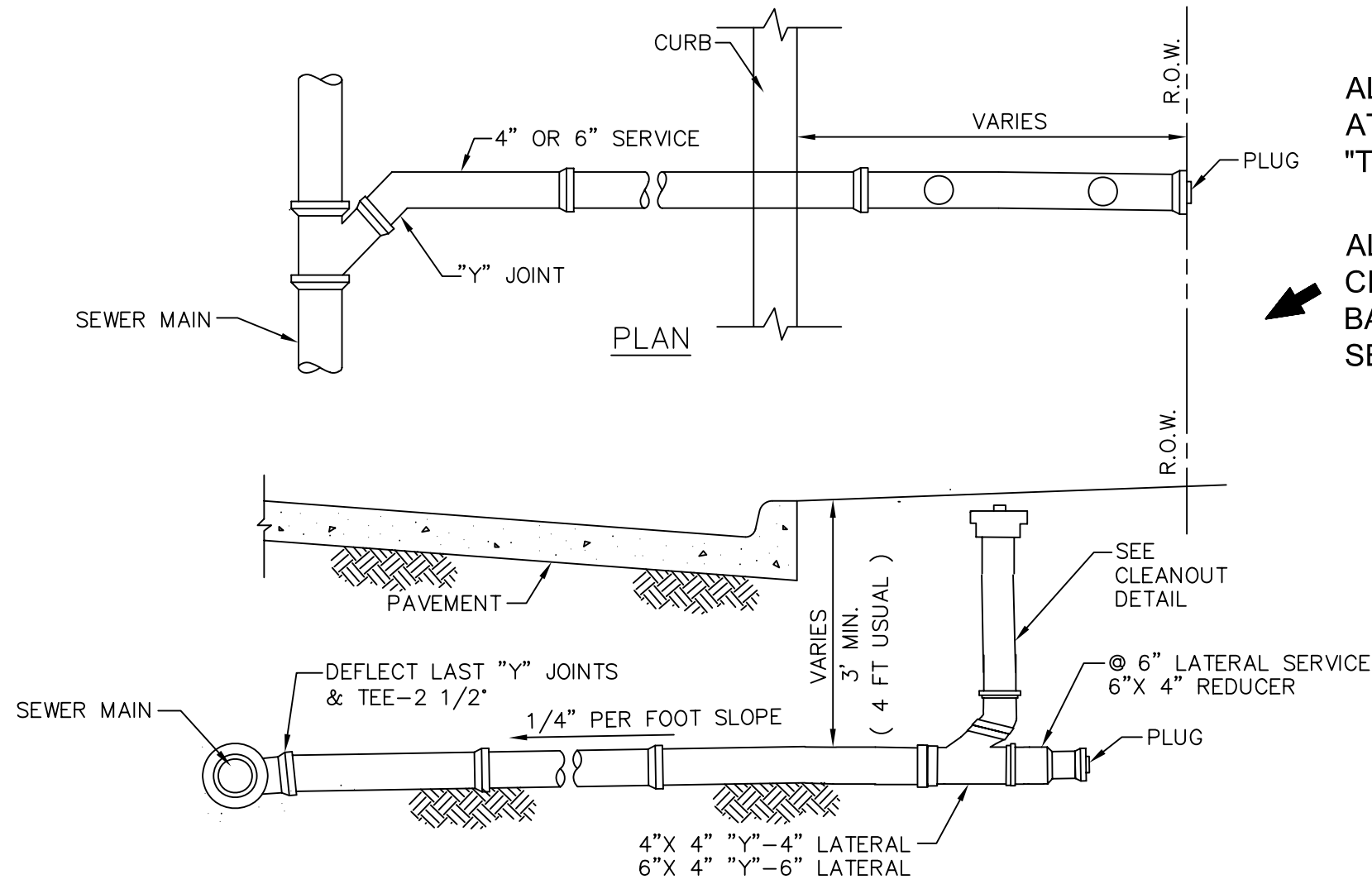


REVISIONS	
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NOTE: PRIOR TO CONSTRUCTION, CONTRACTOR SHALL SUBMIT TO THE PUBLIC WORKS DEPT. A LISTING OF ALL MATERIALS TO BE USED. NO WORK SHALL BE UNDERTAKEN PRIOR TO WRITTEN APPROVAL OF THE MATERIAL LIST BY THE CITY PUBLIC WORKS DEPT.



TYPICAL SEWER SERVICE

NOTE:
CONTRACTOR TO SUPPLY
LOCATION ON AS BUILT

TABLE OF QUANTITIES OF CONCRETE AND GRAVEL IN CUBIC YARDS PER 100 LINEAR FEET						
PIPE DIAMETER IN INCHES	PIPE MATERIAL	OUTSIDE DIAMETER "O.D."	TRENCH WIDTH IN INCHES "B"	CRUSHED STONE IN EARTH	IN ROCK	CONCRETE BACKFILL
8	VCP	10.3	26	4.4	6.5	11.50
8	PVC	8.4	25	4.7	4.7	10.10
12	VCP	16.0	32	6.5	8.9	16.20
12	PVC	12.5	29	6.5	6.5	13.30
15	VCP	19.5	36	7.9	10.6	19.20
15	PVC	15.3	31	7.9	7.9	15.60

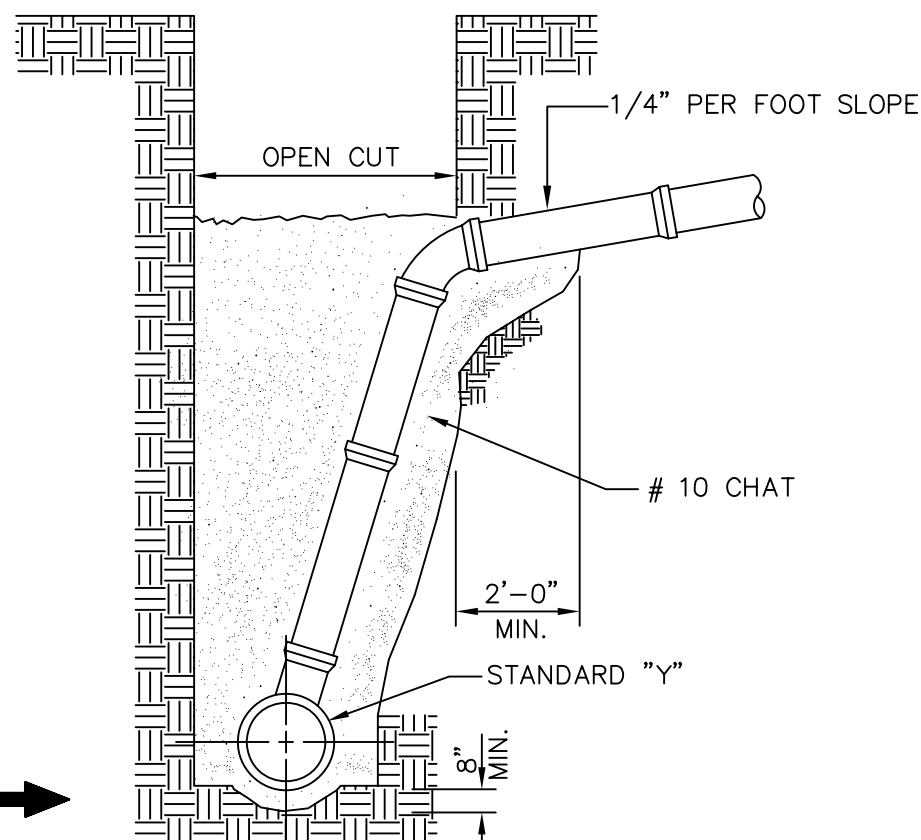
GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENT OF "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" PUBLISHED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
2. UNLESS OTHERWISE NOTED ALL SANITARY SEWER MAINS AND LATERALS TO BE P.V.C. SEWER PIPE CONFORMING TO ASTM D-2241 WITH A WALL THICKNESS CONFORMING TO SDR-26 WITH ELASTOMERIC GASKET JOINTS CONFORMING TO ASTM D-3139 IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. THE CONTRACTOR WILL BE REQUIRED TO TEST ALL NEW MANHOLES BY VACUUM TEST.
4. EXISTING BRICK MANHOLES SHALL HAVE AN 500 MIL SPRAY APPLIED MONOLITHIC HIGHBUILD EPOXY COATING INSTALLED. (SPECTRA SHIELD LINER SYSTEM OR RAVEN SHIELD OR APPROVED EQUAL)
5. THE CONTRACTOR WILL BE REQUIRED TO AIR TEST ALL LINES, EXCEPT WHERE AIR TESTING CANNOT BE PERFORMED, AN INFILTRATION TEST SHALL BE PERFORMED.
6. PIPE SHALL BE CHECKED AFTER INSTALLATION BY USING A GO-NO-GO MANDREL.
7. IF TOWN OF PANTEGO SANITARY SEWER MAINS AND LATERALS ARE WITHIN A PROJECT'S LIMITS OF CONSTRUCTION, VIDEO INSPECTION OF THOSE EXISTING LINES SHALL BE REQUIRED AT THE BEGINNING OF CONSTRUCTION. THE INSPECTION SHALL BE ACCOMPLISHED BY THE CONTRACTOR. ACCESS FOR VIDEO INSPECTIONS MAY NEED TO BE AT MANHOLES WHICH LIE OUTSIDE THE LIMITS OF CONSTRUCTION.
8. ALL VIDEO WORK IS TO BE PERFORMED WITH CITY INSPECTOR ON SITE. CONTRACTOR SHALL PROVIDE THE TOWN INSPECTOR WITH 48 HOUR NOTICE PRIOR TO VIDEO WORK BEGINNING.
9. WHEN CONTRACTOR PERFORMS VIDEO INSPECTION OF ANY SANITARY SEWER LINE AND THERE IS A VERTICAL SEWER CONNECTION, THE TRUE DIRECTION OF THE SERVICE LINE SHALL BE DETERMINED BY THE CONTRACTOR. THIS SHALL BE ACCOMPLISHED BY DYE TESTING WHILE VIDEO TAPING OR BY DIGGING UP THE SERVICE LINE.
10. ALL NEW SANITARY SEWER MAINS AND LATERALS SHALL BE INSPECTED BY PHOTOGRAPHIC MEANS, IN COLOR. COPIES OF ALL TAPES SHALL BE PROVIDED TO THE TOWN OF PANTEGO. MAINS AND LATERALS SHALL BE INSPECTED PRIOR TO PLACING OF FORMS AND SETTING OF REINFORCING STEEL FOR PAVING.
11. CONTRACTOR SHALL PROVIDE VIDEO INSPECTION OF ALL/ANY REPAIRS TO EXISTING SEWER MAINS OR LATERALS DUE TO DAMAGE CAUSED BY THE GENERAL CONTRACTOR OR SUBCONTRACTORS.
12. A FINAL VIDEO INSPECTION OF ALL TOWN OF PANTEGO'S MAINS AND LATERALS (NEW OR EXISTING) SHALL BE REQUIRED AFTER ALL CONSTRUCTION ACTIVITIES ARE COMPLETE. NO PROJECT WILL BE ACCEPTED WITHOUT THIS INSPECTION.
13. THE ACTUAL LOCATIONS & ELEVATIONS OF EXISTING UTILITIES CRITICAL TO THE DESIGN SHALL BE VERIFIED BY FIELD SURVEY BY THE CONTRACTOR.
14. ALL SEWER LATERALS, MANHOLES & MAINLINE CLEANOUTS BEHIND CURBS SHALL BE MARKED WITH APPROPRIATE PLASTIC CURB MARKERS. THE CURB MARKER SHALL BE APPLIED WITH ADHESIVE & MARKED WITH PROPER IDENTIFICATION. USE "das curb marker" OR APPROVED EQUAL. TOWN APPROVAL OF THE MARKER SHALL BE REQUIRED PRIOR TO PLACEMENT ON THE CURB.
15. DITCH DENSITY SHALL BE 90% OF MAXIMUM DENSITY IN AREAS NOT UNDER PAYMENT AND 95% OF MAXIMUM DENSITY IN AREAS UNDER PAVEMENT AFTER COMPACTING, AS DETERMINED BY ASTM D698.
16. UNLESS OTHERWISE NOTED THE HOUSE SERVICE SHALL BE 4" DIAMETER AND BE LOCATED 5' OFFSET FROM LOT CENTER LINE AND 10' OFFSET TO WATER SERVICE.
17. EMBEDMENT FOR SEWER LATERALS SHALL BE THE SAME AS SEWER MAINS.
18. SELECT NATIVE MATERIAL SHALL BE GRAVEL, FINE ROCK CUTTINGS, SAND, SANDY LOAM OR LOAM FREE OF EXCESSIVE CLAY. ROCK CUTTINGS SHALL HAVE NO DIMENSION GREATER THAN TWO INCHES.
19. LATERALS SHALL BE A MINIMUM OF 4 FEET IN DEPTH WHEN IN PUBLIC R.O.W.
20. ALL CONNECTIONS TO MANHOLES SHALL BE MADE WITH AN APPROVED ADAPTER, & BY CORE ONLY. (KOR N SEAL ADAPTER OR APPROVED EQUAL - NO JACK HAMMERS OR HAMMER DRILLS.)
21. ALL LOTS (INCLUDING DUPLEX, TOWNHOME & PATIO LOTS) TO BE SERVED INDIVIDUALLY WITH A MINIMUM 4" SANITARY SEWER LATERAL.
22. CONTRACTOR SHALL FIELD VERIFY LOCATION OF WASTEWATER MAIN PRIOR TO COMMENCING CONSTRUCTION OF IMPROVEMENTS.

ALL LATERALS SHALL BE INSTALLED AT 1/4" PER FOOT SLOPE PER "TYPICAL SEWER SERVICE" DETAIL.

ALL CONSTRUCTION BIDS ON CITY PROJECTS SHALL BE BASED ON "TYPICAL SEWER SERVICE" DETAILS.

STACKED DEEP CUT LATERALS SHALL NOT BE INSTALLED WITHOUT VERIFICATION OF FLOW LINE ELEVATIONS FOR EACH LOT AND WRITTEN APPROVAL FROM THE CITY.

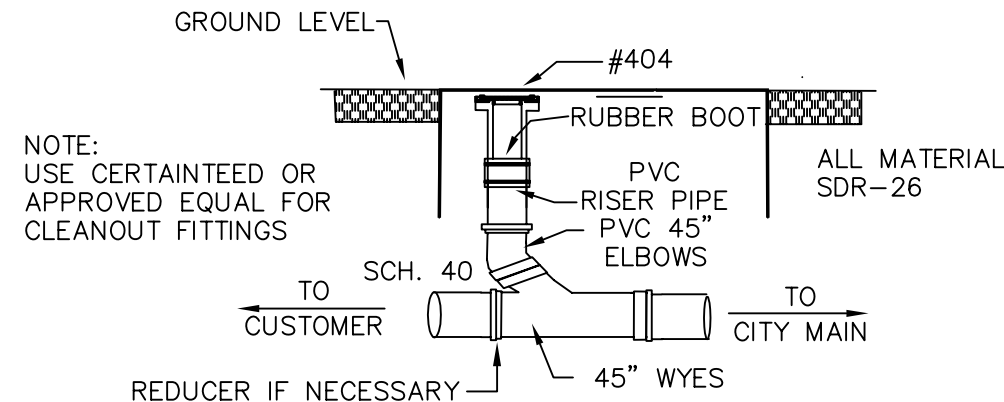


STACKED DEEP CUT

STACKED DEEP CUT LATERALS SHALL NOT BE INSTALLED WITHOUT VERIFICATION OF FLOW LINE ELEVATIONS FOR EACH LOT AND WRITTEN APPROVAL FROM THE CITY.

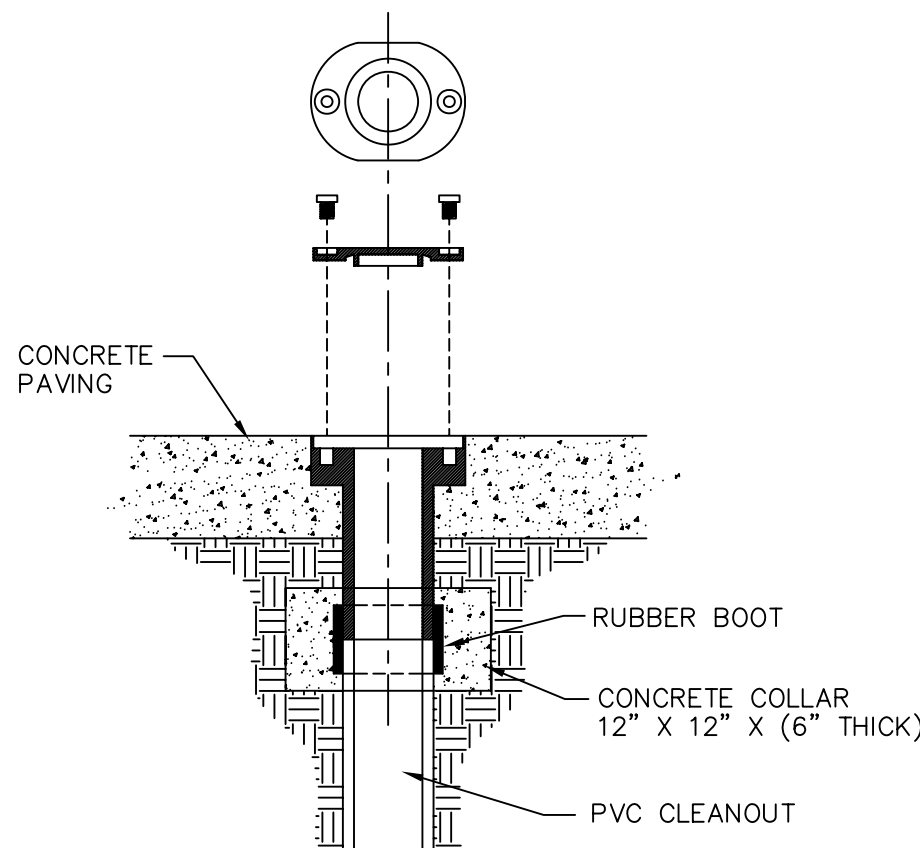
SINGLE CLEANOUT BOX

IN CONCRETE DRIVEWAYS OR ALLEY PAVING:
USE BASS & HAYS FOUNDRY, INC. PATTERN #339 CLEANOUT BOOT, # 404 LATERAL CLEANOUT, OR APPROVED EQUAL.
IN SIDEWALKS ONLY, BASS & HAYS FOUNDRY, INC. LATERAL CLEANOUT PATTERN # 404, OR APPROVED EQUAL.
IN GRASSY AREAS
BASS & HAYS FOUNDRY, INC. LATERAL CLEANOUT PATTERN # 404, OR APPROVED EQUAL.



TYPICAL CLEANOUT (SINGLE STACK)

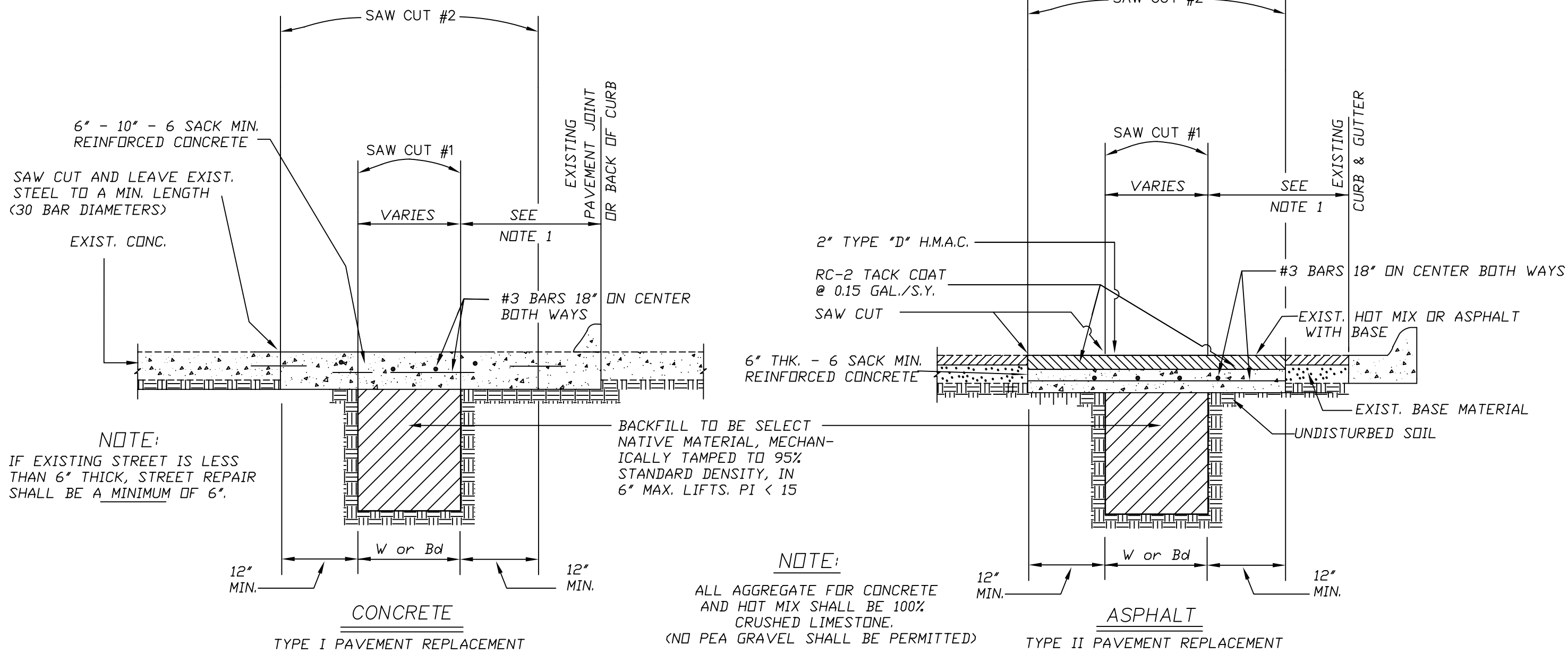
(NTS)



SANITARY SEWER LATERAL CLEANOUT

Bass & Hays Foundry, Inc. #404 Lateral Cleanout Or Approved Equal

NOT TO SCALE

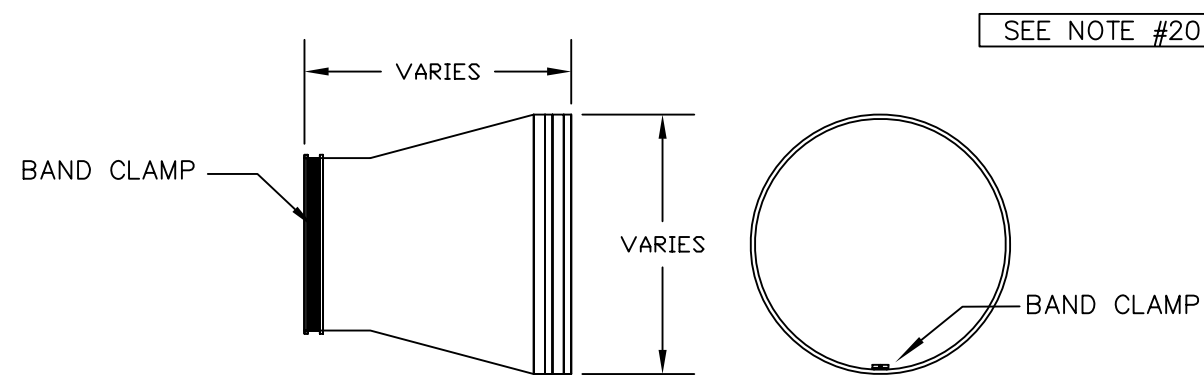


PAVEMENT REPLACEMENT DETAILS

NOT TO SCALE

(FOR ALL STREET CUTS-WATER, SANSEWER AND STORM SEWER)

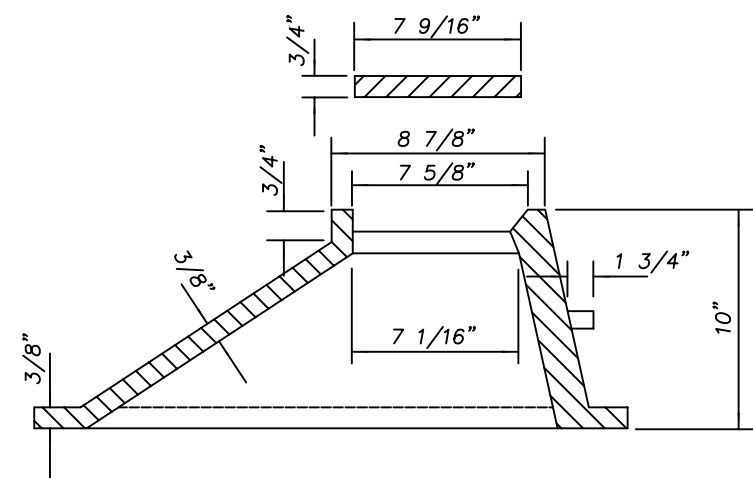
NOTE 1 : IF DISTANCE BETWEEN PAVEMENT REPLACEMENT JOINT & BACK OF CURB OR EXISTING PAVEMENT JOINT IS LESS THAN 3 FOOT, LIMITS OF PAVEMENT SHALL BE TO BACK OF CURB OR EXISTING PAVEMENT JOINT.



KOR-N-SEAL

NPC Kor-N-Seal: 106/406 Series Or Approved Equal

NOT TO SCALE



SANITARY SEWER CLEANOUT BOOT

Bass & Hays Foundry, Inc. #339 Cleanout Boot (American Made) or Approved Equal

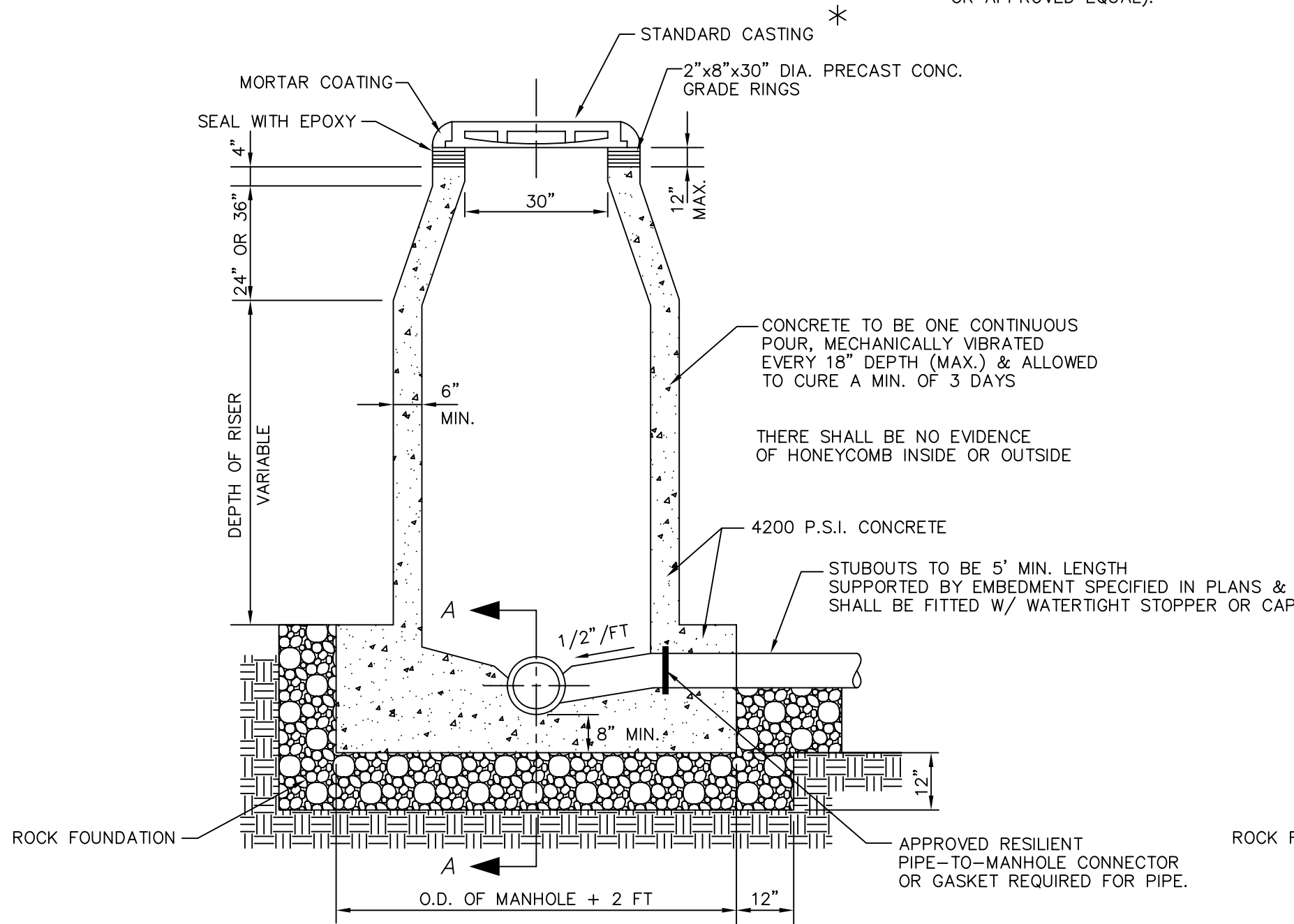
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TOWN OF PANTEGO

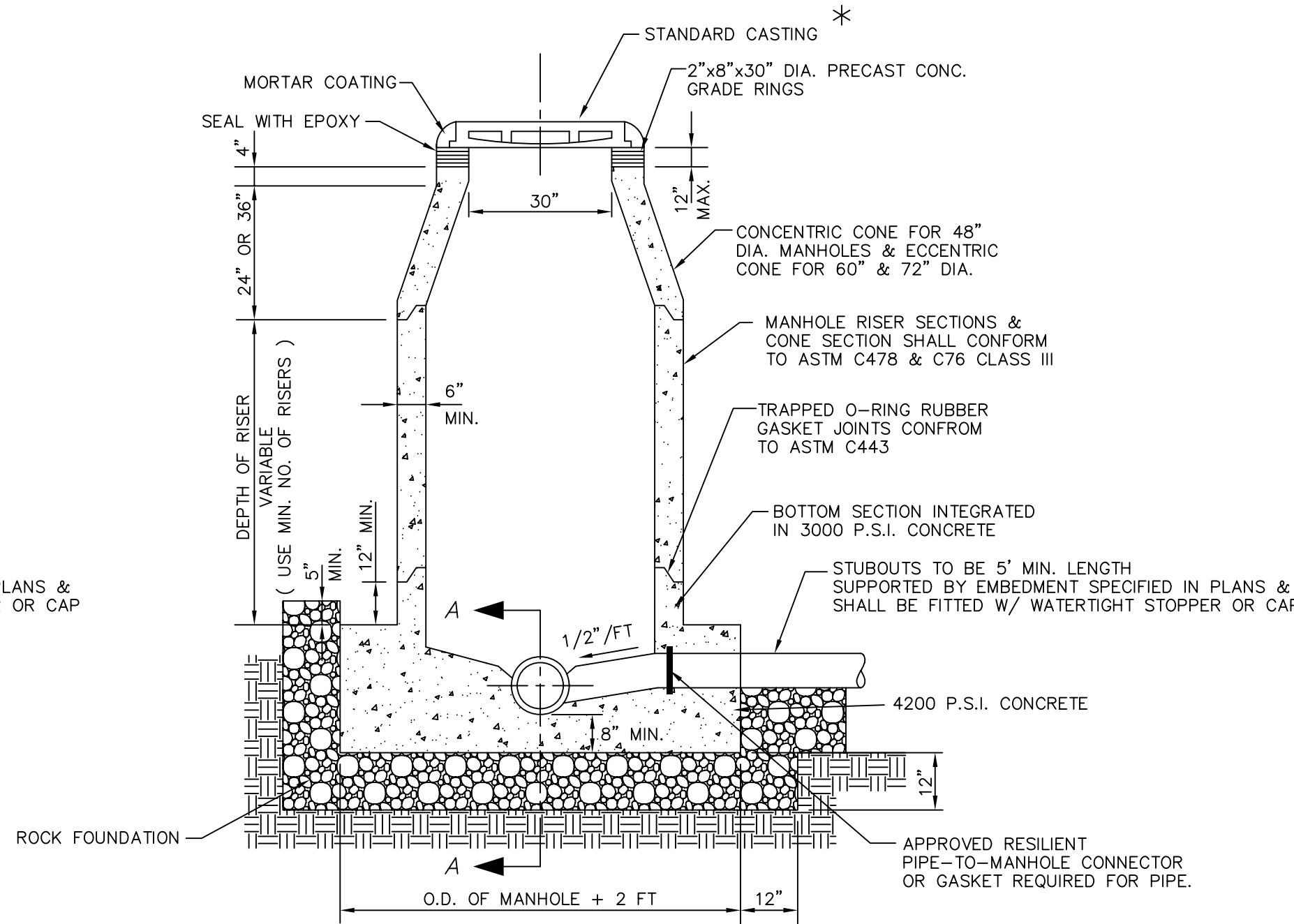
WASTEWATER DETAIL SHEET

MAIN SIZE TO MANHOLE SIZE CHART	
MAIN LINE SIZE	MANHOLE SIZE
6" – 10"	48" DIAMETER
12" – 15"	60" DIAMETER
18" – UP	72" DIAMETER

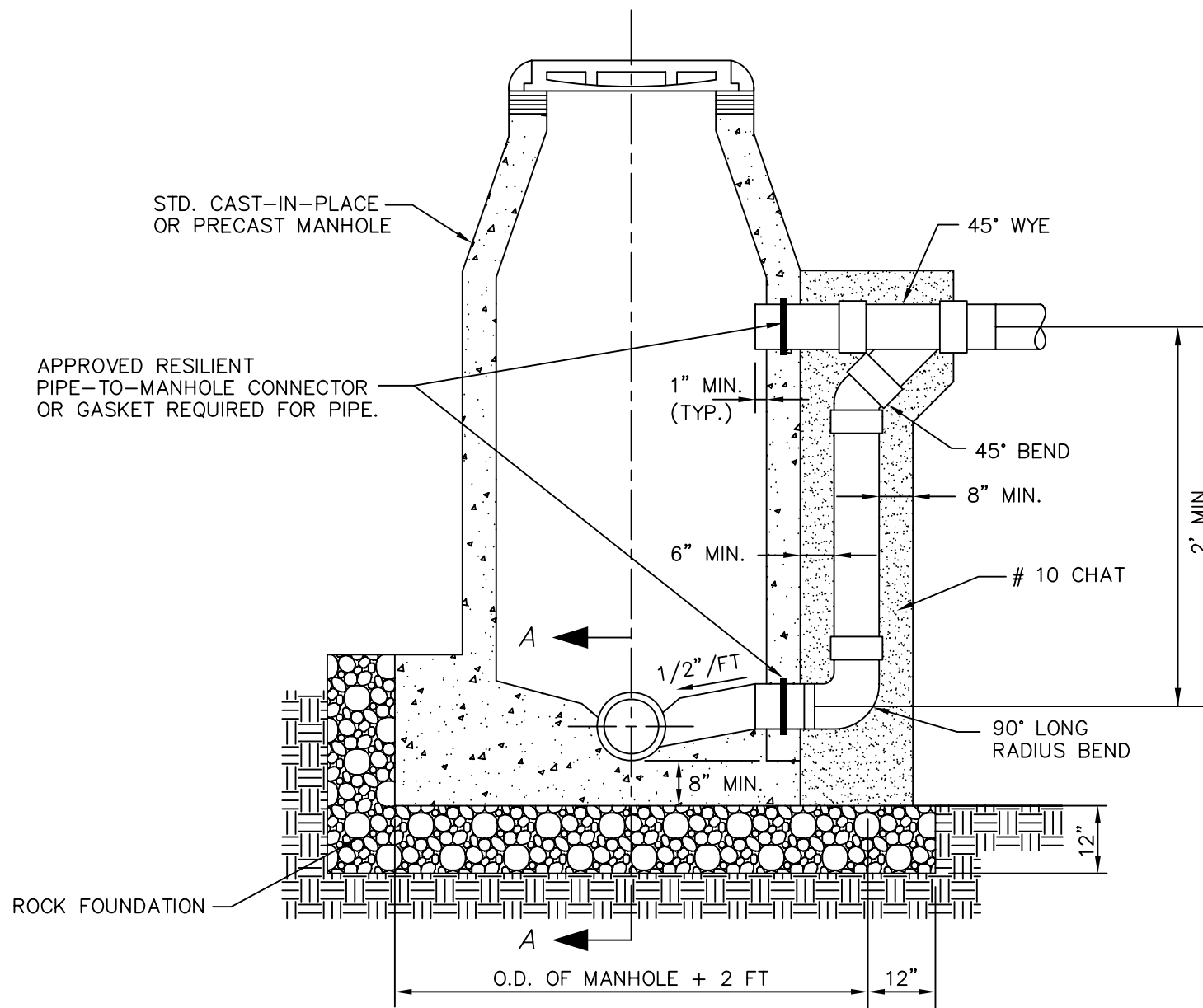
- * A. 30" DIA CAST IRON M.H. RING & COVER
(ABOVE THE 100 YEAR FLOOD PLAIN)
(SEE DETAIL AT BOTTOM OF PAGE)
- B. ALL MANHOLE LIDS/RINGS BELOW 100 YEAR FLOOD ELEVATION SHALL BE BOLT-ON TYPE WITH STAINLESS STEEL BOLTS. (BASS & HAYS VRM 30 APPROVED EQUAL)
- C. MANHOLES >10' DEEP TO BE 60" DIAMETER MINIMUM.
- D. BRICK MANHOLES SHALL HAVE AN 500 MIL SPRAY APPLIED MONOLITHIC HIGH BUILD EPOXY COATING INSTALLED (SPECTRA SHIELD LINER SYSTEM OR RAVEN SHIELD) OR APPROVED EQUAL).



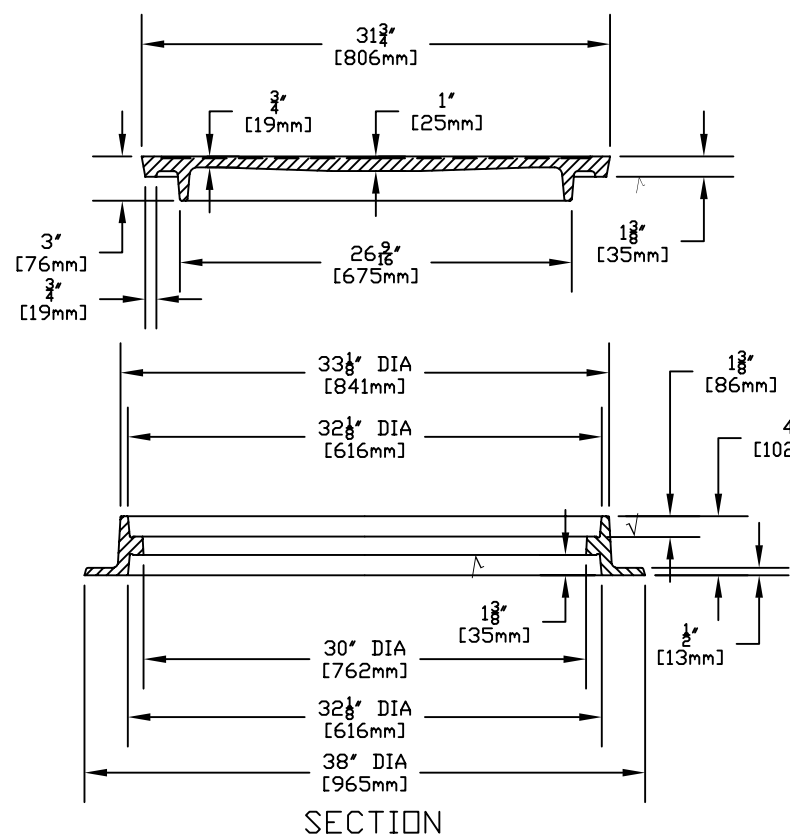
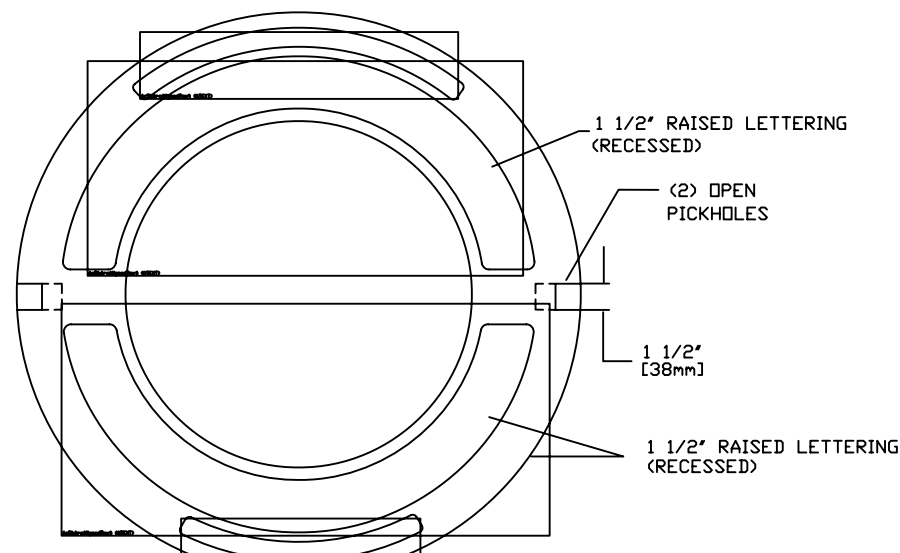
CAST IN PLACE CONCRETE WASTEWATER MANHOLE
NOT TO SCALE



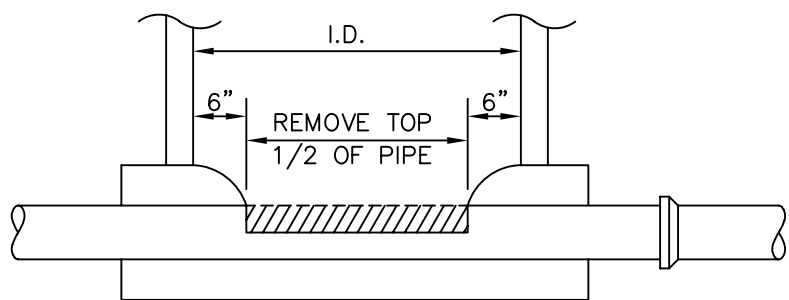
PRECAST CONCRETE WASTEWATER MANHOLE
NOT TO SCALE



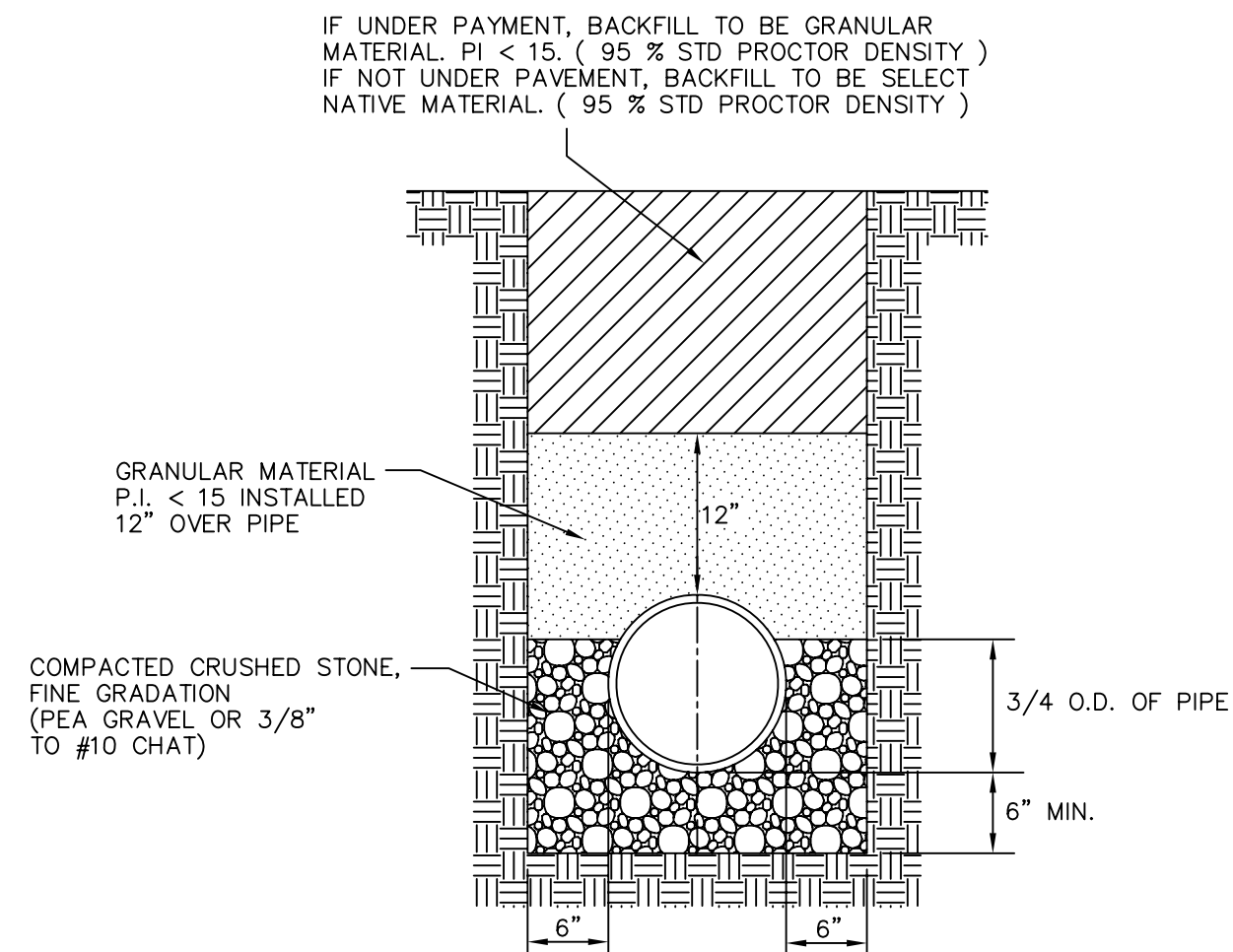
WASTEWATER MANHOLE WITH OUTSIDE DROP CONNECTION
NOT TO SCALE



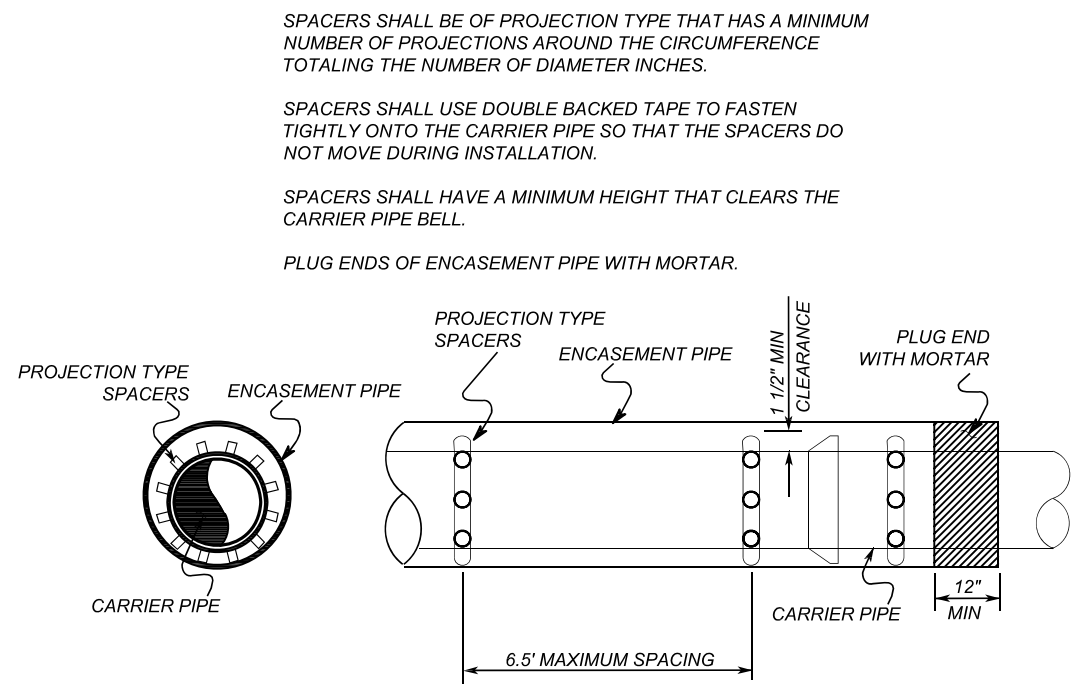
MANHOLE RING & COVER
NOT TO SCALE



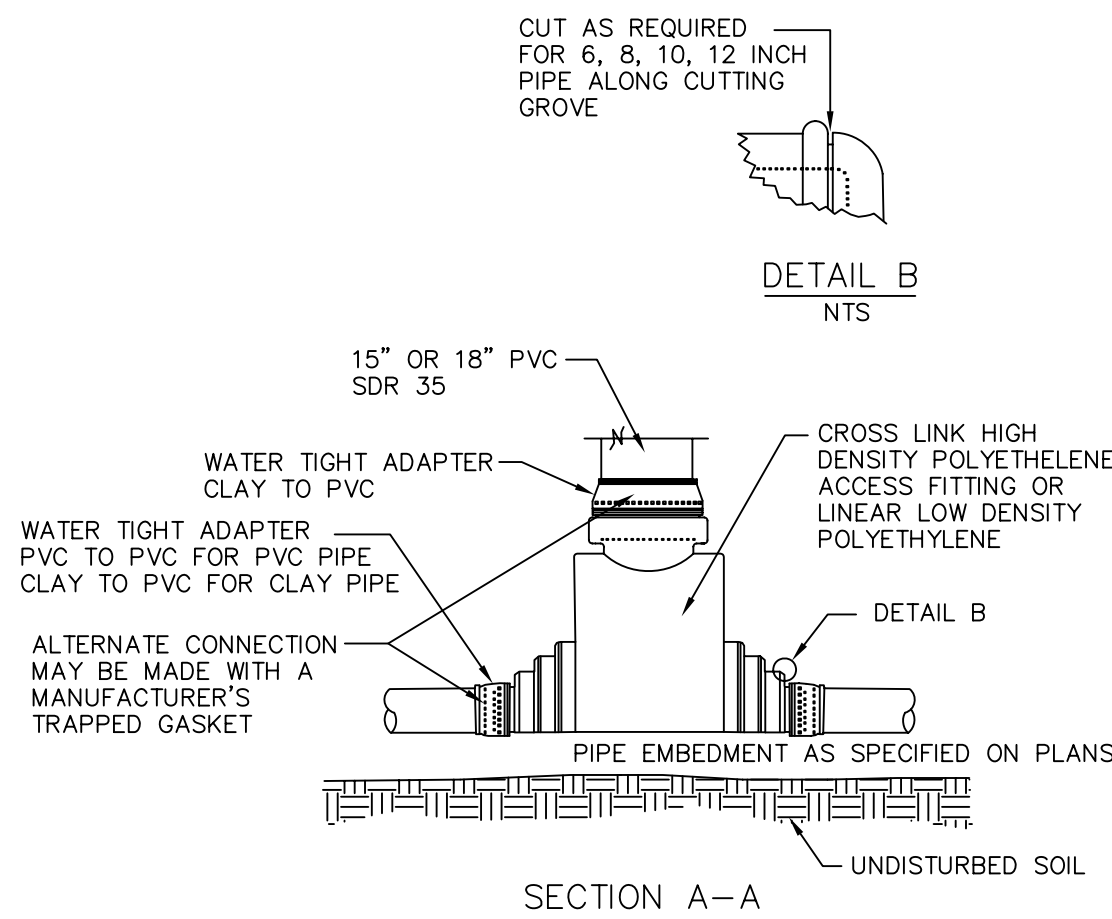
SECTION A-A
NOT TO SCALE



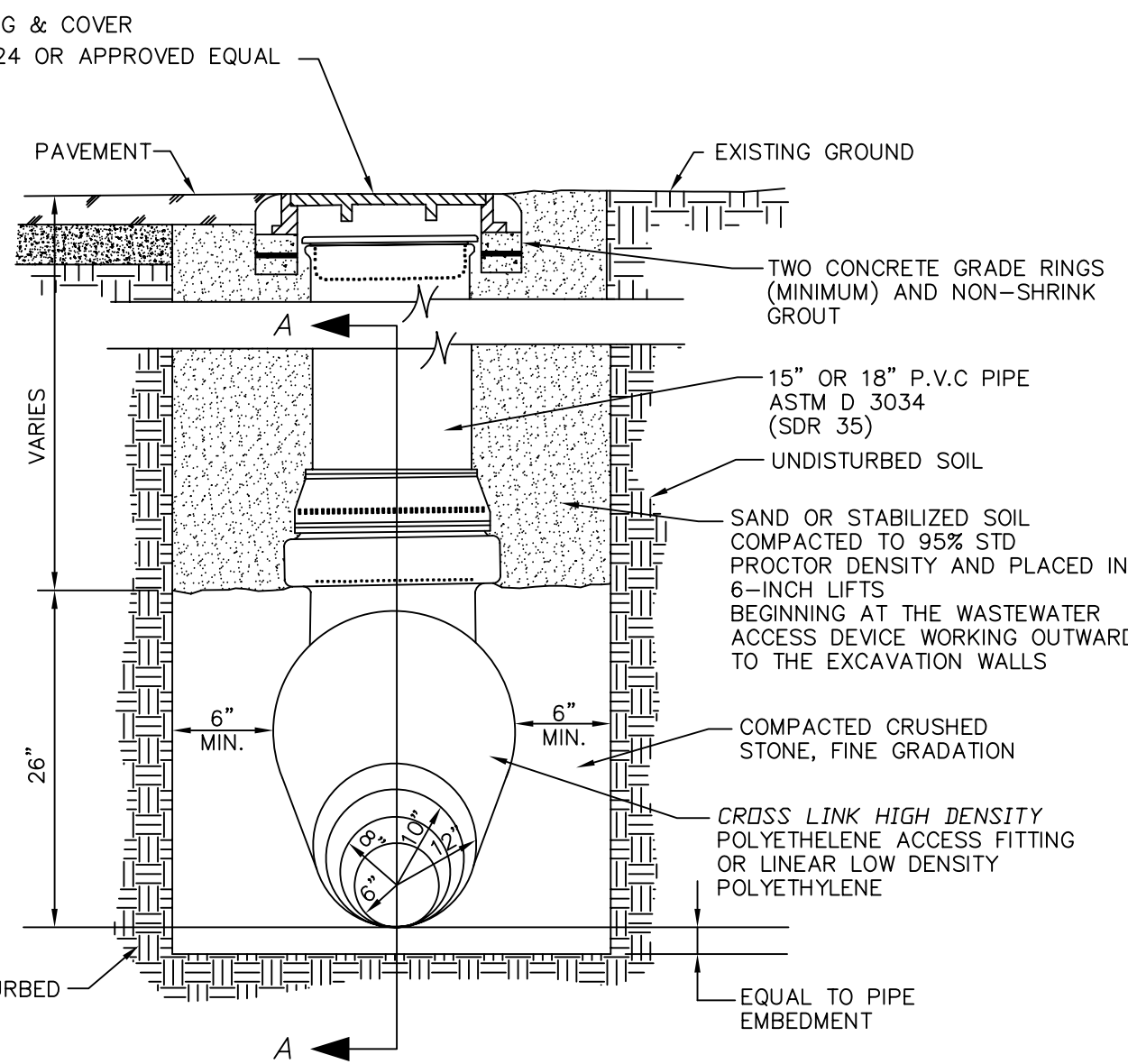
WASTEWATER MAIN EMBEDMENT DETAIL
NOT TO SCALE



SEWER MAIN BORE DETAIL
CARRIER PIPE THRU ENCASEMENT PIPE
INSTALLATION DETAIL
SCALE: NONE



WASTEWATER ACCESS DEVICE
NOT TO SCALE



NOTE: PRIOR TO CONSTRUCTION, CONTRACTOR SHALL SUBMIT TO THE PUBLIC WORKS DEPT. A LISTING OF ALL MATERIALS TO BE USED. NO WORK SHALL BE UNDERTAKEN PRIOR TO WRITTEN APPROVAL OF THE MATERIAL LIST BY THE TOWN PUBLIC WORKS DEPT.