

City of Saint Paul

Department of Public Works

Standard Specifications for

Constructing and Repairing Private Sewer Connections

January 1, 2024

Standard Specifications for
Constructing and Repairing Private Sewer Connections

I hereby certify that these specifications were prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

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Date: 01/01/2024

License No. 47180

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APPENDIXES

- Appendix A:** City of Saint Paul Standard Supplemental Specifications for Construction
- Appendix B:** City of Saint Paul Standard Specifications for Street Openings
- Appendix C:** City of Saint Paul Billing Schedule for Street Restoration
- Appendix D:** Chapter 51 Fact Sheet - Allowable Discharges to the Storm Sewer System
- Appendix E:** Erosion and Sediment Control for Utility Projects in the Right-of-Way
- Appendix F:** Standard Plates (Sewer Appurtenances)

1.00 DEFINITIONS

City: The City of Saint Paul (city)

Permittee: In these Specifications, a permittee is a person or company issued a sewer permit to work on a private sewer service. This includes homeowners and plumbers authorized to work on only the portion of a sewer service on private property or house sewer contractors authorized to work on both the private property and public right-of-way sections of a private sewer service.

DSI: City of Saint Paul's Department of Safety and Inspections

Homeowners: Homeowners are defined in these specifications as persons who own and occupy their properties as their principal residences. Homeowners may install or repair the portion of their private sewer services on their properties after receiving sewer permits from the Sewer Utility. Homeowners are not allowed to work outside the limits of their properties.

House Sewer Contractor: The term "House Sewer Contractor", also referred to in these specifications as "House Drain Contractor", or "Sewer Service Contractor", is understood to mean any person licensed by Saint Paul's Department of Safety and Inspections (DSI) to construct or repair any portion of the private sewer service extending from the building wall of a property being served to the public sewer or outlet. At least one house sewer contractor must be employed by a company engaged in public right-of-way sewer work, and to ensure compliance with these specifications, the house sewer contractor is responsible for training and supervising the work of the company's crew within the city right-of-way.

Private Sewer Service: A private sewer service extends from the building wall of the property being served to its connection to the public sewer or outlet, and it includes its connection to the public sewer or outlet. It is also known as a private sewer service connection, a sewer service, a house sewer connection, a private sewer lateral, or a building sewer. A private sewer service is owned and maintained by the property owner who is connected to it, and this private ownership includes the connection at the city public sewer. Property owners must repair their defective private sewer services no more than 15 days upon receipt of notification by the Sewer Utility that their private sewer services are defective and in need of repairs. Property owners must also televise their private sewer services no more than 15 days upon receipt of notification by the Sewer Utility to televise their private sewer services to determine if they are defective or not.

Private Sewer Service Connection Point: A private sewer service connection point (or location) is the point where the private sewer service connects to the public sewer.

Public Sewer: A public sewer is a sanitary or storm sewer owned, operated, maintained, and controlled by the city. It generally has more than one private sewer service connected to it.

Right-of-Way: The right-of-way (ROW) is platted public land which often includes the boulevard, the sidewalk, and the public street.

2.00 REGULATORY AUTHORITY

These Specifications are based on the current versions of the City of St. Paul Code of Ordinances and the Minnesota State Plumbing Code. In the event of any conflicts, the City of St. Paul Code of Ordinances shall be the ruling authority.

The following applicable Codes of Ordinances can be viewed at the City of St. Paul’s website at https://library.municode.com/mn/st._paul/codes/code_of_ordinances

| Title X - SEWERS AND DRAINS | |
|------------------------------------|---|
| Chapter 51 | Allowable Discharges to the Storm Sewer System |
| Chapter 52 | Stormwater Runoff |
| Chapter 76 | Sewers and Drains |
| Chapter 77 | Sewer Service Charges |
| Chapter 78 | Fees for Sewer Connections, Repair or Abandonment |
| Chapter 79 | Additional Sewer Connections Prohibited |
| Chapter 80 | Sewer Contracts—Suburbs |
| Chapter 81 | Storm Sewer System Charge |
| Chapter 82 | Water Surcharge |

| Title XII – STREETS, SIDEWALKS, BRIDGES, OTHER PUBLIC WAYS | |
|---|-------------------------------|
| Chapter 134 | Projections and Encroachments |

| Title XXIX - LICENSES | |
|------------------------------|------------------------|
| Chapter 338 | House Sewer Contractor |

The Minnesota State Plumbing Code can be viewed at the State's Department of Labor and Industry website.

Amendments, changes, modifications, or additions to these specifications shall be made available on the Sewer Utility's webpage, and notifications will be sent to all licensed house sewer contractors.

No variations from these specifications will be permitted except by official written notice from the Sewer Utility. Sewer permits will not be issued to permittees who violate these specifications. The Sewer Utility shall consider the frequency of occurrence and the severity of a violation in determining how long a permittee will not be able to obtain sewer permits.

3.00 REQUESTS FOR SEWER RECORDS

Records of public sewers and private sewer service connections are available at the Sewer Utility Service Desk. Information obtainable from these records may include the depth and size of the public sewers, locations of wyes, and the locations of private sewer service connections.

Sewer records are also available online and can be viewed by requesting access to the appropriate city websites. Requests for access should be emailed to PWSEwersRecordCenter@ci.stpaul.mn.us. The Sewer Utility makes a substantial effort to provide complete and accurate information. However, sewer maps and permit information provided on city websites or by city staff are not engineering accurate and are for planning purposes only. The locations of sewer and other utilities should be field verified prior to constructing or repairing private sewer services. By using the records provided by city websites or city staff, the user assumes all associated risks. The city expressly disclaims any liability for any special, incidental, or consequential damages, including without limitation, lost revenues, or lost profits, resulting from the use or misuse of the information contained in the city websites or provided by city staff. Please report any errors or omissions to the Sewer Utility.

4.00 SEWER UTILITY PERMITS

4.01 SEWER PERMITS REQUIRED PRIOR TO CONSTRUCTION

A sewer permit must be obtained from the Department of Public Works Sewer Utility prior to the installation, repair, abandonment, or extension of any private sewer service that has a connection or an outlet to a public sewer. This requirement applies to the entire length of the private sewer service that begins at the building wall of the property being served to and includes its connection to the public sewer or outlet.

House sewer contractors, plumbers, homeowners, city forces, public agencies, and others may apply for sewer permits. However, only a house sewer contractor can work on the portion of a private sewer service that is within the city right-of-way. The person to whom a sewer permit is issued is responsible for the work done under the permit.

Work performed under a sewer permit must comply with the City of St. Paul code of ordinances, the Minnesota Plumbing Code, and these specifications. Violations of these specifications shall result in penalties as specified in Chapter 338 of the City Code, one of which is the inability of the permittee to obtain sewer permits until the work is corrected to the standards contained within these Specifications.

4.02 SEWER PERMIT APPLICATION REQUIREMENTS

A house sewer contractor may request a sewer permit by phone, email, or in person. Plumbers and homeowners must apply in person at the Sewer Utility service desk and pay for the sewer permit at the time it is issued. All sewer permits must be requested before 2:00 pm the day prior to when the work is scheduled to begin. An address must be provided when applying for a sewer permit. Except for paving connections, no sewer permits will be issued if a house number is not yet available. Before a sewer permit can be issued for work on a private sewer service, the permittee must provide to the Sewer Utility a signed statement from the property owner stating that the property owner has been informed and is aware of the city's sewer assessment program.

A site plan review will be required in all cases when a building other than a single family or duplex residential building is being constructed or redeveloped. The Sewer Utility site plan reviewer must approve the site plan before any sewer permits can be issued. The site plan reviewer must also approve any major changes to the site plan after the sewer permit has been issued. The sewer inspector can approve minor field changes of the site plan.

4.03 SEWER PERMITS ISSUED FOR ONLY INDEPENDENT CONNECTIONS

When access to a public sewer is available, every building must have its own separate sewer connection. When access to a public sewer is not available, a request can be made to the DSI's building official to approve an extension of the private sewer service from one property to another and the whole will be considered as one private sewer service. Such a private sewer service shall include cleanouts on the inside of the building wall of each building, and other requirements deemed appropriate by DSI and the Sewer Utility.

4.04 RELATED PAYMENTS DUE PRIOR TO ISSUANCE OF SEWER PERMITS

Failure to pay any legitimate claim the city may have against a permittee within ninety days will constitute cause for denial of sewer permits. The Sewer Utility shall not grant to any person, firm, corporation, or association a permit to connect to any sewer of the City of Saint Paul unless all clearwater charges, sewer availability charges, or any assessment fees have been fully paid. The City's Assessments section of the Office of Financial Services can be contacted for assessment related issues.

4.05 SEWER PERMIT REQUIRED FOR CLEARWATER CONNECTIONS

A clearwater connection permit is required before clearwater can be discharged to a storm sewer. Clearwater is defined as condensate water, cooling water, uncontaminated groundwater and excludes storm or rainwater runoff.

4.06 NO SEWER PERMITS ISSUED FOR CONNECTIONS CROSSING PARCELS

No sewer permits shall be issued for connections crossing parcels. If it becomes necessary for a property owner to build a part of a sewer connection on or across the private property owned by another, or across a parcel described for an address of another building owned by the same party, the person desiring to build such a connection must obtain the approval of the DSI building official and submit proof to the Sewer Utility that an easement for construction, operation, and maintenance has been granted by the owner of the property that is being crossed by the sewer connection. Such proof shall consist of an easement legally conveyed by an appropriate document, registered in the Office of the Register of Deeds, and added to the abstract of the neighboring property that will run forever with said property.

4.07 NO-FEE SEWER PERMITS ISSUED ONLY FOR SPECIAL CASES

At its discretion, the Sewer Utility may issue no-fee permits for the repair of damaged sewer services, for correction of existing records, or for other administrative purposes.

4.08 SEWER PERMIT FEES ARE NONREFUNDABLE AND NONTRANSFERABLE

The Sewer Utility does not refund or transfer sewer permit fees, except under special circumstances. Applicants should ensure that they provide the correct information to the Sewer Utility when ordering sewer permits.

4.09 SEWER PERMITS VALID FOR SIX MONTHS

All sewer permits are valid for six months from the date of issuance. Upon the receipt of a written request, the Sewer Utility may grant a time extension for special or unusual cases.

4.10 NO SEWER PERMITS ISSUED TO APPLICANTS WITH EXPIRED PERMITS

The Sewer Utility will not issue sewer permits to applicants who have one or more expired sewer permits until (1) work under the expired permit has been completed (2) proof is submitted to the Sewer Utility that no further work is required under the expired sewer permit and (3) the Sewer Utility cancels or issues a time extension for the sewer permit.

4.11 COST OF SEWER PERMIT FEES

A sewer permit is required for work done on every private sewer service. Sewer permit fees shall be based on the current rates established by the City Council, and the rates mentioned below are the rates established by the City Council at the time of production of these specifications. A double fee will be charged for work done without a sewer permit. Sewer permit fees are due at the time of issuance. However, house sewer contractors can be billed once per month for all sewer permits issued during that month, and those who fail to pay their monthly permit bills will be placed on a cash only list. The sewer permit fee for the repair or abandonment of any private sewer service is \$100.00. The sewer permit fee for a new private sewer service connection is \$100.00 for the first 80 feet plus \$50.00 per additional 80 feet or fraction thereof. A one-time connection charge of \$25 per front footage is required for all properties connecting to the city sanitary sewer system for the first time. A flat fee of \$100.00 regardless of installation length is charged for drain tiles and underground storm water storage systems.

5.00 NON-SEWER UTILITY PERMITS

5.01 RIGHT-OF-WAY PERMITS

Right-of-way permits are required for work occurring in the city right-of-way. There are two tiers of right-of-way permits: one for arterial & collector streets and one for residential streets. Applicants can contact the Right-of-Way Division at (651) 266-6151 to apply and pay for right-of-way permits.

5.02 OBSTRUCTION PERMITS

An obstruction permit is required if any part of the right-of-way is obstructed by equipment or materials. When a right-of-way permit is required, a separate obstruction permit will not be needed. Applicants can contact the Right-of-Way Division at (651) 266-6151 to apply for and pay for obstruction permits.

5.03 MET COUNCIL (MCES) SEWER PERMITS

Wyes and private services on MCES sewers are owned by either the City or property owners. Repair of wyes, inactive connections, paving connections, or abandoned connections are the responsibility of the Sewer Utility. Repair of private sewer services are the responsibility of the property owners.

A connection to an MCES sewer requires a special permit and an additional inspection performed by an MCES inspector. The MCES inspector requires at least 48 hours' notice for an inspection. The MCES inspects the connection to the main while the Sewer Utility inspects the entire private sewer service. The Sewer Utility submits the application to MCES on behalf of the applicant, and a copy of the approved permit is forwarded to the applicant after the Sewer Utility receives it from MCES. The applicant needs to provide the Sewer Utility with (1) the distance of proposed connection from the nearest manhole, (2) the invert of the connection and (3) the private pipe size and type of material. It takes about two weeks to process an MCES sewer permit. The permit form (called Direct Connection Application form) can be downloaded from the Metropolitan Council's website. The MCES permit fee is due at the time of application, and only half of the fee can be refunded if MCES does not approve the connection. Normal city charges as outlined in these specifications apply in addition to the MCES charge. For more information, call MCES at (651) 602-4564.

5.04 MNDOT SEWER PERMITS

Work on a State highway requires a permit from MNDOT. The permit is free, but in some cases, a bond is required. For sanitary permits, the Sewer Utility submits the application on behalf of the applicant. For storm permits, the applicant is responsible for preparing the MNDOT drainage permit. For more information, call MNDOT at (651) 366-4620 or visit their website at <http://www.dot.state.mn.us/utility/forms.html>. A permit will also be issued by the Sewer Utility to document the private sewer installation and/or modification.

5.05 RAMSEY COUNTY SEWER PERMITS

Work on a Ramsey County highway or road requires a permit from the County. Permit applications are handled by the Ramsey County Public Works located at 1425 Paul Kirkwood Dr. Ramsey County permits are free but must be obtained 24 hours before any work is done. For more information, call Ramsey County at 651-266-7186 or visit their website at <https://www.ramseycounty.us/business/licenses-permits-inspections>. A permit will also be issued by the Sewer Utility to document the private sewer installation and/or modification.

5.06 WATERSHED DISTRICT SEWER PERMITS

The Capitol Region Watershed District and Ramsey-Washington Metro Watershed District own and operate regional stormwater facilities within Saint Paul. Services requiring connection to these facilities must be obtained from the respective agencies.

Contact the Capitol Region Watershed District at:

<https://www.capitolregionwd.org/permits/watershed-rules/>

Contact the Ramsey-Washington Metro Watershed District at:

<https://rwmwd.org/permits/>

A permit will also be issued by the Sewer Utility to document the private sewer installation and/or modification.

6.00 HOUSE SEWER CONTRACTORS

6.01 NEW APPLICATIONS

A person desiring to become a house sewer contractor in the City of Saint Paul can request an application by calling the Service Desk @ 651-266-6234. The application is also available online at www.stpaul.gov/housedrain

6.02 LICENSEE QUALIFICATIONS:

Any applicant who possesses a City of Saint Paul master plumber's competency certificate or has had at least three years' experience performing responsible sewer work in trenching, bracing, and pipe laying in the public right-of-way is eligible to take the house sewer contractor's test.

6.03 CLOSED BOOK WRITTEN EXAM

The house sewer contractor's test is a 2-hour closed book test that requires a passing score of 70%. The test is administered by the Regulatory & Records Engineer at the Sewer Utility building located at 700 City Hall Annex, 25 West 4th Street, St. Paul, MN 55102.

If an applicant fails the closed book written test, the applicant may file a new application and retake the test. If the applicant fails a second time, the applicant will not be eligible for another test for a period of one year from the date of the last test, at which time the applicant may file a new application.

If an applicant passes the closed book written test, furnishes all the DSI bond and insurance requirements, and pays the license fee, the applicant will be issued a license by DSI. The license is valid for one year and it is non-transferable.

If a house sewer contractor does not perform any sewer permitted work in the city for five or more years and/or has a house sewer license that has not been renewed in five or more years, the applicant will be required to retake and pass the house sewer contractor test before resuming work in the city.

6.04 REVIEW OF CONTRACTOR PERFORMANCE

A house sewer contractor is not allowed to obtain permits for others or to sublet any sewer work in the street, alley, or easement right-of-way. The Sewer Utility shall keep a written record of all house sewer contractors' violations, problems, complaints, and deficiencies. Based on the written record, the Sewer Utility may make renewal or denial recommendations to DSI when licenses come up for renewal.

6.05 GUARANTEE OF WORK

The City of Saint Paul Department of Public Works standard supplemental specifications for construction requires that all work done by a house sewer contractor or plumber be guaranteed against defects resulting from poor workmanship and faulty or inferior materials or equipment for a period of one year from and after the date of completion of work which typically coincides with the date the mechanic's lien waiver form was signed.

7.00 CONSTRUCTION REQUIREMENTS

7.01 APPLICABLE RULES AND REGULATIONS

These construction requirements shall apply to the installation, repair, abandonment, or extension of any private sewer service that has an outlet or connection to a public sewer.

All work shall be performed in a workmanlike manner with the inside surfaces of the pipes, joints, and connections being watertight, smooth, and uniform. The permittee must also follow all other applicable regulations including those by Occupational Safety and Health Administration (OSHA), Minnesota Manual on Uniform Traffic Control Devices, and Minnesota's One Call Notification System (Gopher State One Call).

7.02 SEWER INSPECTIONS REQUIRED

The Department of Public Works Sewer Utility must inspect all work done on private sewer service connections. A private sewer service connection extends from the building wall of the property being served to and includes its connection to the public sewer or outlet. For the sewer service desk to schedule a sewer inspection, a sewer permit for the work must have been applied for and issued no later than 2:00 pm the day prior to the inspection.

Sewer inspections can be requested by emailing or calling the sewer service desk. Requests for sewer inspections must be made no later than two hours before installation of the pipe is completed. Normal inspection hours are from 9:00 am to 3:30 pm Monday through Friday. The Sewer Utility will make every effort to accommodate inspection requests for the day requested.

Before backfilling the trench, but after the pipe has been completely laid and/or the connection to the public sewer made, the work done must be inspected by the Public Works Sewer Utility. If any portion of the trench is backfilled before the pipe is inspected, the permittee shall, at the permittee's expense, remove such backfill so that the entire pipe may be inspected.

The Sewer Utility's inspection of house sewer connections shall not relieve the permittee from liability to replace or make good any defective workmanship or material which may be discovered after the inspection has been completed.

If an inspector finds a permittee working in violation of any of these specifications and the permittee refuses to correct the violation, Chapter 76.08 of the city's code of ordinances authorizes the inspector to contact DSI who will dispatch an inspector empowered to issue a tag. Said tag is for a petty misdemeanor and carries a maximum penalty of \$300 or 90 days imprisonment or both, for the first offense and revocation of license for repeat violations.

7.03 AFTERHOURS & WEEKEND SEWER INSPECTION FEES

Regular inspection hours are from 9:00 am to 3:30 pm Monday through Friday.

Afterhours inspections begin at 4:00 pm on Monday through Friday. Weekend inspections are on Saturdays and Sundays. Holiday inspections are on city holidays. After hours inspections must be scheduled before 2:00 pm on the last working day prior to the requested inspection. Cancellation of an afterhours, weekend, or holiday inspection after 4:30 pm on the last working day before the scheduled inspection will result in a two-hour overtime charge.

All afterhours, weekends, or holiday inspections will be charged to the house sewer contractor or plumber at a rate of \$75.00 per hour. The table below shows the inspection types and their associated charges.

| Inspection Types and Associated Charges | | | |
|--|---|---|--|
| Time | 9:00 AM to 3:30 PM | 4:00 PM to 4:30 PM | After 4:30 PM |
| Monday | Regular Inspections (No charge) | Afterhours Inspections (Minimum 2-hour charge @ \$75 per hour) | Afterhours Inspections (Minimum 4-hour charge @ \$75 per hour) |
| Tuesday | | | |
| Wednesday | | | |
| Thursday | | | |
| Friday | | | |
| Saturday | Weekend Inspections (Minimum 4-hour charge @ \$75 per hour) | | |
| Sunday | | | |
| City Holidays | Holiday Inspections (Minimum 4-hour charge @ \$75 per hour) | | |

7.04 EMERGENCY SEWER INSPECTIONS

All emergency sewer work on weekends, holidays, and afterhours that cannot be backfilled during regular business hours must be inspected by the Sewer Utility. The minimum charge for an emergency sewer inspection is four hours @ \$75 per hour.

For emergency sewer inspections, call the sewer inspector at 651-279-5925 to schedule an inspection. If the sewer inspector is not available to take your call, leave a message with your name, company name, phone number, and worksite address.

The only scenario in which a permittee can call the sewer inspector during non-business hours and not be charged for the call is when the sewer inspector cannot perform the requested inspection. If a permittee does not need an inspection but calls the sewer inspector during non-business hours to ask questions or to discuss other issues, the permittee will be charged a minimum of two hours @ \$75 per hour.

The Sewer Utility will make every effort to inspect all emergency sewer work performed during non-business hours. However, if the sewer inspector cannot be available for an emergency inspection, it will still be the permittee's responsibility to keep the trench accessible for an inspection during the next regular business day.

7.05 REPLACEMENT OF CITY-OWNED TRAFFIC CONTROL DEVICES

Any house sewer contractor or plumber hired to work on a private sewer service at a jobsite that already contains city-owned traffic control devices such as cones, flashers, or steel plates is required to replace the city-owned traffic control devices with their own traffic control devices. This responsibility begins immediately after the house sewer contractor or plumber applies for and receives the sewer permit for the job from the Sewer Utility. After

the house sewer contractor or plumber replaces the city-owned traffic control devices with their own traffic control devices, the house sewer contractor or plumber shall immediately notify the Sewer Utility's Sewer Maintenance at 651-266-9850.

7.06 CONTACT FORESTRY PRIOR TO EXCAVATING CLOSE TO TREE ROOTS

Excavation through a tree root can either kill the tree or weaken it to a point that it could fall over during a windy day. Therefore, whenever a house sewer contractor encounters a boulevard tree whose roots will be impacted by excavation, the house sewer contractor must call Saint Paul Forestry at (651) 266-6400 for an onsite inspection.

House sewer contractors must contact Saint Paul Forestry at least five working days in advance if non-emergency sewer work will result in excavation in any of the following areas:

- four feet of a boulevard tree 2" to 5" in diameter
- six feet of a boulevard tree 6" to 12" in diameter
- eight feet of a boulevard tree 13" to 19" in diameter
- ten feet of a boulevard tree 20" to 29" in diameter
- fifteen feet of a boulevard tree 30" and above in diameter

House sewer contractors must contact Saint Paul Forestry at the earliest possible time when emergency sewer work will necessitate excavation within the above listed areas.

7.07 SAFETY REQUIREMENTS

The sewer inspector shall not be expected to enter any area or operation that is in violation of applicable safety rules and regulations such as those by OSHA. The sewer inspector's refusal to enter an unsafe worksite to perform an inspection in no way relieves the house sewer contractor or plumber of the obligation to have the work inspected. Common violations include unsafe trenches, lack of the use of a trench box, lack of the use of a ladder, faulty air monitoring equipment, and no hard hats or high visibility vests in closed construction sites. The inspector may report any suspected violations to the state, and in instances where the house sewer contractor or plumber does not promptly correct any unsafe conditions, the inspector may contact OSHA and request an inspection from them. Acceptance by a city employee of any unsafe operation does not relieve the house sewer contractor or plumber of the responsibility to comply with OSHA safety requirements.

7.08 EXCAVATION REQUIREMENTS

At least forty-eight hours prior to excavation, the permittee must call Gopher State One Call at 651-454-0002 so that other utilities are notified of the proposed work. The Sewer Utility will not mark or locate private, or city owned sewer facilities for permittees. Permittees can obtain records from city websites or city staff. If work will take place in an arterial street or in a downtown street, contact the Right-of-Way Division at (651) 266-6151 at least one week in advance. Downtown is the area bounded by Smith Avenue, I-94, Lafayette Road, and the Mississippi River.

All removals, excavation, backfilling, and resurfacing shall be done in accordance with the provisions of the City of Saint Paul Department of Public Works specifications for street openings (see Appendix B).

When a house sewer contractor excavates a street, the house sewer contractor shall deposit the excavated material in a manner that will cause the least inconvenience to the public and provide for the passage of water along the gutters. If the excavated material must remain overnight, it must be covered, and the downstream catch basins protected from eroding soil. At least one-half the width of the street must be left clear for the passage of vehicles. Pedestrian access must be provided over removed sidewalks.

Restoration shall be to a condition equal to or better than before the construction. Removals and surplus granular material shall be immediately hauled away from the worksite. Excavated grassy areas on private property and in the right-of-way are to be replaced with a minimum of four inches of suitable topsoil and sod or seed.

7.09 TYPES OF PUBLIC SEWER CONNECTIONS FOR PRIVATE PIPES

7.09a1) Wye branch available and suitable for use:

The house sewer contractor shall inspect the wye branch to ensure that it is not damaged and is in usable condition. If the wye branch is suitable for use, the house sewer contractor shall connect the private pipe to the wye branch by encasing it in concrete, with the base of the concrete lying on undisturbed soil.

If the wye branch on the public sewer is not found to be within two feet in either direction of the location in the Sewer Utility record, the house sewer contractor shall notify the Sewer Utility inspector who will then determine a new location for the connection.

Once a connection is made to a wye branch, it and the corresponding private pipe becomes the property of the owner of the connected lot.

7.09a2) Wye branch available but not suitable for use:

If the wye branch is not suitable for use, the house sewer contractor shall follow the requirements of the current version of the city's standard plate 2319 to remove and install an approved mechanical saddle connection on the public sewer over the existing opening. If the shape of the opening is elliptical, then an alternative mechanical saddle connection will be needed. The alternative mechanical saddle connection shall be a flexible self-centering sewer saddle with gasketed stainless steel apron, stainless steel worm drive clamps, and be in conformance with ASTM C425, C923M-08, C1173-05, and A240. The house sewer contractor shall submit material product information to the Sewer Utility for review and approval.

7.09b1) No wye branch available on public sewer with outside diameter of 25" or less:

If there is no wye branch on the public sewer and the connecting pipe's outside diameter is less than half the inside diameter of the public sewer, the connection shall be made in accordance with the current versions of city standard plates 2319 and 2325.

7.09b2) No wye branch available on public sewer with outside diameter greater than 25":

If there is no wye branch on the public sewer and the connecting pipe's outside diameter is less than half the inside diameter of the public sewer, the connection shall be made by inserting a hub in accordance with the current versions of city standard plates 2319 and 2325. Kor-N-Seal or its equivalent may be used upon approval by the Sewer Utility.

7.09b3) No wye branch available on an 8" vitrified clay public sewer pipe:

When the public sewer consists of two foot lengths or less of vitrified clay pipe with diameter no more than eight inches, the house sewer connection may be made by replacing a section of the public sewer in accordance with the current version of city standard plate 2324.

Another method of connecting a four-inch cast iron or PVC sewer pipe to an 8" vitrified clay public sewer pipe is by carefully core drilling a hole into the public sewer pipe and installing a CB Saddle or an approved equal in accordance with the current versions of city standard plates 2319 and 2325.

7.09b4) No wye branch available on a public sewer pipe that has been lined:

During the process of lining public sewer pipes with a cured in place liner, unused wyes, unused paving connections, and abandoned private sewer connections are typically lined over. When installing a new private sewer connection or reconnecting to a lined over

connection point, the house sewer contractor shall determine if the connection point (or wye) is usable by opening the liner.

If the connection point (or wye) is found to be unusable, the house sewer contractor shall, at a new location on the public sewer pipe and liner, core drill a hole of the same diameter as the new private sewer pipe and install a CB saddle or hub connection depending on the size of the public sewer pipe (see the current versions of city standard plates 2319 and 2325).

If the connection point or wye is found to be usable or when appropriate to sleeve a previously abandoned private sewer pipe to make a connection at a wye that has been lined over, the house sewer contractor shall make the connection by first cutting a hole in the liner the size of the entire wye opening and then filing or sanding the edge of the liner to a smooth surface.

7.09c) New Connection of Private Pipe to an Existing Paving Connection:

A paving connection is a section of the sewer service constructed by the city from the public sewer to typically the property line. Usually, information on the depth, location, and size of the paving connection is available. A paving connection is owned and maintained by the city until a property owner connects to it, at which time ownership of the paving connection transfers to the property owner who then becomes responsible for all future maintenance and repair.

No paving connections fifty years or older will be allowed to be used except with the approval of the Sewer Utility.

Prior to making a new connection to an existing paving connection, the house sewer contractor shall confirm the paving connection is of sound condition and is free from debris to the city mainline sewer.

7.09d) Use or Reuse of an Existing Private Sewer Connection:

An abandoned private sewer connection may be reused provided it is less than fifty years old and meets all the current requirements of a new connection, except the requirement that the pipe depth must be at least six feet measured to the top of pipe at the property line. If the requirements are met and reuse is desired, the house sewer contractor must first televise the abandoned private sewer connection at the house sewer contractor's cost. The Sewer Utility will then review the video and determine if the private sewer connection is suitable for reuse. If approved, the work shall be done under a sewer permit and the house sewer

contractor must inform the property owner that ownership and responsibility of the reused pipe has been transferred over to the property owner.

Private sewer connections over fifty years old cannot be reused except at the discretion of the Sewer Utility.

An abandoned sandrock drift and/or drillhole may be reused if the drift and drillhole conform to or are upgraded to the current version of city standard plate 2312.

7.09e) Connection of a private sewer pipe to an existing public manhole:

Permission must be granted by the Sewer Utility prior to connecting a private sewer pipe to an existing public sewer manhole. If the Sewer Utility grants permission to connect to an existing public manhole, the connection must be a cored drilled and watertight booted one as per the requirements of the current version of city standard plate 2101.

When a new private sewer pipe connection is to be installed on a public manhole deeper than 15 feet, the house sewer contractor may, upon approval by the Sewer Utility, construct an outside drop on the public manhole as per the current version of city standard plate 2301. Where required, a spillway shall be poured at the bottom of the public manhole so flow from the new private sewer pipe connection does not settle in the public manhole but is directed to the public sewer pipe.

When a private storm sewer pipe connection is made to a public manhole, the entire connection must be below the cone section of the manhole but does not have to go to the bottom of the manhole.

7.09f) Construction of new public manholes for private sewer pipe connections:

The house sewer contractor will be required to build a public manhole whenever the connecting private sewer pipe's outside diameter is half or greater than half the inside diameter of the public sewer pipe.

Public manholes in the right-of-way shall be constructed according to city Standard Detail plates and shall be the appropriate type as dictated by public sewer pipe depth and diameter and approved by the Sewer Utility inspector. The sewer inspector can approve the use of materials other than brick to adjust manholes on private property.

Tees and 90° elbows are not allowed within the city right-of-way. Cleanouts shall only be located on private property unless otherwise approved by the Sewer Utility.

7.09g) Installation of tees, elbows, pipe bends, and cleanouts:

Tees and 90° elbows are not allowed within the city right-of-way.

45-degree bends and other bend types approved in the current version of the Minnesota plumbing code are allowed on private property.

Installation of cleanouts are allowed at the following two specific locations if allowed by the current version of the Minnesota plumbing code:

- Inside the building wall near the connection between the building drain and the building sewer.
- Outside of the building at the lower end of the building drain.

Cleanouts shall be installed only at the above-mentioned locations unless otherwise approved by the Sewer Utility.

7.09h) New Private Connection to a Public Sandrock Tunnel:

A new private connection (new tunnel drift and new drillhole) to a public sandrock tunnel shall be constructed as per the current version of city standard plate 2312. The excavation for the tunnel drift shall be on a straight line and slope from the public sandrock tunnel to the drill hole.

The drillhole or vertical drop pipe shall be located on private property. Where conditions warrant, the Sewer Utility may approve a location of the drill hole within the public right-of-way.

At the end of each day, the house sewer contractor shall remove all excavated material from the sandrock tunnel and shall dispose of the material so as not to accumulate and obstruct the public use of the sewer or street. In no case will the house sewer contractor be permitted to dispose of excavated material into the public sewer or any other private drift in the sandrock tunnel.

Explosives shall not be used except where the rock is too hard to be loosened by mechanical equipment, and only when its use is specifically permitted. When explosives are used, a blasting permit must be obtained from the Department of Public Works.

7.10 PRIVATE SEWER PIPES

Section 76.15 of Chapter 76 of the City of Saint Paul code of ordinances requires that all private sewer pipes that enter any public sewer or drain in any street or alley be constructed of such size, material, direction, grade, and manner as directed by the Director of the Department of Public Works.

7.10a) Minimum Private Sewer Pipe Size:

The minimum size of a private sewer pipe that can be connected to a public sewer shall be 4-inch inside diameter unless otherwise approved by the Sewer Utility.

7.10b) Allowable Private Sewer Pipe Materials:

All pipe materials used on private property shall be in accordance with the current version of the Minnesota plumbing code. Some of the pipe materials approved for use as house sewer pipes include ABS schedule 40, cast iron, PVC schedule 40, extra strength vitrified clay, and polyethylene.

The table below shows the pipe materials that are allowed for use in the right-of-way for that part of the private sewer connection from the property line to the public sewer. Materials not included in the table may not be used unless the Sewer Utility gives written approval for their use.

| Allowable Private Pipe Materials in the Public Right-of-Way | | |
|--|---|---|
| Pipe Material Type | Conformance | Requirements |
| Reinforced Concrete Pipe (RCP) | ASTM C-76 (for pipe sizes 12 inches or greater) | Pipe diameters 21" or less shall be Class V. Pipe diameters greater than 21 inches shall be as per the recommendation of the pipe supplier and approved by the Sewer Utility. |
| Ductile Iron Pipe (DIP) | ASTM A746 | Required under the street where water service is planned to be within 10-feet of the sewer service, or as required by the Sewer Utility. |
| Polyvinyl Chloride (PVC) pipe | ASTM D-2665 | Schedule 40, C-900, or SDR 26 can be used. |

7.10c) Private Sewer Pipe Minimum Slope of 2% Required:

Where possible, the minimum slope (or pitch) of a private sewer pipe shall be 2% which corresponds to a fall of 1/4 inch per linear foot of pipe or two feet per 100 feet of pipe. The

slope of a private pipe may be reduced to 1% if the connection is being made to a shallow public sewer or if the building that is being connected is below street elevation.

For private sewer pipe slopes less than 2%, the permittee shall set the slope by use of laser equipment, or a different method approved by the Sewer Utility. When practical, the slope of the private sewer pipe shall be uniform from the public sewer to the property line and from the property line to the building being connected.

7.10d) Private Sewer Pipe Minimum Depth of 8 Feet Required at Property Line:

Where allowed by the elevation of the mainline sewer, the new sanitary sewer service pipe shall be constructed so that its invert at the property line is at least eight feet below the existing or proposed curb elevation.

If a sanitary sewer connection cannot be constructed at the required eight-foot depth due to the presence of rock or other utilities, the permittee must request a variance. If the variance is granted and the pipe depth will be less than four feet, insulation of the pipe using extruded polystyrene foam shall be required and installed as described below:

7.10d1) For pipe depths between three and four feet 4:

A foot wide by 2-inch-thick insulation board resting on tamped sand backfill and flat centered 6 inches above the pipe shall be installed.

7.10d2) For pipe depths less than three feet:

A 3-sided insulation box as shown in Figure 1 below shall be constructed.

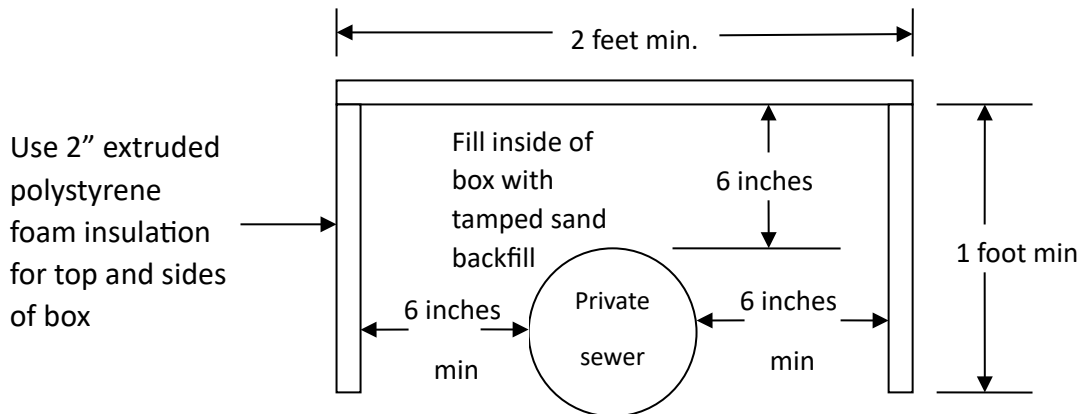


Figure 1: Construction of a 3-sided Insulated Box

7.10e) Method of Laying Private Sewer Pipe:

All private sewer connections within public streets shall be constructed with the bell end upstream, and pipe laying should proceed in every case from the downstream end to the

upstream end. The private sewer pipe shall be carefully bedded so that its bottom third rests on undisturbed earth. A space for the bell shall be excavated below the grade for the barrel of the private sewer pipe so that when the private sewer pipe is in its final position, the entire length of the barrel will be uniformly supported by the sub grade. The private sewer pipe should be laid so that its line enters the public sewer in the direction of the flow. Under no conditions should the line of the private sewer pipe be built opposed to the direction of flow in the public sewer.

The private sewer pipe shall be laid with full and uniform bearing. If the bottom of the trench is such that proper bearing thereon cannot be obtained, then the permittee shall furnish and place pea gravel or sand in the trench so that the private sewer pipe may be laid as specified. Whenever PVC sewer pipe is used for a private sewer connection, it shall be laid in pea gravel or sand bedding.

The spigot end of the bell and the spigot pipe shall be inserted into the bell end to the full depth of the bell. When laid, the private sewer pipe shall form a sewer with a smooth and uniform grade.

7.10f) Allowable Private Sewer Pipe Joints:

All pipe joints shall meet the requirements of the current version of the Minnesota plumbing code, unless otherwise changed by these specifications. Only the following listed types of joints may be used:

| Authorized Private Sewer Pipe Joints | |
|---|---|
| Pipe Joint Type | Requirements |
| Gasket Joints | Factory fabricated compression joints of approved resilient or rubber materials may be used between lengths of clay or concrete pipe in accordance with ASTM C425. |
| Mechanical Joints | Mechanical joints in cast iron soil pipe shall be made by means of preformed molded rubber ring, secured by pulling the pipe and fittings together in such a way as to compress the molded rubber ring in a manner that will assure a watertight joint. The rubber sealing ring shall conform to ASTM 564-65. |
| Solvent Welded Joints | Joints for PVC sewer pipe shall be installed per the manufacturer's instructions for either solvent cement or O-Ring rubber gasket joints. |
| Fernco Type Joints | Flexible shielded coupling to conform to ASTM C-1173, CSA B602, and ASTM D-5926 as per current version of city standard plates 2324. |
| Cement Mortar Joints | Cement mortar joints are only allowed when using the hub connection according to the current versions of city standard plates 2319 and 2325. |

7.10g) Protection of Public Sewer:

The permittee shall prevent the entry of dirt or other foreign materials into the public sewer during construction. Should any dirt or other materials enter the public sewer during construction by accident or otherwise, the permittee shall remove it without delay. Pipe once laid shall be protected from damage or disturbance of any type.

7.11 PREFABRICATED UNDERGROUND STORM WATER STORAGE SYSTEMS

The portion from the building to the point-of-discharge of a stormwater quality measure such as a pond, underground chamber, or filtering device will be reviewed for compliance by DSI. The review will address pipe materials, invert elevations, the potential for the stormwater measure to result in damage to the building interior, and the adequate venting of underground chambers. All solid pipe (non-perforated) storage systems must meet the test requirements of DSI. Call DSI Plumbing Inspections at 651-266-9005 for more information and to schedule testing.

The Sewer Utility will review the portion downstream of the point-of-discharge of stormwater quality measure to confirm compliance with the rules of rate control, the rules of connecting to a public sewer, and the rules of use of cleanouts, pipe bends, and joints on private property as required by the current version of the Minnesota plumbing code.

7.12 TESTING OF NEW PRIVATE SANITARY AND STORM SEWERS

Test of new private storm and sanitary sewer lines shall be in accordance with the current version of the Minnesota plumbing code. Currently, testing can be done using water or air. The water test requires that all joints and pipes be tested for at least 10 feet of head of water for 15 minutes. The air test is performed at 5 psi for 15 minutes.

Testing is not required for:

- a) Outside roof leaders.
- b) Perforated or open drain tile
- c) Portions of sanitary sewer lines and storm drainage systems that are located more than ten feet from buildings, more than ten feet from buried water lines, more than fifty feet from water wells, or that do not pass through soil or water identified as being contaminated.

In lieu of the 5-pound air test, concrete manholes and private sewer lines may be tested by negative pressure in accordance with ASTM Standards C1214-13 and C1244-11 or the hydrostatic test method as defined in the current version of the Minnesota plumbing code.

The inspector does not need to view the entire test but will need to see the equipment in place and the pressure holding.

7.13 LINING OF PRIVATE SEWER PIPES

The use of Cured-In-Place-Pipe (CIPP) lining technology to rehabilitate existing private sanitary and/or storm sewer pipes shall be in accordance with the current version of the Minnesota plumbing code. Installation is in accordance with ASTM 1216 and does not allow for use on collapsed host pipe or host pipe that has been compromised to a point where the installed CIPP liner will not eliminate hazardous or insanitary conditions.

All requests for lining on private property or public right-of-way are regulated by the City of Saint Paul's Sewer Utility Division. It is the responsibility of the installer to ensure that installation of the CIPP liner shall be successful and acceptable to both the property owner and the Sewer Utility. The City of Saint Paul's standard of repairing a defective connection joint is by digging and replacing the defective connection joint with a flexible tap saddle. However, other repair methods such as trenchless repair shall be considered for approval if a top hat is also installed as part of the trenchless repair. A top hat installation can be quite expensive, involving the use of robotic equipment with the only access to the defective connection joint being via the public sewer. For the Sewer Utility to approve or accept any trenchless repair of a private sewer service that is defective at the location where it connects to the public sewer, the following requirements must be met:

1. Before the work begins, the installer must submit to the Sewer Utility the city's defective connection acknowledgment form signed by the property owner.
2. After the work is completed, the installer must submit a video of the repaired connection shot from inside the public sewer. The video must clearly reveal that all insanitary and/or hazardous conditions related to the connection have been eliminated by the trenchless repair.

Along with all other factors that might affect the successful installation of the CIPP liner, the installer must meet the following requirements:

7.13a) Contractor Qualification Requirements

1. The installer must be either a City of Saint Paul licensed house sewer contractor, or a City of Saint Paul licensed master plumber. A City of Saint Paul licensed house sewer contractor can work (or line) both the portion of the private sewer on private property

as well as the portion of the private sewer in the public right of way. A City of Saint Paul licensed master plumber can only work (or line) the portion of a private sewer on private property.

2. The installer must provide product submittals, product samples, and liner thickness calculations annually.

7.13b) Pre-Lining Requirements

1. Televisive and perform a pre-installation inspection to evaluate existing conditions within one month of installing the liner.
2. Provide information on whether the pipe will be repaired before lining. Provide a pre-lining video to the Sewer Utility two business days prior to requesting and/or obtaining a sewer permit from the Sewer Utility. The pre-lining video must show the entire path of the intended liner, through repairs if necessary. The video must provide good quality images of the interior of the private sewer pipe showing that it is free of debris and obstructions. The video must be submitted in a downloadable MP4 format via email, flash drive, or the City's SharePoint link. Contact the Sewer Utility to request access to the SharePoint site. The Sewer Utility will send an email of acceptance or rejection to the installer one business day after receiving the pre-lining video. Approval for lining is valid only for a one-month period.
3. Based on site-specific conditions of the private sewer pipe to be repaired, the installer must confirm that the design thickness of the CIPP liner meets the minimum criteria for a fully deteriorated pipe, consistent with Appendix X1 of ASTM 1216.
4. Provide the property address, name of property owner, name of liner manufacturer, company name of installer, anticipated installation date, anticipated liner type, partial or full liner, anticipated liner length, location of liner if partial, anticipated liner thickness, and length of warranty. This must be submitted in PDF format using the CIPP Worksheet provided by the Sewer Utility.
5. Submit in PDF format the city's defective connection acknowledgment form signed by the property owner.

7.13c) Lining Procedures

1. Liners shall be installed during regular business hours.
2. Clean and prepare the private sewer pipe for lining, including eliminating all debris and obstructions.

3. Install the liner/bladder in a manner such that the finished product is continuous and free from defects such as foreign inclusions, dry spots, pinholes, excessive wrinkling, ridges, or delaminations.
4. Cure the CIPP liner in accordance with the manufacturer's recommendations.
5. The upstream end of the CIPP liner shall be installed in such a manner that it provides a smooth transition and will not allow for debris buildup.
6. Have equipment readily available to excavate in the event of a failed liner installation.
7. Provide a sample of the finished liner for testing by the Sewer Utility when requested.
8. Reestablish all active connections after CIPP liner installation.
9. Remove all excess material that is not a part of the finished work from the private sewer pipe and from the public sewer.
10. Eliminate all protrusions into the public sewer.
11. Direct process water to the public sanitary sewer.

7.13d) Post-Lining Requirements

1. Provide the property address, name of property owner, name of liner manufacturer, company name of installer, actual installation date, actual liner type, partial or full liner, actual liner length, actual liner thickness, and length of warranty.
2. Provide a post-lining video to the Sewer Utility for review and acceptance within seven business days after the CIPP liner installation. The post-lining video must provide good quality images of the interior of the lined private sewer pipe showing that it is free of debris and obstructions. The Sewer Utility will notify the installer via email whether the CIPP liner installation was accepted or rejected.
3. If the trenchless repair was for a defective private sewer service connection, the installer must submit a video of the repaired connection shot from inside the public sewer. The video must clearly reveal that all insanitary and/or hazardous conditions related to the connection have been eliminated by the trenchless repair. After reviewing the video, the Sewer Utility will notify the installer via email whether the repair at the private sewer connection point was accepted or rejected.

7.13e) Application to Install Private Sewer Service Liners in the City of Saint Paul

City of Saint Paul licensed house sewer contractors or master plumbers requesting to install CIPP liners must submit the following information annually to the Sewer Utility:

1. Name of resin and tube manufacturer and tube product information.

2. Certification that resins meet the structural properties specified in ASTM 1216 and supporting laboratory test results.
3. Certification that resins meet properties of Appendix X2 of ASTM 1216.
4. A 12-inch-long fully cured CIPP sample of the product.
5. Table of calculated minimum CIPP liner thicknesses, for variable depth of the sewer pipes as specified in Appendix X1.2.2 for Fully Deteriorated Gravity Pipe Condition. Use the following typical values: Enhancement factor of 7.0, Poisson's ratio of 0.3, ovality of host pipe of 6%, soil density of 120lb/ft³, HS-20 loading, safety factor of 2, Modulus of soil reaction of 850 psi, and water level above the top of the pipe equal to the height of the soil above the top of the pipe.

| Calculated Minimum CIPP Liner Thicknesses | | | |
|---|--------------------------|--------------------------|--------------------------|
| Depth of Pipe | Min Thickness for 4 Inch | Min Thickness for 6 Inch | Min Thickness for 8 Inch |
| 5 | | | |
| 10 | | | |
| 15 | | | |
| 20 | | | |
| 25 | | | |
| 30 | | | |

7.14 PIPE SLEEVING

Sleeving is the process of pushing a smaller (usually 4-inch minimum) pipe through an existing larger host pipe. It is also known as slip lining or inserting.

After a house sewer contractor sleeves an existing private sewer pipe, the annular space between the two pipes shall be sealed by inserting a rubber donut over the end of the pipe sleeve and further capping its end with concrete at the points of insertion. Connections can also be made using an equivalent connector approved by the Sewer Utility.

7.15 SPOT REPAIRS

Spot repairs of private sewer services are not encouraged in the City of Saint Paul. The city prefers not only performing the spot repair, but also sleeving the existing private sewer pipe as far as possible in both directions of the spot repair location.

All house sewer contractors and plumbers who perform spot repairs must provide the property owner an estimate for the spot repair alone and another estimate for a full line replacement.

After spot repair work is completed, the permittee must submit a video of the entire private sewer service to the homeowner and the Sewer Utility.

7.16 BULKHEADING ABANDONED PRIVATE SEWER SERVICES

A house sewer contractor shall bulkhead an abandoned sewer service under an abandonment permit. For existing residential buildings, the abandoned sewer service shall be uncovered within four feet of the property line and within property boundaries, then sealed watertight with an approved bulkhead. For commercial or new development buildings, the abandoned sewer service shall be bulkheaded at the public sewer by using an approved bulkhead. The permittee shall leave the trench open at the point where the private sewer connection is bulkheaded until inspected by the Sewer Utility's house sewer inspector.

If an abandoned private sewer service is connected to a public sewer manhole, the private sewer service must be bulkheaded at both the property line and at the public sewer manhole. If there is a tree or other obstruction near the property line, the Sewer Utility may require the house sewer contractor to abandon the private sewer service in the boulevard. It is the house sewer contractor's responsibility to inform the Sewer Utility of any hardships that arise.

If the public sewer main has been lined and the liner has covered the abandoned sewer service, plugging of the abandoned sewer service at the property line shall still be necessary.

Once a house sewer contractor abandons a private sewer service and it is inspected and approved, the city will accept responsibility for that portion of the abandoned private sewer service within the city right-of-way.

Where any public sewer is to be abandoned, such work shall be performed in accordance with the current City of Saint Paul Department of Public Works Standard Supplemental Specifications for Construction (see Appendix A). Additionally, pipes having a 12" or larger inside diameter shall be filled with sand, grout, or a suitable material, as determined by the Sewer Utility.

7.16a) Abandoning of Private Sewer Sandrock Tunnel Service Connections:

In the case of a private sewer sandrock tunnel service connection to a public sewer tunnel, the drillhole of the private sewer sandrock tunnel service shall be plugged from the surface by excavating down to the rock surface and filling the drillhole with concrete at least four feet into the rock. The house sewer contractor shall completely plug the drift of the private sewer sandrock tunnel service by constructing a twelve-inch thick solid masonry bulkhead at the connection point of the public sewer tunnel and private sewer sandrock tunnel service. The bulkhead shall completely block the abandoned private sewer sandrock tunnel service drift and shall conform to the inside contour of the public sewer tunnel.

Where there is more than one drillhole connection to the same private sewer sandrock drift, the drillhole to be abandoned shall be done not only as described above, but also in a manner that does not interfere with the function or access to the remaining functioning drillholes of the private sewer sandrock tunnel.

Figures 2, 3, and 4 below show the typical bulkhead locations for an abandoned upstream drift service, an abandoned downstream drift service, and an abandoned shared drift service respectively. Actual field conditions should be used to determine the exact location of a drift service bulkhead.

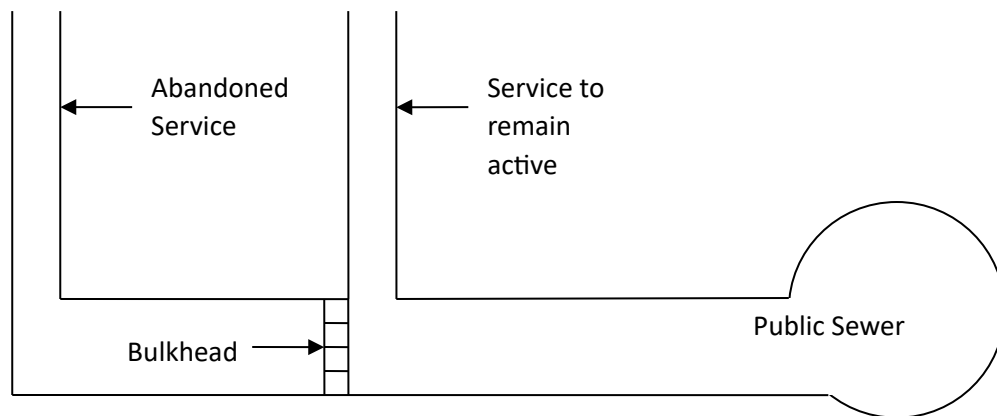


Figure 2: Abandoning an Upstream Service in Drift

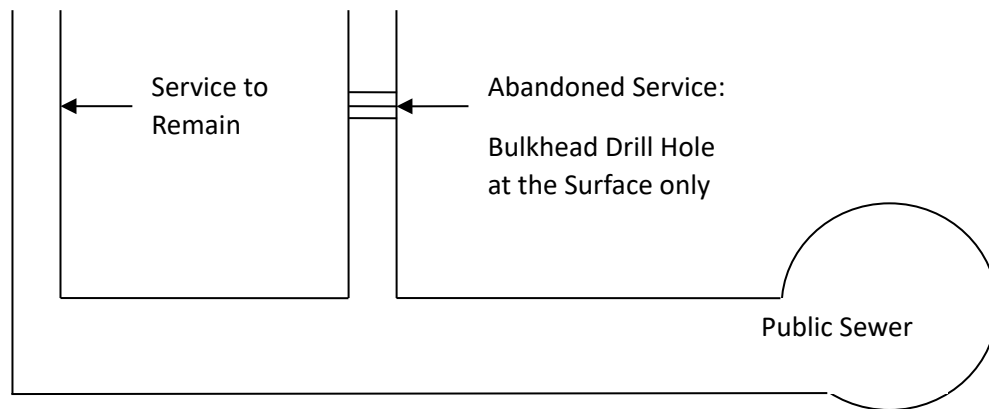


Figure 3: Abandoning a Downstream Service in Drift

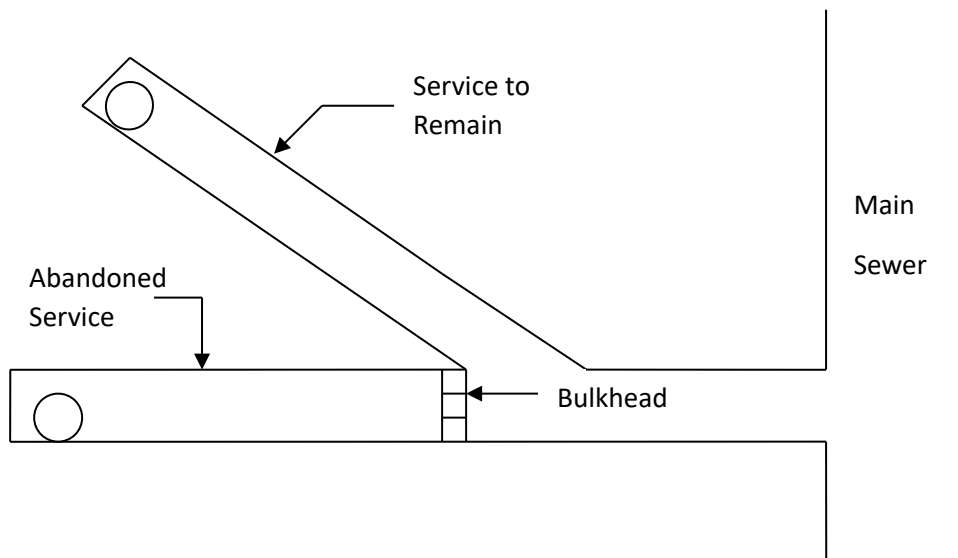


Figure 4: Abandoning a Shared Drift

7.17 SIDEWALK REPLACEMENT

If the house sewer contractor must remove the sidewalk over the private sewer service but finds out that the sidewalk is already damaged, removed, or broken upon arrival at the project site, then the house sewer contractor shall be responsible for replacing the sidewalk within the private sewer service excavation area. If the area is under construction and the general contractor is still driving on the sidewalk that is within the private sewer service excavation area and does not want it replaced by the house sewer contractor, then the house sewer contractor must call and inform the Sidewalk Division at (651) 266-6120 or will be held responsible for replacing the sidewalk.

7.18 RESPONDING TO PRIVATE SEWER SERVICE BACKUPS

The city has an ongoing program to rehabilitate public sewers with cured in place pipe lining. As part of the lining process, active private sewer services are restored after the liner cures by cutting open the connection to the public sewer. Abandoned private sewer services, unused wyes, and unused paving connections are not cut open (or reestablished) after the public sewer is lined.

The Sewer Utility has information on all lined public sewer locations. Prior to any excavation work on a private sewer service connected to a lined public sewer, house sewer contractors must always contact the Sewer Utility Service Desk at 266-6234 to confirm that the connection of the private sewer service was reestablished after its connecting public sewer was lined. Any excavation work done by a house sewer contractor on a private sewer service without the Sewer Utility's confirmation that the connection of the private sewer service was reestablished after its connecting public sewer was lined will be at the expense of the house sewer contractor.

For after hours and weekend sewer repairs, contact the sewer inspector at 651-279-5925 for information on lined public sewers and reestablished private sewer services.

7.19 PRIVATE SEWER SERVICE TELEVISIONING

7.19a) Televising to determine if private sewer service is defective:

If the Sewer Utility suspects an active private sewer service is the cause of a problem such as a sinkhole in the city right-of-way, the Sewer Utility may request that the property owner of the private sewer service have it televised.

The video of the televised private sewer service can be recorded on a DVD, a USB flash drive, or provided as a YouTube link. The video should be in color with adequate lighting, show digital foot measurements, and be slowly paced. Video speed is not to exceed 30 feet per minute. The audio portion should state the address of the property and include a commentary by the person doing the videotaping.

If the video reveals that the private sewer service needs repair, the property owner should make arrangements to have the repair done by a house sewer contractor at the property owner's expense.

If the Sewer Utility reviews the video and determines that the private sewer service is not in need of repair, the city will reimburse the property owner for the cost of televising the private sewer service.

7.19b) Televised repaired private sewer service:

The Sewer Utility may request or require the house sewer contractor to televise all repaired or lined sewer services from either the sewer mainline or from the connected building. Repaired and existing (unrepaired) private sewer pipe segments shall have uniform and smooth connecting joints and be free and clear of all construction debris and sediment. The video of each repaired sanitary sewer service shall extend from the sewer mainline to at least the point where the repaired pipe connects to the existing (unrepaired) pipe.

Televising work shall be completed and submitted to the Sewer Utility for review.

The house sewer contractor shall provide the inspection data in LACP version 6 NASSCO format, and the data shall be compatible with GraniteNet Software. The inspection video shall be submitted to the engineer in two formats:

- ✓ DVD-R format
- ✓ MPEG 4 format and shall have the following video features:
 - 720 x 480-pixel size (full resolution)
 - The naming of the video file shall consist of the permit number and inspection date.

7.20 DAMAGE TO A PRIVATE SEWER SERVICE BY OTHERS

If a house sewer contractor suspects that another contractor or utility is responsible for a damage to the private sewer service the contractor is repairing, it is the house sewer contractor's responsibility to notify the Sewer Utility and the other contractor or utility responsible for the damage so that it can be inspected before any repair work is done or before backfilling.

7.21 PROHIBITED DISCHARGES INTO THE PUBLIC SEWER

Since all sanitary sewers in Saint Paul flow into interceptors owned by the Metropolitan Council Environmental Services (MCES), their discharge rules govern. For more information on prohibited discharges, visit the MCES website at <https://metro council.org/>. Discharges to the storm sewer system are governed by Chapter 51 of the city's legislative code (see Allowable Discharges to the Storm Sewer System in the appendix section).

7.22 SEWER ASSESSMENT PROGRAM

The City of Saint Paul has a sewer assessment program that offers financial assistance to property owners facing expensive private sewer service repairs. Repair work under this program can only be done by house sewer contractors who have agreed and are documented at the Sewer Utility as participants in the sewer assessment program.

7.22a) Eligibility

Any property owner who owes no delinquent taxes on a property in the City of Saint Paul is eligible to apply. Prior to submitting the repair completion form, property owners must contact the Sewer Utility at 651-266-6234 or PW-SewerCounter@ci.stpaul.mn.us to confirm their eligibility. Eligible repair work includes the following:

- Repair of an existing private sanitary sewer service.
 - Replacement of an abandoned or removed private sanitary sewer service that is or was located along the alignment of a previously functioning private sanitary sewer service. This program cannot be used for the construction of a new private sanitary sewer service along an alignment that previously did not have a functioning sanitary sewer service connected to the city's sanitary sewer system.
 - Disconnection of a rainleader.
 - Connection of an existing building to the city's storm sewer system.

Participation in this program is voluntary. Property owners have the option to arrange for private financing.

7.22b) Eligible Costs

Only costs (parts, labor, restoration, etc.) deemed necessary for performing any of the work listed above are eligible.

7.22c) Paperwork needed before work begins

Before any work is done, the following must be submitted to the Sewer Utility for approval:

- An application form signed by the property owner.
- At least three estimates are required for repair work that will be \$10,000 or more. Property owners are strongly encouraged to contact the Sewer Utility by phone at 651-266-6234 to discuss their estimates. However, the decision of which house sewer contractor ultimately performs the repair work belongs to the property owner.

7.22d) Paperwork needed after work is completed

After the work is completed, the following must be submitted to the Sewer Utility:

- A completion form signed and submitted by the property owner.
- A mechanic's lien waiver filled out and signed by the house sewer contractor.
- A copy of the final invoice of the work performed by the house sewer contractor.

7.22e) Payment to house sewer contractor

After the work is completed and all required forms (particularly the signed completion form from the property owner) are received and approved by the Sewer Utility, the city's Finance Department processes and mails out a check to the house sewer contractor.

7.22f) Payment by property owner

- The City's Finance Department processes a special assessment for the cost of the work done and sends it to the City Council for ratification. The ratified assessment is then certified to the County, with charges appearing on the property owner's real estate tax statement the following year.
- The City Council sets a fixed interest rate for the cost of the work done and can change it without notice. An administrative fee of \$60 is added to the total cost of the work done.
- Through real estate property taxes, the property owner pays the charges (cost of the work done, \$60 administrative fees, and interest charges) over a twenty-year period, starting the year after the City Council ratifies the assessment.
- Payment in full without penalty can be made any time prior to the end of the twenty-year period.