NOTES:
1. CONCRETE ENCASE ENTIRE WYE SECTION AND 45 DEGREE BEND IF CONCRETE OR DUCTILE IRON PIPE.
2. STANDPIPE TO BE SAME SIZE AS MAINLINE UP TO AND INCLUDING 8" PIPE. MAINLINE GREATER THAN 8" SHALL HAVE A 8" STANDPIPE.
NOTES
1. ¼" ALLEN HEAD BOLTS
   1" LONG RECESSED.
2. ALL PERMANENT CLEANOUTS
   TO HAVE BOLT DOWN COVERS.
3. MATERIAL SHALL BE GRAY
   CAST-IRON, ASTM A-48,
   CLASS 30.

CLEANOUT FRAME
AND COVER

DRAWING NO. 510

REVISED 10-31-19
1. All storm and sanitary service laterals shall be marked on the top face of curb as follows:
   - Storm drain laterals "D"
   - Sanitary sewer laterals "S"

2. Letters shall have 3/8" max. width and a max height of 4".

3. Letter shall be centered on top face of curb.

**Curb Stamp Detail**

**Notes:**

1. For new construction all side sewer and side storm pipeline connections to 8" and 10" mains shall be with factory fabricated "TEE" fittings unless otherwise approved.

2. Pipe material shall be one of the following:
   A. PVC ASTM-D3034, ASTM-C900
   B. Ductile iron Class-50 (Storm Only)
   C. A-2000 PVC ASTM 949
   D. PVC Rib Meeting ASTM D 1784
   E. CIP Meeting AASHTO M252

Label magnetic tape with black lettering stating the following:
   - For sanitary: "Caution Sewer Buried Below."
   - For Storm: "Caution Storm Drain Buried Below."
   - Place 18" above top of pipe and against 2x4.

**Minimum Slope for**
   - 6" Pipe = 0.010
   - 4" Pipe = 0.020

**3/4"-0 Pipe Zone Material as Specified**

**CleanWater Services**

Drawing No. 520  Revised 10-31-19
1. PVC HUB SHALL CONFORM TO ASTM 3034, SDR 35 DRIVE INTO CENTER OF RUBBER SLEEVE AFTER SLEEVE IS PLACED IN HOLE.

2. STAINLESS STEEL BAND SECURES UPPER HALF OF RUBBER SLEEVE TO THE PVC HUB. STAINLESS STEEL BAND SHALL BE 300 SERIES, \( \frac{3}{16} \)" BAND WIDTH, CADMIUM PLATED CARBON STEEL, AND ATTACHED WITH HEX HEAD SLOTTED SCREW.

3. COMPLETE RUBBER SLEEVE INCLUDES A MOLDED SEGMENT THAT HOLDS IT IN PLACE.

NOTES:
1. ALL INSERTA TEE HOLES SHALL BE MACHINE DRILLED AND CORED.
2. INSERTA TEES ARE NOT ALLOWED IN NEWLY CONSTRUCTED MAINLINES WITH AN INSIDE DIAMETER (I.D.) OF 10 INCHES OR SMALLER.
3. MAINLINE SHALL BE TWO SIZES (NOMINAL I.D.) LARGER THAN THE INSERTA TEE.
4. INSTALLATION SHALL BE PER MANUFACTURER’S INSTRUCTIONS.
CONCRETE CAP

END VIEW

NOTE:
CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND 2” TO 4” SLUMP.

SIDE VIEW
NOTES:

1. CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND, 2" TO 4" SLUMP.

2. PRIOR TO INSTALLING THE CONCRETE, ENSURE THE JOINT IS SEALED IN A MATTER AS NOT TO ALLOW CONCRETE TO ENTER INTO THE INTERIOR OF PIPE.
<table>
<thead>
<tr>
<th>SLOPE</th>
<th>MIN. ANCHOR SPACING CENTER TO CENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% - 34%</td>
<td>35'</td>
</tr>
<tr>
<td>35% - 50%</td>
<td>25'</td>
</tr>
<tr>
<td>51% +</td>
<td>15'</td>
</tr>
<tr>
<td></td>
<td>OR CONC. ENCASEMENT</td>
</tr>
</tbody>
</table>

NOTE:
1. CONCRETE ANCHORS TO BE INSTALLED IMMEDIATELY DOWNHILL OF PIPEBELL
2. CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI, AND 2" TO 4" SLUMP.
3. ODOT "METAL PIPE SLOPE ANCHORS" ARE AN ACCEPTABLE ALTERNATIVE, SEE DETAIL #580.
1. All pipe stakes and hardware to be galvanized after fabrication.

2. Either alternate "A" or alternate "B" anchor assembly may be used at contractor's option for annularly corrugated pipe. Alternate "A" to be used with helically corrugated pipe.

3. Either Type 1 or Type 2 pipe stakes may be used with either anchor assembly alternate at the contractor's option.

4. Place slope anchor assemblies on 6 m max. centers, on slopes 20% or greater.

5. Plate material to be ASTM A36M 6.3 mm galvanize after fabrication.
NOTE:
1. ALL COMPACTION REQUIREMENTS PER AASHTO T-99 AND ODOT/APWA SPEC 00405.
2. THE TRENCH WIDTH AT THE SURFACE OF THE GROUND SHALL BE KEPT TO A MINIMUM NECESSARY TO INSTALL THE PIPE IN A SAFE MANNER.
3. THE MINIMUM TRENCH WIDTH IN THE PIPE ZONE SHALL PROVIDE A CLEAR WORKING SPACE OF SIX INCHES OUTSIDE THE MAXIMUM OUTSIDE DIAMETER OF THE PIPE BEING INSTALLED.
4. IN ALL CASES, TRENCHES SHALL BE OF SUFFICIENT WIDTH TO ALLOW FOR SHORING, PROPER JOINING OF PIPE, AND BACKFILLING OF MATERIAL ALONG THE SIDES OF THE PIPE.

TRENCH STABILIZATION:
IF REQUIRED, TRENCH STABILIZATION SHALL BE SPECIFIED SEPARATELY AND PLACED PRIOR TO PLACEMENT OF BEDDING MATERIAL.
TACK ALL EXPOSED MATERIAL PATCH AC TO GREATER OF 3" THICKNESS OR EXISTING.

EXISTING BASE ROCK

W + 24" MIN.

12" MIN.

SAWCUT

12" MIN.

EXISTING AC

3/4" – 0 CRUSHED ROCK

PIPE ZONE

BEDDING

NOTE:
1. TEE CUT TO BE DONE AFTER EXCAVATION AND BACKFILL OF TRENCH.
2. SEE STD. DRAWING NO. 590 FOR BEDDING, PIPE ZONE, AND TRENCH BACKFILL.
SEAL THE AREA BETWEEN THE END OF THE CASING AND PIPE BY FORCING GROUT INTO THE SPACE AROUND THE PIPE AT THE DIMENSIONS SHOWN.

FILL ANNUULAR SPACE WITH SPECIFIED MATERIAL: LEAN GROUT, PEA GRAVEL, OR SAND AS APPROVED.

BEGIN AT THE FAR END AND FILL BACK TOWARD THE INSERTION HOLE.

AIR VENT AND FILLING POINTS SHALL BE REMOVED PRIOR TO GROUT PLUGS BEING INSTALLED.

NOTES:
1. PROVIDE PIPE NIPPLE AT TOP OF CASING, AT EACH END OF CASING OR AS SPECIFIED, FOR FILLING AND VERIFYING FILLING OPERATION. (MIN DIAMETER SIZE 4")
2. GROUT SHALL BE PUMPED TO FILL Voids AROUND THE CASING DURING THE INSTALLATION. ENGINEER DESIGN REQUIRED.

CASING PIPE:
6"-12" DIA. - 1/4" MIN. THICKNESS.
15"-24" DIA. - 5/16" MIN. THICKNESS.
OR AS SPECIFIED

SEWER PIPE AS SPECIFIED

STRAP PRESSURE TREATED WOOD OR PREFABRICATED SKIDS WITH BANDS, THREE PER PIPE MIN. SPACED TO SUPPORT PIPE TO ENSURE NO DEFLECTION. PREFABRICATED SKIDS SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS OR APPROVED EQUAL.

BORE DETAIL
CREEK CROSSING RESTORATION

BENTONITE TRENCH DAM LOCATED 20 FEET HORIZONTALLY BEYOND MEAN HIGH WATER LEVEL (TYP) EXACT LOCATION TO BE DETERMINE BY DESIGN ENGINEER.

36° MINIMUM COVER (TYP) ABOVE PIPE ZONE SHALL BE COMPACTED NATIVE MATERIAL WITHIN LIMITS OF CREEK CROSSING, AS APPROVED.

NEW PIPE LINE

MINIMUM OF 6" OVERLAP EC MATING MUST EXTEND NO LESS THAN 6" ABOVE ORDINARILY HIGH WATER LEVEL.

ROCK RIPRAPP AS SHOWN ON THE ENGINEERED PLANS

MINIMUM ODOT CLASS 100 RIP RAP REQUIRED, SEE STANDARD DRAWING #770

DIMENSION VARIES

BENTONITE TRENCH DAM LOCATED 20 FEET HORIZONTALLY BEYOND MEAN HIGH WATER LEVEL (TYP) EXACT LOCATION TO BE DETERMINE BY DESIGN ENGINEER.

NOTES:
DIP, C-900, OR RCP REQUIRED BETWEEN 12" AND 36" OF DEPTH BELOW RIP RAP, AS APPROVED BY DISTRICT OR CITY.

PIPE ZONE AS SPECIFIED SEE STD DRAWING # 590

PIPE BEDDING AS SPECIFIED