



*Development Resource Center  
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*Cleveland T. Grimes  
Executive Director*

February 26, 2010

Plumber  
Plumber's Company  
Address  
City, State Zip Code

**Subject:**        *Administration Reminders and Updates in the WWTA Service Area*

Dear Plumber:

In administering the Rules and Regulations of the Hamilton County Water & Wastewater Treatment Authority (WWTA) and implementing our Private Service Lateral Program (PSLP) the WWTA has realized that we need to review issues with the plumbers that share our responsibilities to the public and the environment.

Please be reminded that:

1. The WWTA is issued a State Operating Permit (SOP) from the Tennessee Department of Environment and Conservation (TDEC). Within this permit, TDEC has authorized the WWTA to grant temporary "Pump and Haul" permits when warranted. Pump and Haul permits require a licensed hauler. This authorization does not mean that haulers can dump to any manhole of their choosing. Such discharges are prohibited. We require that the hauler be a part of our permitting process; therefore, the hauler will be aware of our approval. This is necessary in order to discharge to our system. Additionally, notification is required at the approved location prior to any discharge into our system. An owner stating they have WWTA approval to discharge is not sufficient. Any prohibited discharge to our system may result in the loss of the hauler's state license.
2. Prior to starting any work on the sewer system, a permit must be obtained from the WWTA. This includes connection to the main line and any work to be performed to a private service lateral (the line that runs from the structure to the mainline, not the portion in or under the structure). This means you need a permit from the WWTA to work on any portion of the WWTA sewer system or a private service that connects to our system before you start work. Any other permit required by the municipality or county does not negate the requirement to obtain a permit from the WWTA.
3. The work performed on private service laterals that need to be rehabilitated due to Inflow and Infiltration (I & I) shall be performed under the observation of WWTA personnel and only by a qualified, licensed plumber that has been contracted by the WWTA. The qualified plumber list is available at our website (<http://www.hamiltontn.gov/wwta/>). You will be notified when the program will be reopened to Master Plumbers for enrollment in the future.

4. Beginning March 29, 2010, the WWTA newly constructed private service laterals constructed within the WWTA service area shall be tested as required by Section 312 of the International Plumbing Code approved by the Hamilton County Building Inspection Department. The laterals shall hold 5 psi for 5 minutes . It is the responsibility of the Master Plumber to familiarize themselves with the testing procedures prior to March 29<sup>th</sup>. Additionally, the WWTA has modified its requirements for constructing laterals. A copy of the modified Details and Specifications are attached. It is the responsibility of the Master Plumber to notify his customer of any additional cost due to these changes. Also beginning on March 29, 2010, a color digital video inspection will be performed by the Master Plumber. This video will be provided to the WWTA prior to approval
  
5. It is possible that a plumber could receive a call directly from a resident requesting service for a “clog” in their private service lateral that is caused by an issue that is also related to I & I (such as roots, breaks, and collapses). These calls need to be directed to either the WWTA so we can make that determination and then solicit the services of a qualified, licensed plumber or directly to a qualified, licensed plumber in the PSLP. If the service required on a private service lateral is not related to I & I, the work will proceed as usual, with the appropriate permits. Should you be contacted after hours or on the weekend the resident should be directed to call the WWTA emergency number (423) 209-6408 or to visit our website (<http://www.hamiltontn.gov/wwta/>).

Do not hesitate to call our office at (423) 209-7842 should you have any questions.

Sincerely,



Cleveland T. Grimes  
Executive Director

Enclosures: SD-GEN-15  
SD-GEN-16  
SD-GEN-17  
Section 2731

cc: Dan Wade, Public Works Administrator  
Phil Smartt, WWTA Chair  
Mike Carter, WWTA Attorney  
Mark Harrison, Chief Engineer (Electronic Copy)  
Tom Bowen, Wastewater Manager (Electronic Copy)  
Wanda Counts, WWTA Coordinator  
Pat Payne, Director, Hamilton County Building Inspection  
Rodney Keeton, City of Collegedale Public Works Director  
Steve Grant, Codes Enforcement Officer, City of Soddy Daisy  
Chuck Gearhiser, Building Official, Town of Signal Mountain  
Mark Dempsey, Chief Building Official, City of East Ridge  
Tim Thornbury, Building Inspector, City of Red Bank  
Curt Blair and Don Maxwell, Building Officials, City of Lakesite  
Randy Bowden, Fire & Police Chief, Town of Lookout Mountain

**SECTION 02731  
POLYVINYL CHLORIDE (PVC) GRAVITY SEWER AND SERVICE PIPE**

**PART 1 - GENERAL**

**1.01 SCOPE**

The work covered by this section includes furnishing all labor, equipment, and materials required to install and test polyvinyl chloride (PVC) pipe, including accessories, as shown on the Drawings and/or specified herein.

**1.02 QUALITY ASSURANCE**

- A. The Master Plumber, at the Engineer's request, shall furnish a certificate from the manufacturer of the pipe and fittings that the manufacturer is fully competent and capable of manufacturing PVC sewer pipe, fittings, and accessories of uniform texture and strength that will fully comply with these Specifications and have so manufactured this class of pipe in sufficient quantities to be certain that it will meet all normal field conditions of usage. The manufacturer must have adequate equipment and quality control facilities to be sure that each extrusion of pipe is uniform in texture, dimensions, and strength.
- B. Pipe shall be tested when requested by the Engineer, or the Engineer's Resident Project Representative (RPR), and all pipe, so designated, shall be tested in accordance with ASTM D 2412 "Standard Method of Test for External Loading Properties of Plastic Pipe by Parallel Plate Loading."
- C. Each length of pipe and each fitting shall have the following data clearly marked on each piece:
  - 1. Manufacturer's name or trademark
  - 2. Manufactured date
  - 3. Nominal pipe size
  - 4. PVC compound used
  - 5. ASTM material code designation
  - 6. ASTM specification designation

This text should be set so that it is visible to the RPR at the time of observation (i.e. the text should be facing up when the pipe is set in the trench.)

**1.03 SHOP DRAWINGS AND ENGINEERING DATA**

Complete shop drawings and engineering data shall be submitted to the Engineer in accordance with the requirements of the Section 1300, "Submittals" of these Specifications.

## **1.04 STORAGE AND PROTECTION**

- A. PVC pipe and fittings shall be stored under black plastic cover.
- B. All pipe and accessories shall be stored aboveground and fully supported so as not to bend or deflect excessively under its own weight.

## **1.05 GUARANTEE**

The Master Plumber shall provide a guarantee against defective equipment and workmanship in accordance with the requirements of the Section 01340, "Guarantees and Warranties" of these Specifications.

## **PART 2 - PRODUCTS**

### **2.01 PVC PIPE AND FITTINGS**

- A. The pipe and fittings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusions, or other injurious defects. The pipe shall be as uniform as commercially practical in color, opacity, density, and other physical properties.
- B. The manufacturer shall provide waterstops, acceptable to the Engineer, which shall be applied to the outside of the plastic pipe when the pipe is to be enclosed in any structure where concrete or mortar is used which will prevent leakage along the outer wall of the barrel of the pipe.
- C. No single piece of pipe shall be laid on any project covered by this Specification unless it is found to be generally straight. Such pipe shall have a maximum ordinate as measured from the concave side of the pipe not to exceed 1/16 inch per foot of length. If the deviation exceeds this requirement, then the particular piece of pipe shall be rejected from the use until it can comply with this provision.
- D. Wyes, tees, bends, adapters, and any other fittings required shall be provided. Engineering data for such fittings showing cross-sectional views with dimensions shall be provided and such data and fittings shall be approved by the Engineer prior to their use. The materials used in the manufacture of fittings shall conform to the requirements for the pipe with which they shall be used and any variation of such requirements shall be subject to the approval of the Engineer. Fittings shall have wall thickness equal to or greater than that of the pipe to which they are joined.

### **2.02 PIPE**

- A. PVC piping and accessories shall be made from Virgin Type I, Grade 1 PVC compounds with physical and chemical properties conforming to those defined and described in ASTM D 1784 for "Rigid Poly (Vinyl Chloride) Compounds and Chlorinated Poly (Vinyl Chloride) Compounds".

- B. The PVC pipe and accessories shall be manufactured in accordance with the requirements of ASTM D 3034, Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings.
- C. Pipe for service lines and house connections:
  - 4-inch diameter shall be Schedule 40.
  - 6-inch diameter shall be Schedule 40. Schedule 35 may be approved.
- D. Pipe and fittings shall be made from polyvinyl chloride compounds, which comply, with the requirements for a minimum cell classification of 12364A as defined by ASTM D-1784.

## **2.03 JOINTS**

- A. PVC pipe joints for service laterals shall be solvent weld/glue. Solvent cements shall meet the requirements of ASTM D-2564.

## **PART 3 - EXECUTION**

### **3.01 PIPE INSTALLATION**

- A. In accordance with ASTM D-2321.
- B. Pipe will be placed in the trench so that the required text is up.
- C. Before sewer pipe is placed into position in the trench the bottom and sides of the trench shall be carefully prepared and bracing and sheeting installed where required. Each pipe shall be accurately placed to the exact line and grade called for on the Drawings.
- D. The Master Plumber shall ensure that the lateral is sloped in accordance with Section 704 of the International Building Code.
- E. The Master Plumber will inspect each piece of pipe and special fitting carefully before it is placed and no defective pipe shall be laid in the trench. Pipe laying shall proceed upgrade, starting at the lower end of the grade. No pipe shall be covered until observed by an RPR. Trench bottoms found to be unsuitable for foundations after pipe laying operations have started shall be corrected and brought to exact line and grade with approved compacted materials.
- F. Bell holes shall be of sufficient size to allow ample room for making the pipe joints properly. Bell holes shall not be cut out more than ten joints ahead of pipe laying. The bottom of the trench between bell holes shall be carefully graded so that the pipe barrel will rest on a solid foundation for its entire length as shown on the Drawings. Each joint shall be laid so that it will form a close concentric joint with adjoining pipe in order to avoid sudden offsets or inequalities in the flow line.

- G. Water shall not be allowed to run or stand in the trench while pipe laying is in progress or before the joints are completely set or before the trench has been backfilled. At no time shall the Master Plumber open up more trench than his available pumping facilities are able to dewater.
- H. No joints shall be made where pipe or joint materials have been soiled by earth in handling until such soiled surfaces are thoroughly cleaned by wire brushing and wiping until all traces of the earth are removed.
- I. As the work progresses, the interior of all pipe shall be kept thoroughly clean. After each line of pipe has been laid, it shall be carefully inspected and all earth, trash, rags, and other foreign matter removed from the interior.
- J. Backfilling of trenches shall be started immediately after the pipe in place has been inspected and approved by the Engineer or his inspector and backfill shall be deposited and compacted as provided in Section 3.02 below – Installation of Service Pipe and Tees.

### **3.02 INSTALLATION OF SERVICE PIPE AND TEES**

- A. Installation of service pipe shall conform to the appropriate requirements as shown on the drawings, including SD-GEN-15, SD-GEN-16, and SD-GEN-17.
- B. Connections of service lines to the main sewer if required shall be made with bends of the proper degree to make the service run perpendicular to the main sewer. No greater than a 45-degree bend shall be installed at each change of direction of the sewer service lateral. Pipe shall be laid to a uniform line and grade. Minimum grade shall be 1 percent.
- C. A double clean out shall be provided at the discharge point on the outside sewer service line of the house, and a double clean out shall be provided on the sewer service line at the property line between the public sewer and the structure being connected. Other clean outs shall be provided in accordance with the governing plumbing code.
- D. When a service line is installed under the roadway, it shall be backfilled with stone. The top three (3) feet shall be backfilled with crusher run (33P) stone and the last three (3) feet of the line, from the pavement edge, shall be bedded and totally backfilled with crusher run stone (See Standard Detail SD-GEN-9).
- E. Other than the connection of the building sewer and sewer service lateral; when the building sewer is cast iron or clay, absolutely no Fernco fittings shall be placed on new or repaired service lines.
- F. Service lines shall be bedded and supported completely with washed stone 6” under and 12” over the pipe.

- G. If the sewer service line crosses a water line, there shall be a minimum of 18-inches between the top of the bottom pipe and the bottom of the top pipe.
- H. When it is impractical to obtain proper horizontal or vertical separation or depth, the WWTa shall be contacted, prior to replacing the sewer service line. In the event of reduced separation, additional testing of the sewer service line may be required to insure water-tightness or additional measures may be required.

### **3.03 CONNECTIONS**

- A. Unauthorized connections as determined by the WWTa shall be disconnected from the service lateral.
- B. When existing service line connections include materials or installation methods other than that which is currently approved by the WWTa, the service line shall be removed and replaced properly with currently approved materials and methods.

### **3.04 INSPECTION AND TESTING**

- A. After completion of any section of sewer, the grades, joints, and alignment shall be true to line and grade. Joint surfaces shall be smooth. There shall be no visual leakage and the sewer shall be completely free from any cracks and from protruding joint materials, deposits of sand, mortar, or other materials on the inside.
- B. All PVC sewer laterals shall be tested using low pressure air testing in accordance with the procedures and standards listed below. Evaluation Contractor shall furnish all supplies, material, labor, services, etc., needed to make the test at no extra cost to the Owner, including an air pressure gauge capable of reading up to 10 psi accurately.
  - 1. Plug all pipe outlets with suitable test plugs. Brace each plug securely to prevent blowouts. As a safety precaution, pressurizing equipment shall include a regulator set at slightly above test pressure to avoid overpressurizing and damaging an otherwise acceptable line.
  - 2. Service laterals shall be tested at 5 psi for 5 minutes.
- C. Any leakage, including active seepage, shall be reported to the WWTa representative for correction by the lateral repair Master Plumber.
- D. All PVC sewer laterals shall be videoed using Close Circuit Television (CCTV). CCTV will require the following: CCTV equipment must possess a color camera capable of producing color digital video with on screen accurate footage and video titler. Color digital video is to be non-pixelated, sharp image, representing the true shape and color of the pipe with defects being easily recognizable and defined on a standard 21" LCD computer monitor, or 30" TV. Digital recorded format should be such that the media file can be easily viewed through a DVD+/- player or DVD+/- drive on a computer and

transferred into the WWTa video storage device. Footage will be displayed on the digital recorded video image. Video titler system will have capability of inputting on screen defect codes, and all applicable site information.

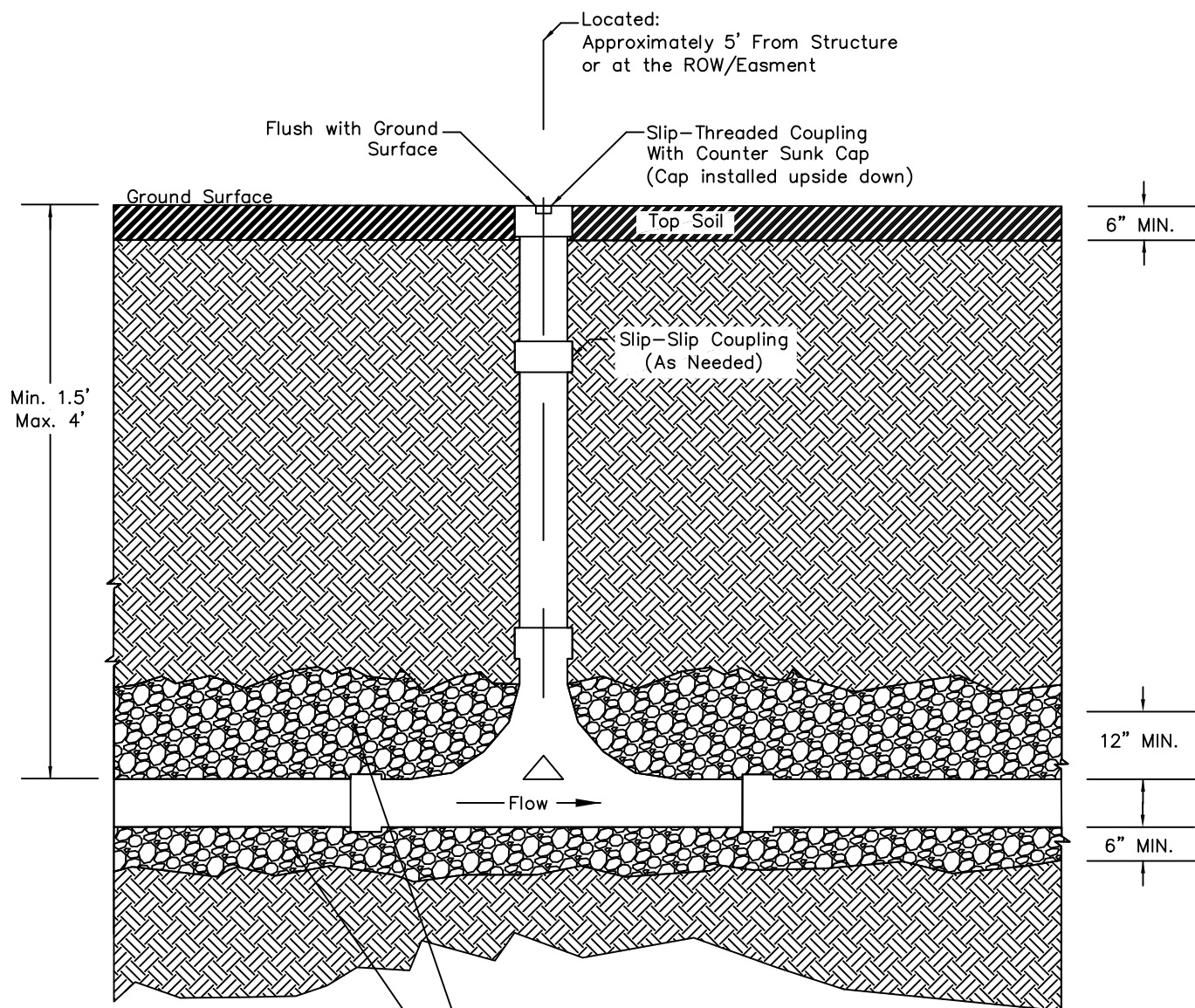
### **3.05 MOBILIZATION**

From time to time, the Evaluation Contractor shall be requested to move from the pilot study area to another location within the WWTa service area where the Evaluation Contractor shall conduct smoke tests, air tests, and/or cleaning and video inspections as directed by the WWTa. The Evaluation Contractor shall perform all the necessary public notifications. At the completion of the assigned work, the Evaluation Contractor may be assigned additional work in the immediate area or be requested to move back to the pilot study area.

### **3.06 CLEANUP**

- A. After completing each section of the sewer line, the Master Plumber shall remove all debris, construction materials, and equipment from the site of the work, grade and smooth over the surface on both sides of the line and leave the entire construction area in a clean and neat condition. The Master Plumber shall restore all disturbed areas to as good as or better than its original condition. Restoration shall include but not be limited to grassing, replacing shrubbery, trees, fences and other improvements which have been disturbed.
- B. Cleanup and restoration of each yard shall be completed no later than 7 calendar days after each section of sewer line is installed.
- C. Upon final inspection, if any foreign matter is present in the system, flush and clean the sections of line as required.

**END OF SECTION 02731**



Located:  
Approximately 5' From Structure  
or at the ROW/Easement

Flush with Ground  
Surface

Slip-Threaded Coupling  
With Counter Sunk Cap  
(Cap installed upside down)

Ground Surface

Top Soil

6" MIN.

Min. 1.5'  
Max. 4'

Slip-Slip Coupling  
(As Needed)

12" MIN.

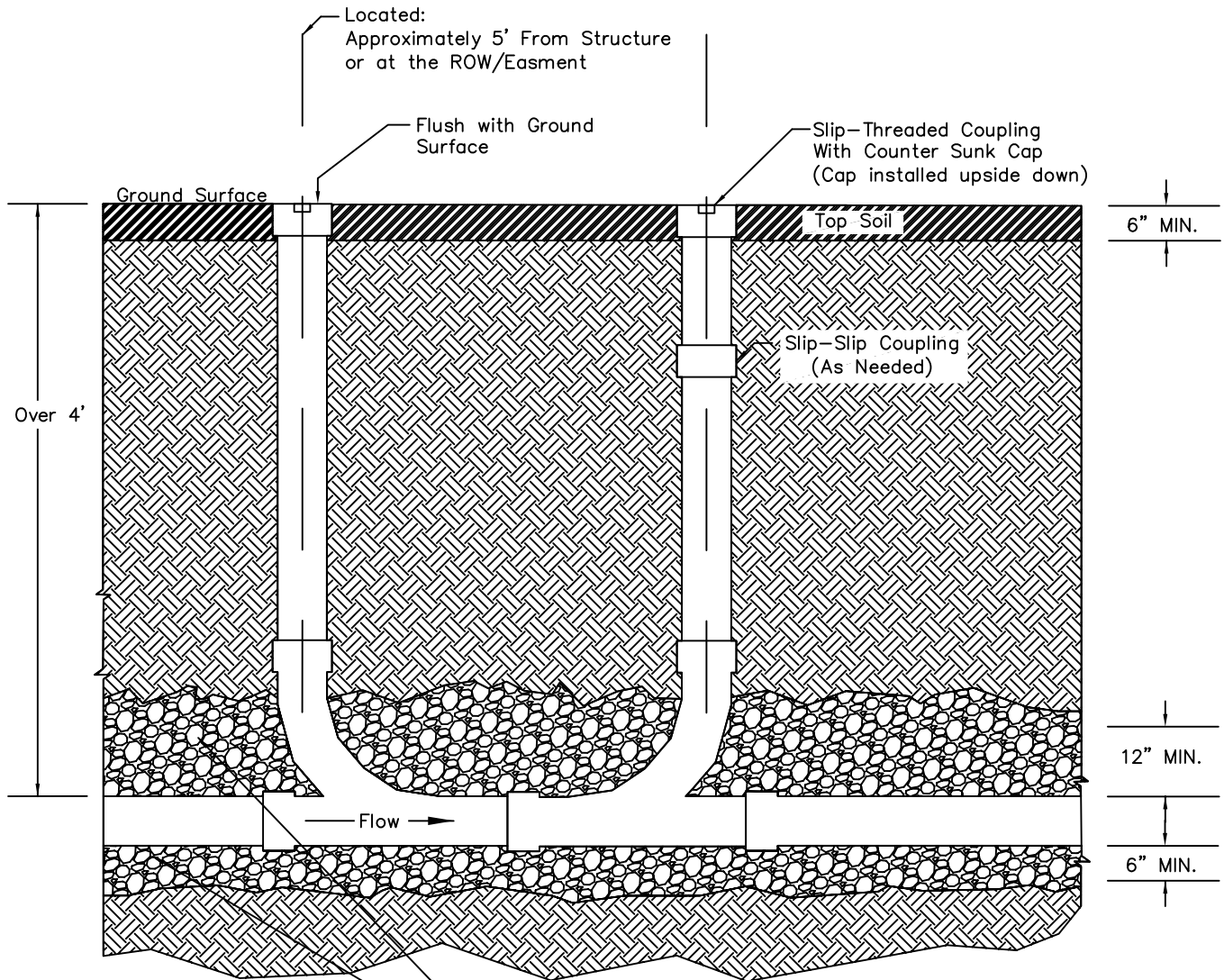
Flow →

6" MIN.

TRENCH BEDDING (CLASS "1", ASTM D 2321)

MATERIAL SHALL BE ANGULAR 1/4 TO 1/2 INCH  
GRADED STONE.

## SERVICE CONNECTION SHALLOW CLEANOUT (TYPICAL)



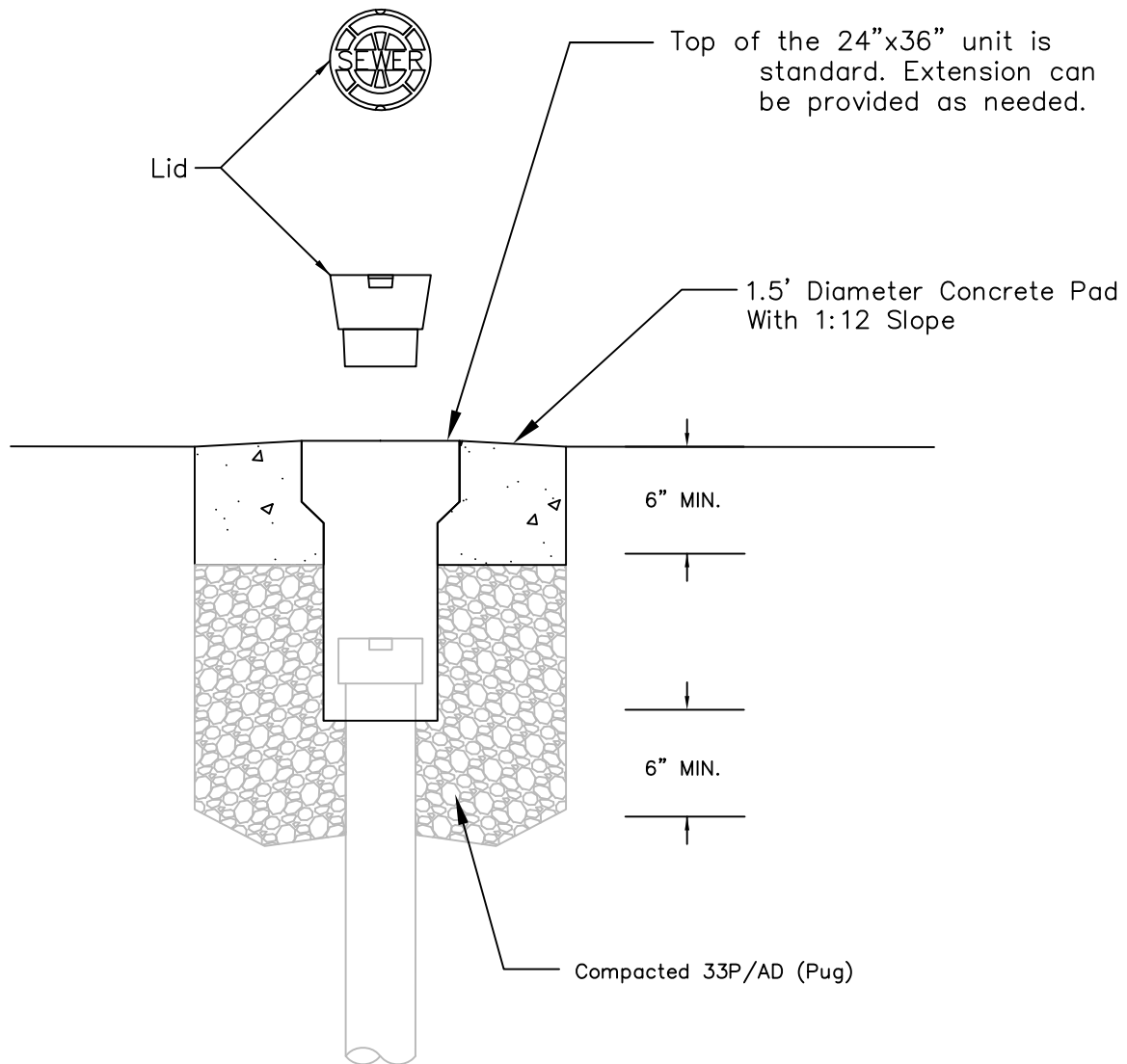
TRENCH BEDDING (CLASS "1", ASTM D 2321)

MATERIAL SHALL BE ANGULAR 1/4 TO 1/2 INCH GRADED STONE.

Note: The sweeps should be constructed to avoid a "blind spot" in the lateral.

## SERVICE CONNECTION DEEP CLEANOUT (TYPICAL)

HAMILTON COUNTY WATER & WASTEWATER TREATMENT AUTHORITY  
SD-GEN-16



Note: This detail is used for cleanouts required at drives and roadways. If the cleanout can be shifted to avoid a driveway or roadway, it should be.

## CAST IRON TWO-PIECE ADJUSTABLE VALVE BOX (TYPICAL)

HAMILTON COUNTY WATER & WASTEWATER TREATMENT AUTHORITY  
SD-GEN-17