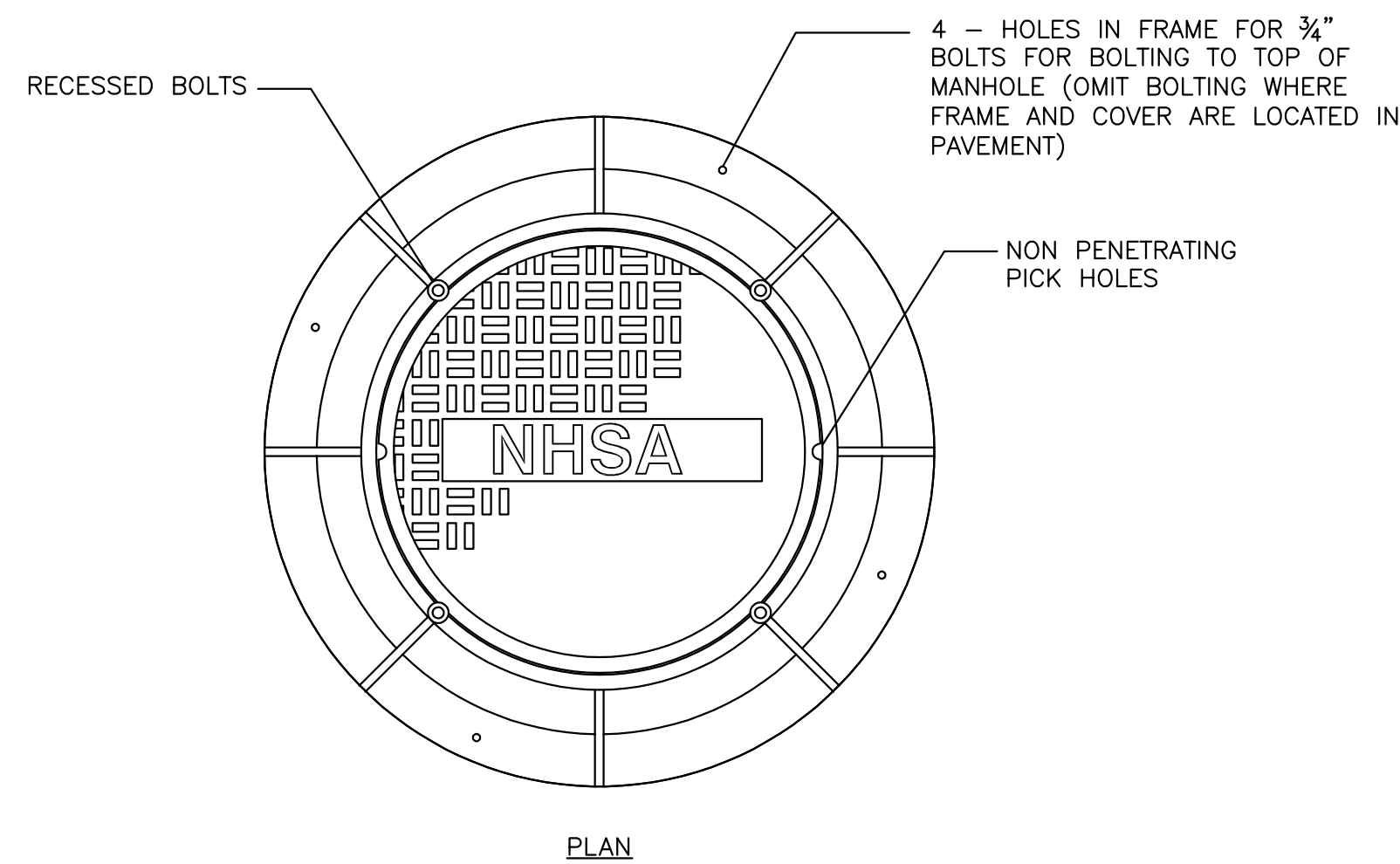


DOGHOUSE MANHOLE DETAIL NOT TO SCALE

NOTES:

1. DOES NOT APPLY TO LARGE DIAMETER SEWERS. LARGER SEWER CONNECTIONS ARE TO BE CUSTOMIZED.

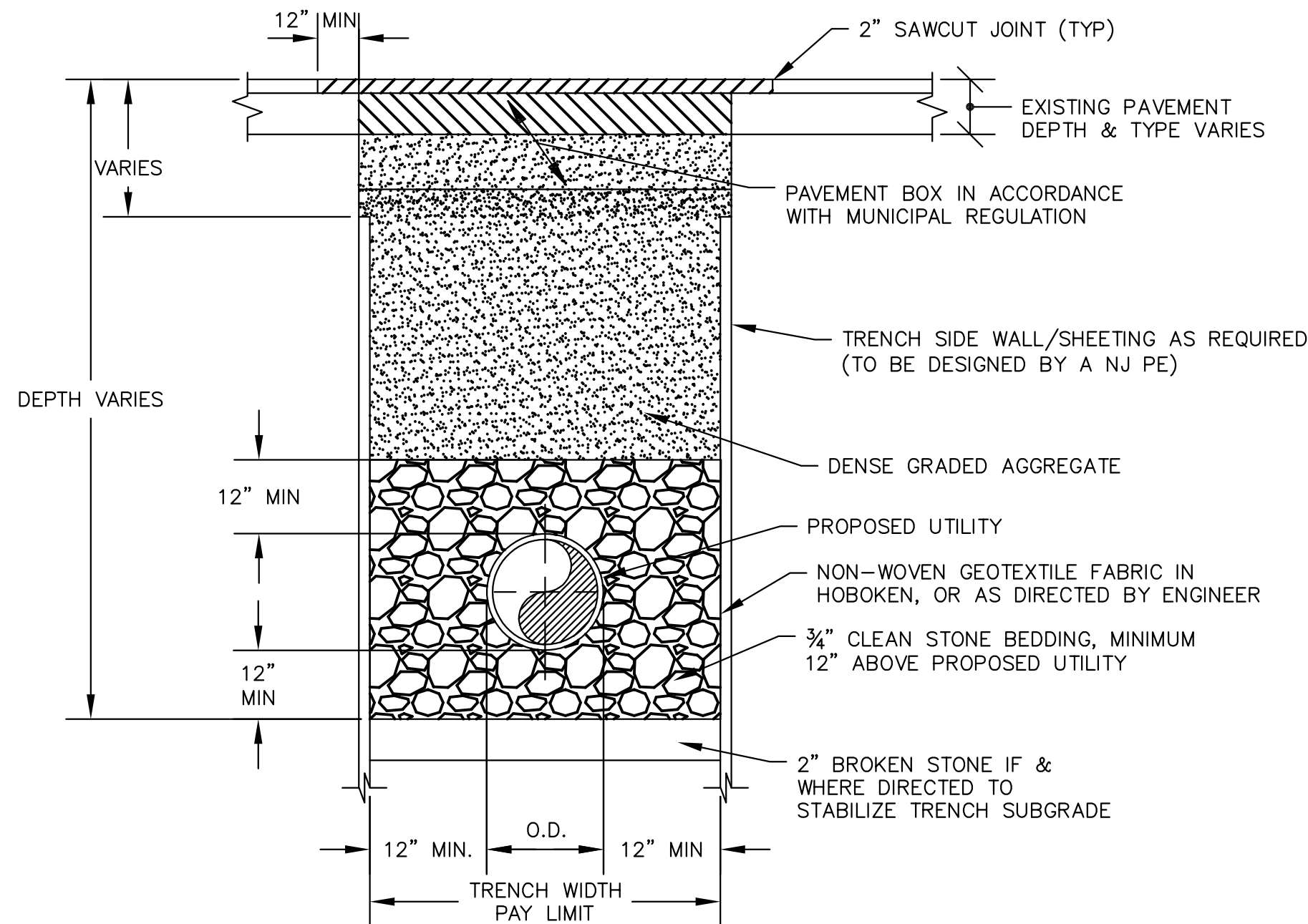


DETAIL OF STANDARD MANHOLE FRAME AND COVER MODEL 1203B WATERTIGHT

MANHOLE FRAME AND COVER DETAILS NOT TO SCALE

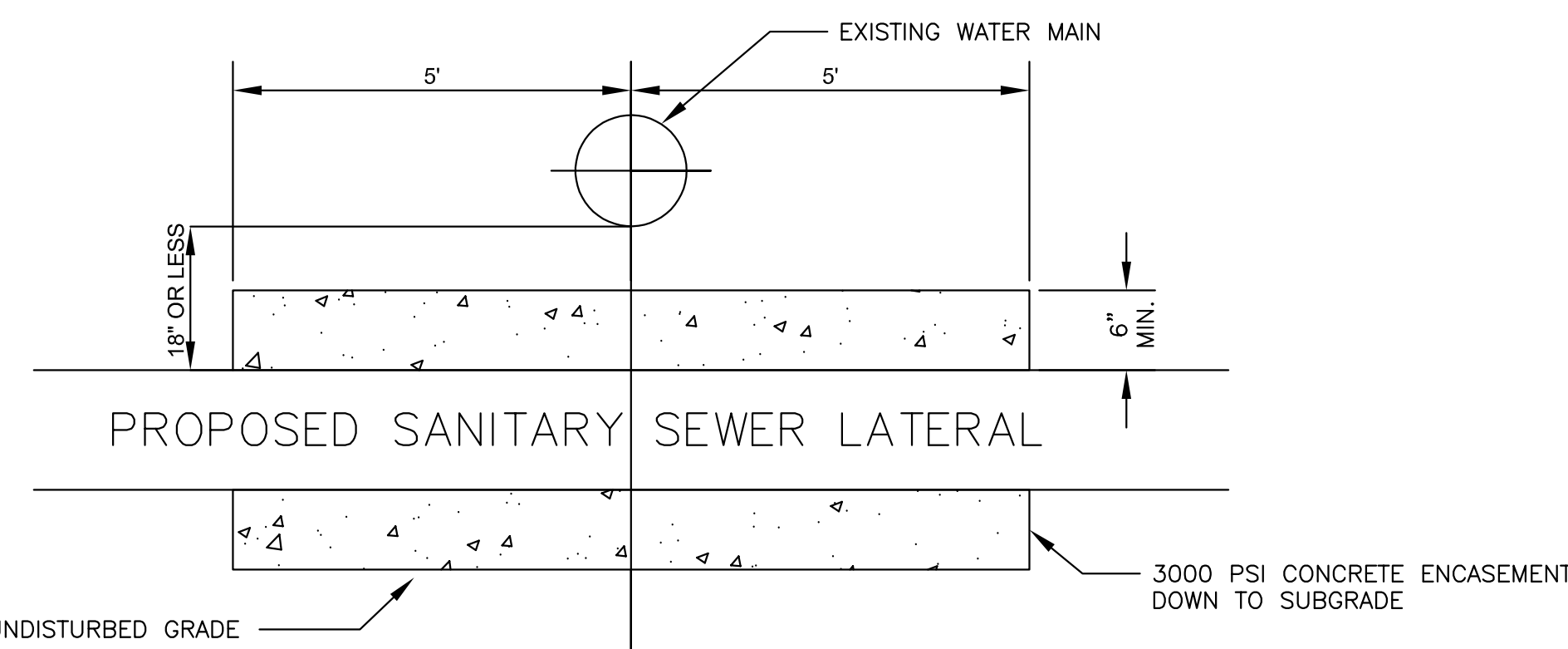
NOTES:

1. MANHOLE COVERS SHALL BE A STANDARD CAMPBELL FOUNDRY 1203B COVER, OR EQUAL, WHEN NECESSARY, COVER SHALL BE WATER TIGHT.
2. MANHOLE FRAMES AND COVERS SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS:
 - MATERIAL - GRAY CAST IRON ASTM A48-83, CLASS 35.
 - AASHTO HS20-44 HIGHWAY LOADING.
 - BEARING SURFACE AT SEAT OF FRAME AND COVER SHALL BE MACHINED FOR UNIFORMITY.



- NOTES:
1. FOR MAJOR UTILITY WORK, REPAIR WIDTH AND LENGTH (MILLING AND PAVING) TO BE A MINIMUM OF 3' PAST TRENCH OPENING OR AS DETERMINED BY THE ENGINEER OR AS SHOWN ON THE PLANS.

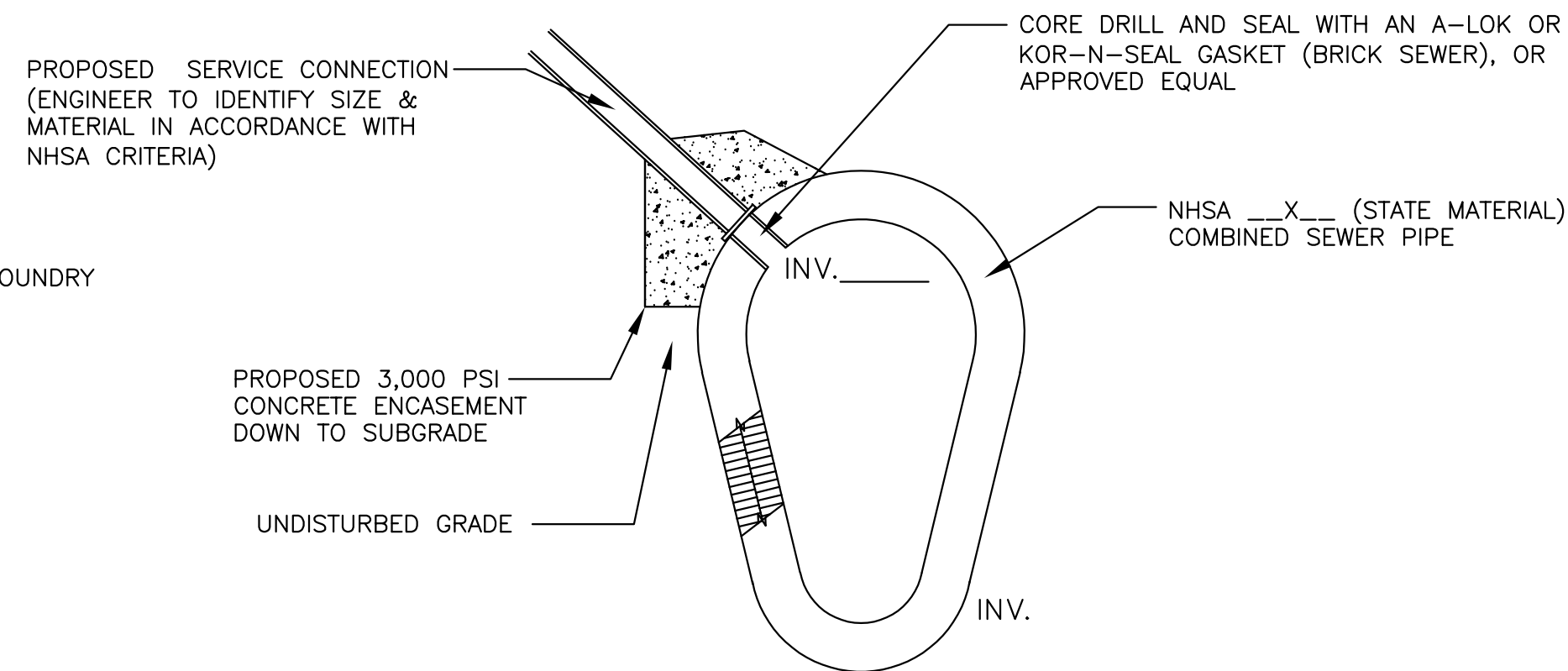
TYPICAL TRENCH AND PAVEMENT RESTORATION DETAIL NOT TO SCALE



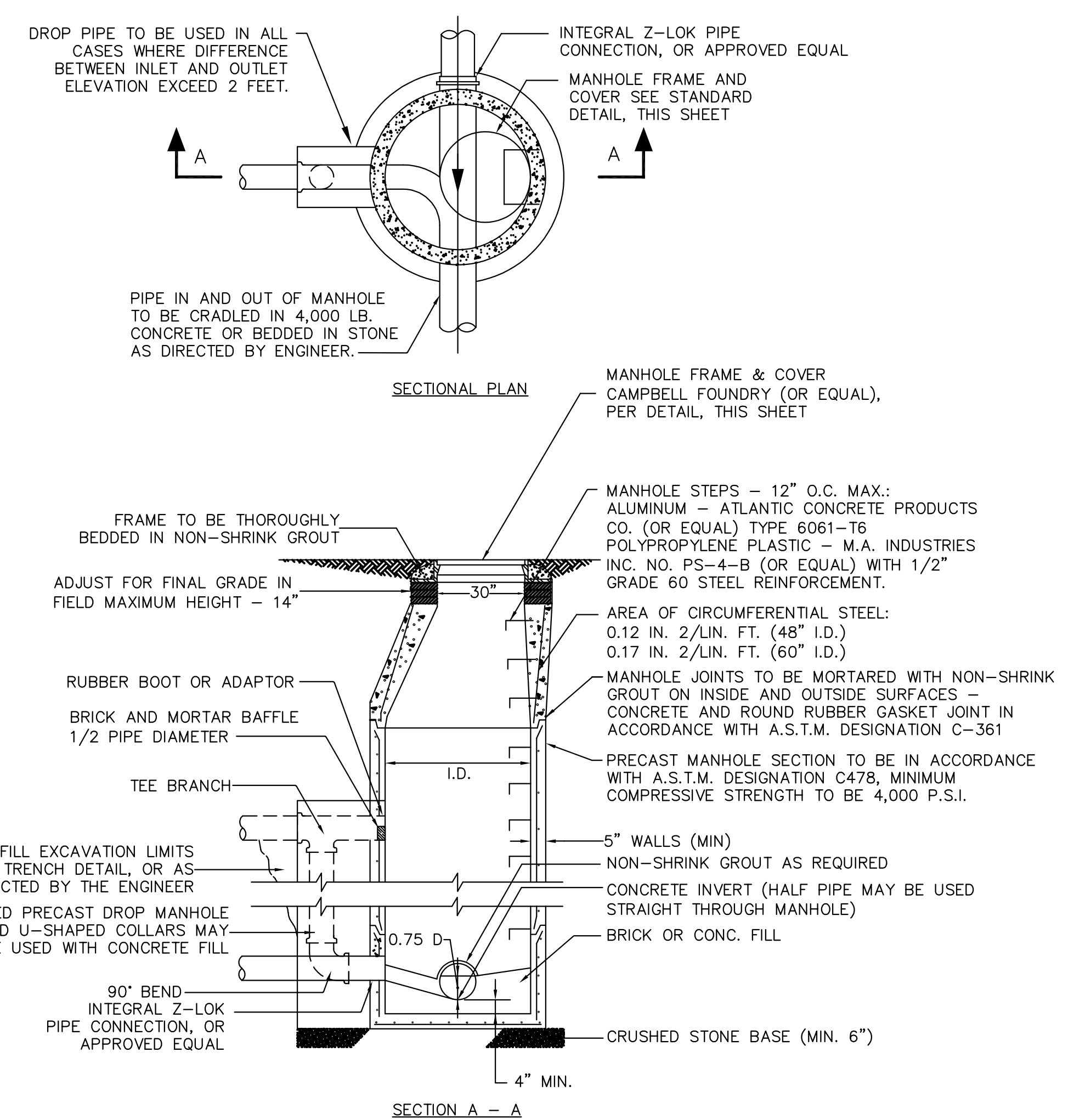
NOTES:

1. WHERE APPROPRIATE SEPARATION FROM THE WATER MAIN IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP ON JOINTS FOR A DISTANCE OF AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE.

CONCRETE ENCASEMENT FOR WATER MAIN SEPARATION



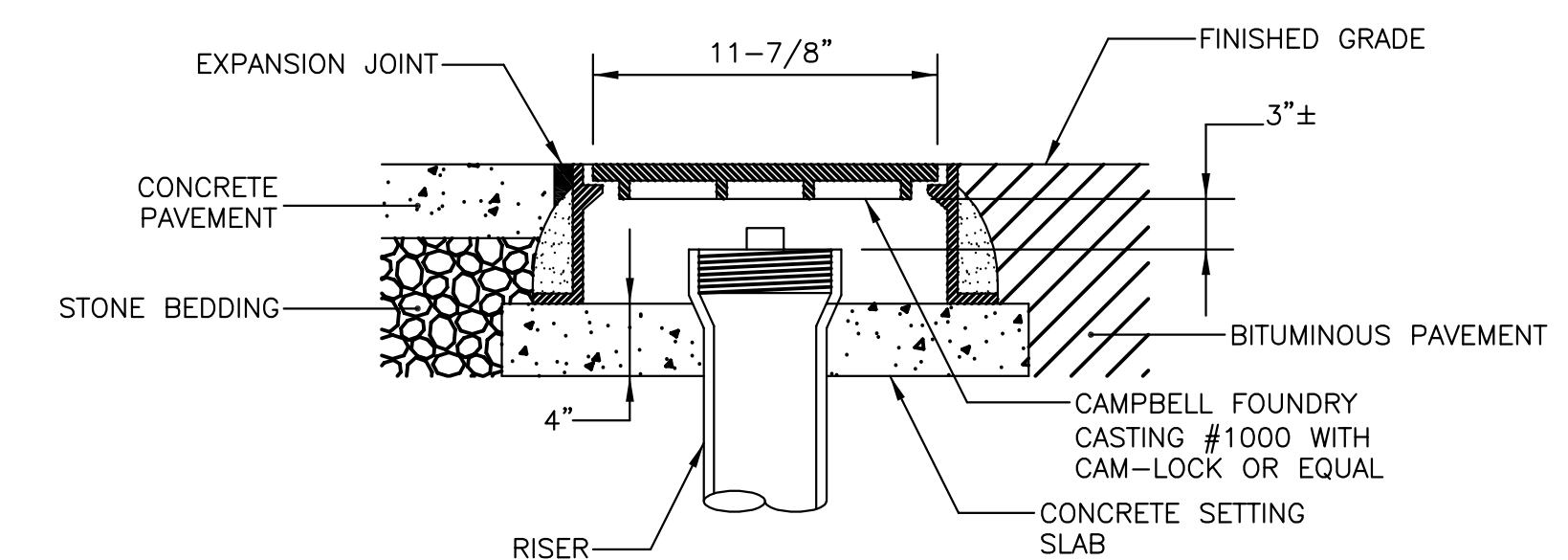
COMBINED CONNECTION DETAIL (FOR NON-CIRCULAR OR BRICK SEWER)



STANDARD SANITARY MANHOLE AND DROP CONNECTION DETAIL NOT TO SCALE

NOTES:

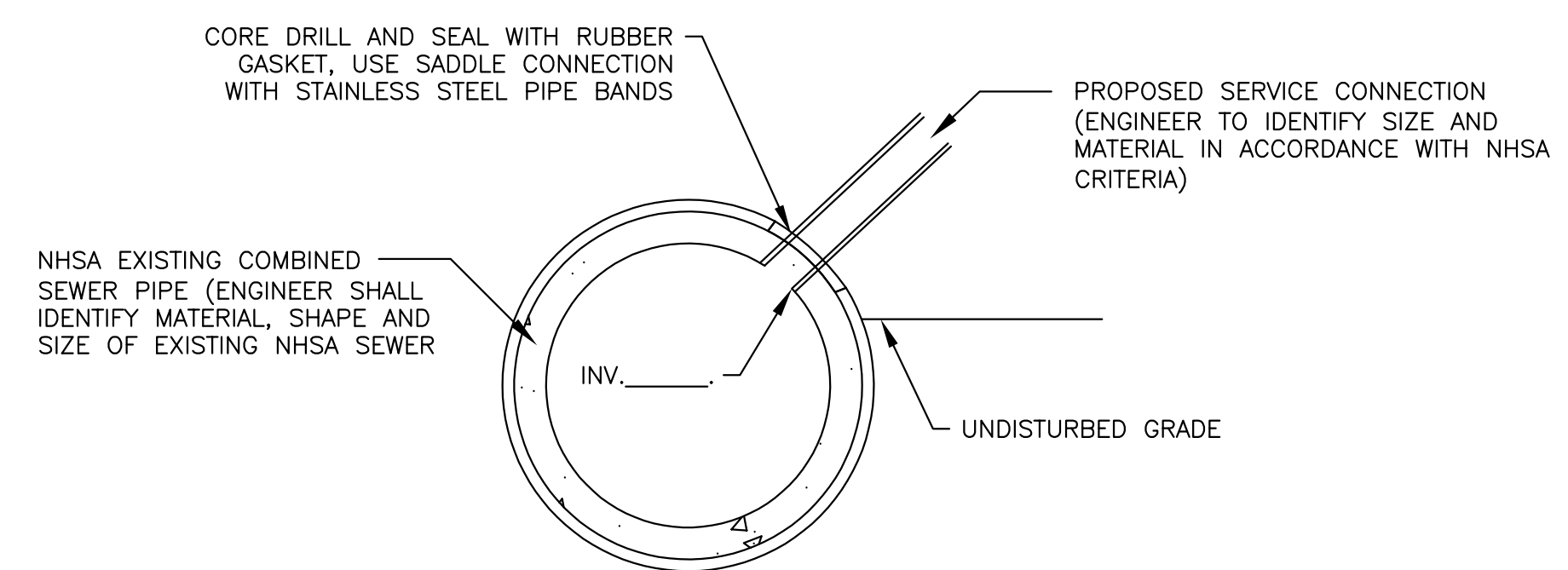
1. ENTIRE EXTERIOR TO RECEIVE COATING OF BITUMINOUS SEALER.
2. LATERAL CONNECTIONS INTO EXISTING MANHOLES SHALL NOT BE USED.
3. ALL LIFT HOLES, PIPE CUTOUPS, ETC. ARE TO BE MORTAR PLUGGED PRIOR TO PLASTERING.



CLEANOUT RISER ACCESS COVER DETAIL FOR PAVED AREAS NOT TO SCALE

NOTE:

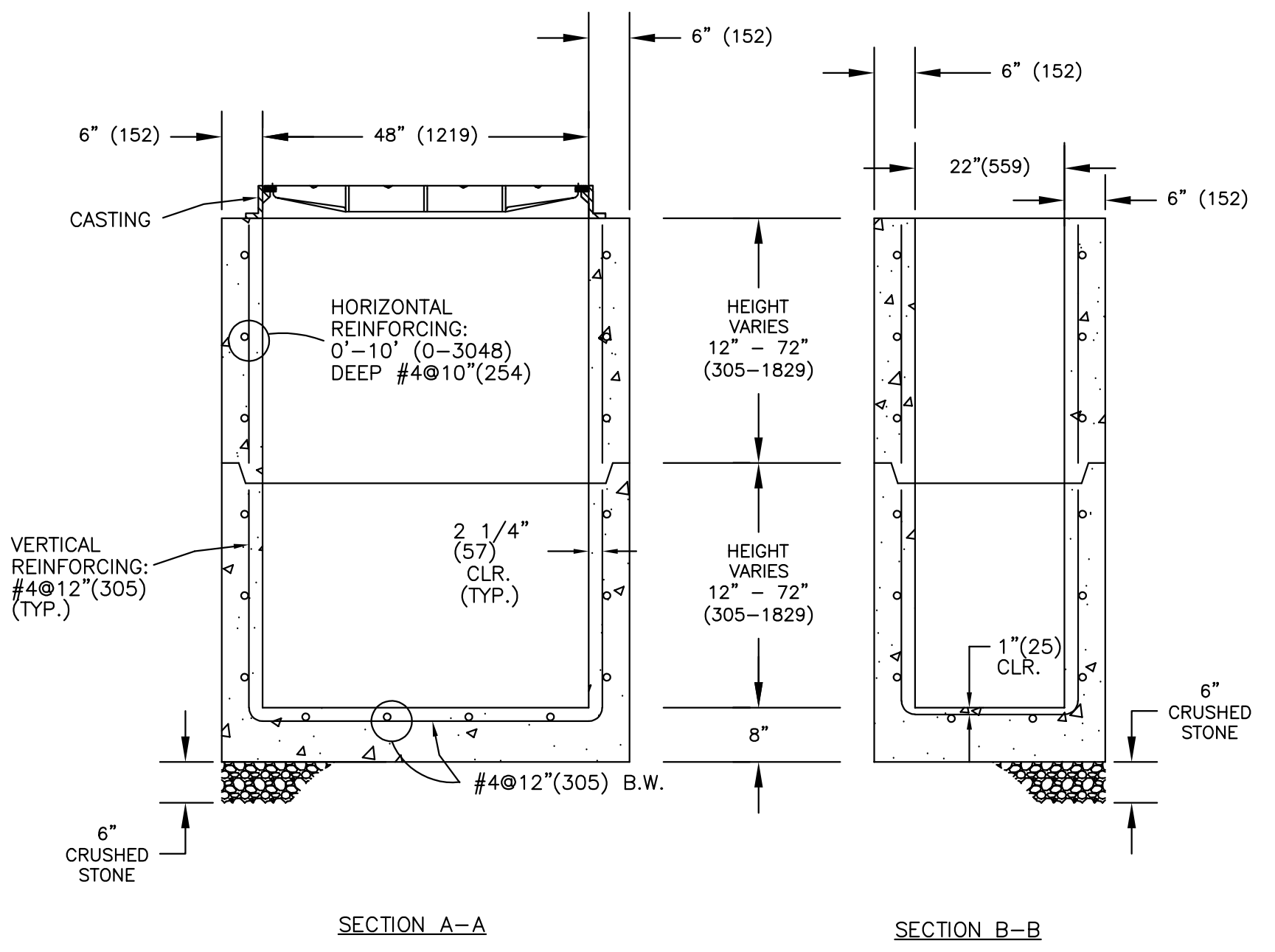
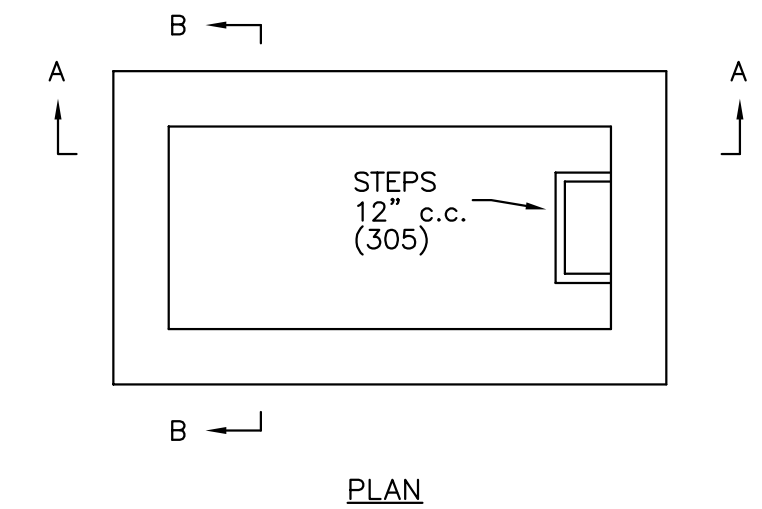
- FOR ALL LATERALS, RISER COVER SHALL BE LOCATED OUTSIDE THE R.O.W. AND BE MAINTAINED BY THE OWNER



COMBINED CONNECTION DETAIL FOR CIRCULAR PIPES

KEVIN P. WYNN, P.E. Professional Engineer - N.J. Lic. No. 39025	Date Approved Checked Drawn Designed	Date	Approved KPW	Date
		Date	Approved KPW	Date
		Date	Approved KPW	Date
		Date	Approved KPW	Date
NORTH HUDSON SEWERAGE AUTHORITY HUDSON COUNTY, NEW JERSEY NORTH HUDSON SEWERAGE AUTHORITY SEWER CONNECTION DETAILS	MOTT McDONALD Certificate No. 24GA28016600 111 Wood Avenue South Iselin, New Jersey 08830	SHEET 1	No. D-1	334212
1	Total 1	Contract No.		

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STATE OF NJ
 PRECAST CONCRETE INLET
 SHALLOW TYPE "A"
 NOT TO SCALE

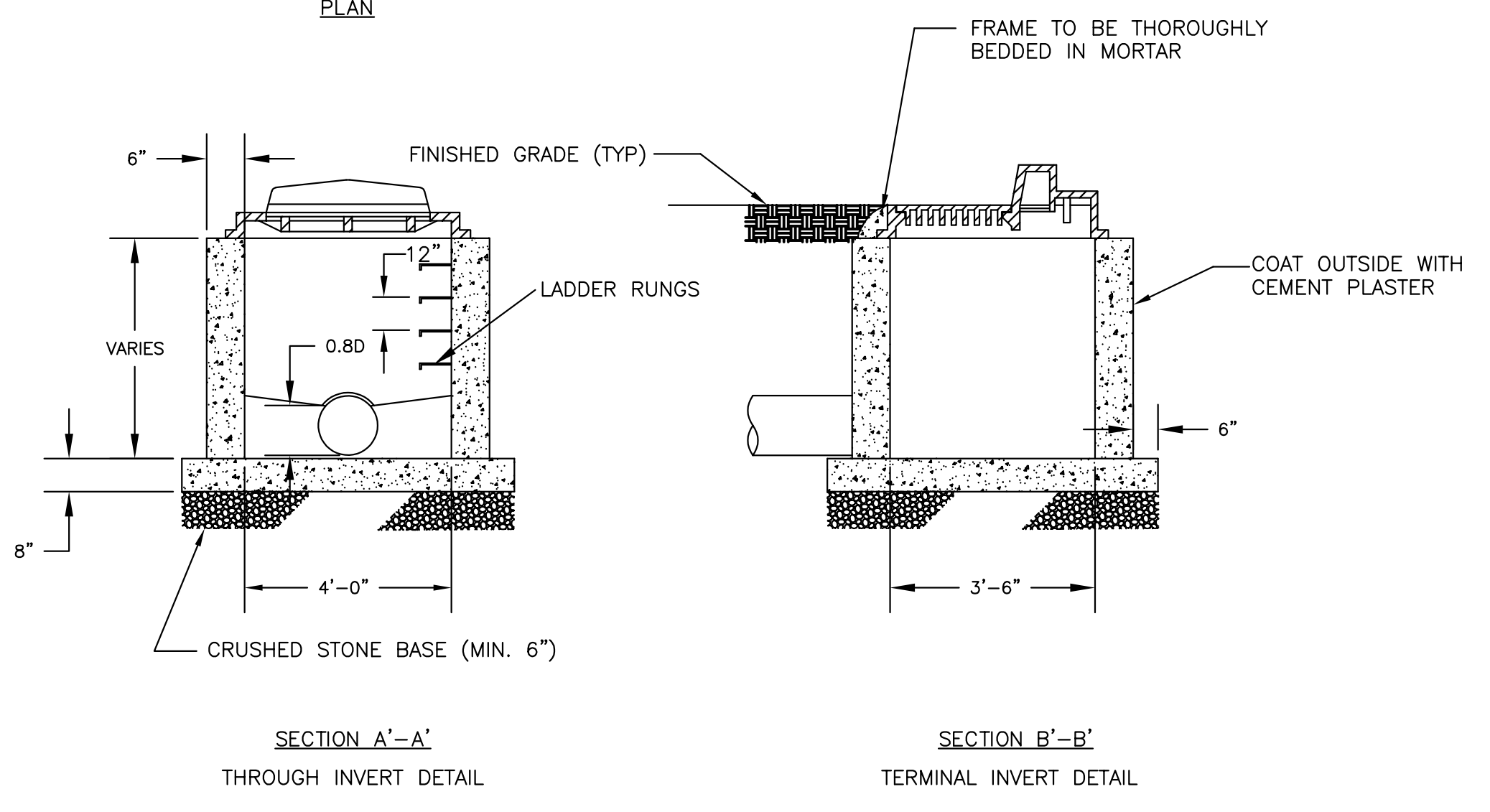
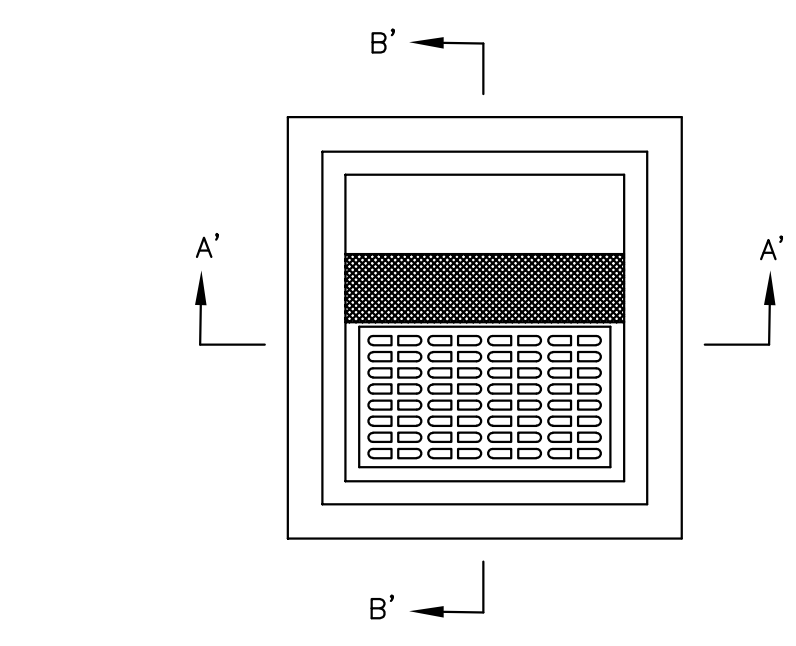
SPECIFICATIONS:

1. CONCRETE IS TO OBTAIN A STRENGTH OF 4,000 PSI. (27 MPa) IN 28 DAYS.
2. REINFORCING STEEL TO HAVE A YIELD STRENGTH OF 60,000 PSI (414 MPa).
3. THE INLET TO MEET THE REQUIREMENTS OF ASTM C-913 "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES"
4. THE WALLS AND BASE SLAB TO BE DESIGNED FOR A MINIMUM EARTH COVER OF 10FT. (3048) (EARTH COVER = FINISH GRADE TO TOP OF BASE SLAB.
5. BOX TO BE DESIGNED TO MEET NJ DOT SPECS.

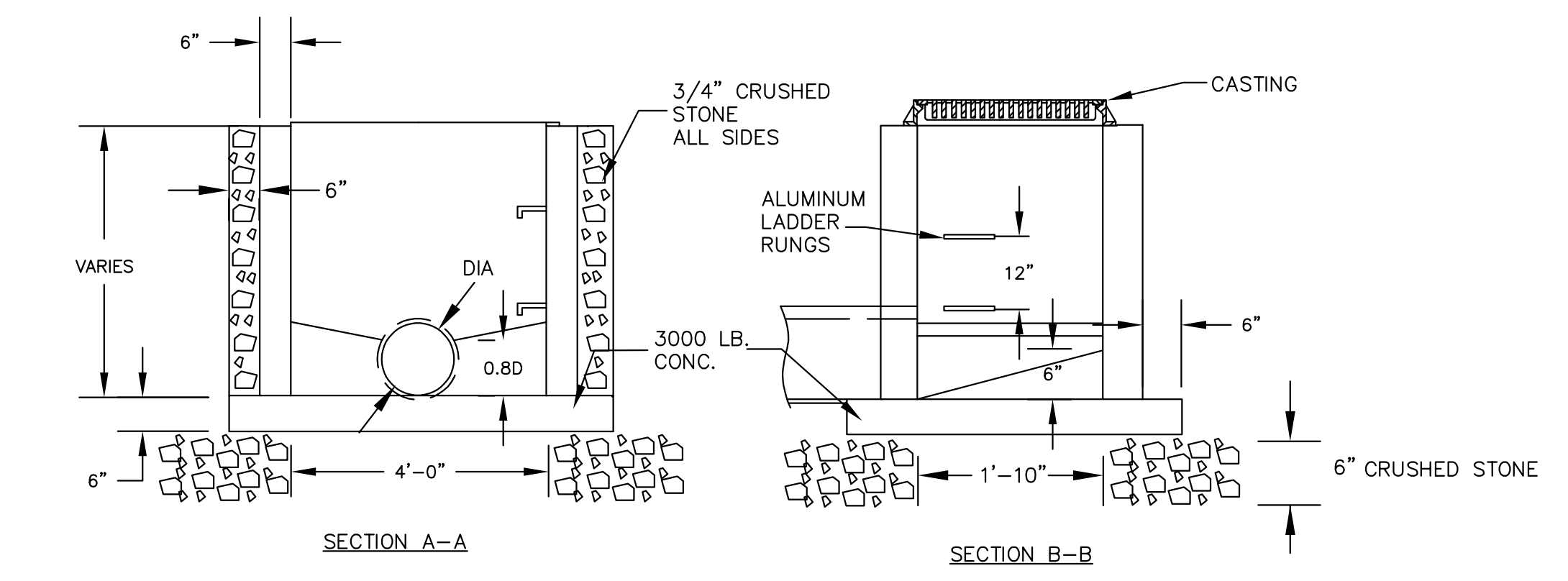
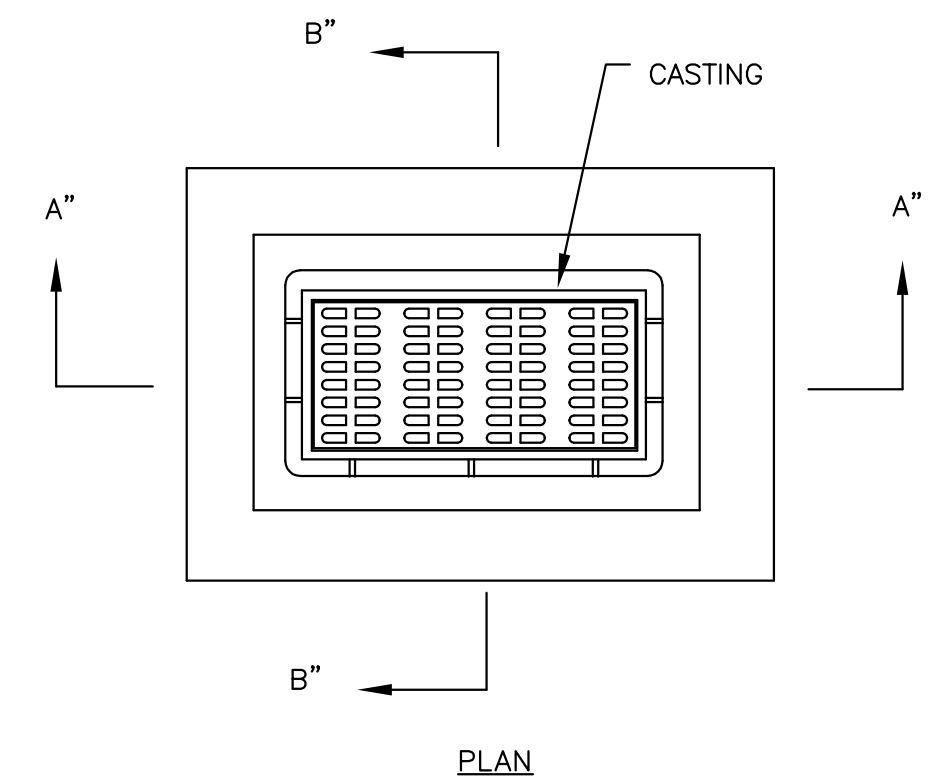
PRECAST CONCRETE STRUCTURE TO BE WET CAST WITH MONOLITHIC BASE SECTION, AS MANUFACTURED BY ATLANTIC CONCRETE PRODUCTS, OR APPROVED EQUAL.

ALL DIMENSIONS IN (PARENTHESES) ARE MILLIMETERS, UNLESS OTHERWISE NOTED.

- NOTES:**
1. FOOTING TO BE N.J.D.O.T., CLASS "C"
 2. INVERT TO BE CLASS "C" CONCRETE
 3. IF WALL CONSTRUCTION IS OTHER THAN CONCRETE, THE WALLS SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER.
 4. FRAME AND GRATE TO BE NO. 2617 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL.
 5. PROVIDE POLYPROPYLENE LADDER RUNGS @ 12" CENTER TO CENTER.
 6. WHEN ADDITIONAL DEPTH IS SCHEDULED WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT, SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" WIDTH AND TO 12" IN DEPTH.
 7. CURB HEAD TO BE 6", OR 8" BASED ON CURB HEIGHT. TYPE N CURB PIECE.



TYPE "B" INLET
 (NOT TO SCALE)



TYPE "A" INLET
 NOT TO SCALE

- NOTES:**
1. FOOTING TO BE N.J.D.O.T., CLASS "C" CONC.
 2. INVERT TO BE CLASS "C" CONC.
 3. IF WALL CONSTRUCTION IS OTHER THAN CONCRETE, THE WALLS SHALL BE 6" CONCRETE SOLID MANHOLE BLOCKS, ALTERNATE VERTICAL JOINTS TO BE UNMORTARED.
 4. FRAME AND GRATE TO BE #3405 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR EQUAL. BICYCLE GRATE SHALL BE USED.
 5. PROVIDE ALUMINUM LADDER RINGS @ 12" CENTER TO CENTER.
 6. WHEN ADDITIONAL DEPTH IS SCHEDULED, WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" WIDTH AND TO 12' DEPTH.
 7. FOUNDATIONS AND INVERT TO BE CONSTRUCTED IN TWO STAGES. THE TOP OF FOUNDATION TO BE LEFT ROUGH.

KEVIN P. WYNN, P.E. Professional Engineer - N.J. Lic. No. 39025		Date Approved Checked Drawn Designed	Date Approved Checked Drawn Designed
Certificate No. 24GA28016000 111 Wood Avenue South Iselin, New Jersey 08830		NORTH HUDSON SEWERAGE AUTHORITY HUDSON COUNTY, NEW JERSEY NORTH HUDSON SEWERAGE AUTHORITY SEWER CONNECTION DETAILS SHEET 2	
xx	No. D-2	B/O 2	Total 2