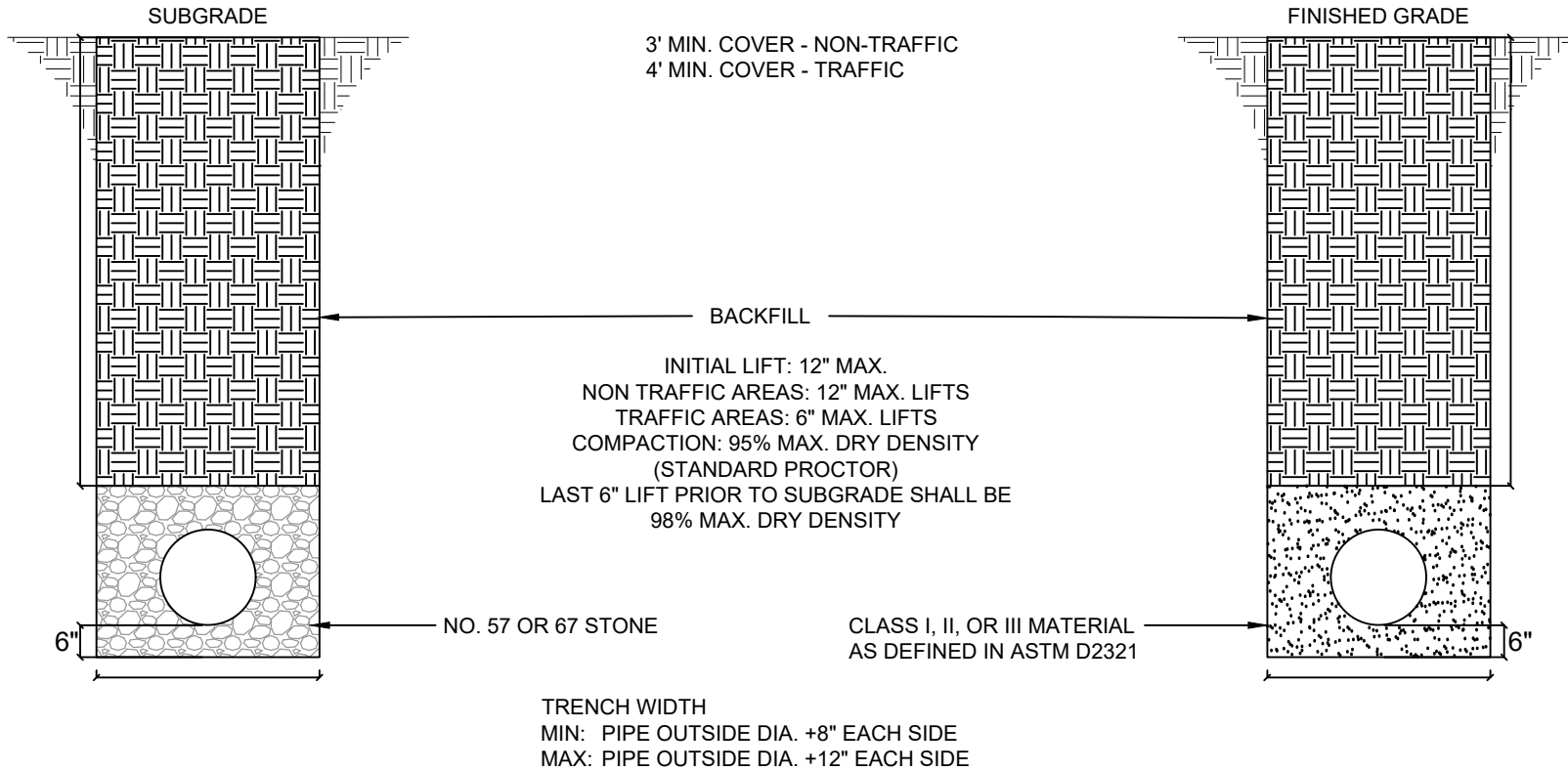


CLASS A BEDDING
REQUIRED FOR INSTALLATION IN TRAFFIC AREAS

CLASS B BEDDING
OPTIONAL INSTALLATION IN NON-TRAFFIC AREAS



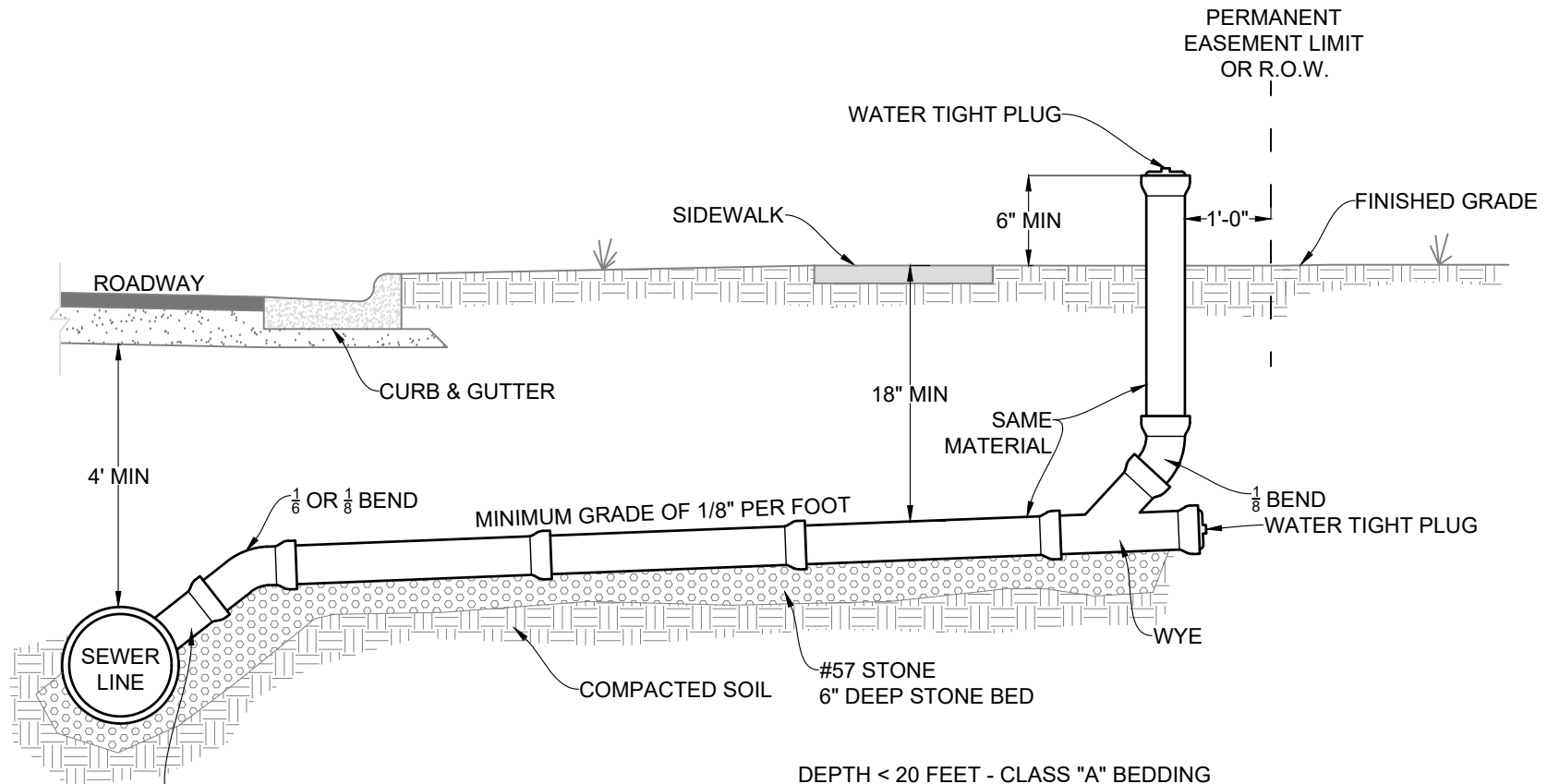
NOTES:

1. FOR TRENCHES REQUIRING SHORING & BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING & BRACING.
2. INSTALLATIONS THAT EXCEED 12 FEET DEPTH SHALL BE DIP.
3. INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF ASTM D2321
4. PROPOSED SEWER DEPTHS > 20 FEET SHALL BE APPROVED BY THE CITY

**SANITARY SEWER
TRENCH DETAIL**

CITY OF TROY
UTILITIES ENGINEERING DEPARTMENT

REV.	DATE	DATE OF APPROVAL



IN-LINE WYE FITTING OR APPROVED TAPPING SADDLE PROVIDED AT TOP QUARTER OF THE MAIN

IN-LINE WYE REQUIRED FOR SANITARY SEWER SERVICES INSTALLED WITH NEW CONSTRUCTION WHEN PARCEL AND SERVICE LOCATIONS ARE KNOWN AND IDENTIFIED ON APPROVED PLANS

DEPTH < 20 FEET - CLASS "A" BEDDING

- UNDERCUT TRENCH BOTTOM 6 INCHES MINIMUM BELOW PIPE
- FILL PIPE TO SPRING LINE WITH NO. 57 OR 67 STONE

DEPTH ≥ 20 FEET - CLASS "B" BEDDING

- UNDERCUT TRENCH BOTTOM 6 INCHES MINIMUM BELOW PIPE
- FILL TO 6 INCHES ABOVE PIPE WITH NO. 57 OR 67 STONE

INSTALLATIONS THAT EXCEED 13 FEET DEPTH SHALL BE DIP

SANITARY SEWER TAP & SERVICE



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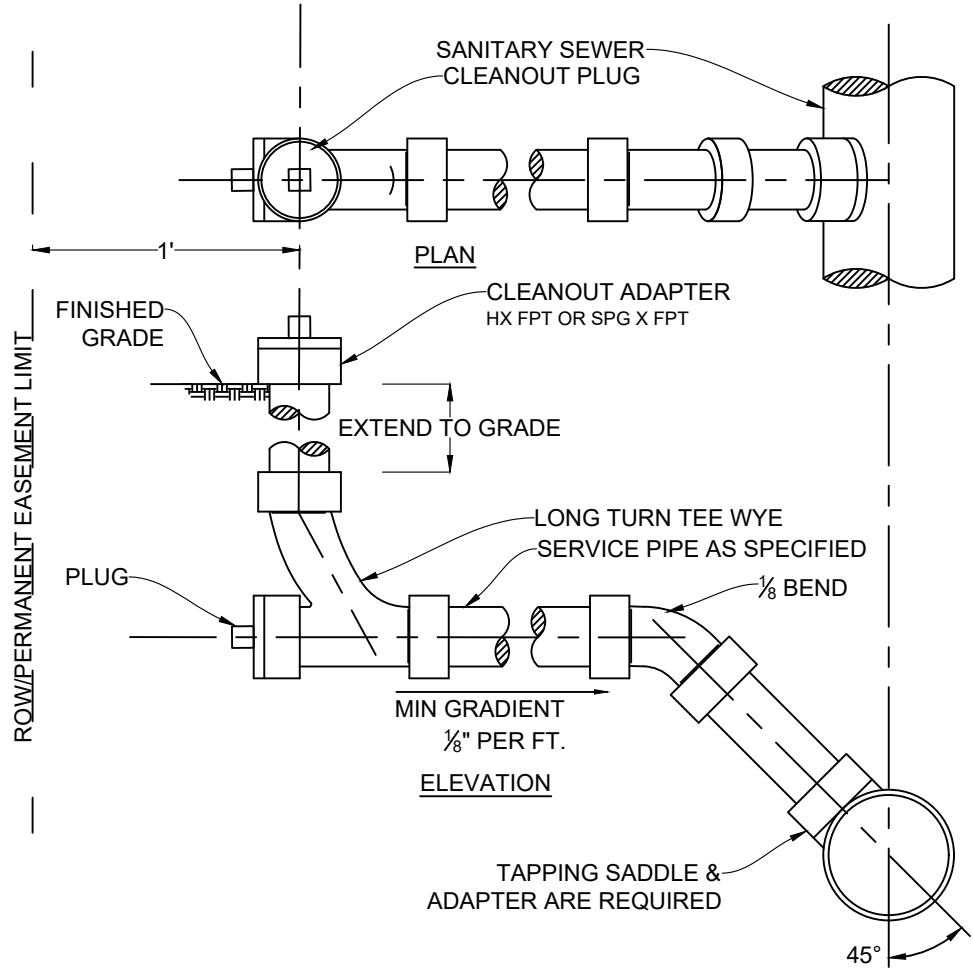
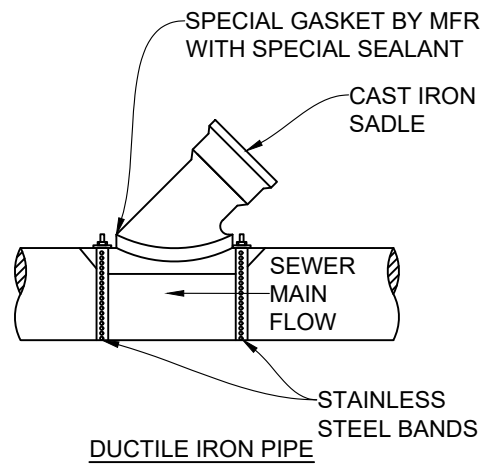
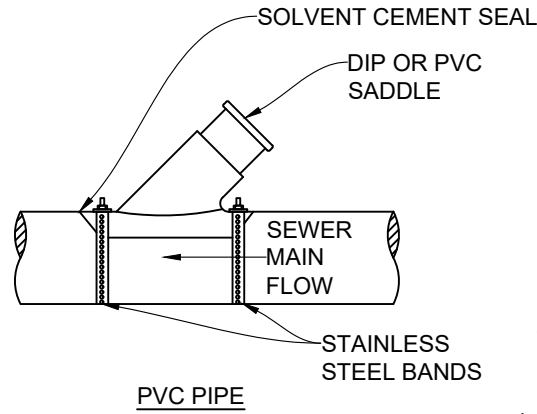
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STANDARD DETAILS
 THE CITY OF TROY UTILITIES

SCALE: N.T.S.

REV. DATE: NOVEMBER 2015

200-02



SANITARY SEWER SERVICE CONNECTIONS



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 THE CITY OF TROY UTILITIES

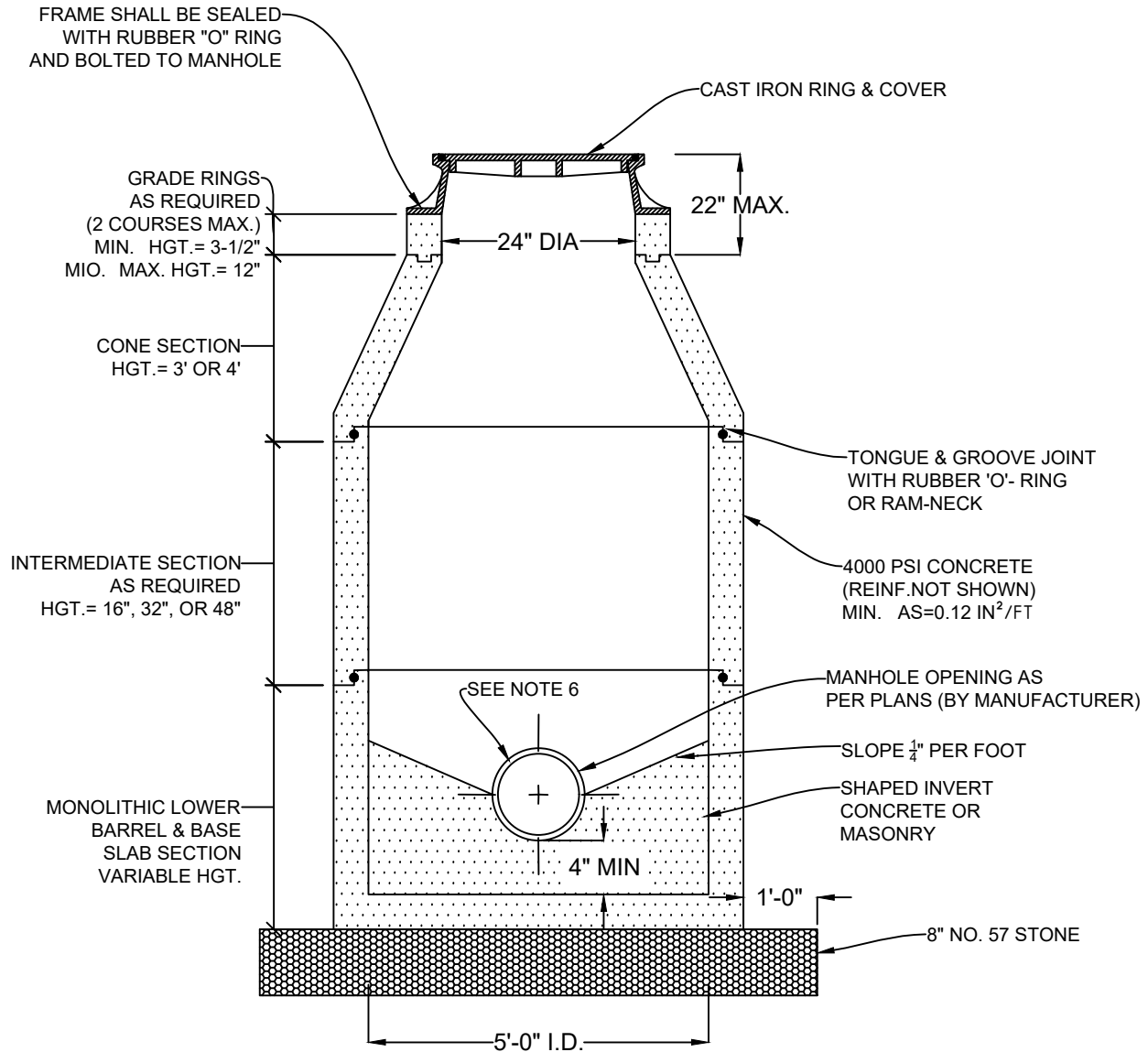
SCALE: N.T.S.

REV. DATE: NOVEMBER 2015

200-03

NOTES:

1. FOR DEAD-END MANHOLES, THE INVERT SHALL BE EXTENDED THROUGH THE MANHOLE.
2. ON THE INTERIOR OF THE MANHOLE, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH NON-SHRINK GROUT.
3. ON THE INTERIOR OF ALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH PRECO-PLUG QUICK SETTING GROUT.
4. ON THE EXTERIOR OF ALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE CONTINUOUSLY WRAPPED WITH 12" WIDE WATERPROOF BITUMINOUS TAPE.
5. SEWER MANHOLES WITHIN 1200 FEET OF FORCE MAIN CONNECTION SHALL HAVE INTERIOR EPOXY OR APPROVED ALTERNATIVE COATING.
6. WATERTIGHT MANHOLE CONNECTION SHALL BE KOR-N-SEAL OR APPROVED EQUAL
7. VACUUM TEST TO BE COMPLETED IN ACCORDANCE WITH ASTM C-1244 AND PERFORMED PRIOR TO BACKFILLING



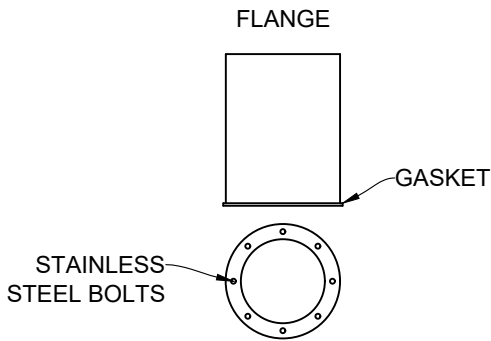
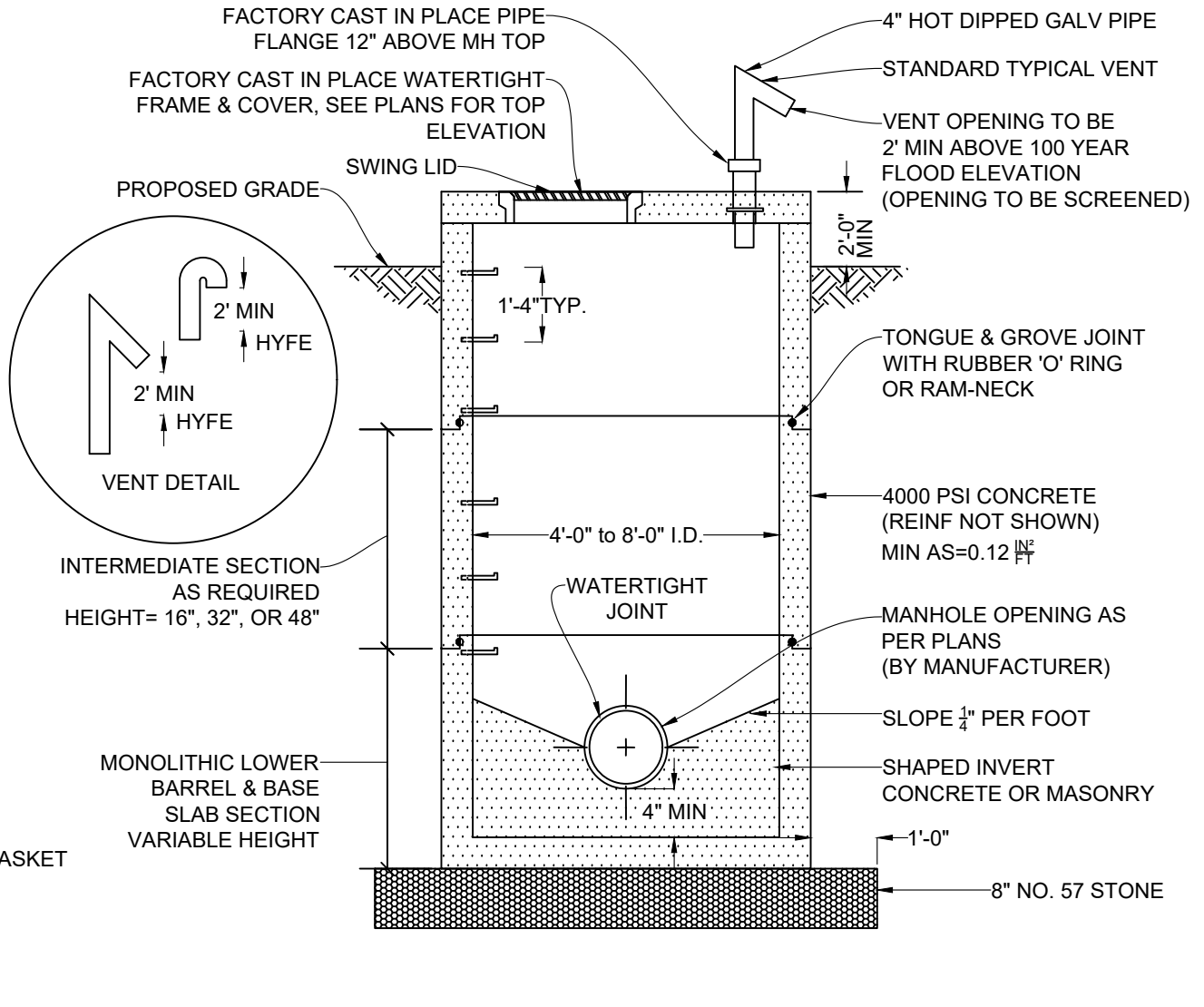
PRECAST MANHOLE

CITY OF TROY
UTILITIES ENGINEERING DEPARTMENT

REV.	DATE	
		DATE OF APPROVAL

NOTES:

1. FOR DEAD-END MANHOLES, THE INVERT SHALL BE EXTENDED THROUGH THE MANHOLE.
2. ON THE INTERIOR OF THE MANHOLE, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH NON-SHRINK GROUT.
3. ON THE INTERIOR OF ALL OUTFALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH PRECO-PLUG QUICK SETTING GROUT.
4. ON THE EXTERIOR OF ALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE CONTINUOUSLY WRAPPED WITH 12" WIDE WATERPROOF BITUMINOUS TAPE.
5. SEWER MANHOLES WITHIN 1200 FEET OF FORCE MAIN CONNECTION SHALL HAVE INTERIOR EPOXY OR APPROVED ALTERNATIVE COATING.



PRECAST MANHOLE



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STANDARD DETAILS
 THE CITY OF TROY UTILITIES

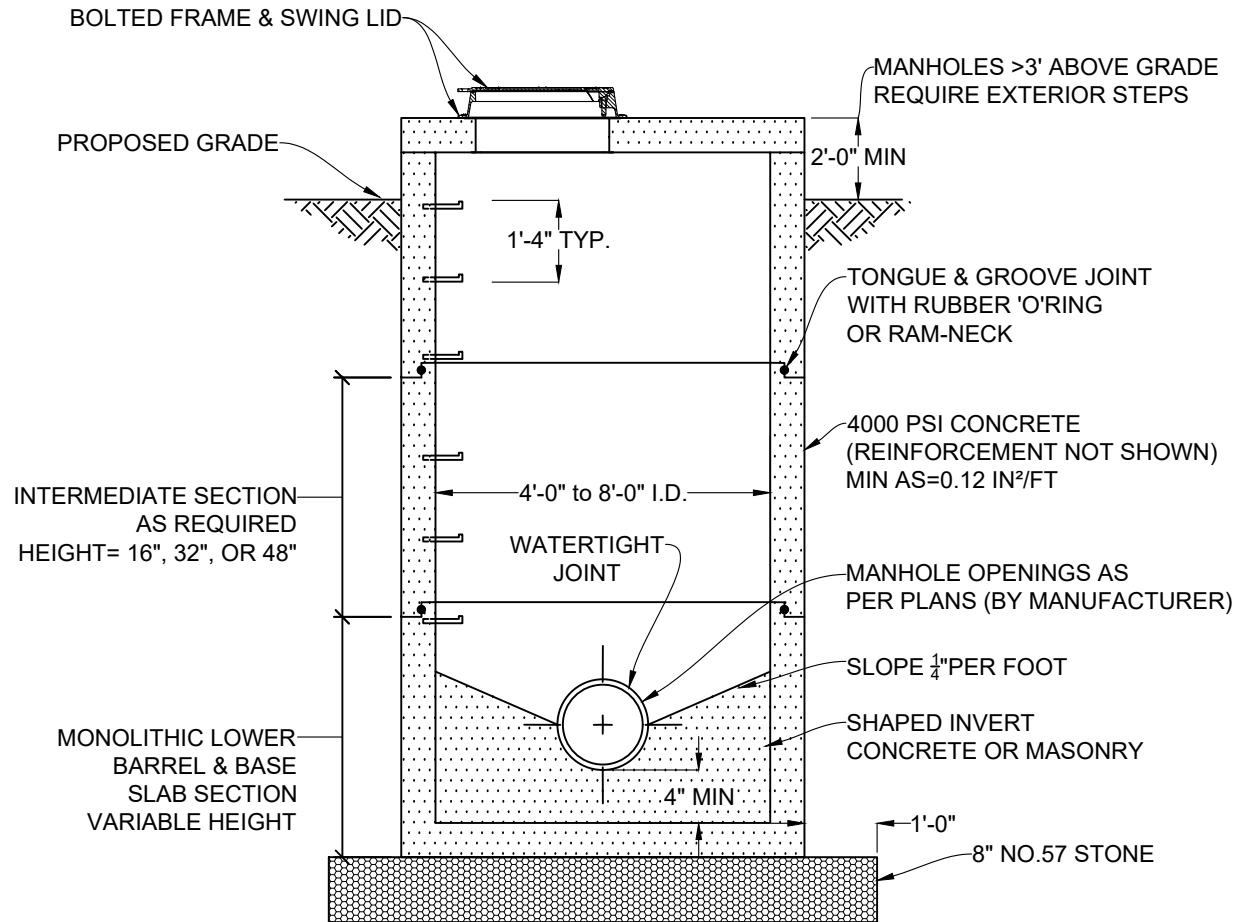
SCALE: N.T.S.

REV. DATE: NOVEMBER 2015

200-05

NOTES:

1. FOR DEAD-END MANHOLES, THE INVERT SHALL BE EXTENDED THROUGH THE MANHOLE.
2. ON THE INTERIOR OF THE MANHOLE, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH NON-SHRINK GROUT.
3. ON THE INTERIOR OF ALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH PRECO-PLUG QUICK SETTING GROUT.
4. ON THE EXTERIOR OF ALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE CONTINUOUSLY WRAPPED WITH 12" WIDE WATERPROOF BITUMINOUS TAPE.
5. SEWER MANHOLES WITHIN 1200 FEET OF FORCE MAIN CONNECTION SHALL HAVE INTERIOR EPOXY OR APPROVED ALTERNATIVE COATING.



PRECAST MANHOLE (OUTFALLS)



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 THE CITY OF TROY UTILITIES

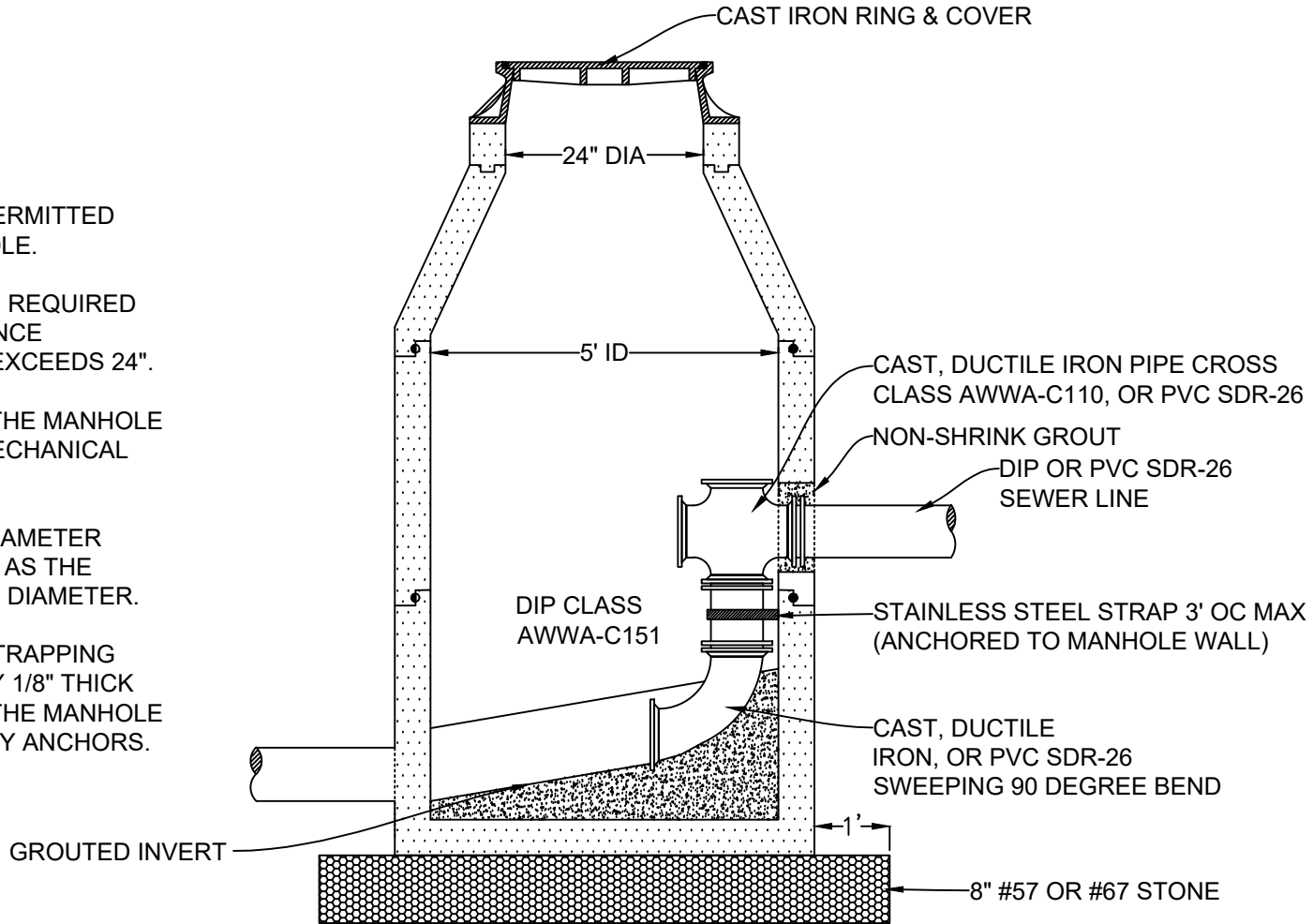
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REV. DATE: NOVEMBER 2015

200-06

NOTES:

1. ONE INSIDE DROP PERMITTED WITHIN A 5'Ø MANHOLE.
2. A DROP MANHOLE IS REQUIRED WHEN THE DIFFERENCE BETWEEN INVERTS EXCEEDS 24".
3. ALL JOINTS WITHIN THE MANHOLE SHALL BE OF THE MECHANICAL JOINT TYPE.
4. INSIDE DROP PIPE DIAMETER SHALL BE THE SAME AS THE INFLOW SEWER LINE DIAMETER.
5. STAINLESS STEEL STRAPPING SHALL BE 1" WIDE BY 1/8" THICK AND ATTACHED TO THE MANHOLE WALL WITH MASONRY ANCHORS.



ELEVATION

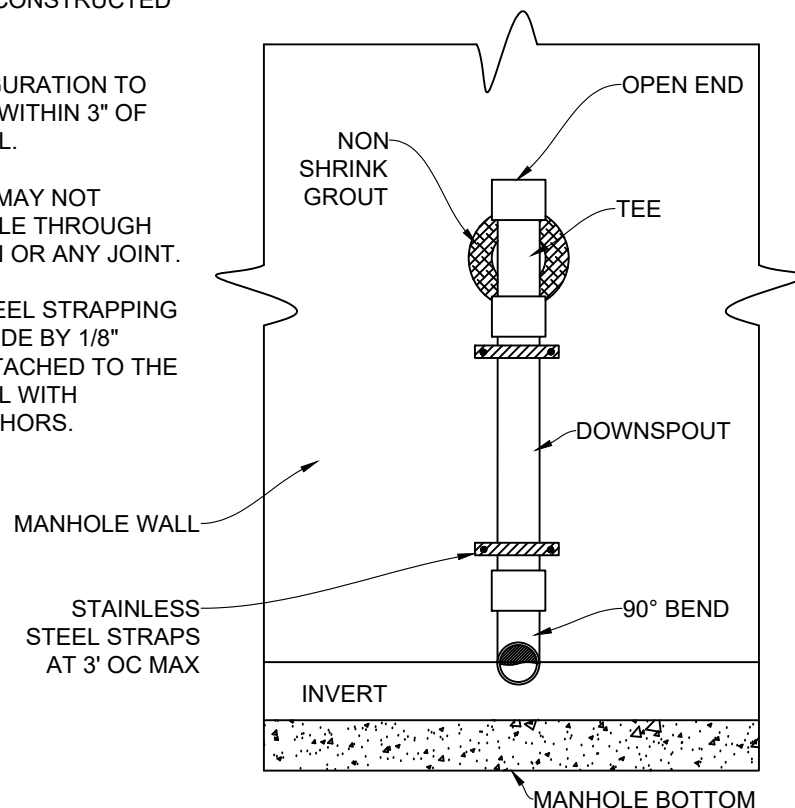
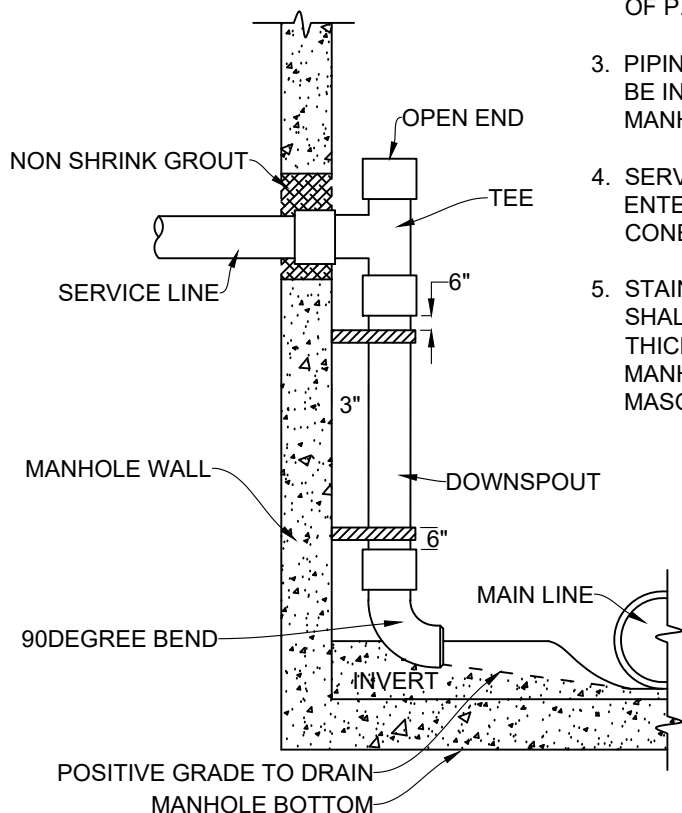
**INSIDE DROP
MANHOLE**

CITY OF TROY
UTILITIES ENGINEERING DEPARTMENT

REV.	DATE	DATE OF APPROVAL

NOTES:

1. PIPING CONFIGURATION TO BE USED ON ALL DROPS EXCEEDING 24".
2. DROPS TO BE CONSTRUCTED OF P.V.C. PIPE.
3. PIPING CONFIGURATION TO BE INSTALLED WITHIN 3" OF MANHOLE WALL.
4. SERVICE LINE MAY NOT ENTER MANHOLE THROUGH CONE SECTION OR ANY JOINT.
5. STAINLESS STEEL STRAPPING SHALL BE 1" WIDE BY 1/8" THICK AND ATTACHED TO THE MANHOLE WALL WITH MASONRY ANCHORS.



DROP MANHOLE FOR SEWER SERVICE



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 THE CITY OF TROY UTILITIES

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200-08

2" ALUMINUM SCH 40 PIPE WITH FABRICATED FLANGE TO COVER 3" CORE OPENING IN SLAB. USE S.S. ANCHOR BOLTS. COAT SURFACES CONTACTING CONC. WITH ASPHALTIC PAINT. INSTALL S.S. 9" X 9" X #16 MESH AROUND PIPE OPENING USING S.S.

5' I.D. PRECAST CONC. MANHOLE & RISER PER ASTM C-478

FRAME & COVER CAST IN SLAB

EX. GRADE

CONTRACTOR TO PROVIDE CLEARANCE BETWEEN TOP OF AIR VALVE AND CONCRETE CEILING AS REQUIRED BY AIR VALVE MANUFACTURER. THIS CLEARANCE SHOULD ALLOW FOR REMOVAL AND MAINTENANCE OF AIR VALVE. MINIMUM CLEARANCE SHALL BE THE HEIGHT OF AIR VALVE.

3" DIA. CORE OR PRECAST OPENING
5'-0" MIN. OR AS REQ'D BY VALVE MANUF.

DEPTH AS REQUIRED TO CONSTRUCT STATION

6" MIN.

12"

3" MAX.

* COMBINATION AIR & VACUUM VALVE

* G.V. (HANDWHEEL OPERATED)

* D.I. (FL X PE) SPOOL PIECE (RESTRAINED)

CRUSHED STONE FILL INSIDE MANHOLE

CAST IN PLACE CONC.

MH STEPS AT 15" O.C. (TYP.)

NOTE: ALL DUCTILE IRON PIPE AND FITTINGS TO BE FUSION BONDED EPOXY COATED (SEE SPECS).

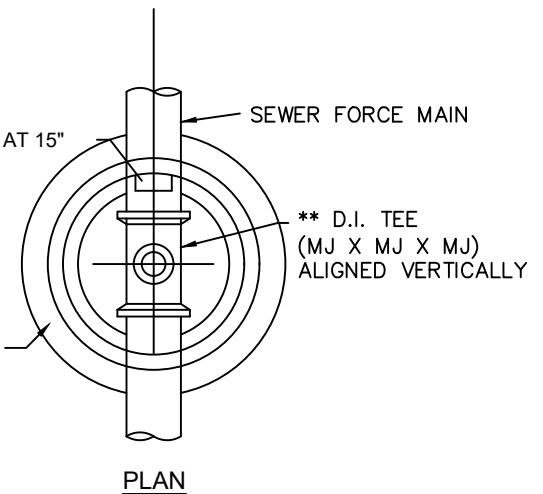
** D.I. TEE (MJ X MJ X MJ) W/ RESTRAINED JOINTS MEGALUGS OR EQUAL)

6"

6"

6" MIN. (#57 CRUSHED STONE)

CONCRETE FOOTING CAST IN PLACE.



* VALVE SIZE AND MODEL SHALL BE AS APPROVED BY PCI

AIR & VACUUM RELEASE VALVE STATION



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200-09

NOTES:

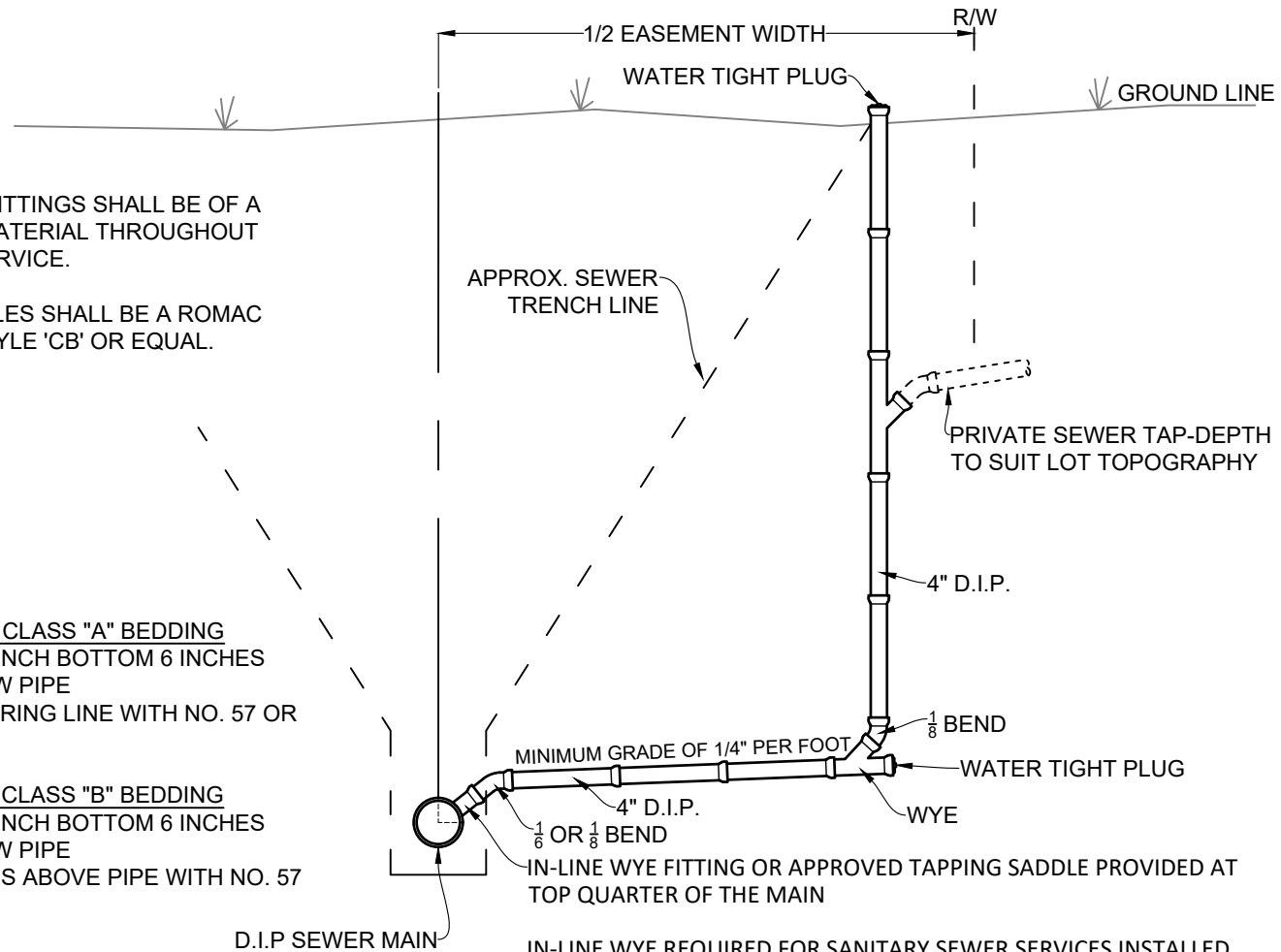
1. ALL PIPE AND FITTINGS SHALL BE OF A CONSISTENT MATERIAL THROUGHOUT THE ENTIRE SERVICE.
2. SERVICE SADDLES SHALL BE A ROMAC INDUSTRIES STYLE 'CB' OR EQUAL.

DEPTH < 20 FEET - CLASS "A" BEDDING

- UNDERCUT TRENCH BOTTOM 6 INCHES MINIMUM BELOW PIPE
- FILL PIPE TO SPRING LINE WITH NO. 57 OR 67 STONE

DEPTH ≥ 20 FEET - CLASS "B" BEDDING

- UNDERCUT TRENCH BOTTOM 6 INCHES MINIMUM BELOW PIPE
- FILL TO 6 INCHES ABOVE PIPE WITH NO. 57 OR 67 STONE



IN-LINE WYE REQUIRED FOR SANITARY SEWER SERVICES INSTALLED WITH NEW CONSTRUCTION WHEN PARCEL AND SERVICE LOCATIONS ARE KNOWN AND IDENTIFIED ON APPROVED PLANS

4" SANITARY SEWER TAP & SERVICE FOR SEWER MAINS OVER 13' DEEP



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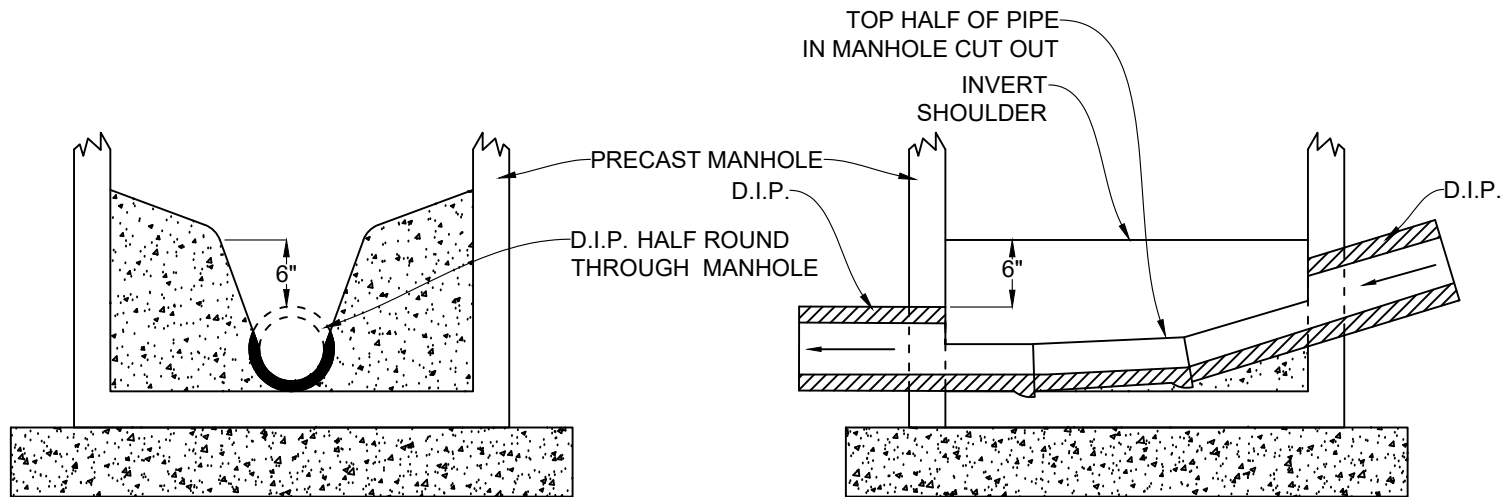
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 THE CITY OF TROY UTILITIES

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200-10



NOTES:

1. NO HORIZONTAL ALIGNMENT CHANGE CAN BE MADE WITHIN THIS MANHOLE TYPE. USE ON GRADES 10% OR GREATER.
2. EACH JOINT OF PIPE BETWEEN HIGH VELOCITY MANHOLE & MANHOLE UPGRADE SHALL HAVE A THRUST COLLAR.

HIGH VELOCITY MANHOLE INVERT



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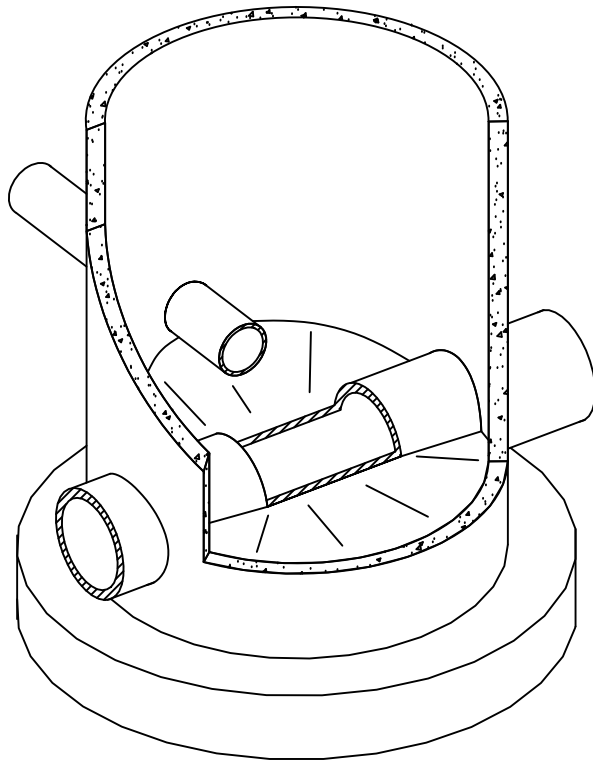
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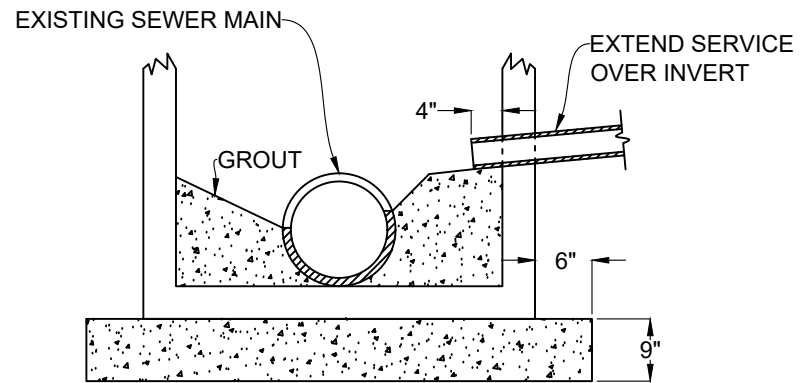
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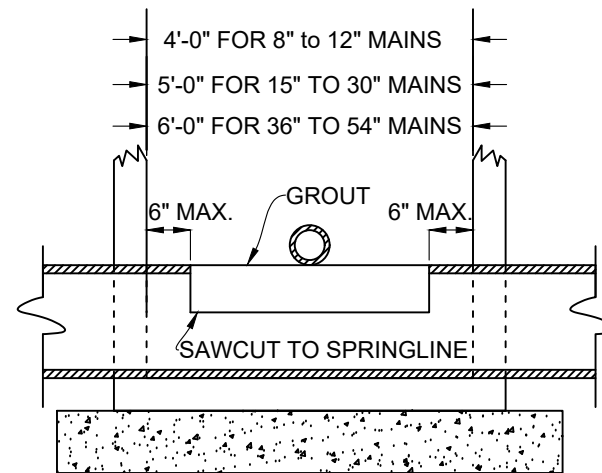


NOTES:

1. FLOW SHALL BE MAINTAINED DURING CONSTRUCTION.
2. THIS DETAIL TO BE USED WHEN A 6" OR LARGER LATERAL NECESSITATES CONSTRUCTION OF A NEW MANHOLE.
3. MANHOLE PAD TO REST UPON A MINIMUM 6" COMPACTED #67 STONE BASE.



CROSS SECTION AT EXISTING MAIN



SECTION ALONG CENTERLINE OF MAIN

DOGHOUSE MANHOLE INSTALLATION OVER EXISTING SEWER MAIN



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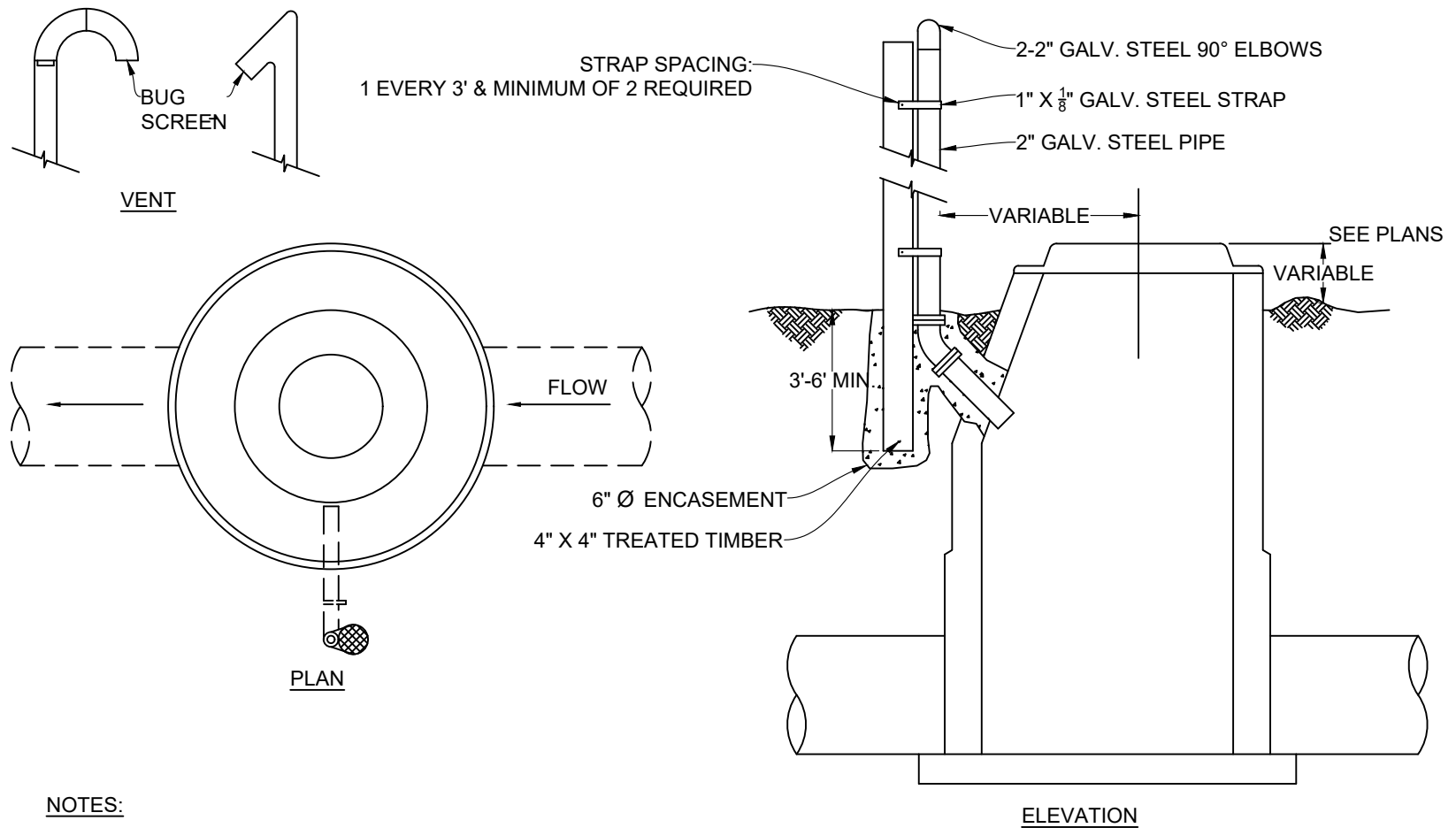
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THE CITY OF TROY UTILITIES

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NOTES:

1. LOCATION OF VENT PIPE SHALL BE AS DIRECTED BY THE CONSTRUCTION INSPECTOR.
2. WATERTIGHT RING AND COVER VENT TOP TO BE ABOVE 100 YEAR FLOOD PLAIN ELEVATION.

MANHOLE VENT



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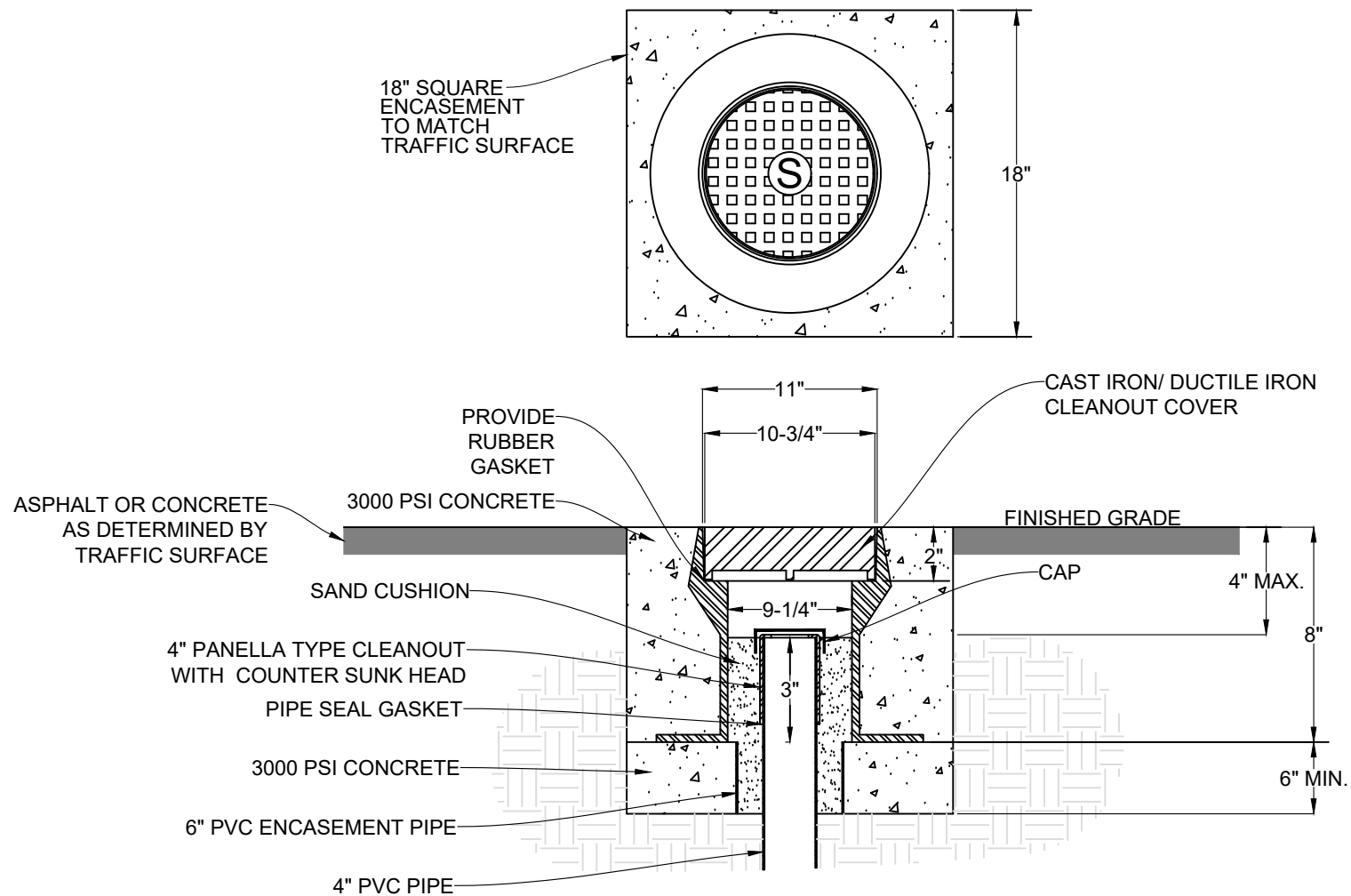
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CLEANOUT COVER FOR VEHICLE TRAFFIC AREAS



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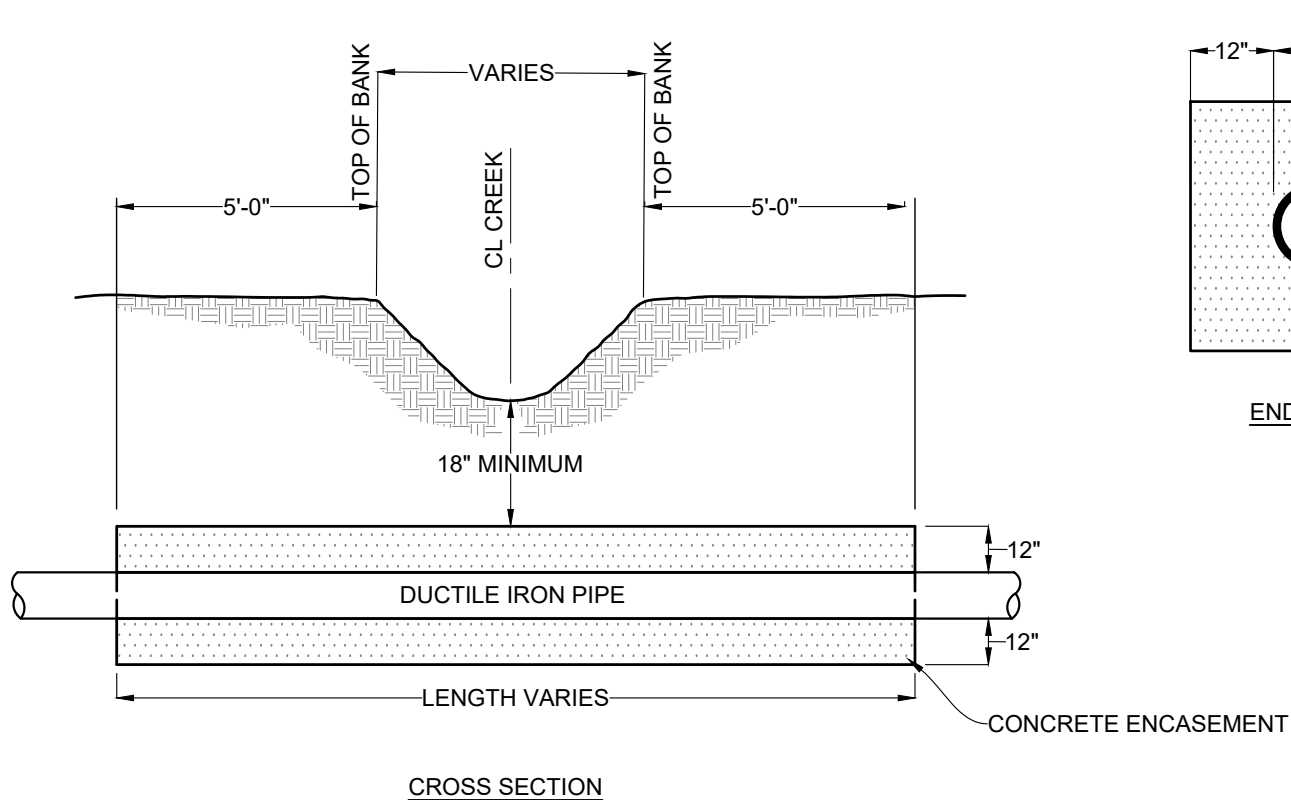
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200-14



NOTES:

1. CONCRETE SHALL BE 3000 P.S.I.

CONCRETE ENCASEMENT FOR STREAM CROSSING



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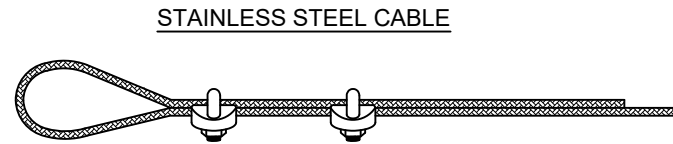
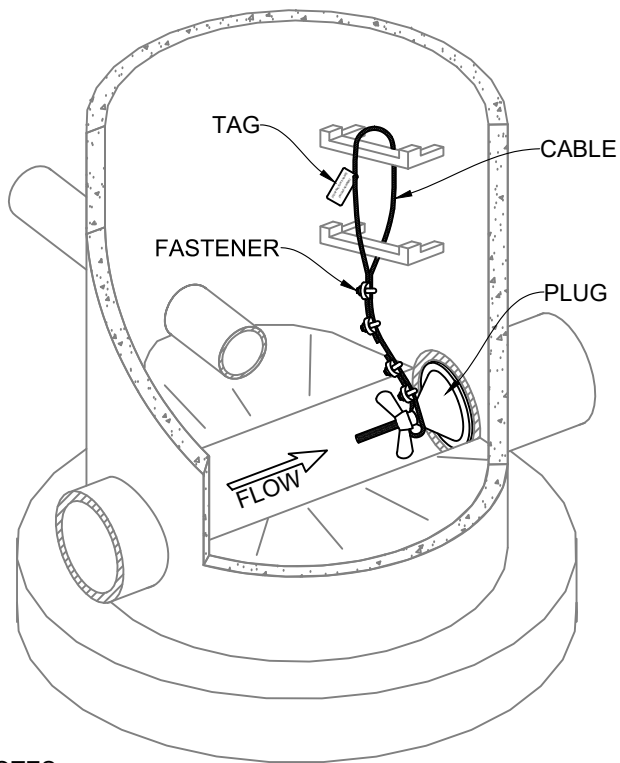
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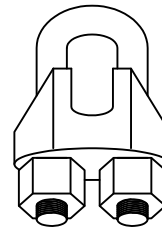
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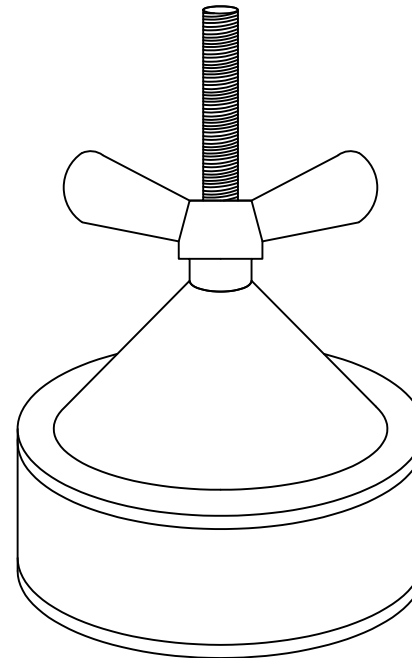


STAINLESS STEEL CABLE

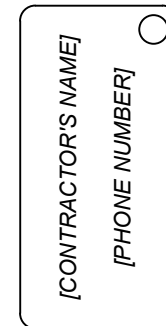
CORROSION RESISTANT FASTENERS



WING NUT PLUG



IDENTIFICATION TAG



NOTES:

1. PLUG SHALL BE INSTALLED ON THE DOWNSTREAM OUTLET.
2. PLUG SHALL BE SECURED TO A MINIMUM OF 2 MANHOLE STEPS BY STAINLESS STEEL CABLE WITH CORROSION-RESISTANT FASTENERS.
3. PLUG ASSEMBLY SHALL BE TAGGED WITH CONTRACTOR'S NAME & CONTACT NUMBER ON A CORROSION-RESISTANT PLATE.
4. PLUGGED MANHOLE SHALL BE MAINTAINED CONTINUALLY TO ALLOW ACCESS TO THE PLUG.

SANITARY SEWER PLUG INSTALLATION



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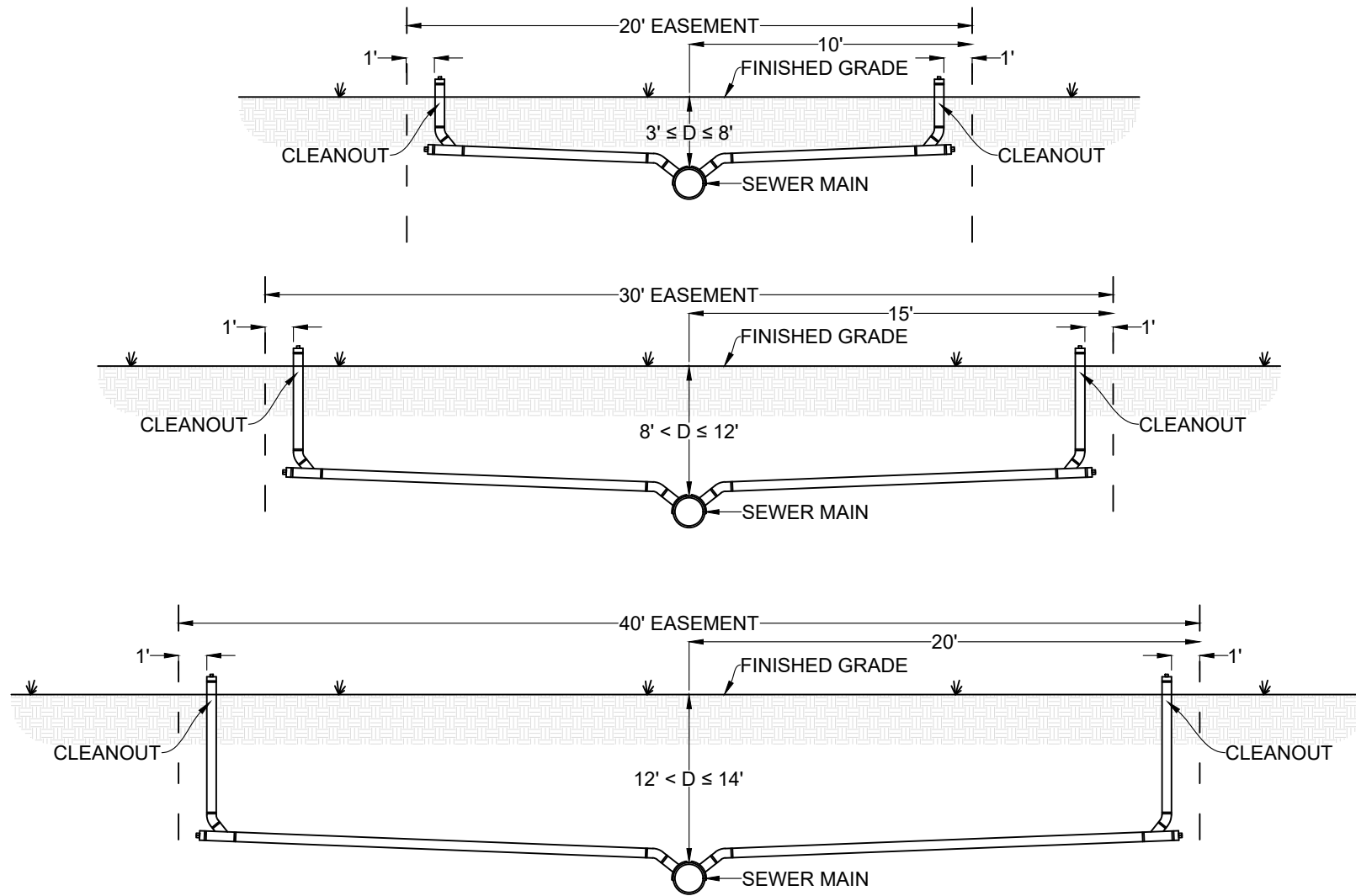
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SANITARY SEWER EASEMENT



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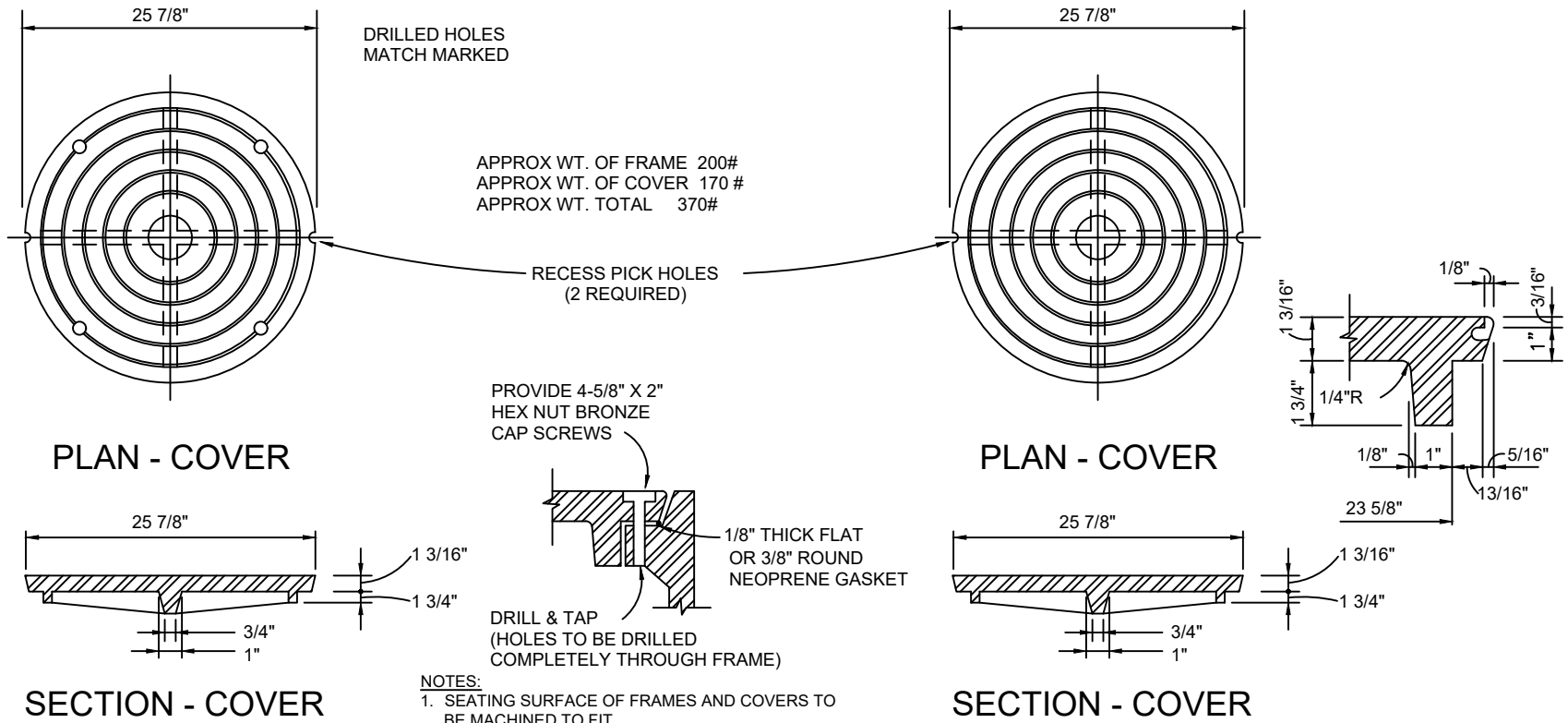
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STANDARD DETAILS
 THE CITY OF TROY UTILITIES

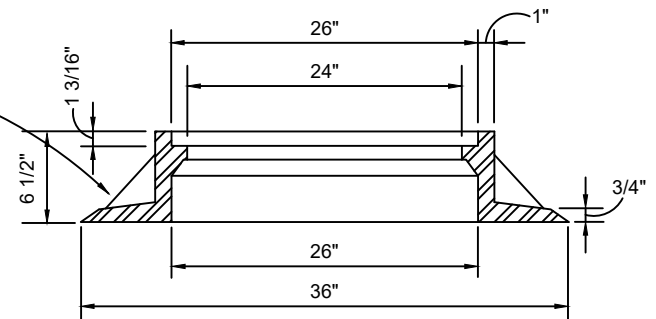
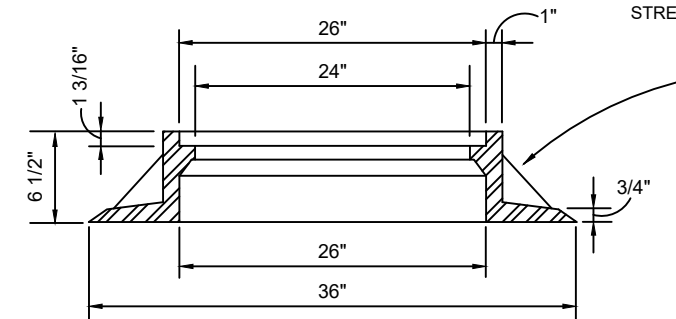
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- NOTES:**
1. SEATING SURFACE OF FRAMES AND COVERS TO BE MACHINED TO FIT.
 2. ASPHALT COLLARS SHALL BE USED WHEN MANHOLE IS LOCATED IN PAVED ASPHALT STREETS OR DRIVEWAYS.



MANHOLE FRAME & COVER



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STANDARD DETAILS
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