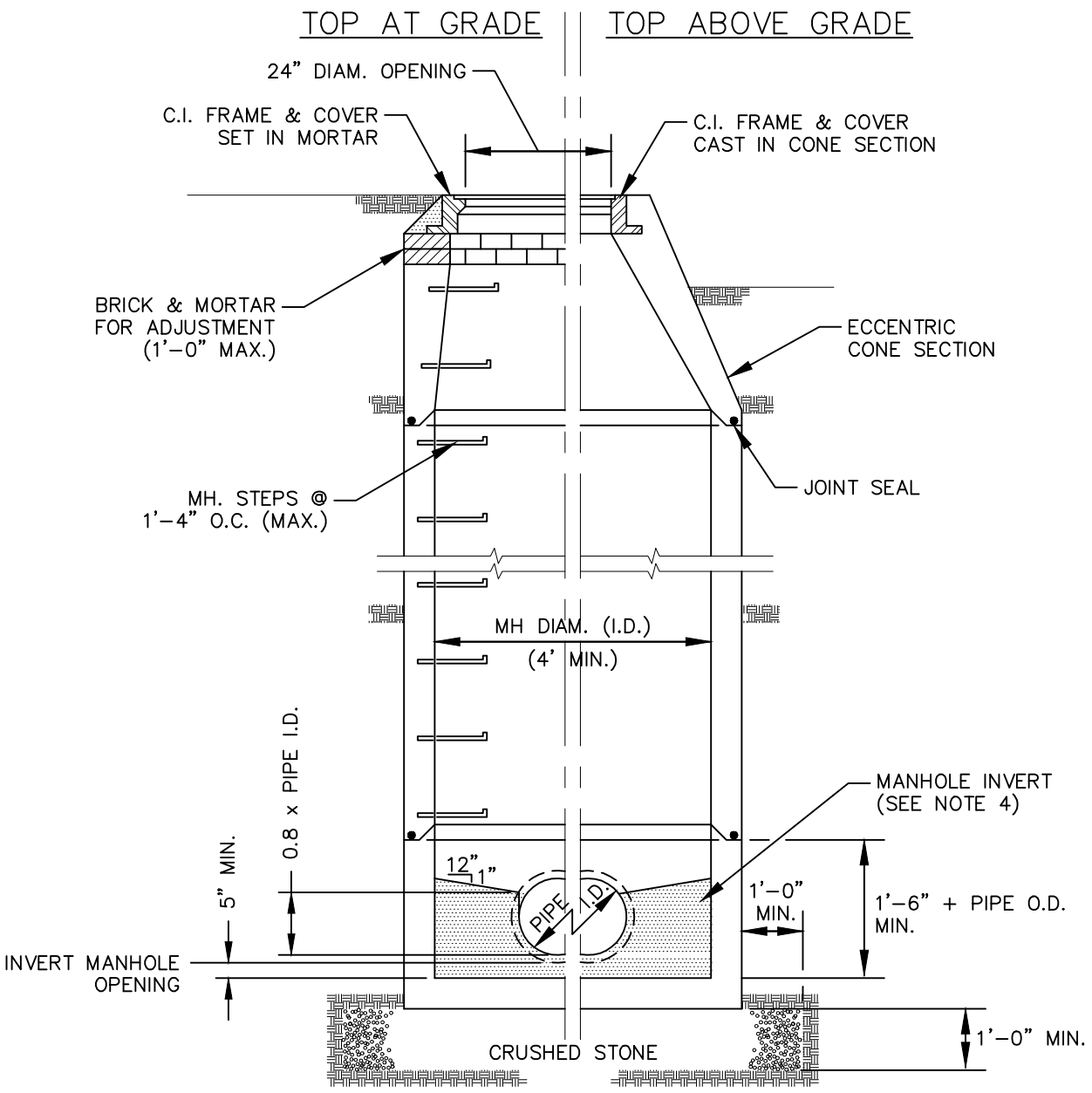



NOTES:

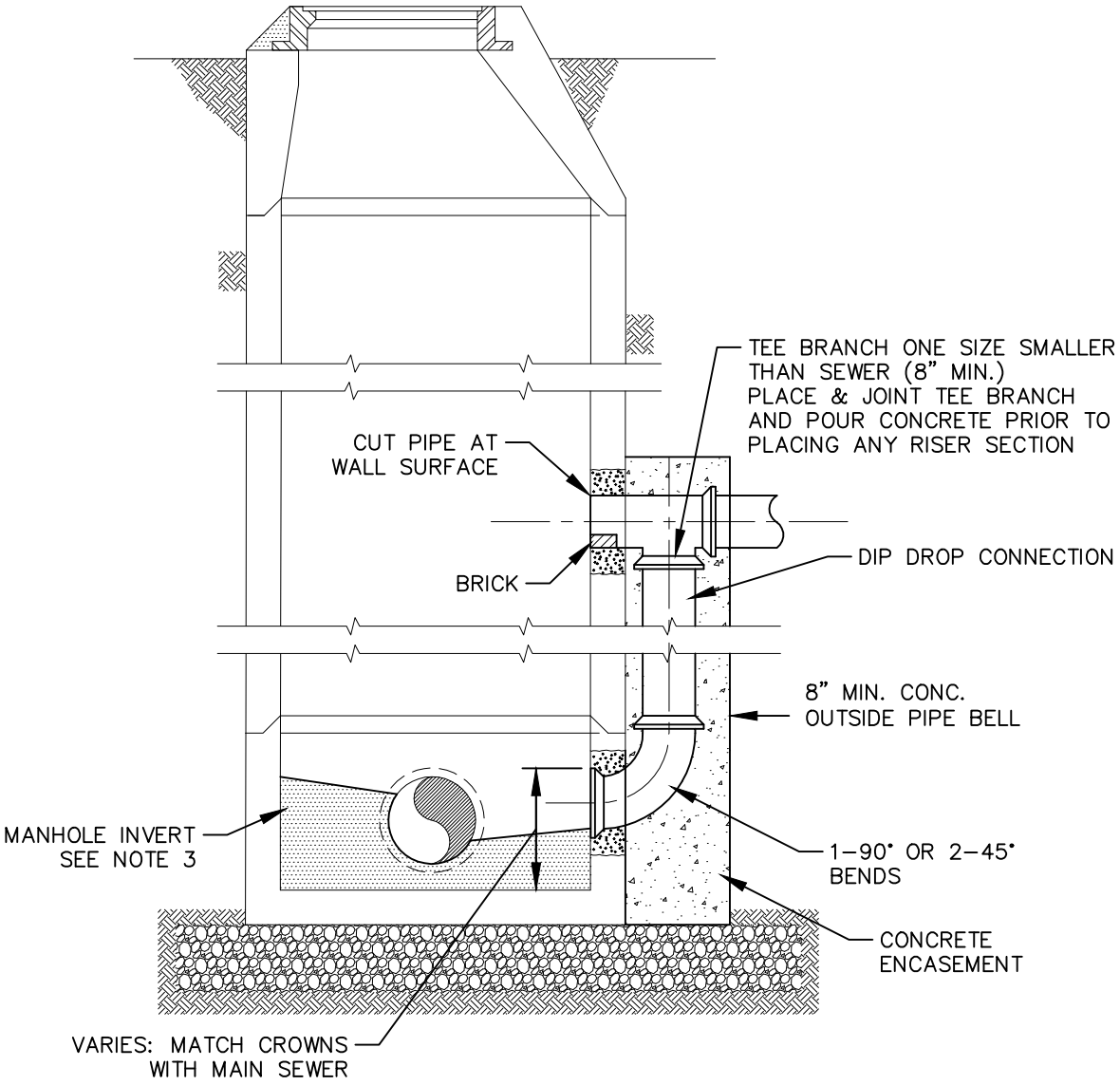
1. PRECAST CONCRETE SECTIONS SHALL MEET THE REQUIREMENTS OF ASTM C 478. MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE IN PRECAST SECTIONS SHALL BE 4000 PSI.
2. SEAL ALL JOINTS AND LIFT HOLES, BOTH INSIDE AND OUT, WITH GROUT. THIS IS IN ADDITION TO JOINT SEALANT BETWEEN SECTIONS.
3. PROVIDE UNIFORM BEDDING OF THE BOTTOM TO PREVENT UNEVEN LOADING.
4. SEE DETAIL B–7 FOR INVERT CONSTRUCTION REQUIREMENTS.

# PRECAST CONCRETE MANHOLE

**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-1**




NOTES:

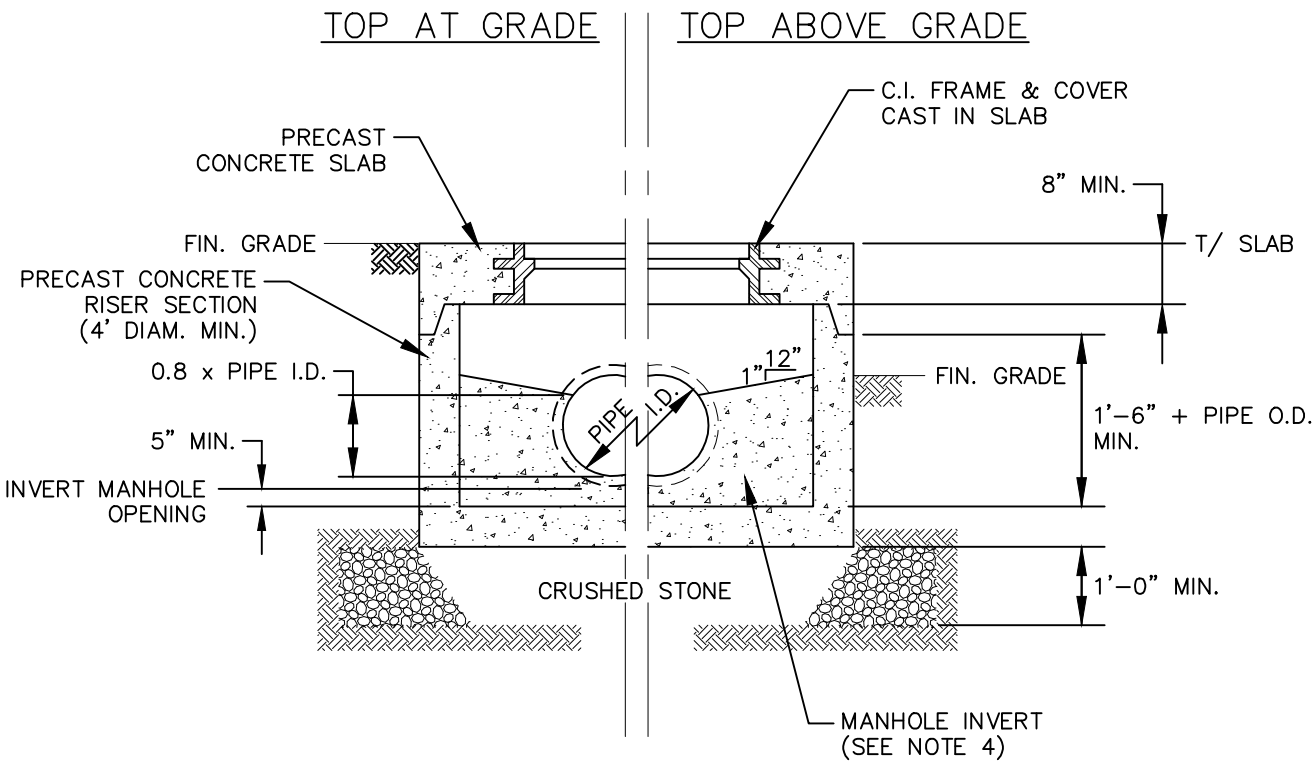
1. SEE DETAIL B-1 FOR MANHOLE SPECIFICATIONS AND DIMENSIONS.
2. OUTSIDE DROP MANHOLES ARE FOR A SEWER ENTERING A MANHOLE AT AN ELEVATION OF 24" OR MORE ABOVE THE MANHOLE INVERT.
3. SEE DETAIL B-7 FOR INVERT CONSTRUCTION REQUIREMENTS.

# MANHOLE OUTSIDE DROP

**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-2**




NOTES:

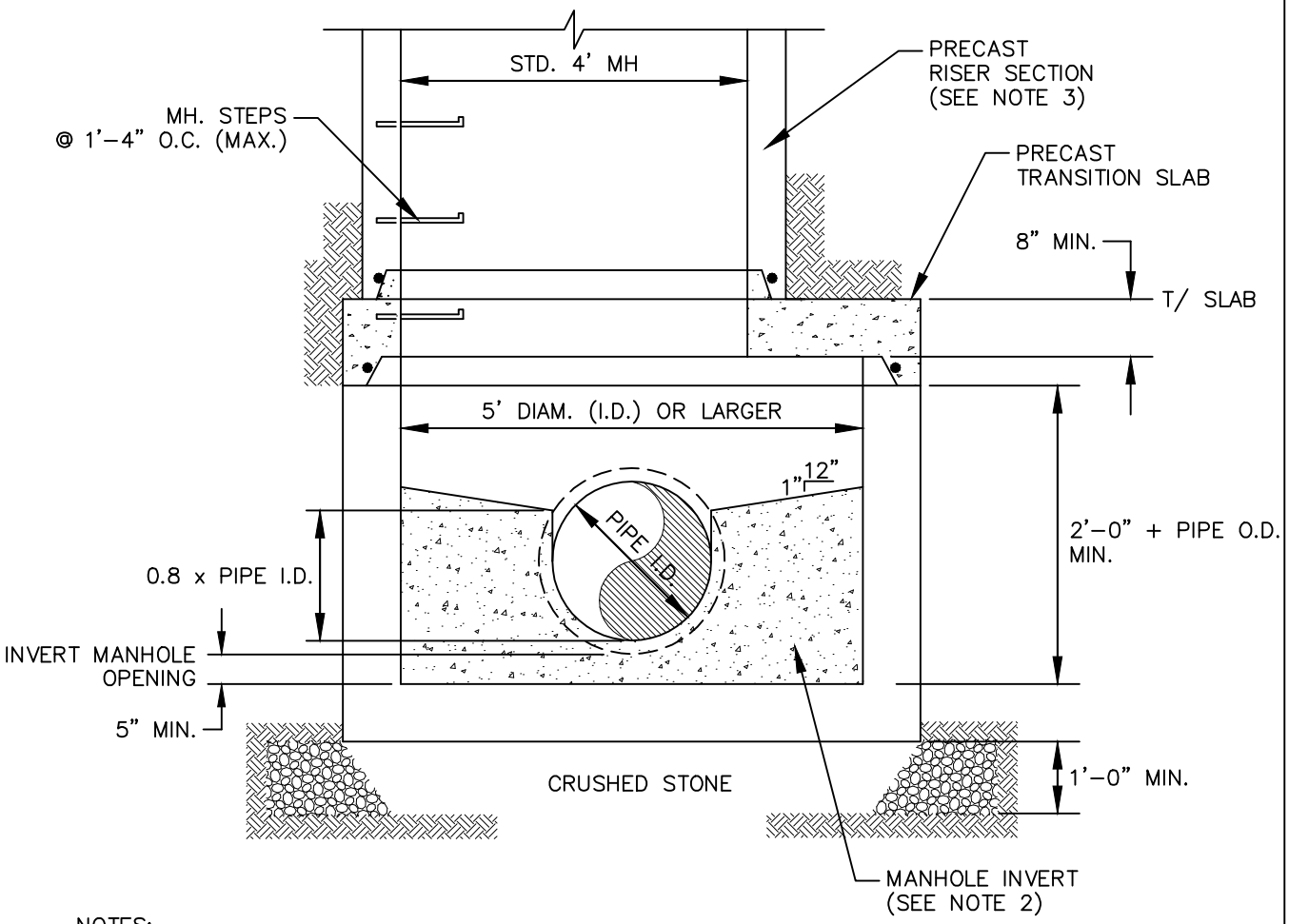
1. PRECAST CONCRETE SECTIONS SHALL MEET THE REQUIREMENTS OF ASTM C 478. MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE IN PRECAST SECTIONS SHALL BE 4000 PSI.
2. SEAL ALL JOINTS AND LIFT HOLES, BOTH INSIDE AND OUT, WITH GROUT. THIS IS IN ADDITION TO JOINT SEALANT BETWEEN SECTIONS.
3. PROVIDE UNIFORM BEDDING OF THE BOTTOM TO PREVENT UNEVEN LOADING.
4. SEE DETAIL B-7 FOR INVERT CONSTRUCTION REQUIREMENTS.

# SHALLOW MANHOLE

**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-3**




NOTES:

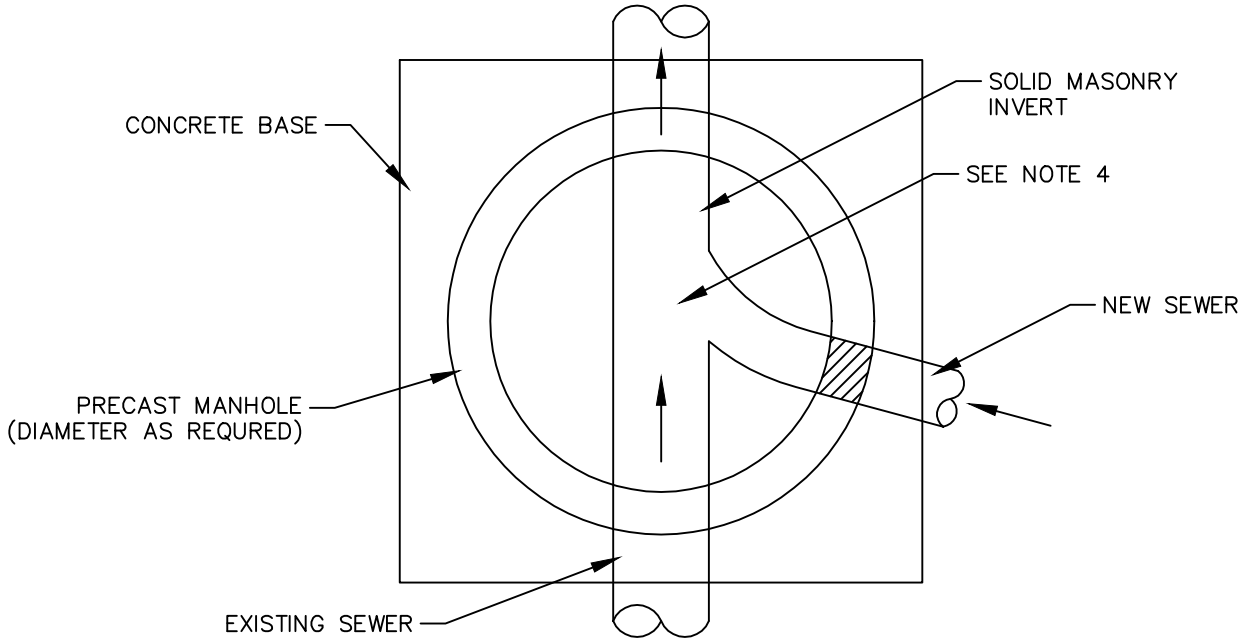
1. SEE DETAIL B-1 FOR MANHOLE SPECIFICATIONS AND DIMENSIONS.
2. SEE DETAIL B-7 FOR INVERT CONSTRUCTION REQUIREMENTS.
3. RISER TYPE SHALL BE CONCENTRIC, ECCENTRIC, OR FLAT TOP AS REQUIRED.

# PRECAST MANHOLE
# 5' DIAMETER OR LARGER

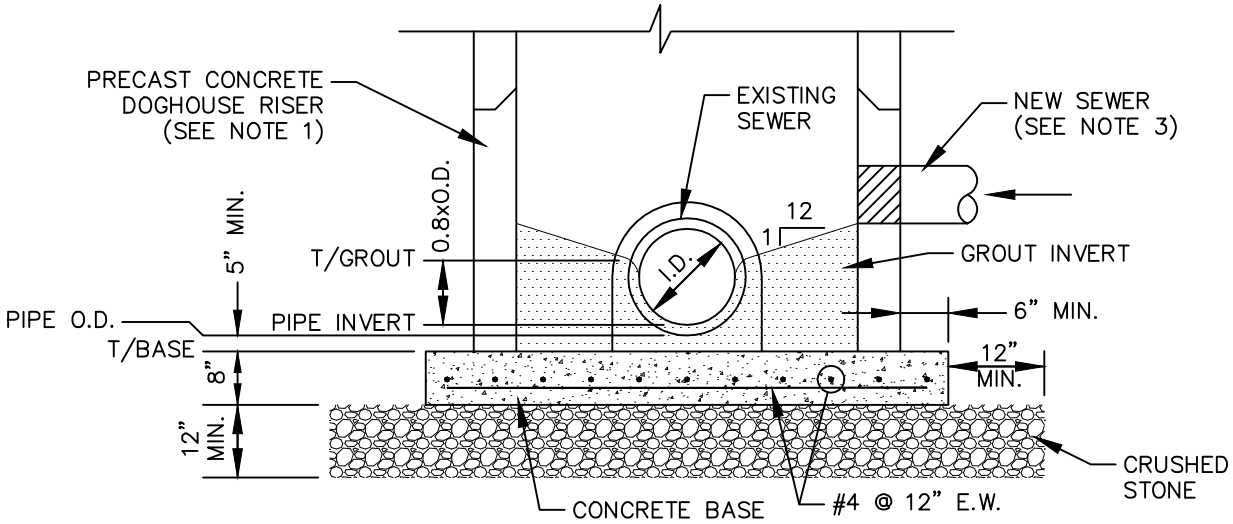
**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-4**




PLAN




SECTION

NOTES:

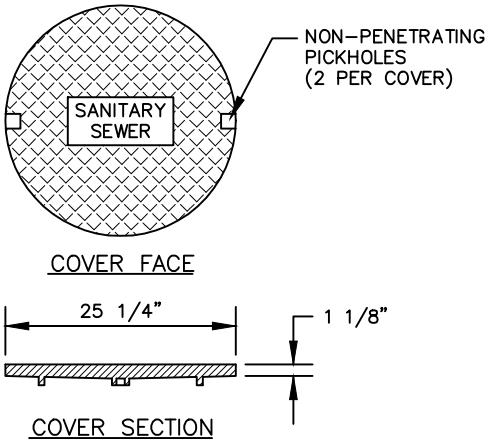
1. PROVIDE PRECAST MANHOLE RISER WITH UPSIDE DOWN U-SHAPED OPENINGS TO MATCH EXISTING LINE.
2. OPENINGS FOR EXISTING "DOGHOUSE" LINE SHALL BE GROUTED WITH NON-SHRINK CEMENT.
3. OPENING(S) FOR NEW LINE(S) SHALL BE CORED AND BOOTED.
4. TOP PORTION OF EXISTING SEWER SHALL NOT BE REMOVED UNTIL AUTHORIZED BY NCWSA.
5. SEE DETAIL B-1 FOR CONTINUATION OF MANHOLE TO GRADE.

# PRECAST MANHOLE OVER EXISTING SEWER (DOGHOUSE)

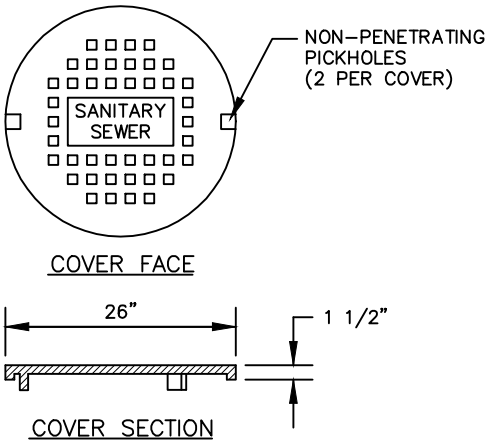
**NOT TO SCALE**

**REVISED AUGUST 2021**

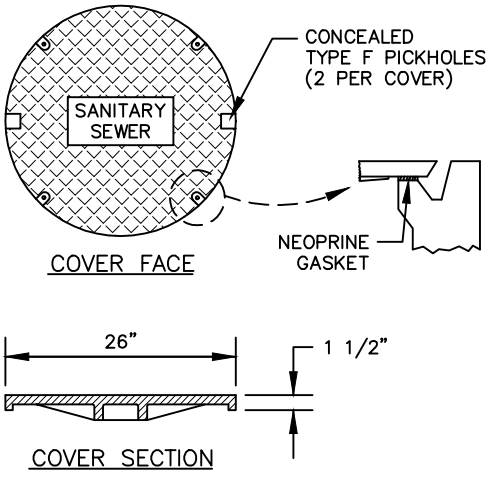
**STANDARD DETAIL NO. B-5**




## STANDARD INSTALLATION
(NEENAH R–1695)




## TRAFFIC INSTALLATION
(NEENAH R–1642)



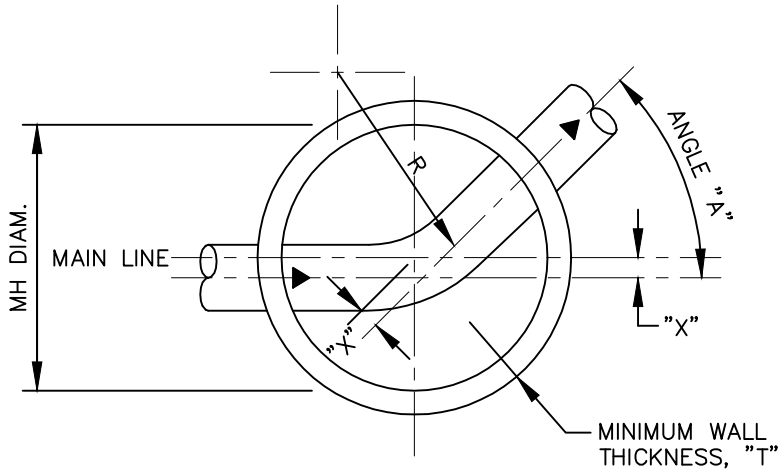

## WATERTIGHT INSTALLATION
(NEENAH R–1916F)

# MANHOLE FRAME AND COVER

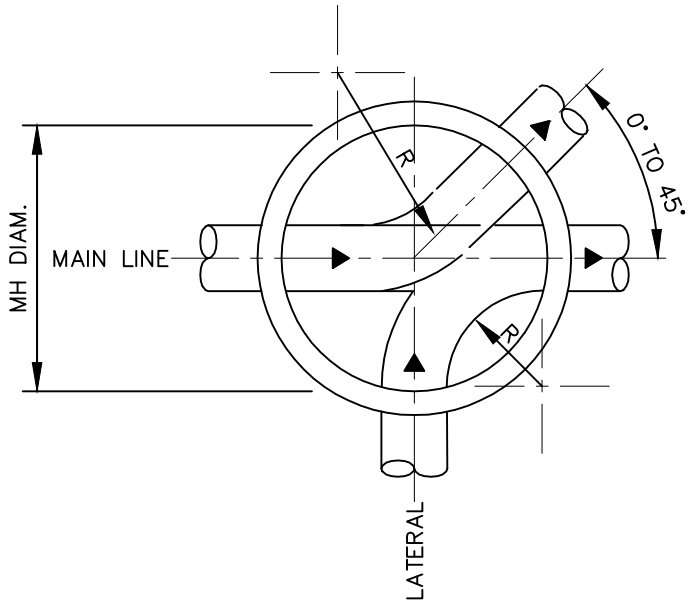
**NOT TO SCALE**

**REVISED AUGUST 2021**

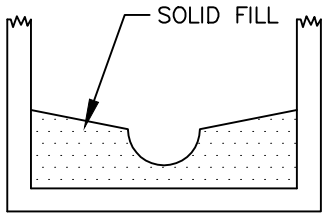
**STANDARD DETAIL NO. B-6**




MAIN LINE ONLY




MAIN LINE WITH LATERAL




PRECAST OR
FIELD–INSTALLED INVERT

| STANDARD MANHOLE SCHEDULE OF GOVERNING DIMENSIONS | | | | |
|---|---|---|---|---|
| PIPE SIZE | ANGLE "A" | MH DIAM. | "T" | "X" |
| 6" TO 16" | 0° TO 90° | 4'–0" | 5" | 0" |
| 18" TO 24" | 0° TO 60° | 4'–0" | 5" | 0" |
| 18" TO 24" | 60° TO 90° | 5'–0" | 6" | 6" |

NOTES:

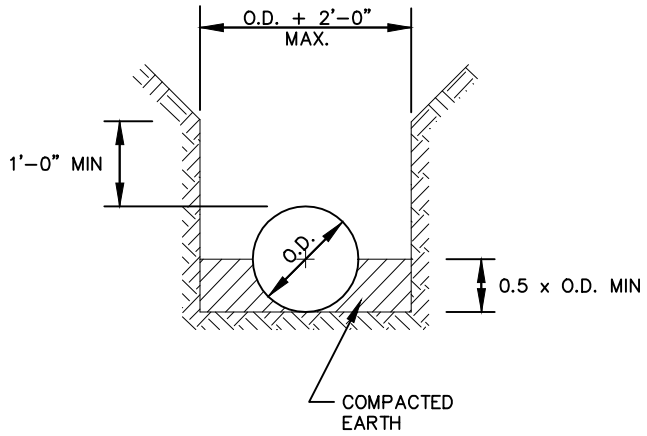
1. MINIMUM ℄ RADIUS OF M.H. INVERT R = 1.5 x PIPE DIAMETER.
2. ROUND AND TROWEL INVERTS SMOOTH.
3. PROVIDE 0.2 FOOT DROP ACROSS INVERT.
4. NO FIELD MODIFICATION OF PRECAST INVERTS SHALL BE ALLOWED.
5. MAXIMUM GROUT SPACING BETWEEN BRICK SHALL BE 3/8".

# MANHOLE INVERTS

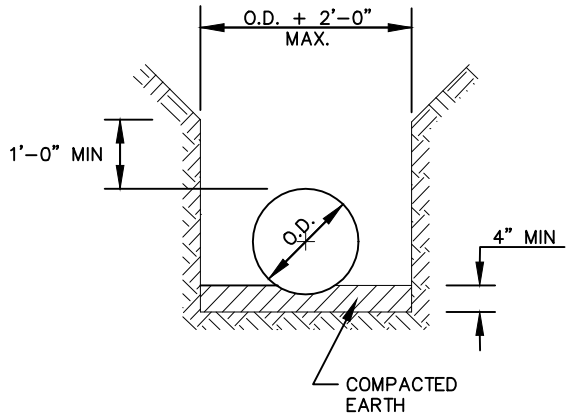
**NOT TO SCALE**

**REVISED AUGUST 2021**

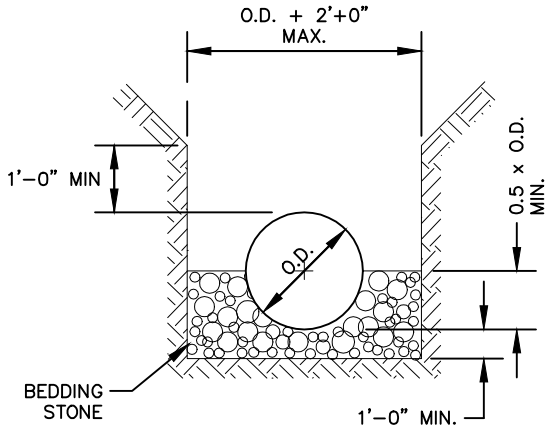
**STANDARD DETAIL NO. B-7**



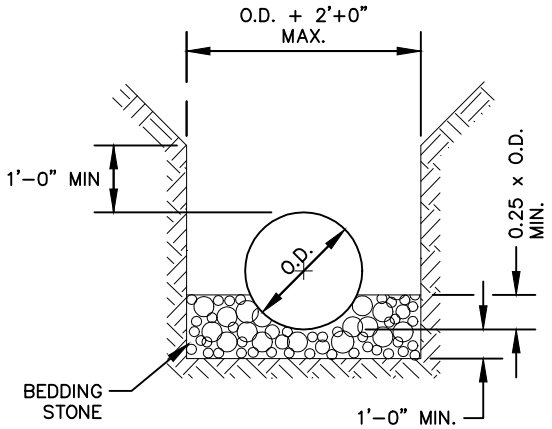

TYPE 2



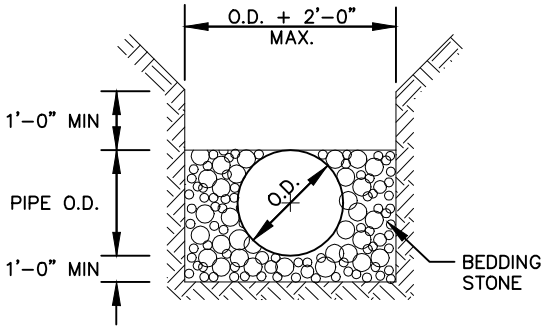

TYPE 3




TYPE 4




TYPE 5




TYPE 6

NOTES:

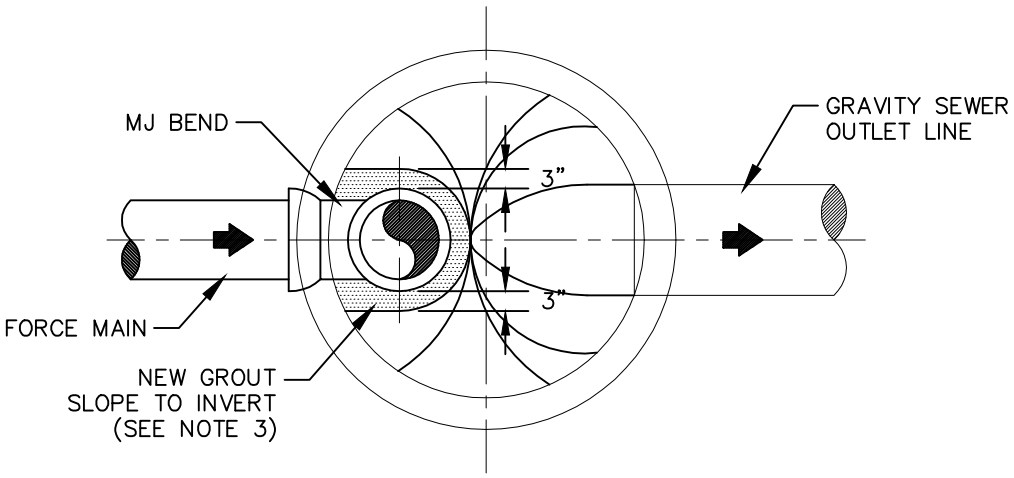
1. STONE SHALL BE #57 STONE COARSE AGGREGATE IN ACCORDANCE WITH GDOT SPECIFICATION SECTION 800.
2. GRAVITY SEWERS:
   A. PVC GRAVITY SEWER SHALL UTILIZE TYPE 4 BEDDING AT A MINIMUM.
   B. DIP GRAVITY SEWERS SHALL UTILIZE TYPE 5 BEDDING AT A MINIMUM.
3. FORCE MAINS:
   A. PVC PIPE SHALL UTILIZE TYPE 2 BEDDING AT A MINIMUM.
   B. DIP PUSH-ON PIPE SHALL UTILIZE TYPE 2 BEDDING AT A MINIMUM.
   C. DIP RESTRAINED JOINT PIPE SHALL UTILIZE TYPE 3 BEDDING AT A MINIMUM.
4. TYPE 6 BEDDING SHALL BE USED IN WET TRENCH CONDITIONS AND FOR ALL PVC PIPE CONSTRUCTED WITH COVER GREATER THAN 14 FEET.

# SEWER PIPE BEDDING

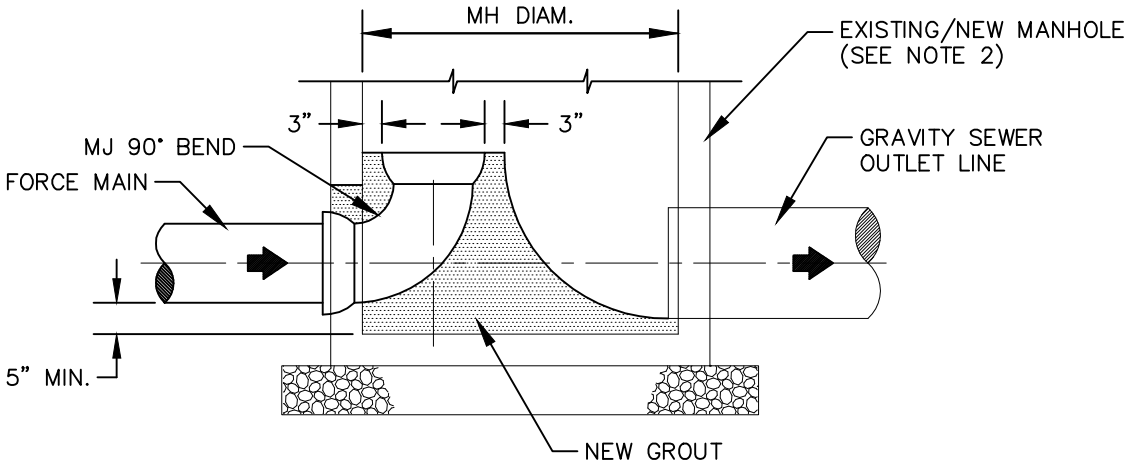
**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-8**




PLAN




SECTION

NOTES:

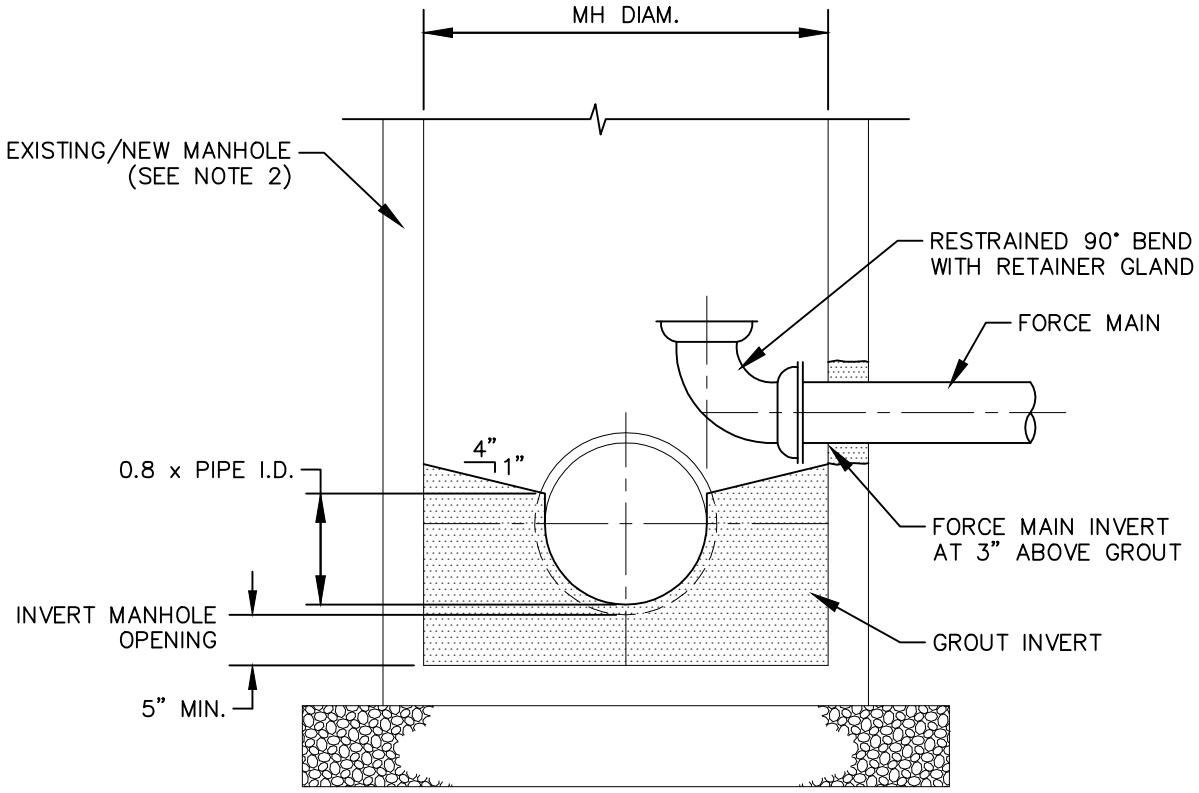
1. USE THIS DETAIL FOR FORCE MAIN CONNECTIONS TO EXISTING OR NEW MANHOLES WHICH ARE AT THE END OF A GRAVITY SEWER MAIN (OUTLET LINE ONLY).
2. FOR CONNECTIONS TO NEW MANHOLES, SEE DETAIL B–1 FOR MANHOLE SPECIFICATIONS AND DIMENSIONS.
3. PROVIDE SMOOTH TRANSITION FROM TOP OF BEND TO INVERT OF OUTLET LINE TO ALLOW COMPLETE DRAINAGE OF SEWAGE FLOWS IN THE MANHOLE.

# FORCE MAIN CONNECTION AT TERMINAL MANHOLE

**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-9**




NOTES:

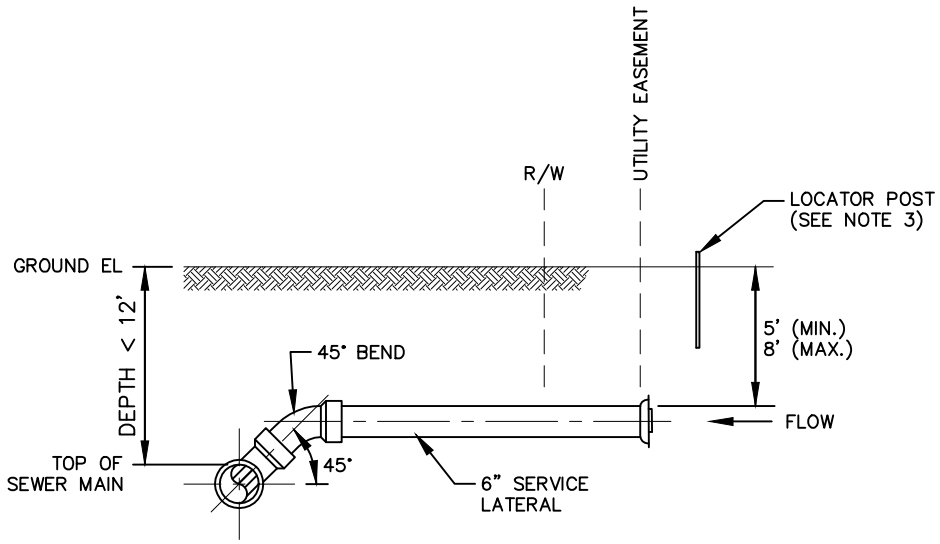
1. USE THIS DETAIL FOR FORCE MAIN CONNECTIONS TO EXISTING OR NEW MANHOLES WHICH HAVE BOTH INLET AND OUTLET GRAVITY SEWER LINES.
2. FOR CONNECTIONS TO NEW MANHOLES, SEE DETAIL B–1 FOR MANHOLE SPECIFICATIONS AND DIMENSIONS.

# FORCE MAIN CONNECTION AT MAIN LINE MANHOLE

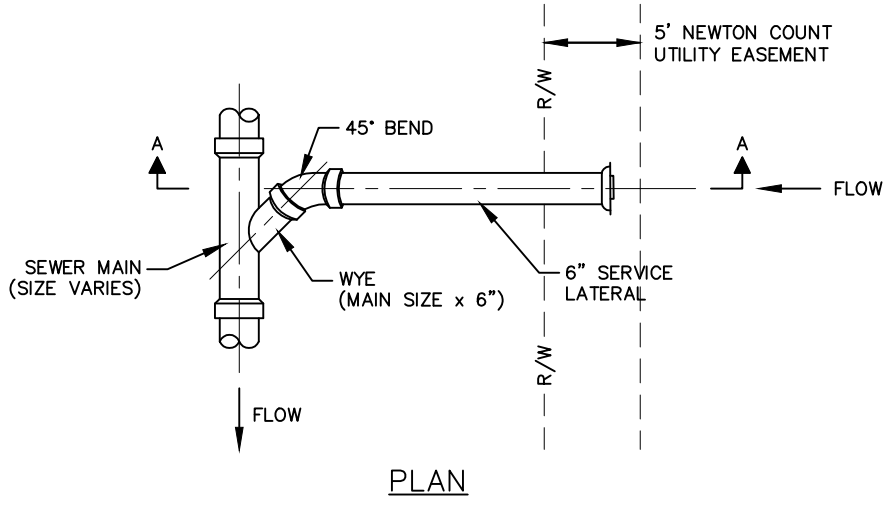
**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-10**




SECTION A–A




PLAN

NOTES:

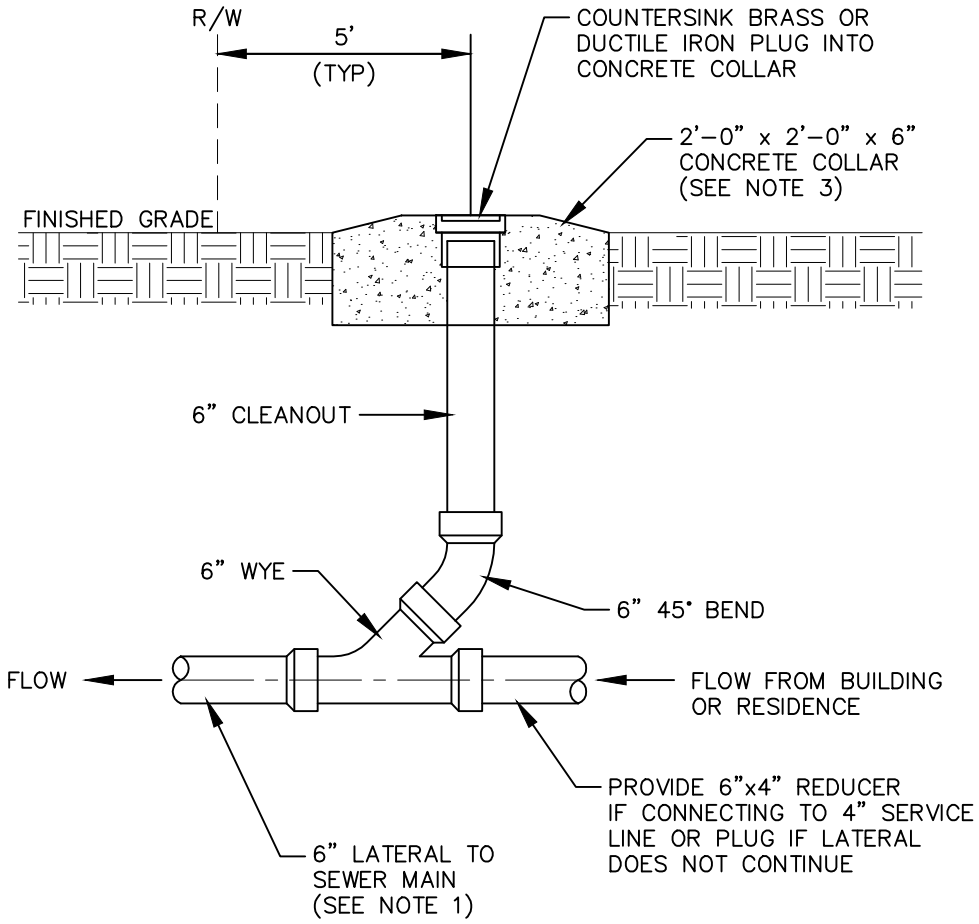
1. MINIMUM SLOPE FOR SERVICE LATERALS SHALL BE 1.00%.
2. INSTALL 6" PLUG ON CUSTOMER SIDE OF SERVICE LINE FOR ALL STUBS FOR FUTURE CONNECTION.
3. PROVIDE 4"x4" TREATED POST MARKER WITH 2" HIGH EXPOSED SURFACES PAINTED SAFETY GREEN AT STUB LOCATION.
4. SEE STANDARD DETAIL B–27 FOR CLEANOUT.

# SERVICE CONNECTION

**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-11**




NOTES:

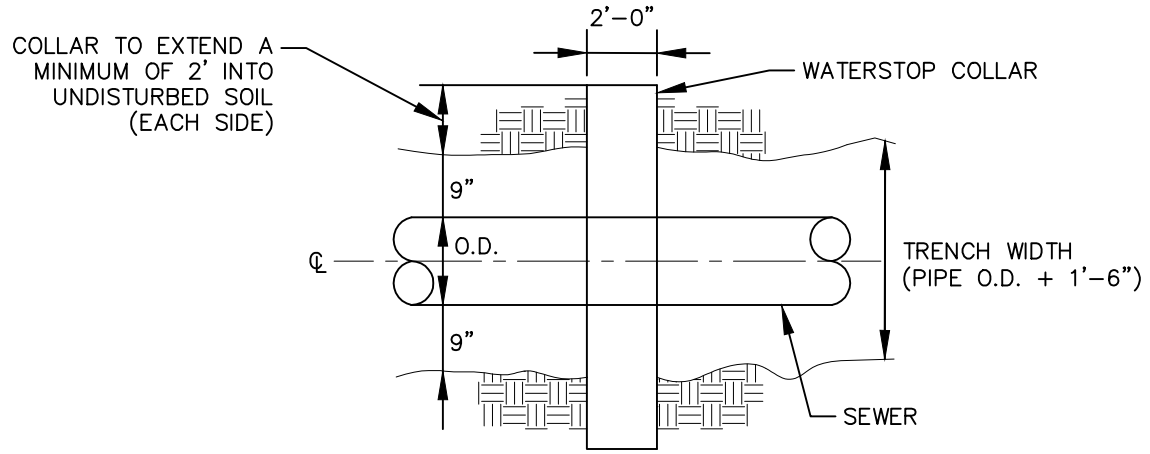
1. SEE DETAIL B-11 FOR LATERAL CONNECTION TO NCWSA SEWER.
2. ALL SERVICE LINES AND CLEANOUT PIPING MATERIALS, EXCEPT PLUG, SHALL BE SOLVENT WELD PVC.
3. TYPE II CONCRETE IN ACCORDANCE WITH ASTM C 150 FOR ALL UNPAVED AREAS. CENTER WITH #4 REBAR EA. SIDE, EA. WAY.
4. CLEANOUTS SHALL NOT BE INSTALLED WITHIN DRIVEWAYS.

# CLEANOUT

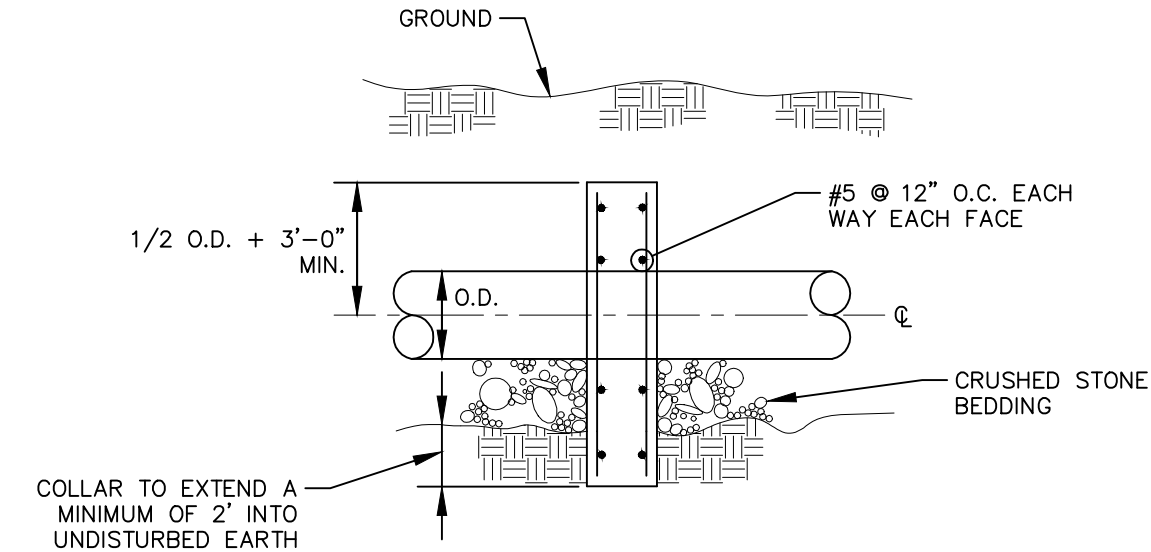
**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-12**




PLAN




SECTION

# WATERSTOP COLLAR

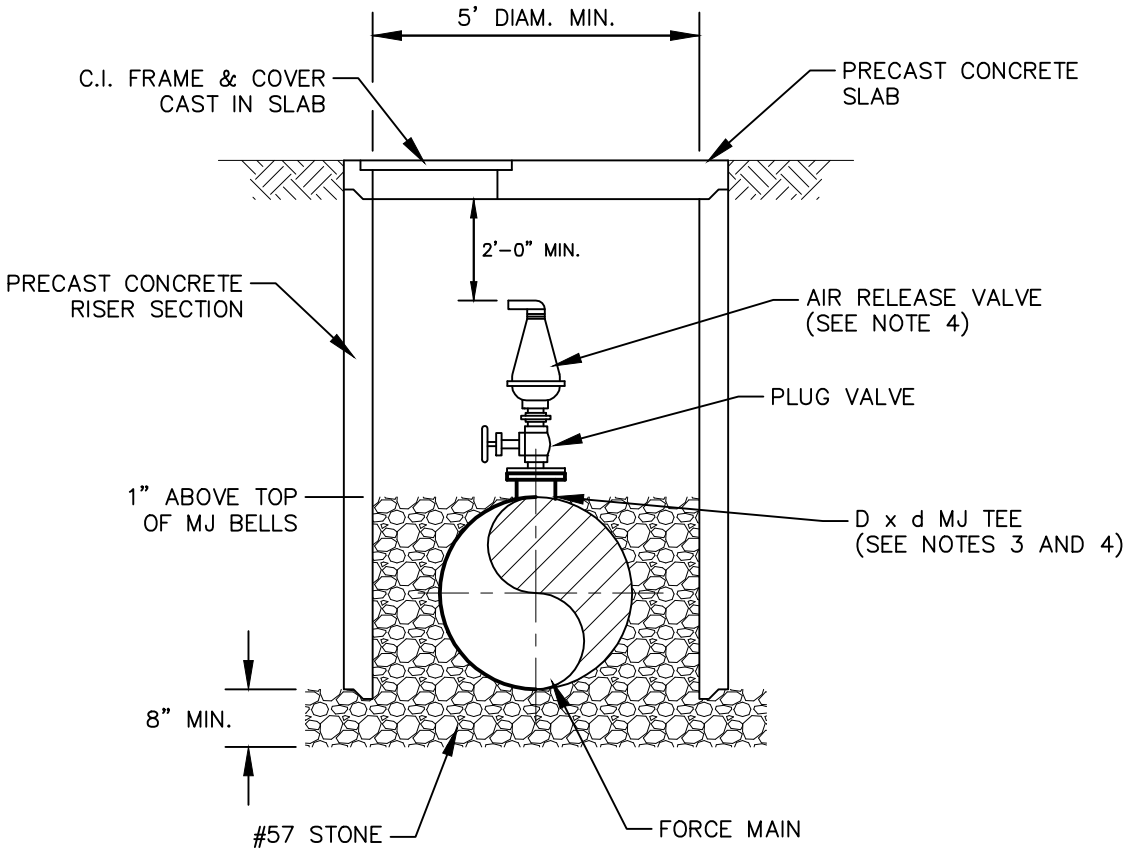
**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-13**

NOTES

1. PRECAST CONCRETE MANHOLE SECTIONS, RING AND ASSOCIATED APPURTENANCES SHALL BE IN ACCORDANCE WITH NCWSA STANDARDS FOR SEWER SYSTEMS.
2. COVER SHALL BE WATERTIGHT IN ACCORDANCE WITH NCWSA STANDARDS FOR SEWER SYSTEMS. INCLUDE A MINIMUM OF FOUR (4) 1" HOLES FOR VENTING. COVER SHALL HAVE THE LEGEND "SEWER" CAST INTO THE FACE.
3. D = FORCE MAIN DIAMETER. d = OUTLET DIAMETER (4" MIN.). OUTLET SIZE AS REQUIRED FOR AIR RELEASE VALVE SIZE.
4. FOR ARV'S WITH INLETS 3" AND LARGER, CONNECTIONS TO THE MJ TEE OUTLET SHALL BE FLANGED. FOR ARV'S SMALLER THAN 3", CONNECTIONS TO THE MJ TEE SHALL BE THREADED. PIPING SHALL INCLUDE SPOOLS, FLANGE ADAPTER, NIPPLES, UNIONS, ETC. FOR A COMPLETE CONNECTION.

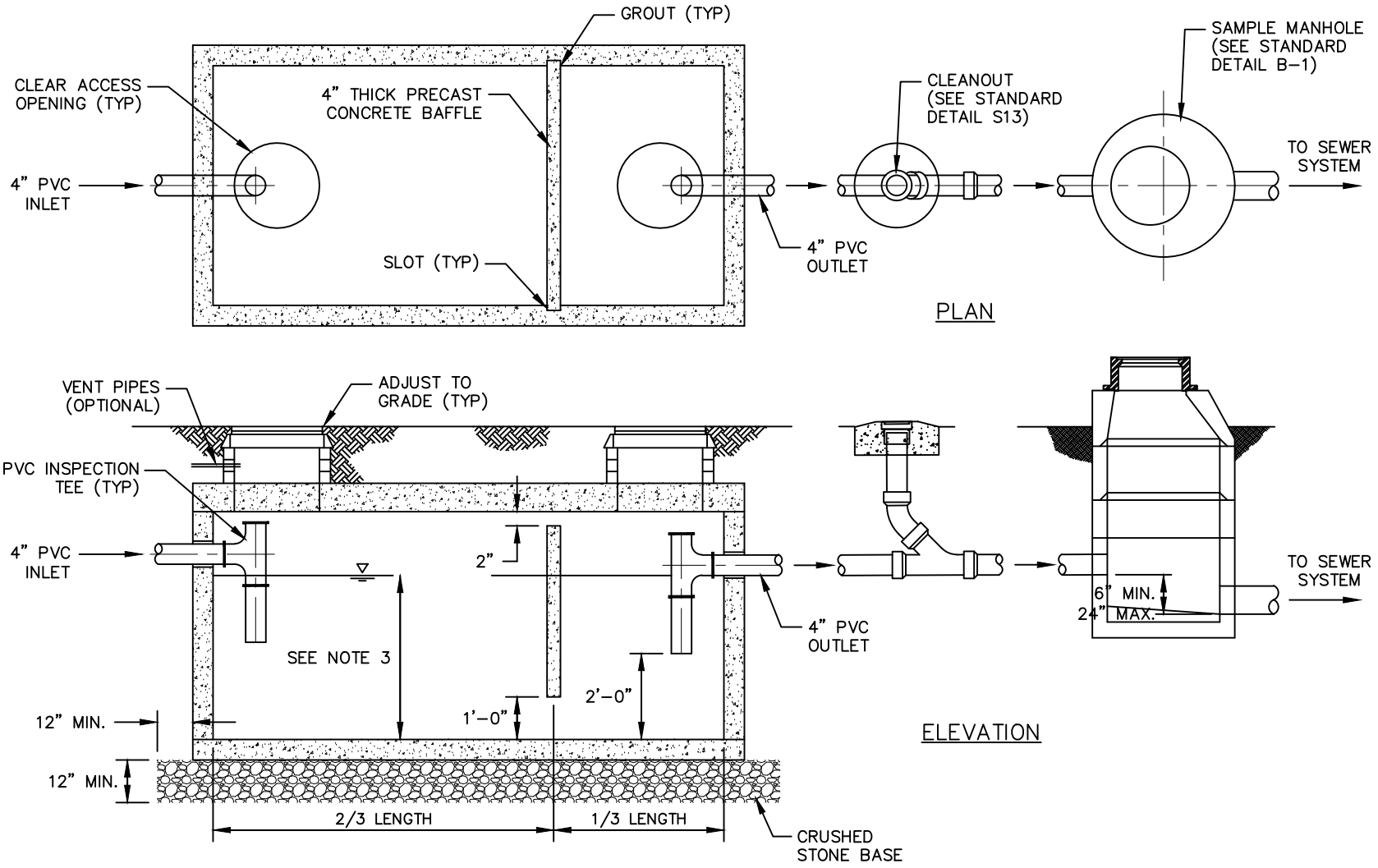



# AIR RELEASE VALVE MANHOLE

**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-14**




NOTES:

1. TANK SHALL MEET REQUIREMENTS OF ASTM C 1613.
2. TANK LENGTH TO BE GREATER THAN WIDTH.
3. LIQUID DEPTH SHALL BE MINIMUM 36" AND MAXIMUM 72".
4. GRADE ADJUSTMENTS GREATER THAN ONE (1) FOOT IN DEPTH REQUIRE USE OF MANHOLE RISERS. RISERS SHALL BE STACKABLE AND WATERTIGHT.
5. MANHOLE FRAME AND COVER SHALL BE TRAFFIC RATED EJ MODEL 1357 OR APPROVED EQUAL.
6. TWO (2) CLEANOUTS SHALL BE INSTALLED ON EACH OF THE TRAP INLET AND OUTLET TO ALLOW CLEANING OF THE LINE TOWARDS AND AWAY FROM THE TRAP (INLET LINE CLEANOUT NOT SHOWN FOR CLARITY).
7. LOCATION AND ACCESSABILITY OF SAMPLE MANHOLE SHALL BE AS REQUIRED BY NEWTON COUNTY STANDARDS.

# GREASE TRAP

**NOT TO SCALE**

**REVISED AUGUST 2021**

**STANDARD DETAIL NO. B-15**