NEW CONSTRUCTION

8” or Larger
- 3 Hard Copies of Utility Plan
- Cover Letter
- Connection Schematic (see Appendix)

How large is the connection?

5”, 6”, or Stub/Slant Connection
- Cover Letter
- Connection Schematic (see Appendix)

NEW SEWER CONNECTION

Connection Permit Application
(Application available from PWD Water Transport Records, 1101 Market St.)

Issuance of Sewer Connection Permit
(Includes Street Opening)
(Water Desk at Municipal Services Building)
& Plumbing Permit (L+I)

48 Hours Prior to Construction: Notify PWD Inspector

PWD Inspection Report

Pass Inspection?
- Connection approved, and PWD records are updated from “Proposed” to “Existing”

Fail Inspection?
- Job remains incomplete until the problem is corrected by plumber or contractor

REPAIR

Issuance of Sewer Connection Permit for Existing Accounts
(Includes Street Opening)
(Water Desk at Municipal Services Building)
L+I Plumbing Permit may be required
(if repairing trap or main house drain)
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I. Introduction

The primary purpose of regulating private sewer connections is to protect the integrity of the City’s public sewer system, ensuring the continuous collection and conveyance of sanitary waste and storm water. Well-constructed sewer connections will also help reduce the occurrence of street cave-ins and premature pipe repair or replacement — both public and private.

This Manual supplements Philadelphia Water Department Regulations, the Philadelphia Plumbing Code, the Property Maintenance Code, the Administrative Code, and other provisions of City Code. With the companion Sewer Connection Regulation, this Manual is intended to detail the rules and processes governing connections to the City’s public sewer system. It is also intended to improve the working relationship between plumbers, customers, and the City by clarifying what is expected of private plumbing work in the street.
II. Sewer Connection Permit and Related Fees

A. The fees for a Sewer Connection Permit are:

<table>
<thead>
<tr>
<th>Size and Type</th>
<th>Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>5” or 6” connection</td>
<td>$265</td>
</tr>
<tr>
<td>8” saddle connection</td>
<td>$400</td>
</tr>
<tr>
<td>8” wye connection</td>
<td></td>
</tr>
<tr>
<td>Any other PWD-approved sewer connection requiring a connection method other than core drilling</td>
<td>$475</td>
</tr>
</tbody>
</table>

B. Additional Fees:

<table>
<thead>
<tr>
<th>Description</th>
<th>Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved generally prohibited connections</td>
<td>$100</td>
</tr>
<tr>
<td>Connections or repairs during non-business hours (per connection)</td>
<td>$80</td>
</tr>
<tr>
<td>Re-inspection of violation or rescheduled inspection</td>
<td>$65</td>
</tr>
<tr>
<td>Additional repairs in same trench (must be approved)</td>
<td>$50</td>
</tr>
</tbody>
</table>
III. Typical Drainage System Components

Please note that the picture below shows drainage to a combined sanitary and storm sewer. In the case of separate storm and sanitary sewers, the sanitary lateral must always drain to the sanitary sewer and the storm lateral must always drain to the storm sewer.
IV. Roles and Responsibilities

A. Property Owner

The property owner owns and shall maintain and repair the property's entire drainage system and the sewer connection, ensuring each is intact, unobstructed, and properly configured, connected, and functioning at all times.

The owner(s) of a private sewer shall maintain and repair the private sewer, ensuring it is intact, unobstructed, and properly configured, connected and functioning at all times.

The sanitary, stormwater, or combined sanitary and stormwater lateral for each building or structure shall be separate and independent of the drainage system serving any other building, structure, or surface area unless part of a common building sewer or drainage system or private sewer permitted under the Philadelphia Plumbing Code and approved by the Water Department and Licenses and Inspections (L+I).

Exceptions:

1) Multiple buildings, structures, or surface areas which have a shared stormwater management practice ("SMP") may use a single lateral to connect the SMP to a public sewer in accordance with PWD Regulations Chapter 6.

2) Several SMPs may use a single lateral to connect the SMPs to a public sewer.
B. Plumber

A plumber is required to be on site at all times following commencement of any work governed by Section 504.0 of the Philadelphia Water Department Regulations - Requirements for Sewer Connections ("Sewer Connection Regulation"). The plumber must have his/her license or registration, personal identification, and all permits available for inspection at the work site at all times. If not on site, a journeyman or master plumber must be available for a site visit or electronic communication during a City inspection.

The responsibility to provide an adequate sewer connection remains with the master plumber. Any approval by the City of Philadelphia or Water Department does not remove any responsibility from the master plumber.

The plumber must protect stockpiles of excavated material and must broom sweep the sidewalk and roadway adjacent to the work site at the end of each work day. Excavated material is prohibited from entering the public sewer.

The plumber must comply with the Pennsylvania Underground Utility Line Protection Act (73 P.S. § 176 et. seq., informally known as PA One Call), or equivalent.

It is the responsibility of the plumber on site to dig with care and verify all utility location information. If a plumber causes or discovers any damage to public or private infrastructure or property during any work covered by the Sewer Connection Regulation, the plumber must notify the Water Department immediately at 215.685.6300. The Water Department, upon being notified of such damage caused by the plumber, may order the plumber to make any emergency repairs to public or private infrastructure at the plumber’s expense. This includes the damage to any infrastructure owned by the City or adjacent properties.

If the Water Department determines that the public sewer or any other City infrastructure or property was damaged by a plumber’s operation, then the time and materials required by the City to repair such damage and other clean-up costs will be invoiced to the master plumber. The Water Department may withhold permits from a master plumber who fails to pay such an invoice, or who fails to resolve a legitimately disputed invoice.

C. Water Department

The Water Department or its designee will inspect work conducted under the Sewer Connection Regulation and will only approve work performed in accordance with the Sewer Connection Regulation and this manual.

The Water Department may refer any violations of City Code and/or regulations under the jurisdiction of another City department to that agency.

The Water Department maintains current public sewer records which are available for plumbers, engineers and other construction professionals to use when designing or constructing connections to the public sewer.

The Water Department will periodically review and update this manual.
V. New Sewer Connections & Repairs: Permitting and Approval Process

A. General

A sewer connection permit is required for new connections to the public sewer and for repairs to a customer’s existing lateral or sewer connection.

Connections to a private sewer, not owned or maintained by the Philadelphia Water Department, have a separate permitting process outlined within the Plumbing Code. Please discuss any proposed connections to a private sewer with L+I’s Plumbing Unit at robert.wexler@phila.gov.

A person may not make a new drainage system connection to an existing public sewer unless:

1. the Water Department has determined that the public sewer has available capacity for the proposed connection in accordance with the Pennsylvania Sewage Facilities Act (“Act 537”), if applicable,

and

2. he or she has obtained a sewer connection permit.

A person may not reconnect, replace, or repair an existing sewer connection or lateral until he or she has obtained a sewer connection permit.

Any plumber or other person who starts work governed by the Sewer Connection Regulation without securing the proper permits will be subject to having his/her license suspended or revoked, and/or such penalties as may be prescribed by law, and may be ordered to stop work immediately, except in an emergency as provided by law.

Keep in mind:

A Master Plumber shall not work under another Master Plumber’s plumbing permit except as a subcontractor or an employee. When work is being performed by a subcontractor, L+I shall be notified in writing that such work is being performed with permission of the permitted Master Plumber holding the original permit.

No person shall install plumbing, water drain or waste piping, or fixtures unless properly licensed pursuant to Philadelphia Code Section 9-1003. No person shall hire such unlicensed person to perform plumbing work. Any person who has had plumbing work performed by an unlicensed person must have a Master Plumber inspect and, if necessary, redo the work. Permits must be secured for the inspection activity and for any additional plumbing work as a result of the inspection.
B. Planning Ahead – Locating Underground Utilities

1. PA One Call

There are two types of PA One Call requests. The first is a PA One Call for design which provides water, sewer, and green infrastructure as-built records. The second is a PA One Call for excavation which provides painted utility mark-outs at the requested locations.

Anyone intending to perform excavation or demolition work in Pennsylvania is required to notify the One Call System by calling “811” so utilities can mark their infrastructure prior to excavation. Except in the case of an actual emergency, notification shall be not less than three and not more than ten business days in advance of beginning excavation or demolition work.

For more information regarding responsibilities under the One Call statute, visit https://www.pa1call.org.

2. Green Stormwater Infrastructure (GSI)

The Philadelphia Water Department has been installing hundreds of stormwater drainage structures, known as GSI, in streets, sidewalks, and at other locations. If there is GSI in the vicinity of your planned excavation, PWD will provide GSI plans and mark-outs in response to the PA One Call. If there is a conflict or are questions about GSI, please reference the GSI Frequently Asked Questions (FAQ) in Appendix A2.

C. New Connections

1. Preliminary Review for New Connections

Preliminary review is the first step in the application process for a new sewer connection permit. The preliminary review process can either be initiated by the engineering firm, the plumber, or the contractor.

An applicant for a sewer connection permit for any size lateral must submit plans and obtain preliminary approval from the Water Department according to the steps listed below.

Prior to submitting for sewer connection preliminary review, all required stormwater plan review must be completed. Generally, projects disturbing ≥ 5,000SF of earth are required to submit to PWD Plan Review Unit. For questions regarding the stormwater plan review, contact PWD Stormwater Plan Review at the number listed in Appendix A15. See the Stormwater Management Guidance Manual for further information (https://www.pwdplanreview.org/).

Assign a communication liaison to coordinate with PWD Water Transport Records (WTR) as well as all other parties involved in the project. This may include but is not limited to the design engineer, general contractor, plumber, etc. The liaison will coordinate all related e-mails, phone calls, and meetings.
For all connection sizes, complete the “New Sewer Connection Cover Letter” and “Utility Schematic for New Sewer Connection” (Appendix A3 and A5). This submittal can either be made in person at WTR (1101 Market Street, 2nd Floor) or electronically to wtr@phila.gov. This schematic must illustrate the proposed connection(s), City infrastructure, and fresh air inlets (FAIs). Dimensions are required as outlined in Appendix A5.

If known, existing laterals and laterals to be abandoned must be added to the schematic and utility plan. After receiving a completed application, L+I will issue a lateral seal permit to make sure all existing connections are properly sealed.

For connections 8” in diameter and larger, submit three (3) copies of the site utility plan that clearly show the existing water and sewer mains and connecting pipes (folded separately in 8.5” x 11” size) to the Philadelphia Water Department Water Transport Records, 1101 Market Street, 2nd Floor, Philadelphia, PA 19107. This submission must be made with hard copies; no electronic copies of plans will be accepted.

a. Clearly mark the location, size, type of connection, and material for each sewer connection on the utility plan and schematic. Public sewer availability, size, depth, and material can be obtained by calling Water Transport Records at the listed number in Appendix A15.

  • The public sewer must be core-drilled for all new saddle connections (standard, resilient and modified). The notation of core drilling must be included on the schematic and utility plan for PWD preliminary review. The method of connection must be mentioned in the cover letter.

b. Allow 1–2 business days for preliminary approval or response comments for review of 5 and 6 inch connections, and 7–10 business days for connections 8 inches and larger. Any proposed connections which require a special review may take an additional 5 business days.

c. PWD will issue a formal preliminary approval response to the applicant upon completion of the sewer connection review. You will be notified by an e-mail or phone call for 5 and 6 inch diameter connections and by letter for connections 8 inches and larger.

2. Permitting for New Connections

When preliminary approval is received, the applicant shall apply for a sewer connection(s) permit (from PWD) and a plumbing permit (from L+I). The sewer connection permit is required for the connection point and lateral up to the curb trap. The plumbing permit is for onsite work up to and including the curb trap, but not including the lateral and the connection. See the diagram at Appendix A10.

a. To apply for the sewer connection permit, visit PWD Water Transport Records Unit, 1101 Market Street, 2nd Floor, Philadelphia, PA 19107. The following documentation is required:

   1. A hard copy of the preliminary approval letter or email.
   2. PWD post-construction stormwater management plan (PCSMP) approval letter, if applicable, issued by PWD Stormwater Plan Review.
3. As mentioned above, a plumbing permit is required for L+I tracking. The application is available at https://business.phila.gov/Documents/permits/plumbingpermit.pdf. WTR will complete and sign this plumbing permit application prior to processing by L+I. This form can also be found at Appendix A4.

**Keep in mind:**

The Philadelphia Plumbing Code requires that applications for plumbing permits be submitted by a Master Plumber or his/her authorized agent in accordance with Chapter 3 of the Administrative Code. All plumbing permit applications shall have the Master Plumber’s seal affixed.

Any plumber who accepts a contract as a subcontractor from another plumbing or retail firm must indicate so on the Application for Plumbing Permit.

Any Master Plumber who starts work without securing the proper permits as required by the Plumbing Code and the Administrative Code shall be subject to having his or her license suspended or revoked in accordance with the provisions of Chapter 9, Section 9-1003(8) of The Philadelphia Code.

b. WTR will initiate the connection pre-permit application(s) and the plumbing permit(s). The final permits will be completed at the Water Service Desk at the Municipal Services Building (MSB – 1401 JFK Boulevard, Concourse Level) and the Department of Licenses + Inspections respectively. Any required footway, and/or street opening permits will be included within a single pre-permit application and completed by the Water Desk at MSB.

c. For connections 8” and larger, the remaining two copies of the drawings will be kept on record with WTR.

d. After WTR’s review, the plumber must transport the plumbing permit(s) and connection permit pre-permit application(s) as well as the stamped schematic and/or utility plan to MSB to the following desks to obtain permits:

1. The Water Desk will issue a sewer connection permit based on the information provided on the pre-permit application. An example of the sewer connection pre-permit application can be found at Appendix A6. The Water Desk can be reached at the number listed in Appendix A15 for questions.

2. The Plumbing Unit at L+I will review the stamped set of plans received with the signed plumbing permit application for a plumbing permit.
D. Repairs

The following steps apply to repairs to a main house drain, curb trap, vent pipe, or lateral/slant of an existing account. The repair permit pertains to an existing lateral and connection with no additional fixtures or drainage area, and does not permit any new public sewer penetrations.

See below for which permit is required for the drainage system segment requiring repair:

<table>
<thead>
<tr>
<th>Work Being Done</th>
<th>Type of Permit Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main House Drain</td>
<td>Plumbing Permit (L+I)</td>
</tr>
<tr>
<td>Curb Trap</td>
<td>Plumbing Permit (L+I)</td>
</tr>
<tr>
<td>Vent Pipe</td>
<td>Plumbing Permit (L+I)</td>
</tr>
<tr>
<td>Sewer Lateral</td>
<td>Sewer Connection Permit (PWD)</td>
</tr>
<tr>
<td>Slant</td>
<td>Sewer Connection Permit (PWD)</td>
</tr>
</tbody>
</table>

1. The plumber must obtain proper City permits prior to beginning excavation. The plumber may apply at the Water Desk within the concourse of the Municipal Services Building (MSB – 1401 JFK Boulevard). At this time, a street opening and footway opening may be added to the sewer connection permit.

2. Should a repair job be considered an emergency, the plumber may start work immediately, but must obtain all proper permits within 3 days of starting.

3. In the event of a spot repair, the City may order work to stop until the plumber obtains all required permits. It is at the inspector’s sole discretion to permit repair work to continue. Spot repairs to cast iron laterals are generally allowed; spot repairs to vitrified clay is generally prohibited.

4. Should a repair require a new hole to be cored into the public sewer, return to New Connections above as the repair would be treated as a new connection.

E. Inspection Scheduling for New Connections and Repairs

When the Plumber receives the sewer connection permit (PWD) and/or plumbing permit (L+I), he/she must call the respective inspector to schedule the inspection of the connection or repair work.

1. Connections to the public sewer must be inspected by a PWD inspector from the start of connection/repair to the completion of backfilling.

2. The plumber must notify PWD at least 48 hours before excavation to schedule the inspection. The contact number for 5” & 6” connections and all repairs is 215-410-6470. For connections 8” and larger, the contact number is 215-397-7097. The inspection of the sewer connection will be scheduled by the PWD inspectors based on the workload and availability.

3. In the event of an emergency connection, additional fees may be assessed with the use of the off-hours inspection scheduling. Should the job be classified as an emergency, the contact number is 215-410-6470. PWD requests a 48-hour notification prior to performing the repair.
F. Working in the Street: Excavation, Making the Connection, and Backfilling

Street excavations, closures or detours, trenching, compaction, pipe support, backfilling, and pavement restoration shall conform with the regulations of the Streets Department. ([http://www.philadelphiastreets.com/customer-service/transportation-regulations](http://www.philadelphiastreets.com/customer-service/transportation-regulations))

Boring or tunneling in the public right-of-way is generally not permitted. Written approval must be obtained from the Water Department and the Streets Department Chief Engineer of the Highway Division prior to boring or tunneling in the public right-of-way.

1. Excavation
   a. Information about underground infrastructure obtained during preliminary review should be verified in the field. A PA One Call request must be filed to obtain and mark-out water, sewer, and green infrastructure records. Infrastructure location data provided by PWD is for information only and the accuracy of such data should be independently verified by the contractor, in the field, prior to connection installation.
   b. To report any damage to a utility, call "811" to file a Damage One Call.
   c. If the contractor hits or damages PWD infrastructure while digging, he/she should make the area safe, maintain flow and immediately call PWD Customer Service at 215-685-6300 and the WTR inspectors at 215-410-6470.
   d. Shoring shall be installed in ditches and trenches according to OSHA regulations. Failure to excavate and shore according to Philadelphia Plumbing Code Section P-1503.2 may result in a stop work order and/or other penalties.
   e. **When a plumber excavates a ditch, and finds a void, cavity or undermining under the surface of the street, the plumber must immediately contact the Streets Department District Highway Yard Supervisor** (numbers are listed in Appendix A13). The Highway Yard will investigate and depending on its findings, the plumber will be issued a void verified report so that the plumber will not be billed for the extent of the void in the roadway. Should the plumber fail to notify the Streets Department, extra costs may be imposed on him/her.
   f. The Streets Department will provide fill and not charge for an oversize ditch if all steps are taken to document the findings. For protection, take photos and contact the closest yard.
   g. During any excavation, please be mindful of neighbors and the safety of pedestrians, bikers, and drivers.

2. Making the Connection or Lateral Repair

Lateral pipe shall be properly constructed, installed, and maintained and shall be in accordance with the standards in this manual. Sewer connections shall be properly and securely made in accordance with the standards in this manual.

   a. The connection procedure may only begin when the PWD inspector arrives.
   b. The plumber must provide a copy of the sewer connection permit, proof of payment, and all proper City permits prior to starting the connection or repair operation.
   c. The plumber is required to sign the inspection report when the inspector arrives. Examples of the inspection reports can be found at Appendix A7 and A8.
   d. The plumber must install the connection per the approved drawing, details, and approved procedure and in accordance with the Philadelphia Plumbing Code and PWD Regulations.
e. The lateral must be in alignment with the cored hole or slant. No deflection is permitted beyond the manufacturer’s acceptable tolerance for an approved pipe material joint. Approved fittings and bends are required for any deflection or change in direction greater than the pipe manufacturer’s allowable deflection. No field fabricated bends are permitted.

f. Any damage to the existing public sewer as a result of the plumber’s work shall be repaired by the plumber to the satisfaction of the City, or the City may repair the sewer and invoice the time and materials to the plumber.

g. If connection to the public sewer or a repair to a lateral is not made per the approved drawing and procedure as detailed in this manual or is not otherwise approved by the WTR inspector, the plumber will be given a chance to correct the inadequate connection or repair. If the plumber refuses to make a connection or repair that complies with the Sewer Connection Regulation, corrections will be made by PWD and the plumber will be charged with the cost of the repair. The following actions may also occur:

1. PWD may revoke the sewer connection permit,
2. PWD may report the plumber to L+I for disciplinary action such as license suspension or revocation,
3. The plumber may be ordered to stop work immediately, and/or
4. PWD may issue the property a notice of violation.

h. In the event of a field change where the proposed connection construction does not match the permits presented, all connection work must stop. The master plumber to which the connection permit is issued must file a new utility schematic to the Water Transport Records either electronically or as a hard copy for an over-the-counter review. Should the approved field change be found acceptable, the schematic will be stamped “Approved” and the connection process may continue.

i. The ditch must be made safe until the completion of backfilling. Safety may include the use of cones, plating, and signs.

j. The plumber must notify the inspector of the time of backfilling. Failure to notify the WTR inspector of the backfilling schedule may result in a notice of violation and an unapproved connection. The plumber must coordinate with the inspector should the backfilling schedule change.

3. Backfilling

   The fresh air inlet(s) shall be visible and accessible for inspection at all times.

   a. No backfilling shall commence until the sewer connection and/or any drainage system component(s) has been properly installed, and inspected and approved by the City.

   b. When the plumber is finished making a sewer connection or drainage system repair, he or she must backfill the ditch. See Appendix A11 and A12 for connection details.

   c. PWD WTR will inspect backfilling and provide the plumber with an electronic copy of the inspection report following the completion of the connection and backfilling.

   d. Ditches must be carefully backfilled with the materials approved by the Streets Department. See Appendix A1 for the definition of “acceptable fill.”
e. Clean fill may be obtained free of charge at any of the Streets Department Highway Division Yards during business hours. All locations and contact numbers can be found in Appendix A13. Be advised documentation will be required to obtain the fill and there will be a limit to the amount of fill to be made available to the customer. Transport and delivery service are not available.

f. The backfill shall be thoroughly compacted in layers of no more than six inches by rolling and tamping with mechanical rammers. Hand tamping with heavy iron tampers is permissible in the footway only.

g. Should the work not be completed by the end of the workday, the plumber must secure the excavation by either backfilling and excavating the next day or using steel plates in accordance with Streets Department Regulations.

h. The street opening shall be made safe by topping the fill with an asphaltic cold mix paving material rolled level with the surrounding roadway surface. Section 11(4) of the Philadelphia Streets Department Regulations Governing Street Openings, Excavations and Restoration outlines proper care and backfilling techniques. Should improper backfilling techniques be found, the PWD inspector will notify the Streets Department immediately. (http://philadelphiastreets.com/images/uploads/documents/Regulations20Governing20Street20Openings,%20Excavations%20and%20Restoration.pdf)

i. If the opening is in the street (cartway), the plumber must notify the Streets Department that backfilling and patching is complete. The Streets Department will then schedule the permanent restoration of the ditch. The plumber is responsible for keeping the ditch in a safe condition for 30 days after the backfill notification is received by the Streets Department or until the Streets Department begins the permanent restoration, whichever comes first. (http://philadelphiastreets.com/images/uploads/resource_library/Full-Amended-Regs-for-Openings-and-Restoring-street-Openings.pdf)

j. The typical curb and footway construction detail can be found at Appendix A12.
VI. Connection Standards

A. General Requirements for Sewer Connections

⚠️ All sewer connections must be core drilled, unless otherwise approved by the Water Department, in writing.

1. Strictly Prohibited Connections and Configurations
   Private plumbing connections to the following are strictly prohibited:
   • Force mains.
   • Inlets (i.e., City storm inlets).
   • Inlet laterals.
   • A sewer with insufficient capacity.

   The following configurations are strictly prohibited:
   • A stormwater lateral or combined stormwater and sanitary lateral connection to a sanitary-only public sewer.
   • A sanitary lateral or combined stormwater and sanitary lateral connection to a stormwater-only public sewer.
   • A sewer connection directly from an ejector or pumped system pressure pipe.
   • A lateral intruding into the public sewer.

2. Generally Prohibited Sewer Connections
   The following types of sewer connections are generally prohibited but may be reviewed and approved by the Water Department on an individual basis if the applicant shows an extreme hardship.

   Sewer connections to:
   • Intercepting sewers.
   • Manholes.
   • Dry weather outlet pipes.

3. Enhanced Review and Approval
   The following types of drainage system connections require enhanced review and may be approved on a case by case basis by the Water Department.

   Drainage system connections:
   • To a public sewer or private sewer draining to a sanitary pump station.
   • To a previously lined public sewer.
   • Larger than 6 inches in diameter.

House traps and fresh air inlets shall be installed according to the Philadelphia Plumbing Code.
B. Requirements for Laterals

A lateral connecting to a sanitary-only public sewer shall not be smaller in diameter than the house drain, and in no case less than 5 inches in diameter.

A storm water lateral shall be no smaller than 6 inches in diameter.

A combined sanitary and storm water lateral shall be no smaller than 6 inches in diameter.

When connected to a combined sanitary and stormwater public sewer, separate sanitary and stormwater laterals within a drainage system may only be combined after the approved house traps. The connection of the separate laterals must be to the larger sized lateral. It is recommended that each lateral have individual connections to the public combined sewer system.

When connecting a lateral to a sanitary-only public sewer and a lateral to a stormwater-only public sewer, the sewer connection of the sanitary-only lateral shall be downstream of the sewer connection of the stormwater-only lateral, in relation to the flow of the public sewer.

For new connections subject to PWD Regulations Chapter 6 (Stormwater Management), lateral pipe, including any pipe providing slow release or overflow drainage from a stormwater management practice, and connecting to any type of sewer shall, if applicable, be designed in accordance with PWD Regulations Chapter 6.

C. Core Drilling Required

The existing sewer must be core-drilled for all new saddle connections (standard, resilient and modified). The notation of core drilling must be included on the utility plan for PWD preliminary review. The method of connection must be mentioned within the cover letter.

A core drill, associated with a saddle connection, is the only method of connection, at which the outer diameter of the connecting pipe is less than 50% of the inner diameter of the existing main sewer.

Should a brick sewer be field verified as single-ply, the interest of the Department is protecting the integrity of the sewer. A connection of 5” or 6” may utilize a freehand coring machine, while a large connection would have an immediate field change approval to a modified saddle connection. This would include encasing the sewer in concrete prior to core drilling, thus protecting the integrity of the sewer.

Any means of connection to the public sewer other than a core-drilled saddle connection must be specifically reviewed and approved by the Department on a case by case basis.

D. Connection Type

The connection size and type must not jeopardize the normal operation and integrity of the public sewer. In the event of adjacent connections, the distance between must be greater than two diameters of the larger proposed connection. Example: The distance between two 6” connections must be greater than 12”.

Acceptable connection types include:

1. Standard saddle
2. Resilient saddle
3. Modified saddle
4. Prefabricated wye branch
5. Use of a stub lateral
Details and recommended connection procedures for each type of connection can be found in the Appendix at A9 and A11. The plumber, contractor, or engineer must provide for approval an accurate depiction of the specific configuration and location of the connection.

Connections will not be permitted at the pipe joints or bells in the public sewer system.

The City has authority to reject a proposed connection to an existing slant and require a field change.

### E. Materials

1. Lateral pipe shall be constructed of ductile or cast iron, pre-cast reinforced concrete (RCP), or vitrified clay, conforming to the following standards:
   a. Cast iron pipe: ASTM A74; ASTMA 888; CISPI 301
   b. Ductile iron pipe: ANSI/AWWA C150 /A 21.50-81, Class 56 wall pipe
   c. Reinforced concrete pipe: ASTM C14; ASTM C76; CAN/CSA A257.1M; CAN/CSA A257.2M
   d. Vitrified clay pipe: ASTM C 4; ASTM C 700

2. All lateral pipe sections shall be joined with bell and spigot joints, made tight with oakum, cement, rubber O-ring or other joint compounds or materials approved by the Water Department. No-hub pipe connections are prohibited, except when making a resilient saddle connection.

3. Plastic pipe, including ABS and PVC, shall not be used for lateral construction in the cartway.

4. The master plumber shall be responsible for establishing the suitability of the alternative material to the Water Department prior to approval and use.

Portions of laterals constructed outside of the vehicular right-of-way shall be constructed in accordance with the Philadelphia Plumbing Code, as approved by L+I.
VII. Sewer Access Permit

No person, instrument, equipment, construction material or anything else may be placed into the public sewer for any purpose without the prior written consent of the Water Department.

The Department will, under certain terms and conditions, allow for private personnel or their equipment to enter or be placed temporarily into the public sewer through the issuance of a sewer access permit.

Any person wishing to access the public sewer to conduct an investigation of a public sewer, private sewer, or lateral shall obtain a sewer access permit from the Water Department.

Parties seeking permission to access the public sewer must complete an application for a sewer access permit and provide proof of insurance. Applications must be submitted to the Water Department’s Water Transport Records desk. Hard copies and electronic submissions are acceptable.
VIII. Enforcement

The City is authorized to revoke a sewer connection permit when:
1. the sewer connection permit was issued in error or was issued on the basis of incorrect, inaccurate or incomplete information in the application.
2. the sewer connection permit was issued on the basis of false statement or misrepresentation of fact in the application.
3. any plumbing work for which the permit was granted is done in violation of Philadelphia Code or any regulations promulgated pursuant thereto, or fails to pass any inspection or test conducted by City.
4. work is being conducted in an unsafe manner.
5. a stop work order or cease operations order has been issued.

Failure to comply with the requirements of the Sewer Connection Regulation or to maintain in good working order any portion of the property’s drainage system shall evidence an immediate hazard to health or public or private property and shall result in the issuance of a notice of violation in accordance with the procedures of the Philadelphia Administrative Code, and/or may result in the assessment of such other penalties as may be provided by law. In addition, as a result of the continuing violation and as stated in the notice of violation, the City may suspend water service at any time to prevent an immediate hazard to health or public or private property, in accordance with the Philadelphia Administrative Code.

If a violation of the Sewer Connection Regulation as described in an issued Notice of Violation is not corrected or if public health, safety, or public or private property is in jeopardy, the City may correct the violation itself or by contract. The property owner(s) shall be responsible for the full cost of repair and shall be billed for such costs by the City. If the property owner(s) fails to pay the bill in the time allowed, the City may take any and all additional enforcement measures permitted by law.

If a plumber fails to meet his or her obligations under the Sewer Connection Regulation, the City may enforce the penalty provisions of Philadelphia Code § 9-1003(8) (license suspension and revocation). The City may also require the plumber to correct improper or unsatisfactory work. If, after notice from the City, a plumber fails to correct unsatisfactory work, the City may correct the violation and invoice the master plumber for time and materials. The Water Department may withhold permits from a master plumber who fails to pay such an invoice, or who fails to resolve a legitimately disputed invoice.
APPENDIX
A1. Definitions

**Acceptable Fill:** A natural subsoil comprised of gravel, crushed stone, sand, clayey sand, silty sand, or any combination of these materials. The soil shall be free of any material that could negatively affect the performance of the soil, including but not limited to: organic soils and organic materials, refuse/trash, rocks or concrete larger than two inches, pipe or pieces of pipe, or asphalt and asphaltic materials. Excavated soils can be reused, provided they meet the criteria for acceptable fill, are not overly wet, and can be compacted as per the Department’s requirements. 1

**Cleanout:** An access opening in the drainage system used for the removal of obstructions. Types of cleanouts include a removable plug or cap, and a removable fixture or fixture trap.

**Curb Trap:** see House Trap.

**Drainage System:** The piping within public or private premises but outside of a building or dwelling which conveys sewage, rainwater or other liquid wastes from a property to a point of disposal.

**Flowable Fill:** A controlled density cementitious slurry consisting of a mixture of fine aggregate or filler, water, and cementitious material(s), which is in a flowable state at placement used primarily as a backfill in lieu of compacted earth. Immediately after the connection, the maximum strength allowed is 150 psi.

**Fresh Air Inlet:** A connection to the Drainage System to permit the circulation of air through the system. May also be referred to as a vent.

**Green Stormwater Infrastructure (GSI):** A range of soil-water-plant systems that intercept stormwater, infiltrate a portion of it into the ground, evaporate a portion of it into the air, and in some cases release a portion of it slowly back into the sewer system.

**House Drain:** That part of the lowest horizontal piping of the drainage system which receives the discharge from soil, waste, or other drainage pipes in the building or on the premises and conveys it to the existing lateral, sewer, cesspool or septic tank.

**House Trap:** A running trap installed in the house drain to prevent circulation of gases between the drainage system of a premises and the public sewer; also known as a curb trap when installed on the footway.

**Lateral:** The portion of the drainage system that extends from the public sewer to the house trap.

**Licenses and Inspections (L+I):** The Department of Licenses and Inspections, an operating department of the City of Philadelphia.

**Manual:** The current version of the Philadelphia Water Department Sewer Connection and Repair Manual.

**Master Plumber:** A person who has obtained an active master plumber license from the City of Philadelphia, and who is regulated under Philadelphia Code § 9-1003.

**Permit Tracking System (PTS):** A computerized application and database which creates and modifies all footway, cartway, and connection permits for new water and sewer connections, repairs, and reconnections.

**Plumber:** A master plumber, journeyman plumber or apprentice plumber registered and/or licensed to install plumbing in the City of Philadelphia, and who is regulated under Philadelphia Code § 9-1003.

**Private Sewer:** A sewer which is not part of the City’s public sewer system, and which is owned and maintained by the connected property owner(s).

**Public Sewer:** A sewer main and associated sewer appurtenances owned by the City of Philadelphia and

---

1. The Philadelphia Streets Department Amendments to Regulations Governing Street Openings, Excavations, and Restoration.
maintained by the Water Department.

**Sewer Access Permit:** A permit authorizing access to a specific area of the public sewer to investigate a private sewer, public sewer, or lateral.

**Sewer Appurtenances:** The various accessories on the public sewerage system necessary for the efficient operation of the system. Sewer appurtenances include manholes, lampholes, street inlets, catch basins and inverted siphons.

**Sewer Connection:** The point of connection between the drainage system of a building or premises and the Public Sewer, or the point of connection between a private sewer and a public sewer.

**Sewer Connection Permit:** a permit authorizing a sewer connection and/or lateral repair, which shall distinguish between the installation of a new sewer connection and/or lateral and the repair or reconnection of an existing sewer connection and/or lateral.

**Sewer Connection Regulation:** The current version of Section 504.0 of the Philadelphia Water Department Regulations - Requirements for Sewer Connections.

**Slant:** The prefabricated fitting connecting the lateral to the public sewer.

**Stormwater Management Practice (SMP):** Any man-made or natural structure, system, landscape feature, channel, or improvement designed, constructed, installed, and/or used to detain, infiltrate, or otherwise control stormwater runoff quality, rate, or quantity.

**Street Opening Permit:** The permit required by the Philadelphia Code and/or Streets Department Regulations and issued by the Streets Department to open or excavate within the City right-of-way.

**Streets Department:** The Philadelphia Department of Streets, an operating department of the City of Philadelphia.

**Stub:** An existing lateral connected to the sewer which was capped when the original sewer was installed.

**Trap:** A fitting or device designed and constructed as to provide a liquid seal which will prevent the back passage of sewer gases without materially affecting the flow of sewage or waste water through it.

**Utility Plan:** A full size engineering plan printed to scale. The plan must illustrate a north arrow, call-out of each proposed connection material, size, and slope, and denote any City mains including the size, material, and landmarks (example: manholes).

**Utility Schematic:** A sketch of a proposed connection including sizes, materials, and dimensions. Landmarks such as manholes are required for reference. Contact information is also denoted within the schematic. A schematic must be included with every proposed connection.

**Water Department:** The Philadelphia Water Department, an operating department of the City of Philadelphia.

**Water Permit Desk:** Water Department unit in the concourse of the Municipal Services Building (MSB) to provide permits related to water and sewer connections. Also referred to as Water Desk.

**Water Transport Records:** A unit within the Water Department responsible for the management of water, sewer, and green infrastructure records. Personnel also assist in the preliminary approval processes of connection and sewer access permits.
A2. GSI FAQ

The Philadelphia Water Department is installing hundreds of stormwater drainage structures in streets, sidewalks and at other locations. These structures, known as green stormwater infrastructure (GSI), are often not visible from the surface.

What is GSI?

GSI is a surface and/or subsurface drainage system that stores, filters and conveys stormwater runoff. GSI slows the flow of stormwater into sewers, and natural features, such as soil and plants, remove pollutants.

Where is GSI located?

GSI is located throughout Philadelphia in sidewalks, streets, parks, and community centers. Visit the Big Green Map to locate many of our planned and completed projects: www.phillywatersheds.org/BigGreenMap. This map is not a comprehensive list of projects and is not a substitute for calling the Philadelphia Water Department or PA One Call (811).

Why is the Philadelphia Water Department installing GSI?

State and federal regulations require the City to reduce the amount of sewage discharged into our rivers when it rains. PWD is taking many steps to meet these obligations, including installing GSI in areas served by a combined sanitary and stormwater sewer. Our combined sewer overflow prevention program, Green City, Clean Waters, began in 2011 and full implementation is projected through 2036. More on Green City, Clean Waters is available at: www.phillywatersheds.org/GreenCityCleanWaters.

What does GSI look like?

GSI takes a variety of forms. Typically, there are surface and underground stormwater storage areas. Surface storage can include rain gardens, tree plantings, and stormwater planters. Subsurface storage is typically a trench or other area comprised of clean-washed AASHTO No. 57 aggregate wrapped in non-woven geotextile or a 40 mil.-thick high density polyethylene geomembrane. Subsurface storage trenches can run several hundred feet under the sidewalk. GSI often blends into its surroundings, and even installations that appear to be standard street trees have extensive underground infrastructure.
Typical Trench Cross Sections

NOTES:
1. LINED SYSTEMS ARE CONSIDERED WATER-TIGHT. IF IMPERMEABLE LINER IS PUNCTURED, THE TRENCH IS CONSIDERED COMPROMISED.
2. ELEVATION OF PIPES ARE SHOWN FOR REFERENCE PURPOSES ONLY. FOR AS-BUILT ELEVATIONS, REFER TO RECORD DRAWINGS.
3. REFER TO RECORD DRAWINGS FOR ACTUAL PIPE MATERIAL

TYPICAL INFILTRATION TRENCH CROSS SECTION

TYPICAL LINED TRENCH CROSS SECTION

PHILADELPHIA WATER DEPARTMENT

TYPICAL TRENCH CROSS SECTIONS

DRAWN BY: B. CRUICE DATE: 08/27/2015
CHECKED BY: E. NORDLAND PAGE NO. 1 OF 1
Why should I care about GSI?

GSI is necessary for the City to meet its environmental obligations to the state and federal governments. GSI is fragile and a disturbed system may collapse. If you damage GSI, please notify PWD GSI Maintenance at 215-300-9079 immediately. You will be required to repair any damage caused to GSI, or the City will do so and bill you. You may also be fined.

What do I do if I have proposed work near GSI?

If a private lateral must run through GSI or if you must dig near GSI, PWD will provide specific requirements. Plumbers and contractors must contact PWD for any proposed work in the immediate vicinity of GSI. A PWD inspector must be on site during construction and must give final approval after appropriate GSI restoration.

What can I do to avoid damaging GSI?

- Call PA One Call at 811
- Get GSI drawings from PWD Records: 215-685-6271

PWD will provide record plans showing locations, type of GSI, GSI footprint area/extent, and critical elevations (top of storage, bottom of storage, invert elevations of connection points). We will mark out the extent of GSI during field one-calls. Emergency exceptions may be made.

How does GSI get marked out in a One-Call?

During One-Calls, GSI is marked out in a green color. The perimeter of the underground storage area is delineated. Digging is not permitted within this area unless PWD has given prior approval. A PWD representative must be on-site during any disturbance.

What else I should know?

Sediment can damage GSI and is generally not permitted in the sewer system. GSI is designed to filter and clean stormwater, and sediment runoff from construction or excavation sites can clog GSI and negatively impact performance. Install appropriate erosion and sediment (E&S) controls at all times.

Where can I learn more?

More information about Green City, Clean Waters and GSI is available at www.phillywatersheds.org.

Design standards for GSI are published online at www.phillywatersheds.org/gsi_design_resources.
Philadelphia Water Department GSI Contact List

For GSI drawings, contact WTR at 215-685-6271.

To schedule work near GSI or report damage, contact GSI Maintenance at 215-300-9079.

Email general questions to: questions@phillywatersheds.org.

Examples of GSI:

![Stormwater Planter](image1)

![Porous Paving](image2)
A3. New Sewer Connection Cover Letter

New Sewer Connection Cover Letter

Date submitted for review: ________________
Liaison contact information:

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<thead>
<tr>
<th>Name and Address</th>
<th>E-mail &amp; Phone Number</th>
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Plumber ID: ________________

Project name and parcel address:

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Number of proposed connections: __________

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<th>Size of Main</th>
<th>Material of Main</th>
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<td>WYE</td>
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Act 537#: ________________________
Storm water management tracking ID (if applicable): ________________________
Is this connection to an intercepting sewer? (Check one): ☐ Yes ☐ No
Is this connection to a manhole? (Check one): ☐ Yes ☐ No
Is this connection to a Dry Weather Outlet Pipe? (Check one): ☐ Yes ☐ No

The following types of connections are strictly prohibited: Connections to force mains, inlets, inlet laterals, and City sewers with insufficient capacity.
## A4. Application for Plumbing Permit

**APPLICATION FOR PLUMBING PERMIT**

**ADDRESS OF PROPOSED CONSTRUCTION**

**LOCATION OF WORK ON PREMISES (FRONT, REAR, FLOOR, SPACE NUMBER, ETC.):**

**PROPERTY OWNER:**

**REGISTERED MASTER PLUMBER:**

**COMPANY AND CONTRACTOR ID #:**

**PHONE #:**

**ARCHITECT/ENGINEER IN RESPONSIBLE CHARGE:**

**ARCHITECT/ENGINEERING FIRM:**

**PHONE #:**

**LICENSE #:**

**OCCUPANCY:**

**SCOPE OF WORK INCLUDES:**

- [ ] NEW CONSTRUCTION
- [ ] ALTERATION/REHABILITATION

**SIZE OF WORK SPACE**

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**ESTIMATED COST $**

**# OF FLOORS IN BUILDING**

**# OF FIXTURES**

**WATER DEPARTMENT USE ONLY**

**SEWER APPLICATION**

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**WATER DEPARTMENT USE ONLY**

**APPLICANT’S SIGNATURE:**

**DATE:**

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All provisions of the Philadelphia Building Code and other ordnances shall be followed, whether specified herein or not. Plans approved by the Department form part of this application. I hereby certify that the statements contained herein are true and correct to the best of my knowledge and belief. I further certify that I am authorized by the owner to make the foregoing application and that before I accept my permit for which this application is made, the owner shall be made aware of all conditions of the permit. I understand that if knowing or making any false statement herein, I am subject to such penalties as may be prescribed by law or ordinance.

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<th>APPLICANT’S SIGNATURE:</th>
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<th>DATE:</th>
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</table>
A5. Utility Schematic for New Sewer Connection - blank
Utility Schematic for New Sewer Connection - example
A6. Sewer Connection Pre-Permit Application Example
A7. New Sewer Connection Inspection Report

Date: ___________

Time: ___________

Project Address: ____________________________________________________________

Connection Permit Number: _________________________________________________

Plumber Name: ______________________________________________________________

Plumber Address: ______________________________________________________________

Telephone Number: ___________________________________________________________

Contractor: _________________________________________________________________

In witness that inspection is taking place (Please Sign and Print):

Inspector: ___________________________ Plumber: ________________________________

Please note if any of the information above is missing, the connection cannot proceed

Connection Size: ___________

Is this connection correctly represented on the Connection Permit?  □ Yes  □ No

Please note if the above answer is no, work cannot continue until the WTR reviewer is contacted

Connection Type:  □ Saddle  □ Modified Saddle  □ WYE

Connection Location: _________________________________________________________

Connecting Pipe Material:  □ RCP  □ CIP  □ DIP  □ VCP

Sewer Pipe Size & Depth: _________________ Condition:  □ Good  □ Poor

Sewer Pipe Material:  □ RCP  □ CIP  □ DIP  □ VCP  □ BRICK

Is excavation shored properly?  □ Yes  □ No  □ N/A

Is the connection core drilled?  □ Yes  □ No  □ N/A (WYE connection)

Is there less than 1” of penetration inside the sewer?  □ Yes  □ No

Was concrete placed properly (12” concrete collar)?  □ Yes  □ No  □ Small Connection

Was the connection installed as per drawings?  □ Yes  □ No

Date and time for backfilling inspection: _________________________________

Was the backfill tamped?  □ Yes  □ No  □ Other: _______________________________

Is the backfill material ‘acceptable’?  □ Yes  □ No  □ Unknown

Was Streets Department Notified?:  □ Yes  □ No (Means of Notification:  □ E-mail  □ Phone call)

□ CONNECTION COMPLIES  □ CONNECTION DOES NOT COMPLY

Comments: __________________________________________________________________
____________________________________________________________________________
A8. Sewer Connection/Lateral Repair Inspection Report

Date: ____________

Time: ____________

Project Address: _______________________________________________

Connection/Repair Permit Number: ________________________________

Plumber Name: ________________________________________________

Plumber Address: ______________________________________________

Telephone Number: _____________________________________________

Contractor: _____________________________________________________

In witness that inspection is taking place (Please Sign and Print):

Inspector: ___________________________ Plumber: _____________________

Please note if any of the information above is missing, the connection cannot proceed

Repair Type: ☐ House Drain (incidental only) ☐ Vent ☐ Lateral / Slant ☐ Curb Trap

Is this repair correctly represented on the Connection Permit? ☐ Yes ☐ No ☐ Emergency**

Please note if the above answer is no, work cannot continue until the Permit is corrected

Repair Location: ________________________________________________

Pipe Material: ☐ RCP ☐ CIP ☐ DIP ☐ VCP

Is excavation shored properly? ☐ Yes ☐ No ☐ N/A

Date and time for backfilling inspection: _____________________________

Was the backfill tamped? ☐ Yes ☐ No ☐ Other: ___________________________

Is the backfill material clean? ☐ Yes ☐ No ☐ Unknown

Was Streets Department Notified?: ☐ Yes ☐ No (Means of Notification: ☐ E-mail ☐ Phone call)

☐ REPAIR COMPLIES ☐ REPAIR DOES NOT COMPLY

Comments: ______________________________________________________________________________________

______________________________________________________________________________________________

**Permit must be obtained within 3 days of repair or replacement. Must be a true emergency.
A9. Connection Details

Combined Sewer Connection Cross Section

TYPICAL BUILDING WATER & SEWER CONNECTIONS TO COMBINED SEWER MAINS
Typical Building Water & Sewer Connections

Separate Sewer Connection Cross Section
Saddle Connection

![Diagram of Saddle Connection to Circular R.C. Pipe Sewers]

Resilient Saddle Connection

![Diagram of Resilient Saddle Connection to Circular R.C. Pipe Sewers]

Note: Lateral pipe must be in line with the resilient saddle - no more than 3% deflection is permitted.
Modified Saddle Connection

**SECTION A—A**

**CONC. CUT-OFF WALL (TYP.)**

**NOTES:**
1. CURE CONCRETE CUT-OFF WALL FOR 24 HRS PRIOR TO OPENING SEWER.
2. CAREFULLY MAKE OPENING IN THE EXISTING BRICK SEWER BY CORE DRILLING.
3. COAT EXISTING SURFACES WITH EPOXY BONDING AGENT.

**PLAN VIEW**

**MODIFIED SADDLE CONNECTION TO EGG-SHAPED BRICK SEWER DETAIL**

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<tbody>
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<tr>
<td>DRAWN BY:</td>
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<td>CHECKED BY:</td>
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**A9. Connection Details | pg. 38**
WYE Connection
Example of Incorrect Saddle Connection

INCORRECT CONNECTION
15" V.C.P. INTO 21" R.C.P.

15" Vitrified Pipe

R.C. Sewer Pipe

Concrete Cradle

SADDLE CONNECTION NOT RECOMMENDED IN THIS INSTANCE
WYE BRANCH CONNECTION RECOMMENDED

Incoming Pipe Diameter Too Large In Comparison
To R.C. Pipe In This Instance For A
Properly Functioning Saddle Connection To Sewer.
No Concrete Encasement Around Connection (Not Allowed)
Incoming Pipe Protruding Into R.C. Sewer (Not Allowed)

Note 1: When connecting to circular sewer pipe via saddle connection, the incoming sewer pipe diameter should be equal to, or less than half the diameter of the main sewer line.

Note 2: If the incoming sewer pipe diameter is more than half the diameter of the main sewer line, a wye-branch connection is recommended.
A10. Inspection Responsibility Cross Section

[Diagram showing the cross section of a sewer system with various components labeled and a legend for the inspecting department and governing regulations.]
A11. Connection Procedure Guidelines

Standard Saddle Connection

As per code D-16.4 of Standard Specifications for Sewers (1985 Edition):

1. Inlet pipes, vent pipes, and laterals, 12 inches in diameter and over, shall be connected to reinforced concrete pipe, 30 inches in diameter and over with WYE branches or saddles.
2. Laterals, 10 inches in diameter and under, shall be connected to reinforced concrete pipe with saddles.
3. The use of a maul to create openings in the reinforced concrete pipe for saddles or inserts is not permitted. Saddle connections shall be grouted around the opening.

Objectives:

1. To make a sound connection to the City’s sewer lines in compliance with PWD Standards.
2. The connections should not jeopardize the structural integrity of the existing sewer lines.
3. The connections should not jeopardize or compromise the operation and flow of the existing sewer lines.

Saddle Connection Installation Procedure:

1. Excavate safely to expose the existing sewer pipe without damaging it.
2. Excavate a ditch wide enough to accommodate coring the existing sewer pipe and concreting the connection joint to 1-foot past the edge of the cored opening in all directions.
3. Contractors should perform the connection in a safe manner and per OSHA regulations.
4. Shoring shall be installed in ditches and trenches as per OSHA regulations or as regulated by PWD. Violation of this provision will result in a Stop Work Order and/or penalties prescribed by law. (Refer to Philadelphia Plumbing Code 2004 Section P-1503.2 Shoring.)
5. Core drill a hole not more than 1-inch larger than the OD of the connecting pipe or saddle.
6. Prevent any pieces of cored section or debris to fall into the sewer.
7. Remove all the broken pieces or debris that fall into the sewer.
8. Caulk the interior surface of the cored area with non-shrink or epoxy mortar.
9. Cut a saddle long enough on the bell-end side so that when inserted into the cored hole, it will be flush with the inside face of the sewer wall or with not more than 1-inch protrusion into the sewer pipe and also the bell-end will rest on the sewer pipe.
10. Fill the annular space between the saddle and the sewer pipe with approved caulk or non-shrink mortar.
11. Secure the saddle.
12. Connect the first piece of the lateral pipe to the saddle.
13. Form the outside of the connection joint so that a 12-inch thick concrete collar could be placed around the connection joint.
14. Place a minimum of 2000 psi concrete collar extending 12 inches around the joint.
15. Allow at least 24 hours for the concrete to harden before backfilling.
16. Any other pipeline exposed and undermined during this operation must be
supported immediately and backfilled with Controlled Low Strength Material (CLSM) with a maximum strength of 150 psi after the completion of the connection.

Standard WYE Connection

As per code D-16.4 of Standard Specifications for Sewers (1985 Edition):
1. Inlet pipes, vent pipes, and laterals, 12 inches in diameter and over, shall be connected to reinforced concrete pipe, 30 inches in diameter and over with WYE branches or saddles.
2. Inlet pipes, vent pipes, and laterals, 12 inches in diameter and over, shall be connected to reinforced concrete pipe, 27 inches in diameter and under, with WYE branches.
3. Laterals, 10 inches in diameter and under, shall be connected to reinforced concrete pipe with saddles.
4. The use of a maul to create openings in the reinforced concrete pipe for saddles or inserts is not permitted. Saddle connections shall be grouted around the opening.

Objectives:
1. To make a sound connection to the City’s sewer lines in compliance with PWD Standards.
2. The connections should not jeopardize the structural integrity of the existing sewer lines.
3. The connections should not jeopardize or compromise the operation and flow of the existing sewer lines.

WYE Connection Installation Procedure:
1. Contractor is responsible for controlling the flow during the connection.
2. The Contractor is to obtain information about the flow rate prior to commencing the connection. This may be obtained by opening a manhole and measuring the flow (flow can vary).
3. For high flow rate, the contractor shall submit a By-pass method for approval.
4. For low flow rate, the contractor may be able to direct the flow through the opened section.
5. The contractor must select the proper size WYE and align the inverts.
6. Excavate safely to expose the existing sewer pipe without damaging it.
7. Excavate a ditch wide enough to accommodate the WYE and the CUT-OFF walls.
8. Contractors should perform the connection in a safe manner and per OSHA regulations.
9. Shoring shall be installed in ditches and trenches as per OSHA regulations or as regulated by PWD. **Violation of this provision will result in a Stop Work Order and/or penalties prescribed by law.** (Refer to Philadelphia Plumbing Code 2004 Section P-1503.2 Shoring.)
10. For connections to brick sewer, construct a 2-foot wide by 8-inch high, concrete CUT-OFF wall to the spring line, on both sides of the WYE, 12-inches from the location to cut the sewer pipe.
11. Use a minimum of 3000 psi concrete for the concrete CUT-OFF wall.
12. Allow at least 24 hours for the concrete to harden before cutting the sewer pipe.
13. Cut the sewer pipe so that the WYE section will fit in tightly.
14. Prevent any debris from flowing into the sewer.
15. Clean the bottom of the opened area from loose and soft soil if no cradle, and place stone in the middle leaving 12 inches below the joints for the concrete collar.
16. Insert the WYE section in place immediately, seal the joints and construct a 24-inch concrete collar around both joints.
17. Use a minimum of 3000 psi concrete collar, 12 inches deep and extending 24 inches wide around the joint.
18. Allow at least 24 hours for the concrete to harden before backfilling.
19. Any other pipeline exposed and undermined during this operation must be supported immediately and backfilled with Controlled Low Strength Material (CLSM) with a maximum strength of 150 psi after the completion of the connection.

CONCRETE CUT-OFF WALLS
A. Before removing the earth fill over the arch of the existing sewer, construct a concrete cut-off wall where called for on the Contract Drawings.
B. The cut-off wall shall be constructed across the entire width of trench down to the spring line of the sewer. After the cut-off wall has been constructed and set, the remaining portion of earth over the sewer shall be removed down to the spring line.

FLUMING
A. Flume the existing sewer flow during construction. Use only such dams as will not restrict full flow during storms. Repair all damage due to restriction of flow.

DIVERSION OF FLOWS
A. The Water Department does not guarantee the ability to dam or divert flows. The Water Department shall approve all damming and diverting of flows prior to installation.
B. One week prior to damming and diverting of any flow, the Contractor shall notify both of the following:
   • Sewer Maintenance (See Contacts for phone number)
   • Flow Control (See Contacts for phone number)
C. In addition, both Sewer Maintenance and Interceptor Services shall be notified one week prior to removal of any dam and the resumption of flow. Upon completion of the removal of the dam, the Contractor shall schedule an inspection of the sewer at the location of the dam. Any damage found during this inspection shall be repaired by the Contractor at no additional cost to the City.
D. If for any reason, it becomes necessary to remove the dam prior to completion of the project, the Contractor shall remove the dam, restore flow, and utilize an alternate means of flow control to complete the project, at no additional cost to the City.
A12. Curb and Sidewalk Restoration Detail

**Concrete Curb**

**Granite Curb**

**City of Philadelphia Department of Streets**

**Typical Curb and Footway Construction and Roadway Restoration Concrete & Granite**

**Drawing No.**

**Sheet 1 of 1**

**Scale**

**Approve**

**SC0101**
### A13. Streets Department Highway Division Yard Contacts

<table>
<thead>
<tr>
<th>District</th>
<th>Location</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st District 48th &amp; Parkside</td>
<td>4800 Parkside Avenue, 19131</td>
<td>215-685-0170</td>
</tr>
<tr>
<td>2nd District 63rd &amp; Essington</td>
<td>3033 S. 63rd Street, 19153</td>
<td>215-685-4281</td>
</tr>
<tr>
<td>3rd District 22nd &amp; York</td>
<td>2121 W. York Street, 19132</td>
<td>215-685-9776</td>
</tr>
<tr>
<td>4th District Stenton &amp; Sylvania</td>
<td>4521 Stenton Avenue, 19144</td>
<td>215-685-2193</td>
</tr>
<tr>
<td>5th District Whitaker &amp; Luzerne</td>
<td>4040 Whitaker Avenue, 19124</td>
<td>215-685-9819</td>
</tr>
<tr>
<td>6th District State &amp; Ashburner</td>
<td>8401 State Road, 19136</td>
<td>215-685-8271</td>
</tr>
</tbody>
</table>
# A14. L+I District Contacts

<table>
<thead>
<tr>
<th>Position</th>
<th>Contact Number</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Central District</td>
<td>215-685-3786</td>
<td>990 Spring Garden Street, 7th Floor</td>
</tr>
<tr>
<td>East District</td>
<td>215-685-0580</td>
<td>7522 Castor Avenue</td>
</tr>
<tr>
<td>North District</td>
<td>215-685-2278</td>
<td>217 E Rittenhouse Street</td>
</tr>
</tbody>
</table>
## A15. PWD Contacts

<table>
<thead>
<tr>
<th>Unit</th>
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<tr>
<td>PWD Main Number</td>
<td>215-685-6300</td>
</tr>
<tr>
<td>Stormwater Plan Review</td>
<td>215-685-6387</td>
</tr>
<tr>
<td>Flow Control</td>
<td>215-685-2004</td>
</tr>
<tr>
<td>Water Transport Records (WTR) (1101 Market St., 2nd Fl.)</td>
<td>215-685-6271</td>
</tr>
<tr>
<td>WTR Supervisor</td>
<td>215-685-6270</td>
</tr>
<tr>
<td>Water Desk at MSB (1401 JFK Blvd, Concourse)</td>
<td>215-686-2577</td>
</tr>
<tr>
<td>5”/6” Connection Inspection &amp; Emergency Repair Inspection</td>
<td>215-410-6470</td>
</tr>
<tr>
<td>Large (8”+) Connection Inspection</td>
<td>215-397-7097</td>
</tr>
<tr>
<td>Sewer Maintenance</td>
<td>215-685-2034</td>
</tr>
<tr>
<td>Customer Field Service</td>
<td>215-685-9652</td>
</tr>
</tbody>
</table>
A16. PWD Regulation 504.0 Requirements for Sewer Connections (approved 9/5/2017)

504.0 REQUIREMENTS FOR SEWER CONNECTIONS

504.1 Definitions.

The following words and phrases when used in Section 504.1 through 504.14 of these regulations have the meanings given to them in this Section unless specifically provided otherwise or unless the text clearly indicates otherwise:

(a) Drainage System: The piping within public or private premises but outside of a building or dwelling which conveys sewage, rainwater or other liquid wastes from a property to a point of disposal.

(b) Fresh Air Inlet: A connection to the Drainage System to permit the circulation of air through the system.

(c) House Drain: That part of the lowest horizontal piping of the Drainage System which receives the discharge from soil, waste, or other drainage pipes in the building or on the premises and conveys it to the existing lateral, sewer, cesspool or septic tank.

(d) House Trap: A running trap installed in the House Drain to prevent circulation of gases between the Drainage System of a premises and the Public Sewer; also known as a curb trap when installed on the footway.

(e) Lateral: The portion of the Drainage System that extends from the Public Sewer to the House Trap.

(f) Licenses and Inspections: The Department of Licenses and Inspections, an operating department of the City of Philadelphia.

(g) Manual: The current version of the Philadelphia Water Department Sewer Connection and Lateral Repair Manual.

(h) Master Plumber: A person who has obtained an active Master Plumber license from the City of Philadelphia, and who is regulated under Philadelphia Code § 9-1003.

(i) Plumber: A Master Plumber, journeyman plumber or apprentice plumber registered and/or licensed to install plumbing in the City of Philadelphia, and who is regulated under Philadelphia Code § 9-1003.

(j) Private Sewer: A sewer which is not part of the City’s Public Sewer system, and which is owned and maintained by the connected property owner(s).

(k) Public Sewer: A sewer main and associated Sewer Appurtenances owned by the City of Philadelphia and maintained by the Water Department.

(l) Sewer Appurtenances: The various accessories on the public sewerage system necessary for the efficient operation of the system. Sewer Appurtenances include manholes, lampholes, street inlets, catch basins and inverted siphons.

(m) Sewer Access Permit: A permit authorizing access to a specific area of the Public Sewer to investigate a Private Sewer, Public Sewer, or Lateral.

(n) Sewer Connection: The point of connection between the Drainage System of a building or premises and the Public Sewer, or the point of connection between a Private Sewer and a Public Sewer.

(o) Sewer Connection Permit: a permit authorizing a Sewer Connection and/or Lateral Repair, which shall distinguish
between the installation of a new Sewer Connection and/or Lateral and the repair or reconnection of an existing Sewer Connection and/or Lateral.

(p) Slant: The prefabricated fitting connecting the Lateral to the Public Sewer.

(q) Streets Department: The Philadelphia Department of Streets, an operating department of the City of Philadelphia.

(r) Water Department: The Philadelphia Water Department, an operating department of the City of Philadelphia.

504.2 Owner’s Responsibility.

(a) The property owner owns and shall maintain and repair the property’s entire Drainage System and the Sewer Connection, ensuring each is intact, unobstructed, and properly configured, connected, and functioning at all times.

(b) The owner(s) of a Private Sewer shall maintain and repair the Private Sewer, ensuring it is intact, unobstructed, and properly configured, connected and functioning at all times.

(c) The sanitary, stormwater, or combined sanitary and stormwater Lateral for each building or structure shall be separate and independent of the Drainage System serving any other building, structure, or surface area unless part of a common building sewer or Drainage System or Private Sewer permitted under the Philadelphia Plumbing Code and approved by the Water Department and Licenses and Inspections.

Exceptions:

(1) Multiple buildings, structures, or surface areas which have a shared stormwater management practice (“SMP”) may use a single Lateral to connect the SMP to a Public Sewer in accordance with PWD Regulations Chapter 6.

(2) Several SMPs may use a single Lateral to connect the SMPs to a Public Sewer.

504.3 Permit Required.

(a) Permit required.

(1) No person shall make a new Drainage System connection to an existing Public Sewer unless:

(A) the Water Department has determined that the Public Sewer has available capacity for the proposed connection in accordance with the Pennsylvania Sewage Facilities Act (“Act 537”), if applicable, and

B) he or she has obtained a Sewer Connection Permit.

(2) No person shall reconnect, replace, or repair an existing Sewer Connection or a Lateral until he or she has obtained a Sewer Connection Permit.

(b) An application for a Sewer Connection Permit shall be submitted by a Master Plumber or his/her authorized agent.

(c) A Master Plumber or his/her authorized agent must follow the process detailed in the Manual in order to obtain a Sewer Connection Permit.

(d) Any Plumber or other person who starts work governed by this Section without securing the proper permits as required by the Philadelphia Code and these regulations shall be subject to having his/her license
suspended or revoked, and/or such penalties as may be prescribed by law, and may be ordered to stop work immediately, except in an emergency as provided by law.

**504.4 Plumber’s Responsibility.**

(a) A Plumber is required to be on site at all times following commencement of any work governed by this Section. The Plumber shall have his/her license or registration, personal identification, and all permits available for inspection at the work site at all times. If not on site, a journeyman or Master Plumber shall be available for a site visit or electronic communication during a City inspection.

(b) The responsibility to provide an adequate Sewer Connection remains with the Master Plumber. Any approval by the City of Philadelphia or Water Department does not remove any responsibility from the Master Plumber.

(c) The Plumber must protect stockpiles of excavated material and must broom sweep the sidewalk and roadway adjacent to the work site at the end of each work day. Excavated material is prohibited from entering the Public Sewer.

(d) The Plumber shall comply with the Pennsylvania Underground Utility Line Protection Act (73 P.S. § 176 et. seq., informally known as PA One Call), or equivalent.

(e) It is the responsibility of the Plumber on site to dig with care and verify all utility location information. If a Plumber causes or discovers any damage to public or private infrastructure or property during any work covered by this Section, the Plumber shall notify the Water Department immediately. The Water Department, upon being notified of such damage caused by the Plumber, may order the Plumber to make any emergency repairs to public or private infrastructure at the Plumber’s expense.

(f) If the Water Department determines that the Public Sewer or any other City infrastructure or property was damaged by a Plumber’s operation, then the time and materials required by the City to repair such damage and other clean-up costs will be invoiced to the Master Plumber. The Water Department may withhold permits from a Master Plumber who fails to pay such an invoice, or who fails to resolve a legitimately disputed invoice.

**504.5 Water Department Responsibility.**

(a) The Water Department or its designee will inspect work conducted under this Section and will only approve work performed in accordance with the Manual.

(b) The Water Department may refer any violations of City Code and/or regulations under the jurisdiction of another City department to that agency.

(c) The Water Department maintains current Public Sewer records which shall be available for plumbers, engineers or other construction professionals to use when designing or constructing connections to the Public Sewer.

(d) The Water Department will periodically review and update the Philadelphia Water Department Sewer Connection Manual.

**504.6 General Requirements for Sewer Connections.**

(a) All Sewer Connections must be core drilled, unless approved by the Water Department in writing.
(b) Strictly prohibited connections and configurations.

   (1) The following types of connections are strictly prohibited.

   Any private plumbing connected to:

   (A) Force mains.

   (B) Inlets.

   (C) Inlet laterals.

   (D) A sewer with insufficient capacity.

   (2) The following configurations are strictly prohibited:

   (A) A stormwater Lateral or combined stormwater and sanitary Lateral connection to a sanitary-only Public Sewer.

   (B) A sanitary Lateral or combined stormwater and sanitary Lateral connection to a stormwater-only Public Sewer.

   (C) A Sewer Connection from an ejector or pumped system.

   (D) A Lateral intruding into the Public Sewer.

(c) Generally prohibited Sewer Connections.

   (1) The following types of Sewer Connections are generally prohibited but may be reviewed and approved by the Water Department on an individual basis by the applicant showing an extreme hardship.

   Sewer Connections to:

   (A) Intercepting sewers.

   (B) Manholes.

   (C) Dry weather outlet pipes.

(d) Review and Approval.

   (1) The following types of Drainage System connections shall be reviewed and may be approved on a case by case basis by the Water Department.

   Drainage System connections:

   (A) To a Public Sewer or a Private Sewer draining to a sanitary pump station.

   (B) To a previously lined Public Sewer.

   (C) Larger than six inches in diameter.

(e) Lateral pipe shall be properly constructed, installed, and maintained and shall be in accordance with the Manual.

(f) Any Sewer Connection shall be properly and securely made in accordance with the Manual.

(g) House Traps and Fresh Air Inlets shall be installed in accordance with the Philadelphia Plumbing Code.

504.7 Specific Requirements for Sanitary Sewer and Combined Sewer Laterals.

(a) A Lateral connecting to a sanitary-only Public Sewer shall not be smaller in diameter than the House Drain, and in no case less than five inches (5”) in diameter.
(b) A combined sanitary and stormwater Lateral shall be no smaller than six inches (6") in diameter.

(c) When connecting to a combined sanitary and stormwater Public Sewer, separate sanitary and stormwater Laterals within a Drainage System may only be combined after the approved House Traps.

(d) When connecting a Lateral to a sanitary-only Public Sewer and a Lateral to a stormwater-only Public Sewer, the Sewer Connection of the sanitary Lateral shall be downstream of the Sewer Connection of the stormwater-only Lateral, in relation to the flow of the Public Sewer.

504.8 Specific Requirements for Stormwater Sewer Laterals.

(a) Lateral pipe, including any pipe providing slow release or overflow drainage from a stormwater management practice, and connecting to any type of sewer shall, if applicable, be designed in accordance with Chapter 6 of these regulations.

(b) A stormwater Lateral shall be no smaller than six inches (6") in diameter.

504.9 Materials.

(a) Lateral pipe shall be constructed of ductile or cast iron, pre-cast reinforced concrete (RCP), or vitrified clay, conforming to the following standards:

   (1) Cast iron pipe: ASTM A74; ASTMA 888; CISPI 301

   (2) Ductile iron pipe: ANSI/AWWA C150 /A 21.50-81, Class 56 wall pipe

   (A) Reinforced concrete pipe: ASTM C14; ASTM C76; CAN/CSA A257.1M; CAN/CSA A257.2M

   (B) Vitrified clay pipe: ASTM C 4; ASTM C 700

(b) All Lateral pipe sections shall be joined with bell and spigot joints, made tight with oakum, cement, rubber O-ring or other joint compounds or materials approved by the Water Department. No-hub pipe connections are prohibited, except when making a resilient saddle connection.

(c) Plastic pipe, including ABS and PVC, shall not be used for Lateral construction in the cartway.

(d) Material(s) for Laterals differing from those required or prohibited by this Section shall not be used unless approved by the Water Department in writing in accordance with the Manual. The Master Plumber shall be responsible for establishing the suitability of the alternative material to the Water Department prior to approval and use.

504.10 Lateral Repairs and Replacements.

(a) Lateral repairs and replacements shall be made in accordance with the Manual.

(b) Where an existing Lateral is being replaced in the same location, the existing Slant may be re-used if the Water Department approves the re-use in writing after inspection of the existing Slant.

(c) When a Sewer Connection for a property’s Drainage System is moved to a new location, that previously existing Sewer Connection shall be properly sealed and the previously existing Lateral for that connection shall be properly disconnected.
and removed or sealed in accordance with the Manual.

504.11 Work in the Street.

(a) Street excavations, closures or detours, trenching, compaction, pipe support, backfilling and pavement restoration shall conform with the regulations of the Streets Department.

(b) Written approval must be obtained from the Water Department and the Streets Department Chief Engineer of the Highway Division prior to boring or tunneling in the public right-of-way.

504.12 Access to City Sewer System.

(a) Any person wishing to access the Public Sewer to conduct an investigation of a Public Sewer, Private Sewer, or Lateral shall obtain a Sewer Access Permit from the Water Department.

(b) No person, instrument, equipment, construction material or anything else may be placed into the Public Sewer for any purpose without the prior written consent of the Water Department.

504.13 Inspections and Enforcement.

(a) No backfilling shall commence until the Sewer Connection and/or any Drainage System component has been properly installed, and inspected and approved by the City.

(b) The Fresh Air Inlet(s) shall be visible and accessible for inspection at all times.

(c) The City is authorized to revoke a Sewer Connection Permit when:

(1) the Sewer Connection Permit was issued in error or was issued on the basis of incorrect, inaccurate or incomplete information in the application.

(2) the Sewer Connection Permit was issued on the basis of false statement or misrepresentation of fact in the application.

(3) any plumbing work for which the permit was granted is done in violation of Philadelphia Code or any regulations promulgated pursuant thereto, or fails to pass any inspection or test conducted by the City.

(4) work is being conducted in an unsafe manner.

(5) a Stop Work Order or Cease Operations Order has been issued.

(d) Failure to comply with the requirements of this Section or to maintain in good working order any portion of the property’s Drainage System shall evidence an immediate hazard to health or public or private property and shall result in the issuance of a Notice of Violation in accordance with the procedures of the Philadelphia Administrative Code and/or may result in the assessment of such other penalties as may be provided by law. In addition, as a result of a continuing violation and as stated in the Notice of Violation, the City may suspend water service at any time to prevent an immediate hazard to health or public or private property in accordance with the Philadelphia Administrative Code.

(e) If a violation of this Section as described in an issued Notice of Violation is not corrected or if public health, safety, or public or private property is in jeopardy, the City may correct the violation itself or by contract. The property owner(s) shall be
responsible for the full cost of repair and shall be billed for such costs by the City. If the property owner(s) fails to pay the bill in the time allowed, the City may take any and all additional enforcement measures permitted by law.

(f) If a Plumber fails to meet his or her obligations under this Section, the City may enforce the penalty provisions of Philadelphia Code § 9-1003(8) (license suspension and revocation). The City may also require the Plumber to correct improper or unsatisfactory work. If, after notice from the City, a Plumber fails to correct unsatisfactory work, the City may correct the violation and invoice the Master Plumber for time and materials. The Water Department may withhold permits from a Master Plumber who fails to pay such an invoice, or who fails to resolve a legitimately disputed invoice.

504.14 Sewer Connection Fees

(a) The fees for a Sewer Connection Permit shall be:

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<tr>
<th>Size and Type</th>
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</tr>
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<tbody>
<tr>
<td>5” or 6” connection</td>
<td>$265.00</td>
</tr>
<tr>
<td>8” Saddle connection</td>
<td>$400.00</td>
</tr>
<tr>
<td>8” Wye connection and any other PWD approved Sewer Connection requiring a connection method other than core drilling.</td>
<td>$475.00</td>
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</tbody>
</table>

(b) Additional Fees:                      $100.00

Approved Generally

Prohibited Connections

Connections or Repairs $80.00

During Non-Business Hours

(c) The fee for re-inspection of a violation of this Section or for a rescheduled inspection shall be $65.00.

(d) With the Water Department’s approval, depending on the type of connection or repair intended, the fee for an additional Sewer Connection Permit for work to be performed in the same trench and at the same time as work to be performed in association with an initial Sewer Connection Permit may be $50.