



City of Tacoma

Public Works Department

Side Sewer and Sanitary Sewer Availability Manual

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Preface

This manual describes the City's policies and procedures for new and existing side sewer connections to the City sewer system. It provides a reference source for design engineers, developers, property owners and City staff.

The Side Sewer and Sanitary Sewer Availability Manual is organized in the following manner:

- Chapter 1 – Fee and permit requirements, available financial programs and frequently asked questions
- Chapter 2 – How to determine sewer availability and sewer extension requirements for applicants inside and outside of the City limits
- Chapter 3 – Criteria for the construction and inspection of gravity side sewer connections, including trenchless technologies for side sewer rehabilitation or replacement
- Chapter 4 – Design requirements for low-pressure pump systems
- Chapter 5 – Maintenance responsibilities and easement agreements
- Appendix A – Sewer availability examples for parcels inside City limits
- Appendix B – Troubleshooting common sewer problems
- A glossary of terms and acronyms is provided at the back of the manual

The purpose of this manual is to provide a set of standards that:

- Describe the conditions that make the City's public sanitary sewer system available to parcels.
- Reduce the potential for inflow and infiltration into the City's public sewers.
- Ensure that property owners receive a well functioning, long-lasting side sewer.

City staff will use this manual to make uniform decisions in accordance with the City's policies and procedures for all things related to side sewers and connecting to the public sewer.

This manual is intended to cover the majority of situations that can be encountered with side sewers and public sewer service. Inevitably there will be issues that the manual does not address, or that may require exceptions to the standards provided in the manual.

The information provided in this manual may be subject to updates and revisions, with the Public Works Director's approval, as new technologies and products emerge and/or policies and procedures are changed. The most current manual can be found on the City of Tacoma website www.govME.org.

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Chapter 1 General Information

1.010 Manual Overview

This manual discusses the requirements for connecting to the City of Tacoma's public sanitary sewer system.

This manual reflects information from the Tacoma Municipal Code (TMC), International Building Code (IBC), Uniform Plumbing Code (UPC), Department of Ecology Criteria for Sewage Works Design (Orange Book), City of Tacoma Public Works Design Manual, City of Tacoma Surface Water Management Manual (SWMM), and existing Interlocal and Franchise Agreements for municipal sewer service. Use of this manual will help ensure consistency in policies and procedures relating to private side sewers.

Exceptions to this manual may be requested in writing to the Public Works Environmental Services Division (Environmental Services) to allow a waiver or modification of a requirement prior to permit approval and construction. The Public Works Director or approved authority may grant an exception following a documented finding that:

- The exception is likely to be equally protective of public health, safety and welfare, the environment, and public and private property as the requirement from which an exception is sought.

OR

- There are physical circumstances or conditions affecting the parcel such that substantial reasons exist for approving the requested exception and the exception will not cause significant harm. The substantial reasons include, but are not limited to:
 - The requirement is not technically feasible; or
 - An emergency situation necessitates approval of an exception; or
 - The requirement would cause significant harm or threat of harm to the public health, safety or welfare, to the environment, or to public and private property; or
 - The strict application of these provisions would deprive the applicant of all reasonable use of the parcel of land in question.

The decision to grant an exception is at the sole discretion of the City. The Public Works Director, or approved authority, shall only approve an exception to the extent it is necessary. The applicant may be required to submit a licensed engineer's report or analysis along with the request, in writing, for an exception. Exceptions are intended to maintain a necessary flexible working relationship between the City and applicants.

The approval of an exception shall not be construed to be an approval of any violation of any of the other provisions of the City's Municipal Code, or of any other valid law of any governmental entity having jurisdiction.

1.020 Fee, Assessment & Permit Requirements for Sanitary Sewer Connections

A. Sewer Assessment Fees

All parcels connected to a sanitary sewer main are responsible for the cost of constructing the public sanitary sewer main serving the parcel. This responsibility can be met by paying the charge in lieu of assessment fee, late-comer's fee if a sewer line exists. If a sewer does not exist the responsibility can be met by forming a Local Improvement District (LID) to construct the improvements which may be financed over a period of time or constructing improvements through a Billable Work Order. See Section 2.040A for more information regarding LIDs and 1.020C for more information regarding Billable Work Orders.

Side sewer permits will not be issued and parcels may not be connected to the public sewer until participation in the cost of construction of the sanitary sewer main as described above has been verified. To determine if a sewer assessment fee is still owed for a parcel and the amount of the fee, contact the LID office at (253) 591-5522.

B. Side Sewer Permit

A side sewer permit is required prior to any repair or rehabilitation of existing side sewers or installation of new side sewers and private sewage pump systems. A side sewer permit fee is charged to cover the cost of inspection of the side sewer work in accordance with TMC 2.09 and TMC 10.22. If any work is to occur within the public rights-of-way, the permit shall be obtained over-the-counter by a side sewer contractor licensed and bonded by the State of Washington to work in the City of Tacoma. All work in the rights-of-way shall be performed by a contractor. If all work is to occur within private property, the property owner or contractor may obtain the permit over-the-counter and perform the work.

If a private sewage pump system is required, a pump design and site plan shall be prepared in accordance with Chapter 4 and approved by Environmental Services prior to receiving a side sewer permit.

If the side sewer will be constructed or repaired on multiple parcels, private easements or other agreements shall be required in accordance with Chapter 5. A copy of recorded private easements or other agreements shall be provided to the Building and Land Use Services permit counter by the property owner prior to receiving a side sewer permit.

All work on new or existing side sewers will be inspected by a Construction Division Inspector to ensure the side sewer is constructed in accordance with all applicable City of Tacoma construction requirements. The Construction Division Inspector will also create a record drawing of the side sewer work. For more information about the requirements and costs of side sewer permits, contact the Building and Land Use Services permit counter at (253) 591-5030.

C. Billable Work Order Permits

Public sanitary sewer main extensions constructed through the Billable Work Order process will be required to pay the City for time and materials associated with design plan review and inspections in accordance with TMC 10.22. Engineering design and construction are performed by private consultants and contractors arranged by the applicant under private contracts. Prior to the issuance of a Billable Work Order permit,

the Permit applicant shall deliver to the City a bond in the sum equal to the value of the work to be performed, but, in any event, not less than \$15,000. For more information regarding the Billable Work Order Process, contact the Construction Division at (253) 591-5760.

To receive credit for extending the public sanitary sewer system thereby not having the parcel subject to a charge-in-lieu-of assessment fee, the applicant will be required to complete and return an application provided by the LID office and provide a copy of the record drawing of the public sanitary sewer main constructed.

Prior to submitting for a work order, the applicant may want to investigate the potential for participating in the City's "Latecomer" agreement process per TMC 12.08.700.

1.030 Financial Programs

The City of Tacoma offers the following financial programs for qualified property owners to aid with the costs of connecting to the public sewer.

A. Septic Amnesty Program

Within two years of a public sanitary sewer main becoming available to a residence with an existing on-site septic system, the residence may connect to sewer and receive a 50% reduction in sewer LID sewer assessment fees or charges-in lieu-of assessment fees (up to a maximum of \$10,000). This offer expires after two years from the time sewer becomes available to the residence. For more information on the Septic Amnesty Program, contact Environmental Services at (253) 502-2100.

B. Environmental Services Sewer Conservation Loan Program

The City of Tacoma offers low-interest loans to qualified homeowners and business owners for side sewer conservation projects. Project locations must be within the limits of the City of Tacoma and are for rehabilitation or reconstruction of existing side sewers only. New side sewer connections are not eligible for this program. Applicants must have good credit history with Tacoma Public Utilities. For more information on the Conservation Loan Program, contact Environmental Services at (253) 591-5588.

C. Community and Economic Development Department Home Repair Loan

The City of Tacoma also offers a home repair loan program through the Tacoma Community and Economic Development Department (CEDD) that can be used for sewer repairs for customers with low income. For more information about the low-income Home Repair Loan Program, contact CEDD at (253) 591-5364.

1.040 Frequently Asked Questions

1. How do I find out if a parcel is already connected to the City sewer system? Where is the side sewer located on the parcel?

The City may have a side sewer permit card on record showing a sketch of the approximate side sewer alignment and location of the connection to the City sewer system. Cards are not available for every address. Permit cards are available online at the City's govME (Government Made Easy) website, <http://govME.cityoftacoma.org>. Select Permit Information. Then select Permit/Site History. Enter the parcel address and click Submit Query to see if any records are found. In some cases, there may also be side sewer cleanouts outside of a building or in a yard area that can be used to locate the side sewer.

If there isn't a side sewer permit card on the website, you may contact the City to help you determine whether a parcel is connected to sewer. If the City has no record of a side sewer connection, you may be eligible for a City-conducted smoke test or dye test to verify if the house is connected to the City sewer. Contact the Sewer Billing Customer Service line at (253) 502-2100 to find out if you are eligible to request a smoke or dye test.

2. If I have an on-site septic system, how can I find out where it is located on my parcel?

The Tacoma-Pierce County Health Department (TPCHD) regulates on-site septic systems in the City of Tacoma and may have a record drawing of your on-site septic system. You may request a copy at TPCHD's phone request line, (253) 798-6577.

In addition, the City may have a septic permit card on record showing a sketch of the on-site septic system; however cards are not available for every address. To find a permit card on the City's website, follow the online instructions in Frequently Asked Question #1.

3. Can I use an on-site septic system or holding tank instead of connecting to the City sewer?

In general, all commercial developments that require a building permit and have plumbing fixtures are required to connect to the public sewer.

Single family and duplex residences may use on-site septic systems only if the sanitary sewer is not available and there are no land use actions requiring an extension of the public sanitary sewer main to serve the parcel. On-site septic systems shall meet all Tacoma-Pierce County Health Department Regulations or a connection to public sewer will be required.

See Chapter 2 for more information regarding the use of on-site septic systems and holding tanks.

4. Do I have to extend the public sewer if it isn't already abutting my parcel?

If your parcel is considered to be available to the public sewer, then you may connect with a shoestring side sewer without having to extend the public sanitary sewer main. If your parcel is not considered to be available to the public sanitary sewer, you may have

to extend the public sanitary sewer main by either a Billable Work Order or an LID. See Chapter 2 to determine if sewer is available to your parcel and whether a public sanitary sewer main extension will be required.

5. If I am permitted to install a shoestring side sewer, where should it go?

The shoestring side sewer should be located within private property boundaries as much as possible (including private sanitary sewer easements, if available.) If it must be placed within the rights-of-way, it may be constructed in any area that results in the least impacts to the existing surface features and other utilities. Any impacted sidewalks, curbs, gutters, paving, etc., shall be restored in accordance with the City of Tacoma Right-of-Way Restoration Policy once the side sewer is constructed. A property owner is required to submit a Shoestring Side Sewer Plan for review and approval prior to installing a shoestring side sewer in accordance with Section 3.040.

6. If my parcel is located right next to the City's sewer, but I'm outside of the City of Tacoma limits, can I still connect to the City sewer?

It depends on a number of factors. In some circumstances parcels outside the City limits may be permitted to connect to the City's sewer system through existing interlocal or franchise agreements between the City of Tacoma and the jurisdiction in which the parcel is located.

If there isn't an existing interlocal or franchise agreement, you may be required to annex into the City to obtain service, or you may be required to connect to your jurisdiction's sewer system.

See Chapter 2 for more detailed information about sewer availability outside City limits.

7. If my side sewer needs repair in the portion of pipe located in the street, who is responsible for repairing the pipe?

The property owner is responsible for the repair of the side sewer from the building to the top of the vertical riser pipe or tee or wye at the public main, even if a portion of it is located within the street, as shown in Figure 5-1. The property owner is responsible for repairing any curb, gutter, sidewalk, street, and any other surface improvements damaged during repair of the side sewer in accordance with the City of Tacoma Right-of-Way Restoration Policy. See Section 5.020 for the division of maintenance responsibility between the City and the property owner.

8. If I am remodeling or adding on to my building, can I re-use my existing side sewer?

If you are performing a substantial remodel or addition (valued at 60% of the building value or greater), your side sewer is required to meet new construction standards. You can perform a television inspection and pressure test the side sewer to see if it meets current requirements. See Chapter 3 for more details regarding side sewer testing.

9. Does the City have a list of qualified side sewer contractors?

No, the City does not keep a list of contractors who are qualified to install or repair side sewers, but we can verify if a contractor is licensed and bonded to perform work within

the City of Tacoma rights-of-way. For license verification, contact the Building and Land Use Services permit counter at (253) 591-5030. The City strongly recommends contacting at least three side sewer contractors for bids and references prior to selecting a contractor.

10. Can I tie into my neighbor's side sewer instead of connecting directly to the public sewer?

No. Shared side sewer connections are only permitted between two or more buildings that are under one owner and located on the same parcel. See Section 3.060 for more information on shared side sewers.

11. Can I repair a side sewer that my neighbor and I share?

You may be able to perform a small spot repair or you may be required to construct a new separate side sewer. See Section 3.060 for more information on shared side sewers.

12. Can I use a private sewage pump system instead of a gravity connection to the public sewer?

Private sewage pump systems may be used instead of gravity flow when minimum side sewer slope requirements cannot be achieved, or if there are physical constraints that make a gravity connection very difficult. See Section 3.020B for more information on minimum gravity side sewer slope requirements. Pump system designs shall be completed in accordance with Chapter 4.

13. Can my side sewer cross other parcels to get to the public sewer?

Side sewers crossing separate parcels from the one they serve should be avoided, if possible; however, sometimes they are necessary due to depth or location of the public sewer.

Whenever side sewers cross more than one parcel under separate ownership, a recorded private side sewer easement agreement is required. Whenever side sewers cross more than one parcel under the same ownership, the property owner may not assume an easement across multiple parcels. Instead, the property owner must enter into a recorded agreement with the City requiring a future private side sewer easement in the event the parcels are sold. See Chapter 5 for more information regarding these easement agreements.

14. How much does it cost to connect to the City sewer?

If public sewer is considered available to the parcel in accordance with Chapter 2, then the property owner is responsible for two City fees: the side sewer permit fee and either a charge-in-lieu-of assessment or a latecomers fee. See Section 1.020 for more information on how to determine these fees.

If the public sewer must be extended to serve the parcel in accordance with Chapter 2, the property owner may also have additional costs associated with extending the public sewer. See Section 2.040 for more information on the methods of extending the public sewer and the associated costs.

The property owner is also responsible for paying the costs of constructing the side sewer from the house to the public sewer.

15. Does the City offer any funding or financing options for public sanitary sewer main extensions or side sewers?

Financing options may be available for public sewer extensions depending on the method used to extend the public sewer. See Section 2.040 for more information regarding extending the public sewer.

The City has three programs available to assist in funding side sewer construction or repairs:

- The Septic Amnesty Program
- The Environmental Services Sewer Conservation Loan Program
- The Tacoma Community and Economic Development Department Home Repair Loan Program.

Refer to Section 1.030 for information on these programs.

Chapter 2 Sanitary Sewer Availability

2.010 Introduction

This chapter provides information on whether the public sewer is available for parcels located both inside and outside city limits.

2.020 Sewer Availability for Parcels Inside City Limits

A. General

All parcels located within City of Tacoma limits that are directly abutting a public sewer located in a public right-of-way or public easement are considered available to sewer and may connect to the sewer once any sewer fees are paid and permits are obtained.

All parcels not directly abutting the sewer shall be reviewed by Environmental Services for determination of whether a connection to public sewer will be permitted, or whether a public sanitary sewer main extension or other alternative is required in order to serve the parcel. Please contact Environmental Services at (253) 591-5588 for a sewer availability request. The following information describes the criteria that will be used to determine whether sewer is available to parcels not directly abutting the public sewer.

The City is committed to providing public sewer service to areas within the City of Tacoma limits that are not currently served by public sanitary sewer. City staff will use a regional planning approach to ensure that the City's sewer system is expanded in a manner that provides the most efficient, cost effective regional sewer system for all parcels in need of sewer service.

The Sewer Availability Flowchart for Inside City Limits in Section 2.020B, Figure 2-1, and the corresponding flowchart notes in Section 2.020C will be used to determine the best way to serve individual parcels, while taking into account the sanitary sewer needs of the entire region. Use of this flowchart will help ensure consistency in making sewer availability determinations. This manual is intended to cover the majority of the situations in which sewer service is needed, and will be followed as consistently as possible. There will be circumstances in which the best way to provide sewer service to the region may not coincide with the flowchart in Section 2.020B. In this circumstance, City staff will determine the best method for providing the region with sewer service.

This flowchart is intended for use with existing parcels that do not have prior land use actions requiring extensions of the public sanitary sewer. A connection to the public sewer will be required for all lots within a new subdivision (for both short and long plats). If public sewer is not available to the proposed plat, a public sewer extension will be required to serve the new lots.

Several examples of how sewer availability determinations will be made using this flowchart and notes are located in Appendix B.

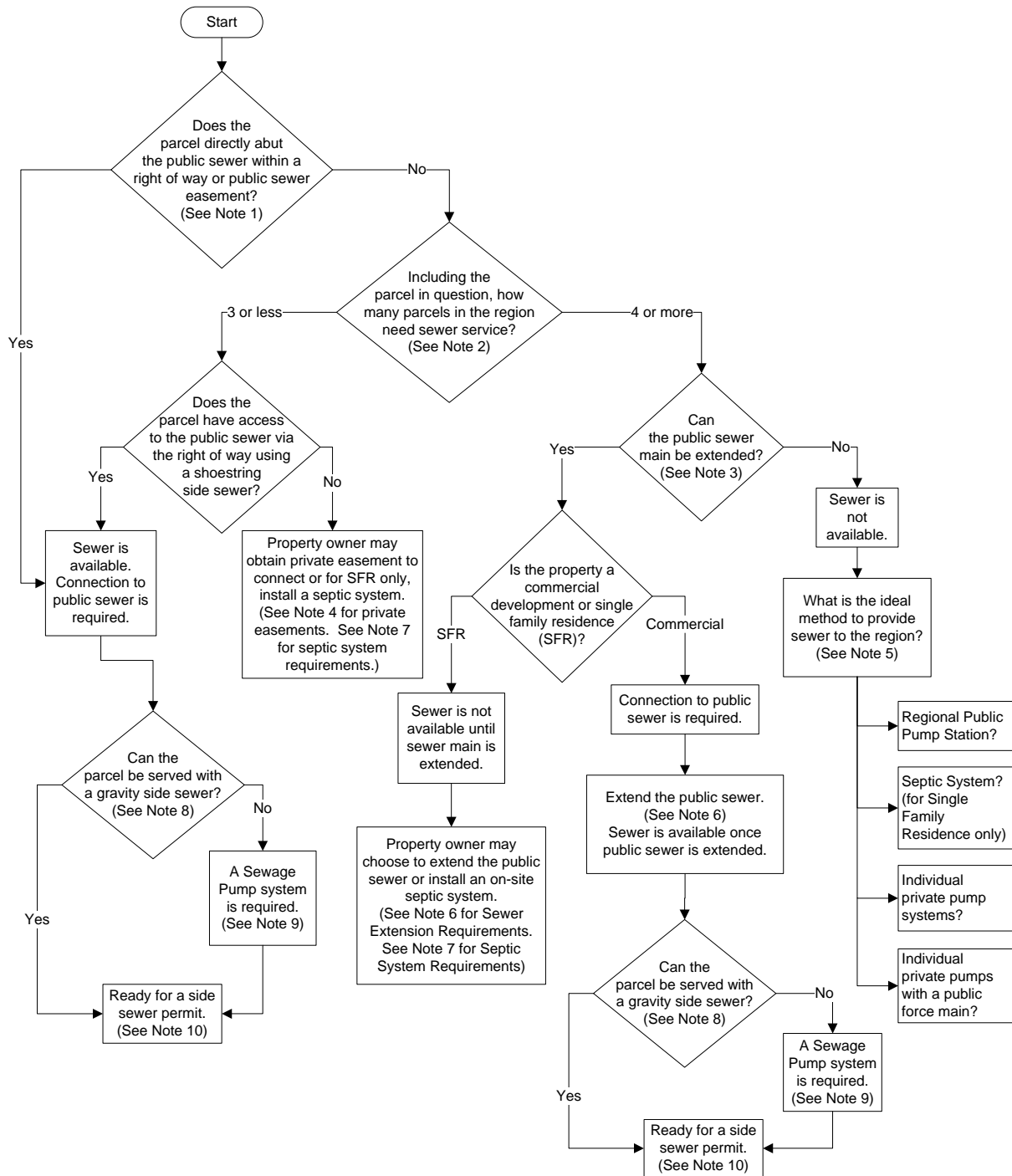


Figure 2-1. Sewer Availability for Single Parcels Inside City Limits

B. Flowchart Notes

Note #1 – Is the public sewer located within right-of-way or public easement directly abutting the parcel in question?

All parcels physically abutting a public sewer within a right-of-way or public easement are considered available to sewer. Side sewer connection permits are issued through Building and Land Use Services upon review from Environmental Services. Environmental Services review and approval is required for private side sewer pump systems. See Chapter 4 for private pump system requirements. For all other parcels not physically abutting a public sewer (even those where the sewer is within 200' of the parcel), Environmental Services will make a determination of whether sewer is considered available in accordance with this flowchart.

Note #2 – Including the property in question, how many parcels in the region need sewer service?

Parcels that are undeveloped or have on-site septic systems will be considered as needing sewer service. Parcels large enough to be subdivided, based on current zoning requirements, will be counted as the number of potential parcels the property may be divided into if platted. For example, one 20,000 square foot parcel could possibly be subdivided into four 5,000 square foot parcels. Therefore, this one large parcel would count as four potential parcels that will need sewer service upon development.

Some publicly owned parcels and parcels considered undevelopable will not be included in the amount of parcels considered to need sewer service. Some examples of these parcels are schools, public parks, city owned parcels with gulches or streams, railroad rights-of-way, etc.

Note #3 – Can the public sanitary sewer main be extended?

Environmental Services will determine whether it is possible for the public sanitary sewer main to be extended to serve the area. Available resources such as record drawings, maps, existing contours, and City of Tacoma design criteria for required depth and grades, etc. will be used to determine if the main can be extended. Design criteria are found in Chapter 5 of the Public Works Design Manual.

Sewer extensions are typically required to be constructed a minimum of ten feet past the nearest property line of the parcel to be served. An extension may be required even if it is only extendable part way to the subject parcel if the City determines there is a benefit to having the sewer extended. Longer extensions may also be required across the full length of a parcel based on the need for future extension to serve upstream areas.

Note #4 – Side sewer connection through a private easement.

If a parcel is surrounded by other private parcels and has no direct access to right-of-way, the property owner may obtain a recorded private side sewer easement agreement to install a side sewer connection through a private property to the public sanitary sewer main. Private side sewer easement agreements shall meet the requirements of Chapter 5.

Note #5 – What is the ideal method to provide sewer to the region?

Since the public sewer cannot be extended to serve the site and there is a significant need for sewer service for the region, alternative solutions will need to be examined on a case-by-case basis. Some alternative solutions might be:

- Regional public pump station – Constructed via a billable work order permit, local improvement district, or city capital improvement project.
- On-Site Septic system - For single-family residences (SFR) only.
- Individual private pump systems – Designed and constructed under the Billable Work Order Process.
- Individual private pumps with a public force main serving many parcels– Designed and constructed under the Billable Work Order Process.

Note #6 – Extend the sewer.

The property owner shall extend the public sanitary sewer main prior to connecting to the sewer. There are several programs available for extending the public sewer. These are the Billable Work Order Process, Local Improvement District (LID) Program, and Capital Improvement Project (CIP) Program. These programs are described in more detail in Section 2.040.

Note #7 – On-Site Septic System Requirements for SFRs only.

When a public sanitary sewer main extension is required, a property owner may elect to either extend the public sewer using one of the methods listed in Note #6, or may choose to install an on-site septic system until the sewer main is extended in the future. On-site septic systems are regulated through the Tacoma-Pierce County Health Department and shall meet all health department requirements. Refer to Section 2.060 for On-Site Septic System Requirements.

On-site septic systems are not permitted for commercial developments (including apartment complexes).

On-site septic systems are not allowed for new development within Flood Hazard Areas and Coastal High Hazard Areas per TMC 2.12.040 C.3. Maps of the Flood Hazard Areas and Coastal High Hazard Areas can be found on the govME web site or by contacting CEDD at (253) 591-5364.

Note #8 – Can the parcel be served with a gravity side sewer?

It is the property owner's responsibility to determine if the minimum gravity side sewer slope requirement specified in Section 3.020B can be achieved. The property owner shall take into account site grades, finished floor elevations, depth of the sewer main, potential utility conflicts, etc.

Note #9 – A sewage pump system is required.

The property owner is required to install a private sewage pump system. See Chapter 4 for information on design and construction requirements for private sewage pump systems.

Note #10 – Ready for a side sewer permit.

Once a parcel is determined to be available to sewer, the property owner may proceed with paying any fees that may be due and obtaining a side sewer permit in accordance with Section 1.020 to connect to the sewer.

2.030 Sewer Availability for Parcels Outside City Limits

A. General

All parcels not located within the City of Tacoma limits shall be reviewed by Environmental Services for determination of whether public sewer service can be provided. Before the adoption of the Growth Management Act (GMA) in 1990, areas outside the City limits were provided with sewer service through Interlocal and Franchise Agreements with neighboring jurisdictions. In accordance with the GMA, and to encourage annexation of areas identified as being within the City's Urban Growth Area, the City will no longer enter into new Interlocal or Franchise Agreements to provide unincorporated areas outside the City with sewer service.

Existing Interlocal and Franchise Agreements are still in effect. Parcels within existing Interlocal Agreement or Franchise Agreement areas may receive service in accordance with those agreements. Each existing agreement has an expiration date, with optional renewals by mutual agreement with both parties. Renewals will be considered on a case-by-case basis once their expiration date is imminent.

For locations and details of existing Interlocal and Franchise Agreements and to request sewer availability determinations for parcels located outside City of Tacoma limits, contact Environmental Services at (253) 591-5588.

The Sewer Availability Flowchart for Outside City Limits in Section 2.030B, Figure 2-2, and the corresponding flowchart notes in Section 2.030C will be used to determine if sewer service can be made available to a parcel located outside the City of Tacoma limits.

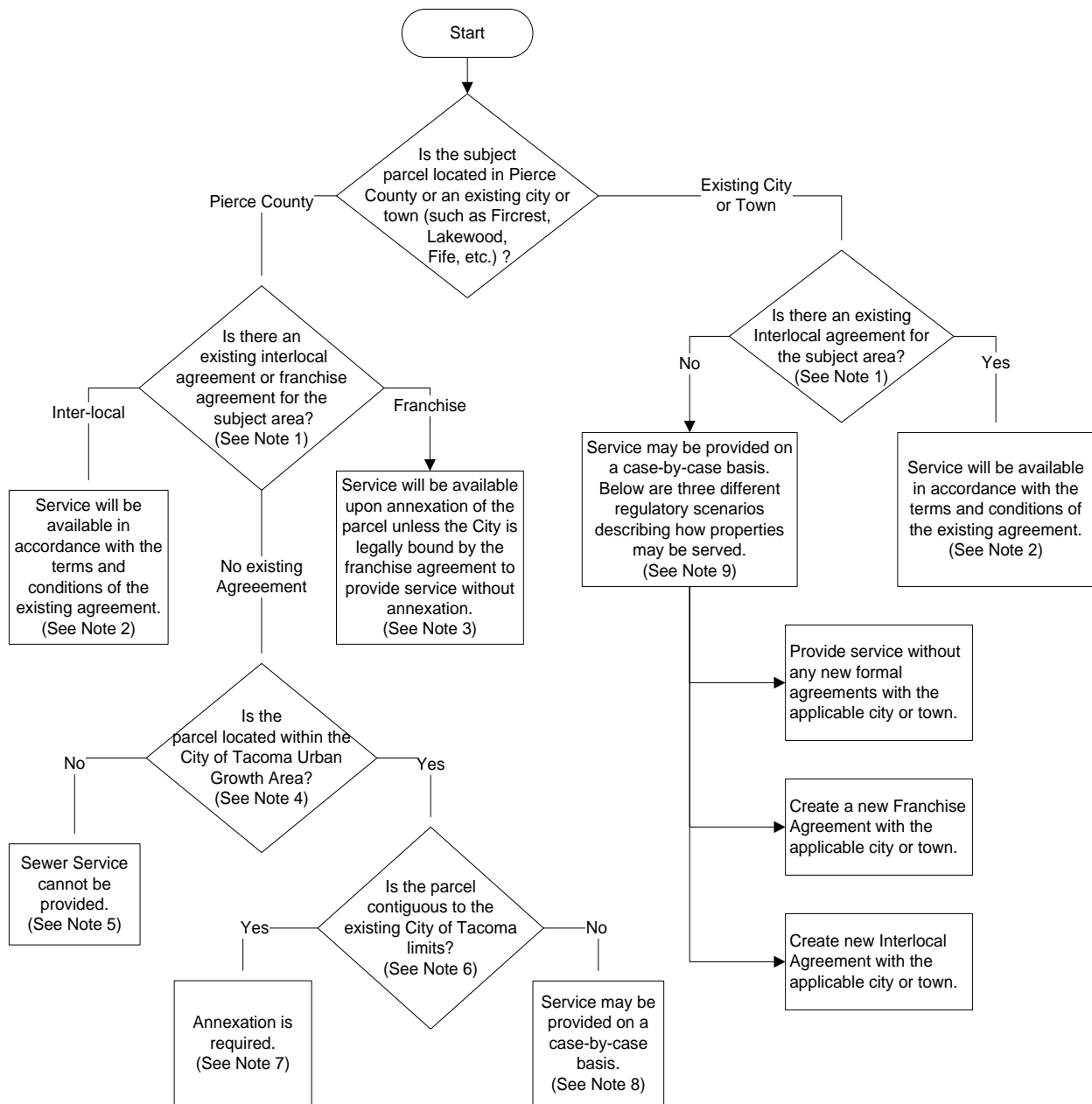


Figure 2-2. Sewer Availability Flowchart for Outside City Limits

B. Flowchart Notes

Note #1 – Is there an existing Interlocal Agreement or Franchise Agreement for the subject area?

Environmental Services will contact the Customer Service Section at (253) 502-2100 to determine if there is an existing agreement for the subject area.

Note #2 – Within Interlocal Agreement Area

Sewer service may be available in accordance with the terms and conditions of the existing agreement. All new sewer connections shall meet the current City of Tacoma standards.

Note #3 – Within Franchise Agreement Area

If the City is legally bound by the Franchise Agreement to provide sewer service, the parcel may connect to the public sewer in accordance with the terms and conditions of the existing agreement. If the City is not legally bound to serve the parcel and it is contiguous to the City of Tacoma limits, service will be available upon annexation of the parcel. See Note #6 for annexation requirements. Public sewers constructed under franchise agreements are owned and maintained by the City of Tacoma but are located in County roads within City easements.

Note #4 – Is the parcels located within the City of Tacoma Urban Growth Area?

Environmental Services will contact the Community and Economic Development Department to determine if the parcel is located within the Urban Growth Area.

Note #5 – Sewer service cannot be provided.

In accordance with the Growth Management Act, the City cannot provide sewer service to parcels located outside the Urban Growth Area.

Note #6 – Is the parcel contiguous to the existing City of Tacoma limits?

Environmental Services will determine if the parcel shares a common boundary with the City of Tacoma.

Note #7 – Annexation is required.

The parcel shall annex into the City of Tacoma in order to receive City of Tacoma sewer service. Upon annexation, sewer service will be available in accordance with Section 2.020.

Note #8 – Service may be provided on a case-by case basis.

Parcels may not annex into the City of Tacoma unless they are contiguous to the City of Tacoma limits. Service may be provided to large areas distant from the City limits within the Urban Growth Area and upon agreement with Pierce County. These areas will be evaluated on a case-by-case basis by the wastewater Assistant Division Manager. This is only applicable to large areas and is not intended for individual residences, small developments, or sparsely populated areas.

Note #9 – Service may be provided on a case-by-case basis:

Service may be provided to nearby incorporated areas (such as Federal Way, University Place, Lakewood, etc.) on a case-by-case basis. In some cities, Pierce County has jurisdiction to receive and treat sewage generated from those cities. In these circumstances, approval from Pierce County is required before the City of Tacoma can

provide sewer service to parcels within the other city. Environmental Services will determine whether sewer service can be provided. Some examples of how the City of Tacoma may provide sewer service to other incorporated areas are:

- Provide service without any new formal agreements with the other city or town – Sewers would be constructed by the project proponent in privately owned streets within easements granted to the City of Tacoma by the neighborhood association. The City of Tacoma would accept ownership and maintenance responsibilities of the sewer system and the parcels served would be direct customers to the City of Tacoma. No Franchise or Interlocal Agreements would be required. This is the preferred option by the City of Tacoma.
- Create a new Franchise Agreement with the applicable city or town – Sewers would be constructed by the project proponent in the public streets of the applicable city or town. The City of Tacoma would accept ownership and maintenance responsibilities of the sewer system and the parcels served would be direct customers to the City of Tacoma. The City of Tacoma would enter into a Franchise Agreement with the applicable city or town to allow the sewers to be located within their rights-of-way.
- Create a new Interlocal Agreement with the applicable city or town – The City of Tacoma would enter into an Interlocal Agreement with the other city or town. Sewers would be constructed by the project proponent and/or the applicable city or town located within their rights-of-way and would be owned and maintained by the other city or town. Their system would connect to the City of Tacoma sewer system. The parcels served would be sewer customers of that city or town unless negotiated otherwise. The other city or town would then pay service fees to the City of Tacoma in accordance with the new agreement to pay for transmission and sewage treatment costs.

2.040 Extending the Public Sanitary Sewer

If a property owner is required to extend the public sanitary sewer prior to being permitted to connect to the sewer, the following methods are available for extending the sewer.

A. Local Improvement District (LID)

Forming a Local Improvement District to construct a public sanitary sewer allows all the property owners who will benefit from the public sewer to work together to have the sewer constructed and share in the costs of the sewer construction. To form an LID a property owner must circulate an advisory survey prepared by City staff amongst the area to obtain neighborhood support. An LID may, by City policy, be formed when the majority of the property owners involved are in favor of forming the LID.

Once an LID is formed, the City will design the new public sewer, solicit a contractor through the public bidding process, and administer the construction of the new sewer. Property owners will be responsible for paying the City their proportionate share of the costs of the sewer design and construction. This is called an LID assessment. Property owners may pay their assessment as one lump sum payment or may finance the

assessment through the city with a low interest loan over a set period of time. The City also offers an LID Assistance Program intended to provide assistance to property owners on a low or fixed income. A sewer extension through this process may take up to two years from the time the advisory petition is returned to the City to the time sewer construction begins. For more information regarding the LID process, contact the LID Section of the Construction Division at (253) 591-5522.

B. Billable Work Order Permit

This process allows a property owner to hire a registered engineer to design the public sewer in accordance with all City of Tacoma design requirements, and to hire a contractor to construct the sewer. The property owner is required to obtain a Billable Work Order Permit in accordance with Section 1.020 C. This process may be used by a single property owner or by multiple property owners who will benefit from the use of this sewer who can then share in the costs of designing and constructing the sewer.

C. Capital Improvement Program (CIP)

The City prefers all new sewers be constructed through a LID or Billable Work Order. However, there may be circumstances where sewer extensions are necessary for existing developments due to public health concerns, but the neighborhood will not support an LID and/or property owners are not able to fund the cost of the sewer design and construction through a Billable Work Order.

In these circumstances, the City may be able to design and construct the public sewer as a capital improvement project by hired contractors or by city work crews. In this situation, the city will fund the design and construction of the new public sewer. Actual costs for designing and constructing the new public sewer will be recuperated from the benefiting property owners through a charge-in-lieu-of assessment fees at the time they connect to the public sewer. These fees are a lump sum fee and payable prior to the issuance of a side sewer connection permit.

The Capital Improvement Program is intended to serve previously developed areas currently using on-site septic systems. This program is not intended to provide new sewer service for undeveloped areas of the City. This method of constructing new sewers may take up to a year or more, depending on yearly budgeting and/or project priorities. For more information regarding public sewer extensions through City-funded Capital Improvement Program, contact Environmental Services at (253) 591-5588.

2.050 Sewer Capacity Calculations for Large Developments

A new development or redevelopment will be classified as large if the proposed wastewater flow will be equal to or greater than 10% of the capacity of the public sanitary sewer system serving the development or if the development will include 100 units or more (including restaurants, hotels, motels, apartments, condominiums, townhomes, schools, etc). Environmental Services will determine the capacity of the public sanitary sewer system based upon the size, material, service area, slope of the line and proximity to existing pump stations and trunk lines. If a project is classified as large, the Developer shall submit peak daily wastewater flow calculations prepared by a licensed engineer. Peak daily flows shall be calculated based on full site build out in accordance with the Washington State Department of Ecology Criteria for Sewage Works Design (Orange Book). All associated

calculations and references used in determining the estimated wastewater flow shall be submitted to Environmental Services for review and approval.

Environmental Services will determine if the public sanitary sewer system has enough capacity to accommodate the new peak flows in addition to upstream peak flows for fully developed conditions. If the public sewer system does not have enough capacity to accommodate the proposed large development or redevelopment, the developer will be required to upsize the public sanitary sewer prior to sewer connection. Upsizing the public sewer shall be accomplished through the Billable Work Order Process described in Section 2.040B.

2.060 On-Site Septic (OSS) Systems

On-site septic systems (OSS) are reviewed, permitted, and inspected by the Tacoma Pierce County Health Department (TPCHD). TPCHD will not permit new or allow repairs to an existing OSS within the city limits unless they are provided written verification from the City that a new OSS or repairs will be allowed. When a new OSS or repairs to an existing OSS will be permitted by the City, per the requirements in this section, the City will provide a letter to submit to TPCHD stating sewer is unavailable. Parcels must also be able to comply with all current TPCHD septic system design requirements in order to install or repair an OSS.

On-site Septic systems are not allowed for new construction with Flood Hazard Areas and Coastal High Hazard Areas per TMC 2.12.040 C.3.

For more information regarding on-site septic system permits, contact the Tacoma-Pierce County Health Department at (253) 798-6470.

A. Commercial Developments and Multi-Family Housing

All new commercial developments, including multi-family housing, shall be directly connected to the public sewer. On-site septic systems will not be permitted for new commercial developments.

If an existing commercial development has a prior approved on-site septic system that fails or is in need of repair, a connection to the public sewer is required if sewer is available.

If the wastewater generated from the site includes any waste other than from domestic use, a connection to the public sewer is required, regardless of whether sewer is considered to be available. This may require an extension of the public sewer.

If sewer is not available and all waste generated is from domestic use, repairs to the septic system may be permitted upon approval from TPCHD.

B. Single Family Residences and Duplexes

Property owners are encouraged to connect all homes and duplexes to the public sanitary sewer system. This may require an extension of the public sanitary sewer main to serve the parcel.

1. Existing On Site Septic Systems

If an existing single family residence or duplex has a prior approved on-site septic system that fails or is in need of repair, a connection to the public sewer is required if

sewer is available. If sewer is not available, the property owner may consider extending the public sewer main to serve the site or may repair the septic system upon approval from TPCHD.

2. New On Site Septic Systems

If sewer service is unavailable to a single parcel per Section 2.020 and there is no existing or proposed land use action requiring an extension of the public sanitary sewer and the parcel is not located within a Flood Hazard Area or a Coastal High Hazard Area per TMC 2.12.040 C.3, an on-site septic system may be permitted upon approval from TPCHD.

If the parcel is part of a plat, short plat, or any other land use action requiring an extension of the public sanitary sewer, the parcel may not be developed until the public sanitary sewer is constructed, available and all existing parcels related to the action are connected to the new public sanitary sewer main.

2.070 On-Site Sewage Holding Tanks

All structures that require a building permit to construct and have indoor plumbing facilities (including showers and sinks) shall be connected to the public sanitary sewer. On-site holding tanks not connected to the public sewer are not permitted. Holding tanks shall only be permitted with pump systems.

Mobile espresso carts or food stands that are wheeled inside a building during non-use may use holding tanks for waste, if there are adequate plumbing facilities within the building that are connected to the public sewer and that the holding tank may be discharged to. Discharge of plumbing waste to any outside ground surfaces, including stormwater catch basins, is prohibited.

Chapter 3 Side Sewer Construction Requirements

3.010 Introduction

All new, rehabilitated, and/or repaired side sewers shall be constructed in accordance with the requirements stated in this chapter.

For construction requirements for public sanitary sewer mains, refer to the most recent version of the Public Works Department Design Manual. This manual is available online at the City's govME (Government Made Easy) website, <http://govME.cityoftacoma.org>, under City Information.

3.020 General Construction Requirements

Per Tacoma Municipal Code Chapter 12.08, no rain, surface, or subsurface water shall be connected to or discharged into any sewage drainage system.

A. Pipe Size

Side sewers shall be a minimum of 6 inches in diameter for commercial properties and 4 inches in diameter for residential properties or designed in accordance with the Uniform Plumbing Code Section 717.0 based on the number and type of plumbing fixtures within the building. The side sewer pipe size shall be equal to or greater than the size of the building drain. Downsizing of pipe materials in the direction of flow is not permitted.

Exception: Incremental decreases in internal diameter of pipe due to a change in pipe materials or Cured-In-Place Pipe lining are acceptable.

B. Pipe Slope

The minimum standard slope for a side sewer is 2%, with the following exceptions:

1. When it is not possible to meet the 2% slope requirement due to the depth of the public sewer or other structural features, a minimum of a 1% slope may be permitted with approval from Environmental Services. When the 2% slope cannot be achieved, effort shall be made to achieve the greatest slope possible greater than 1%. Private sewage pump systems will be required when a 1% slope cannot be achieved. Additional information regarding pump systems is located in Chapter 4.
2. For commercial sites that cannot meet the 2% slope requirement due to the depth of the public sewer or other structural features, a licensed engineer may submit for review flow and velocity calculations to determine the minimum slope required to achieve a minimum scouring velocity of 2 feet per second. The calculations shall be performed in accordance with the Uniform Plumbing Code Section 708.0 or the Washington State Department of Ecology Criteria for Sewage Works Design (Orange Book).

The maximum slope for side sewers is two feet vertical per one foot horizontal (200%). Vertical risers are not permitted.

C. Pipe Materials

Table 3-1 lists approved pipe materials for both gravity and pressure applications along with the applicable standards for the material. Other pipe materials of equal or better standards ratings will be considered if proper material certification documents are submitted.

Acceptable Pipe Materials

Gravity		Pressure	
Material	Standard	Material	Standard
PVC, SDR 35	ASTM D3034	PVC Schedule 40	ASTM D 1785 ASTM D 2466
ABS Composite	AASHTO M 264 ASTM D 2751	ABS Composite	AASHTO M 264 ASTM D 1527
Cured-In-Place Pipe (CIPP)	ASTM F 1216 ASTM F 1743 ANSI-NSF 14	HDPE, SDR 17	ASTM D 3350
PVC C900	AWWA C900	PVC C900	AWWA C900
HDPE, SDR 17	ASTM D 3350		

D. Pipe Cover

The minimum pipe cover shall be in accordance with the pipe manufacturer's recommendations or not less than eighteen inches for gravity and pressure side sewers, whichever is greater. Side sewers located in driving areas shall have a minimum cover of 3 feet or 18 inches if the pipe is designed to meet H20 traffic loading. Ductile iron pipe and C-900 PVC pipe meet the H20 traffic loading requirements for depths between 18 inches and 3 feet.

The depth of the side sewer at the right-of-way shall be a minimum of 5 feet below final grade, unless the depth of the public sanitary sewer main is too shallow to allow for proper slopes. Side sewers may need to be constructed deeper than 5 feet below final grade at the right-of-way line to allow for gravity sewer service depending on topography or to accommodate basements.

When constructing side sewers with a sewer main construction, side sewer stub-outs shall be constructed 5 feet into the private property beyond the right-of-way limits, the easement, or the common utility trench, where applicable. During construction, the location of the stub shall be marked with a white 2x4 stake with the depth to the stub indicated on the stake. A locating wire shall be provided to extend from the stub to the stake at ground level. The locating wire shall not be attached to the stake.

E. Cleanouts

Cleanouts are required at the following locations:

- Approximately two feet from the building at the change from building drain to side sewer
- Every 135 degrees of total bend including horizontal and vertical
- Every 100 feet of pipe run
- Every change of pipe size
- At the transition from a pressure line to a gravity line
- At the property line
- As needed for testing requirements per Section 3.020L

All cleanouts shall be extended to grade unless an approved cover is provided over the cleanout. Cleanouts in the right-of-way shall be constructed in accordance with City of Tacoma Standard Plan SU-24 and shall have an approved casting installed above the cleanout for protection.

F. Manufactured Bends

Ninety degree bends are not permitted. Change in direction of more than 45 degrees shall be installed with multiple lesser bends. The side sewer shall be constructed using the least practical number of bends necessary to serve the building. Bends shall be manufactured fittings. A bend shall not be created by bending the straight pipe beyond the manufacturer's stated allowable deflection.

G. Bedding

All side sewer pipes in the right-of-way and on private property with slopes less than 2% shall be bedded in accordance with City of Tacoma Standard Plan SU-16.

Portions of side sewers constructed on private property shall be laid on a firm bed throughout the entire length, and any such piping to be laid in fill material shall be bedded in approved materials and adequately compacted to support the pipe.

H. Minimum Horizontal and Vertical Separation

All side sewers shall be constructed with the minimum separation between the side sewer and the structures/objects listed below:

Minimum Horizontal Separation

Buildings or Structures ¹	2 feet
Property Lines Adjacent to Other Private Property	2 feet
Water Supply Wells	50 feet
Streams ³	50 feet
On-site Domestic Water Service Line ²	10 feet
Public Water Main ²	10 feet
Public Storm Main and Catch Basin Leads	5 feet

¹ If the side sewer is within 2 feet of or underneath a building or structure, it is considered a building drain and must meet the UPC code requirements as such.

² A minimum of ten (10) feet horizontal separation and eighteen (18) inches vertical separation should be maintained between all gravity sanitary sewers and potable water lines. (See Figure 3-1). Gravity sanitary sewer lines not meeting the minimum separation requirements and all pressurized sanitary sewer lines shall be designed in accordance with the Department of Ecology's Criteria for Sewage Works Design, Section C1-9. The distance between utilities shall be measured from edge of pipe to edge of pipe. Any variances to this require the approval of Tacoma Water and Environmental Services.

³ Additional requirements may apply in Critical Areas refer to Tacoma Municipal Code 13.11.

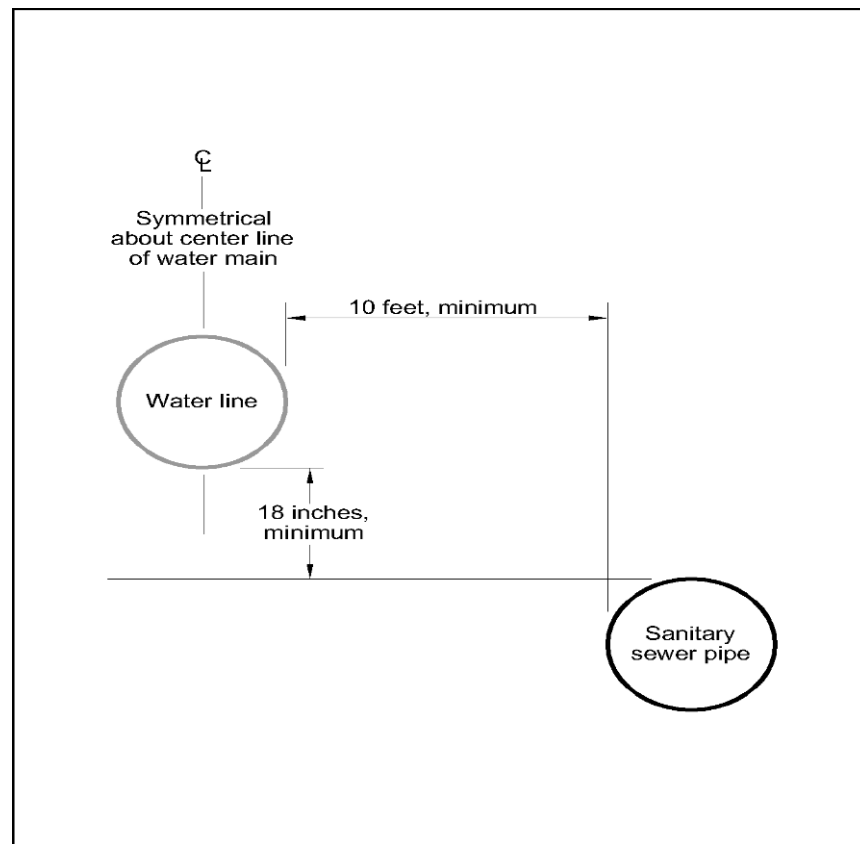


Figure 3-1. Minimum Separation

A minimum of eighteen (18) inches vertical separation should be maintained between all gravity sanitary sewers and potable water lines and storm sewer main lines. (See Figure 3-1) Casings or water rated pipe materials may be required when side sewers cross over water mains.

I. Joining Dissimilar Pipe Materials

When a repair is made to a portion of the existing side sewer and the old and new pipe materials differ; the connection between the dissimilar materials shall be made with a

Fernco watertight coupler, Romac watertight coupler or approved equal. Bell donuts are not acceptable.

Connections between ABS and PVC gravity pipes may also be made using solvent cement meeting ASTM D 3138 specifically intended for non-pressure transitions between PVC and ABS.

J. Connection to Public System

All connections shall be to the tee, wye, or vertical riser where they exist. If there are no tees, wyes, or vertical risers, the connection shall be made by machine-made tap and mechanical saddle in accordance with City of Tacoma Standard Plan No. SU-23. A minimum of three feet separation shall be provided between adjacent side sewer connections and between side sewers and manholes.

All new connections shall cross the right-of-way as close to perpendicular as possible to the public sanitary sewer main.

Side sewer connections shall be made to the public sanitary sewer main that is located within the right-of-way or easement area within the frontage limits of the premises being served, unless prior written approval is received from Environmental Services. In rare circumstances, it may be necessary to construct outside the frontage limits in order to receive gravity service.

Connections to manholes are not permitted without prior approval from Environmental Services. In the event a public sanitary sewer main will not be extended in the future, no more than two (2) side sewers may be connected to a dead end manhole.

All connections to manholes shall be provided at the shelf in the bottom of the manhole. No inside or outside drop connections into manholes will be permitted unless otherwise approved in writing by Environmental Services.

K. Backflow Prevention

Where a plumbing fixture is installed on a floor level lower in elevation than the next upstream manhole cover of the public or private sewer serving such plumbing fixture, the entire floor shall be protected from back flow of sewage by installing a backwater valve. Plumbing fixtures on floor levels above such elevation should not discharge through the backwater valve.

L. Testing

Testing of side sewers shall be performed in all new side sewer installations, all repaired portions of existing side sewers, and as otherwise specified throughout this manual. Side sewers shall be tested to ensure the side sewer is watertight. The test may consist of either a static water test with not less than 10 feet of head pressure or an air pressure test able to hold 3.5 pounds per square inch (psi). All tests shall be performed in the presence of a Construction Division Inspector.

For new and repaired side sewers, the test shall be performed prior to backfilling. A cleanout shall be provided at the farthest downstream end of the new side sewer construction to allow an access point for plugging to accomplish the air or water test.

For testing existing side sewers for re-use, it may be necessary to install a cleanout if one does not exist to allow an access point for plugging to accomplish the test.

Following testing, the cleanout shall be brought to the surface with a watertight removable cap and a cleanout casting to protect the pipe and cap in accordance with City of Tacoma Standard Plan SU-24, unless it is within the driving portion of the roadway. Cleanouts within the paved roadway shall be capped and left below grade.

M. Abandonment of Side Sewers and Septic Tanks

Every abandoned side sewer, or part thereof, that will not be reused in accordance with WAC 246-272 shall be plugged or capped at the public sanitary sewer main to eliminate the potential for infiltration of groundwater and dirt into the public sanitary sewer system via the abandoned side sewer. The side sewer shall be abandoned in the presence of the construction permit inspector.

All septic tanks no longer in use shall be decommissioned in accordance with WAC 246-272:

- Have the septage removed by a certified pumping company.
- Remove or destroy the lid.
- Fill the void with dirt, sand, gravel, or other approved material.
- Certify the abandonment of the septic tank to the Tacoma Pierce County Health Department via a septic tank decommissioning certificate. Contact the Tacoma Pierce County Health Department at (253) 798-6470 for more information on abandoning septic tanks.

3.030 Alternate Trenchless Technology Replacement & Rehabilitation Methods

In addition to traditional “open-cut” trenching to replace side sewers, alternate methods for replacing or rehabilitating existing side sewers may be used. These methods must be approved by the Construction Division prior to use.

The following trenchless technologies are approved for use in the City of Tacoma if the existing side sewers meet the criteria listed below. Each of these technologies has limitations preventing its use in some situations. This list is not intended to prevent the use of any alternate construction method. Any additional alternate construction methods shall be submitted to the Construction Division for review prior to use.

A. Pipe Bursting

Pipe bursting of side sewers will be permitted if there are no significant grade issues (sags of more than 25% of pipe diameter) and there are no conflicts with adjacent utilities.

Prior to receiving a side sewer permit:

The contractor shall locate and mark all connection points, bends and excavations on the ground surface and shall contact Utility Locate to mark all utilities in close proximity to the side sewer. The contractor shall perform a television inspection of the side sewer and submit the video to the Construction Division for review. The video shall be of a quality that adequately shows the condition of the pipe and any bends, tees, obstructions, etc. Poor quality or incomplete videos will be returned to the contractor for resubmittal.

The Construction Division will review the television inspection video and will respond back to the contractor within two (2) business days. If there are no conflicts with utilities and the TV video reveals no significant grade issues (sags of more than 25% of pipe diameter), pipe bursting will be permitted.

Pipe bursting construction requirements:

- The pipe shall be SDR 17 High Density Polyethylene Pipe (HDPE).
- All joints shall be welded butt-fused joints.
- The contractor shall allow the polyethylene pipe to return to its original length and shape in the unstressed state, based on the pipe manufacturer's recommendations, prior to trimming any excess liner and making connections at each end.
- The contractor shall construct cleanouts in accordance with Section 3.020E.
- The contractor shall perform a static water or air pressure test on the newly installed pipe in accordance with Section 3.020L.
- After bursting is complete, the contractor shall perform a post pipe burst television inspection to be submitted for review to the Construction Division. Review of all television inspections by the Construction Division will be completed within one working day.

B. Cured-In-Place Pipe (CIPP)

Lining of existing side sewers using CIPP will be permitted if there are no significant grade issues (sags of more than 25% of the pipe diameter), no bends greater than 45 degrees, no offset joints greater than 10% of the pipe diameter, and the host pipe is not out of round more than 25% of the height to width ratio.

Prior to receiving a side sewer permit:

The contractor shall locate and mark all connection points and bends on the ground surface. The contractor shall perform a television inspection of the side sewer and submit the video to the Construction Division for review. The video shall be of a quality that adequately shows the condition of the pipe and any bends, tees, obstructions, etc. Poor quality or incomplete videos will be returned to the contractor for resubmittal.

The contractor shall also submit the proposed felt and resin material with the name of the manufacturer for each, the design thickness of the liner, and the manufacturer's recommended cure time.

The Construction Division will review the television inspection video and the submittal information and will respond back to the contractor within two (2) business days. If the TV video reveals no significant grade issues, sags, offset joints, or out of round pipe, Cured-In-Place lining will be permitted.

CIPP lining construction requirements:

- The contractor shall manufacture the CIPP (wetout procedure) in the presence of the Construction Division Inspector in accordance with manufacturer's recommendations.

- If the liner protrudes into the main the contractor is responsible for removing the protrusion.
- After lining is complete, the contractor shall submit a field sample of the cured liner and perform a post-television inspection to be submitted for review to the Construction Division. Review of all television inspections by the Construction Division will be completed within two (2) business days.
-

3.040 Side Sewer Shoestring Services

Prior to any new installation or repair of an existing non-permitted shoestring service, a parcel shall be reviewed for sewer availability by Environmental Services in accordance with Section 2.010. For more information, contact Environmental Services at (253) 591-5588.

If the sewer is considered available to the parcel via a shoestring side sewer, the side sewer contractor shall submit a Shoestring Side Sewer Permit Exhibit for review prior to receiving a side sewer permit for construction of the side sewer. The permit exhibit shall include the following information:

- Address and Parcel Number
- Contact information, including fax number and email address
- Lot boundaries drawn to scale and labeled with lot dimensions
- North directional arrow
- Location of all streets or alleys abutting the parcel
- Location of proposed shoestring side sewer
- Label length, size, slope, and pipe material of shoestring side sewer
- Public sanitary sewer main and location of connection point
- Easement locations, if on private property
- All surface features including trees, landscaping, mailboxes, sidewalks, driveways, light poles, curb and gutter, ditches, structures, and any other surface features located within 10 feet each side of the proposed shoestring side sewer.
- All underground utilities including sewers, power, cable, phone, water, and any other underground utilities located within 10 feet each side of the proposed shoestring side sewer.
- Finished floor elevation of structure to be served

Shoestring Side Sewer Permit Exhibits shall be submitted to the Permit Counter at the Building and Land Use Services Division, 747 Market Street, Tacoma. Environmental Services and the Construction Division will review and approve the exhibit for general conformance to existing and/or future permanent alignment and grade within ten (10) business days of submittal.

Repairs to existing prior permitted shoestring services will be permitted without review for sewer availability by Environmental Services and without a requirement for a

Shoestring Side Sewer Permit Exhibit. A side sewer permit is required for all repairs to side sewers.

3.050 Re-Use of Existing Side Sewer for New Buildings

In order to re-use any portion of existing side sewers for new buildings, the side sewer shall be television inspected and pressure tested in accordance with Section 3.020L to ensure it meets the requirements of this manual. This includes any existing side sewer stubs between the main and the property line, whether previously used or not. If the side sewer is found through television inspection to have any illicit connections per TMC Section 12.08.030 it shall be disconnected. If it cannot pass the pressure test, it shall be repaired, replaced, or rehabilitated and retested until the side sewer passes the pressure test to ensure it is water tight. Television inspections shall be reviewed by a Construction Division Inspector, and all pressure tests shall be done in the presence of a Construction Division Inspector.

3.060 Shared Side Sewer Connections

New shared side sewer connections are only permitted between two or more buildings that are under one ownership and are located on the same parcel. A property owner may combine tax parcels into one parcel in order to share side sewers. In the event the parcel is divided and buildings will be separated onto individual parcels, the shared side sewer shall be reconstructed such that each parcel has a separate side sewer connection to the public sewer.

A. Separating existing shared side sewers

For all existing shared side sewers, property owners shall separate side sewers when repairs are necessary. If 50 percent or more of the shared portion of the side sewer is in need of repair, the side sewers shall be separated. If less than 50 percent of the shared portion is in need of repair, the shared portion may be permitted to remain only in the event the property owners sign and record a private side sewer easement agreement for the shared side sewer in accordance with Chapter 5. At no time may a property owner perform work on another property without a recorded private side sewer easement agreement permitting the property owner to do so. Any separated side sewers that remain on a different property than that which it serves also requires a recorded private side sewer easement agreement in accordance with Chapter 5.

B. Exceptions

Condominiums which have individual parcels for each unit, or have the potential to be platted into individual parcels for each unit, shall have separate side sewer connections for each unit to the public sewer. If the condominiums are restricted by building codes and other shared utilities from ever platting into individual parcels per each unit, a shared side sewer connection to the public sewer may be permitted for all the units within one building.

3.070 Recreational Vehicle Waste Dump Site Connections

Recreational Vehicle waste dump sites are permitted for personal use only. Commercial waste dump sites are prohibited. Dump sites shall be constructed per Figure 3-2. The concrete slab shall be fully located on private property within 25' of a hose bib and the cleanout shall be connected to the side sewer serving that parcel. A reduced pressure backflow assembly (RPBA) shall be installed in the water supply line to the hose bib designated for use at the dump site.

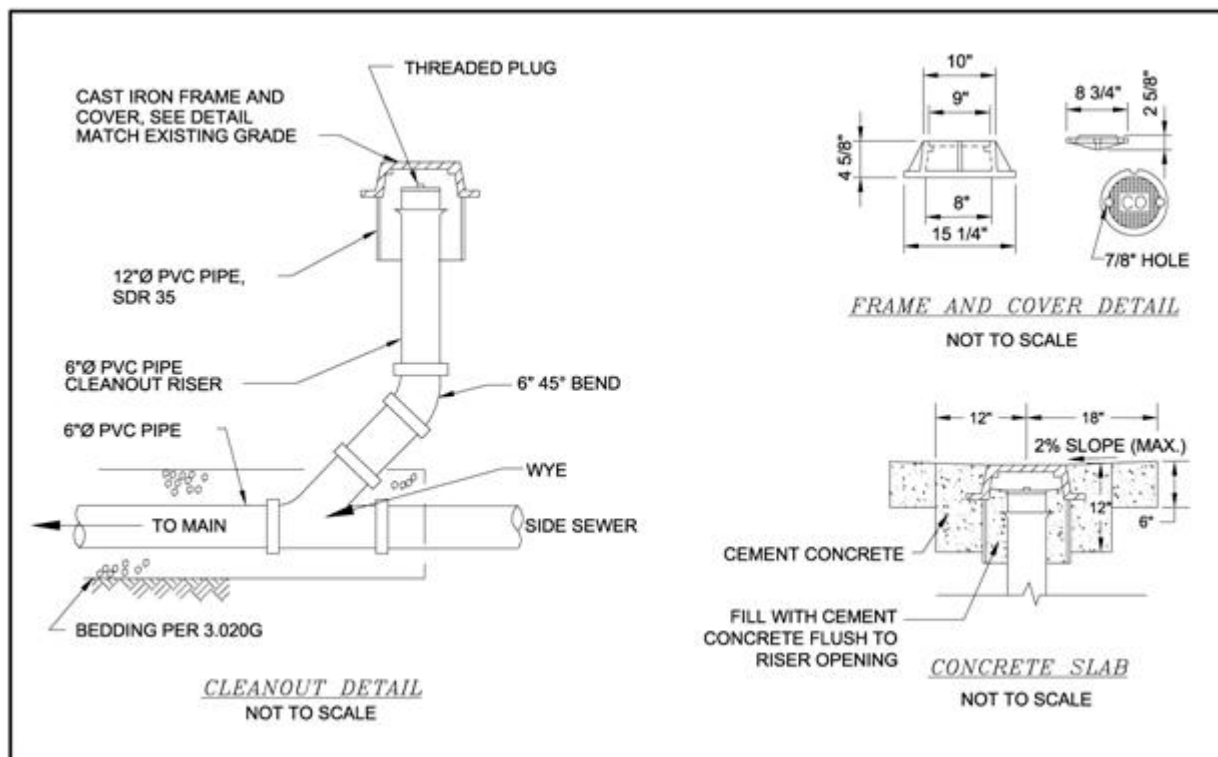


Figure 3-2. Recreational Vehicle Waste Dump Site Connection Detail

Chapter 4 Private Sewage Pump Systems

4.010 Introduction

All buildings shall have a gravity connection to public sewer, meeting the minimum slope requirements of Section 3.020B, unless it is not possible due to the depth of the public sanitary sewer main or significant conflicts with existing structures or utilities.

A. For Buildings Where Only Upper Levels Can Be Served By Gravity

In some circumstances, gravity side sewer service may be possible for ground floor and upper level floors, but not basement or lower level floors within a building. If this is the case, an internal sewage pump may be used to pump sewage from the lower levels to the upper level which can then be connected to the public sewer with a gravity side sewer. This option is typically less expensive for homeowners and is encouraged over external sewage pump systems. Internal sewage pumps are reviewed and permitted by Building and Land Use Services (BLUS). For interior pump system requirements, contact the Building and Land Use Services Division at (253) 591-5030.

B. For Buildings Where No Levels Can be Served by Gravity

If gravity sewer service isn't possible from any level of a building, an exterior sewage pump system shall be used. Exterior pump systems are located below grade outside of the building and are reviewed and approved by Environmental Services. The use of private exterior sewage pump systems requires prior approval from Environmental Services. For more information regarding pump system designs or to obtain approval for use, contact Environmental Services at (253) 591-5588.

4.020 Design Requirements

Exterior sewage pump systems consist of a holding tank located outside of the building that receives sewage from the building by gravity and then pumps the sewage through a small pressure side sewer. Prior to connecting into the public sewer the pressure side sewer shall transition to gravity at a cleanout.

Once approved for use, the property owner shall submit four copies of a private sewage pump system design and site plan prepared in accordance with this Chapter to the Building and Land Use Services permit counter. Initial review of the design for new construction sites may take up to two weeks upon complete application. Emergency situations where pump systems need to be installed to replace failing existing side sewers may be reviewed more quickly in order to assist property owners with re-establishing sewer service. Once a design is reviewed and approved, Environmental Services will route one copy of the design back to the permit counter for return to the applicant and one copy to the Construction Division. At that time, the applicant may obtain the approved design documents and side sewer permit from the Building and Land Use Services permit counter to begin construction.

4.030 Design Checklist and Standard Details

The following are sample standard details and a design checklist for sewage pump system design. These are intended to assist the homeowner or the homeowner's representative with preparing the design. Any designs received that do not include all of the information listed in the checklist will be returned to the applicant for completion prior to review.

CITY OF TACOMA PRIVATE SEWAGE PUMP SYSTEM DESIGN CHECKLIST

The information specified in this checklist and the sample site plan and details must be provided with the pump design submittal. Depending upon the complexity of the design, additional information not included on this checklist may be required. All questions concerning these submittal requirements should be directed to Environmental Services at (253) 591-5588.

Design Requirements:

Gravity and Pressure Side Sewer:

- ☐ Design and construct all portions of gravity and pressure side sewers in accordance with Chapter 3 – Side Sewer Construction Requirements.
- ☐ Provide separation between side sewers and other utilities and structures as specified in Chapter 3.

Pump and Holding Tank:

- ☐ Use grinder pump when head is 30 feet or greater or sewage ejector pump when head is less than 30 feet. Exception: Environment One (E-One) grinder pump or approved equivalent may be used in both conditions.
- ☐ Use waterproof seal between lid and tank.
- ☐ Provide 12" minimum between bottom of the holding tank and the pump off elevation.
- ☐ Attach 1/2-inch diameter polyethylene rope or stainless steel cable to the pump and secured to the holding tank for pump removal.
- ☐ Design the tank for H2O loading if it will be in an area subject to traffic loading.
- ☐ Provide quick disconnect of pump and power supply for removal of pump.
- ☐ Install check valve (automatic backflow prevention) upstream of disconnect coupling.
- ☐ Install gate or ball valve (manual shut off) upstream of check valve.
- ☐ Chamfer the tank bottom (1:1 fillet).
- ☐ Use waterproof non-shrinking grout around inlet and outlet pipes to seal the tank.
- ☐ Provide 12" between quick disconnect coupling and the top of the holding tank.
- ☐ Provide approximately 6" between pump on and alarm elevations.
- ☐ Design the pump system for buoyancy in accordance with tank manufacturer's recommendations.
- ☐ Provide audio visual alarm for pump failure or high volume events in the tank.

For Commercial Sites Only:

- ☐ Provide 24-hour flow volume backup storage capacity.
- ☐ Provide duplex pump system.
- ☐ Provide explosion proof pump system.

Submittal Requirements:

Provide a Site Plan Showing the Following: (See Figure 4-1)

- ☐ Address and Parcel Number (from the Pierce County Assessor)
- ☐ Contact information, including fax number and e-mail address
- ☐ Lot boundaries drawn to scale and labeled with lot dimensions
- ☐ North directional arrow
- ☐ Contours or spot elevations
- ☐ Location of all streets or alleys abutting the parcel, edge of pavement, sidewalk, curb and gutter, ditches and structures

- ☐ Existing grade elevations of the lowest floor to be served
- ☐ Distances from all property lines to dwelling (the sidewalk is not the property line, but you may use it to show the distance to your dwelling)
- ☐ City sanitary sewer main location, with invert elevations of both upstream and downstream manholes
- ☐ Water service line and meter
- ☐ Easements
- ☐ Location, size, slope, and pipe material for gravity and pressure side sewers
- ☐ Location of transition from pressure line to gravity line (on private property)
- ☐ Location of all cleanouts
- ☐ Location of holding tank (minimum of 2' from structures and property lines)
- ☐ Location of control panel and audio visual alarm
- ☐ Location of vent (the building sewer vent will suffice if 24-hour storage is provided below the invert of the inlet pipe and the alarm elevation; see below "Holding Tank Detail" section).
- ☐ Include the following standard notes:
 - ☐ Contact Underground Locate ("One-Call") Service at (800) 424-5555 prior to any construction.
 - ☐ Obtain electrical permit from www.ci.tacoma.wa.us/power/Electrical_Permits.htm or contact Tacoma Power at (253) 502-8277.

Provide a holding tank detail showing the following information: (See Figure 4-2)

- ☐ Depth and dimensions of tank
- ☐ Location of vent for holding tank
- ☐ Elevations of top of tank, bottom of tank, pump on, pump off, alarm elevation

Provide a side sewer connection detail with the following information: (See Figure 4-3)

- ☐ Method of transition from pressure line to gravity

Provide Manufacturers Catalog Cut Sheets and Specifications for the following:

- ☐ Pump (including pump performance curve)
- ☐ Holding Tank
- ☐ Control Panel
- ☐ Audio visual alarm

Engineering Calculations:

- ☐ System head loss calculation
- ☐ Appropriate flow rate and head characteristics plotted on pump performance curve
- ☐ Velocity calculation for the proposed diameter and type of pipe (minimum 2 ft/sec)
- ☐ Frequency and duration of pumping cycles (minimum of 2 cycles per day)
- ☐ For commercial sites only: 24 hour flow volume

Private Easement or other Agreements:

- ☐ Recorded copy of any private easement or other agreement required in accordance with Chapter 5.

Provide an Operation and Maintenance Manual from the Manufacturer

- ☐ Frequency of Maintenance
- ☐ Maintenance Requirements

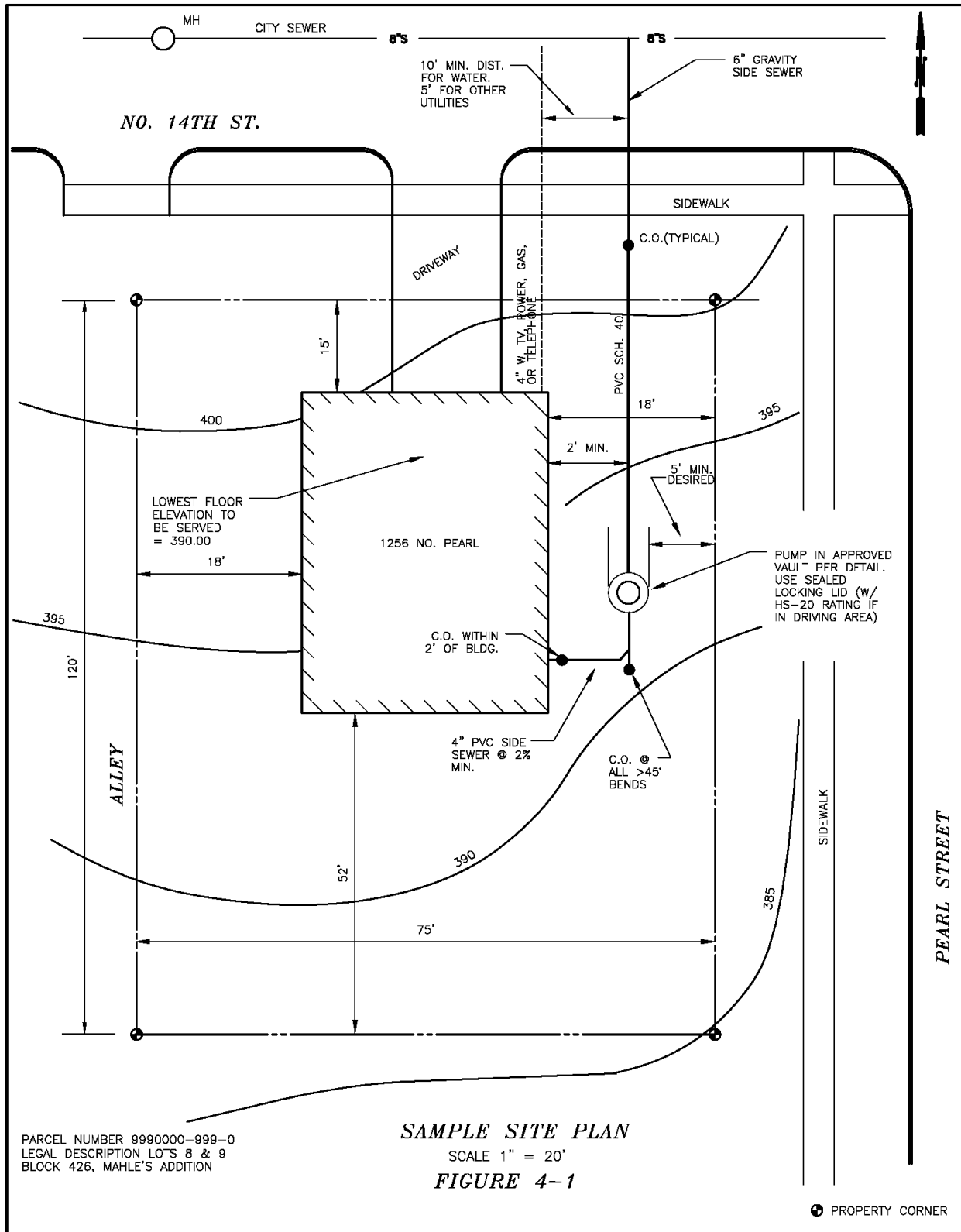


Figure 4-1. Sample Site Plan

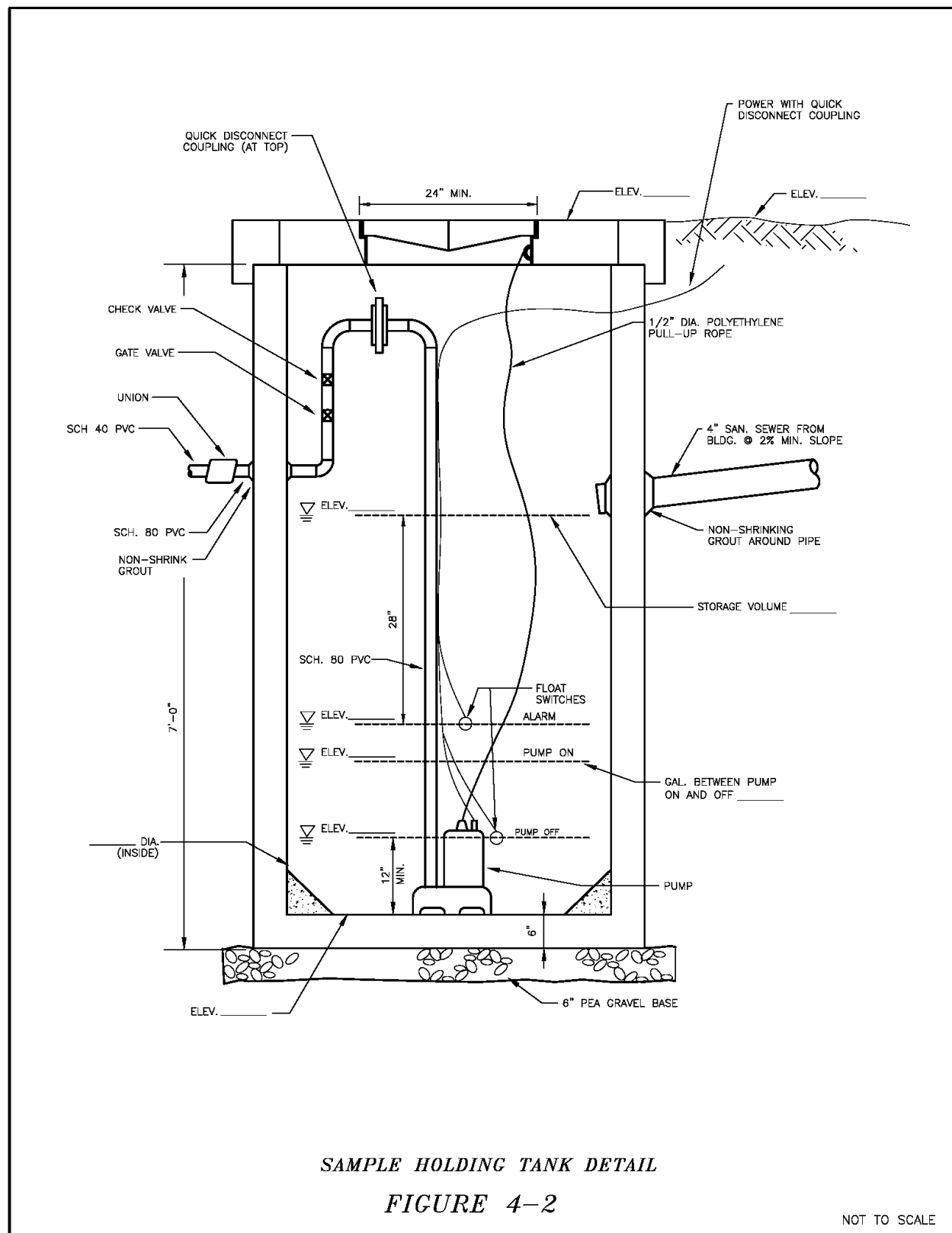


Figure 4-2. Sample Holding Tank Detail

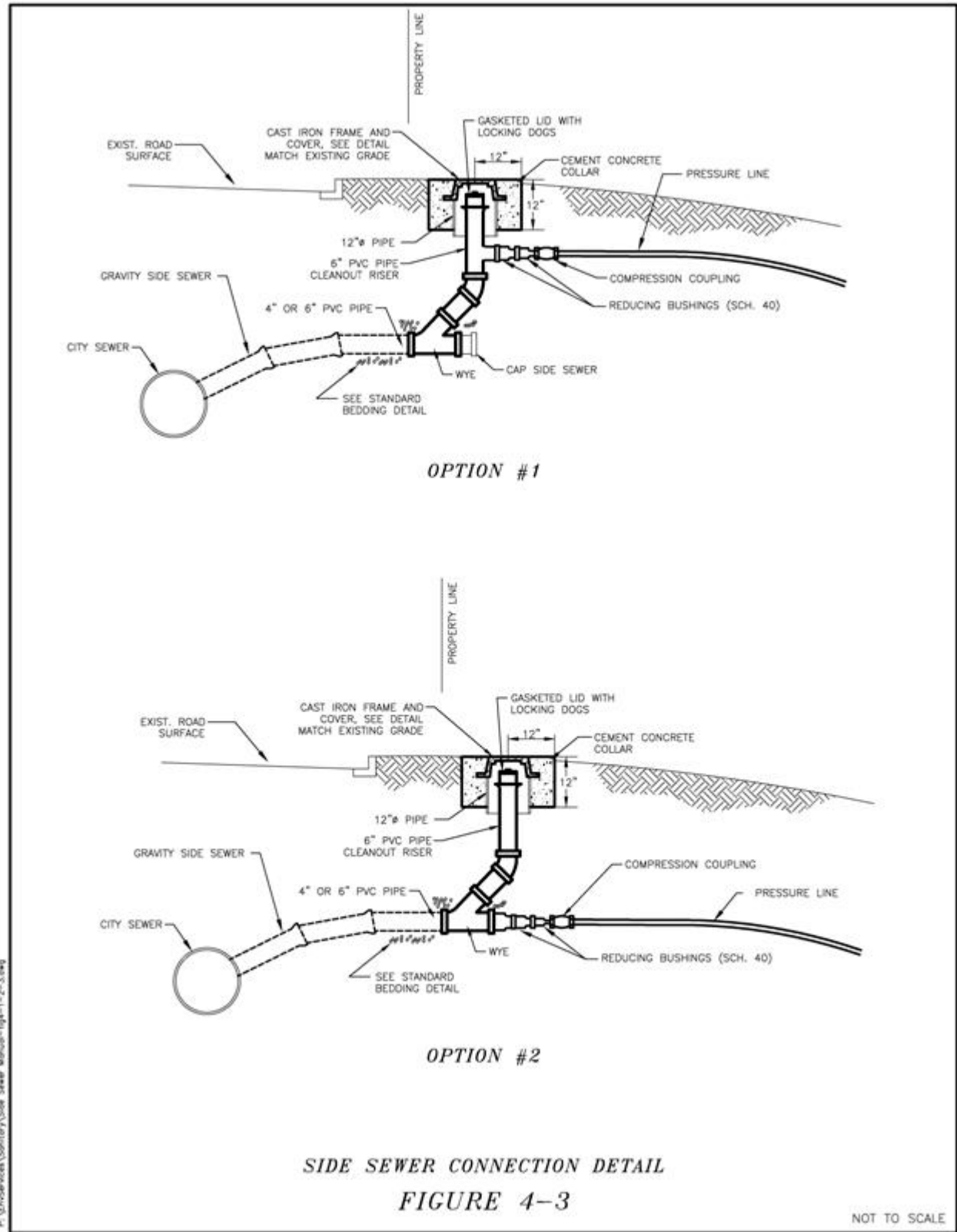


Figure 4-3. Side Sewer Connection Detail

Chapter 5 Side Sewer Maintenance Responsibility and Private Side Sewer Easement Agreements

5.010 Introduction

This chapter discusses the responsibilities between the City of Tacoma and property owners for maintenance of the sewer collection system within the City of Tacoma. This chapter also discusses the private side sewer easement agreement requirements for instances where side sewers cross more than one parcel.

5.020 Maintenance Responsibility of the City and the Property Owner

The transmission of sewage from buildings to the City's treatment facilities is accomplished through a collection system. Collection systems typically consist of private side sewers and public sanitary sewer mains. Private side sewers are the segments of pipe that connect a building to the riser or wye at the City's public sanitary sewer main. Property owners are responsible for constructing, servicing, maintaining, assessing condition, investigating service problems and replacing the private side sewer (see Figure 5-1). All construction work performed in the Rights-of-Way shall be performed by a licensed and bonded contractor and require a City of Tacoma business license. The City of Tacoma is responsible for servicing, maintaining, assessing condition, investigating service problems and replacing the public sanitary sewer mains, risers, and wyes. The City also permits and inspects work on the area of private responsibility.

Figure 5-1 shows the area of City responsibility for the sewer collection system. Connections other than the typical drawings shown below will be evaluated by the City for jurisdictional responsibilities on a case by case basis. See Figure 5-2 for a flow chart of the process described here.

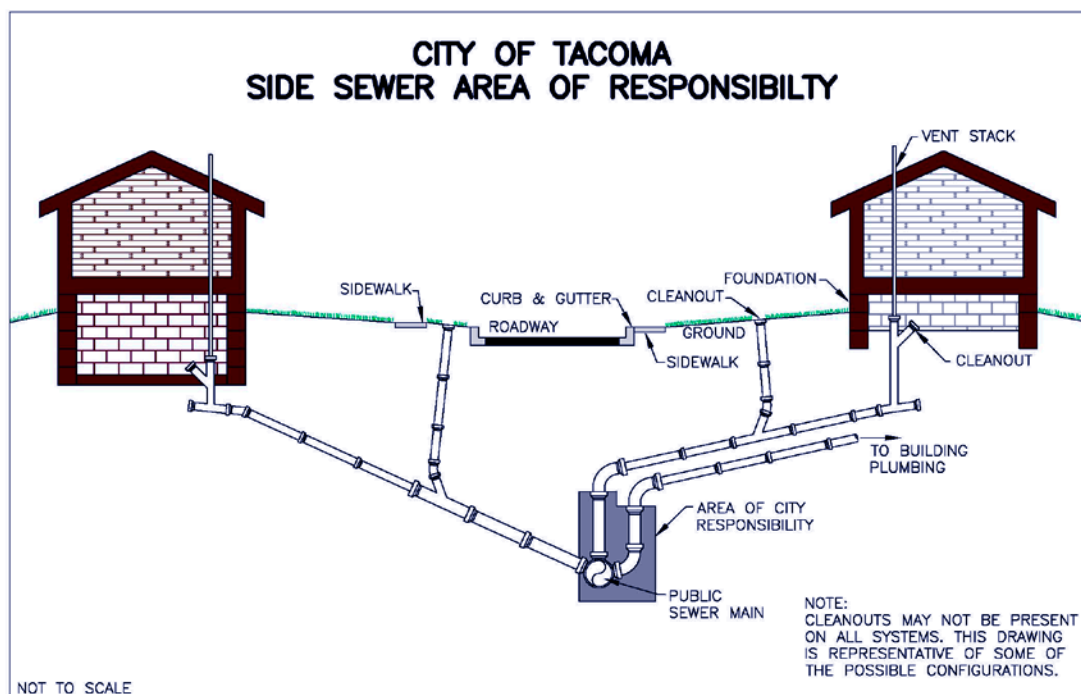
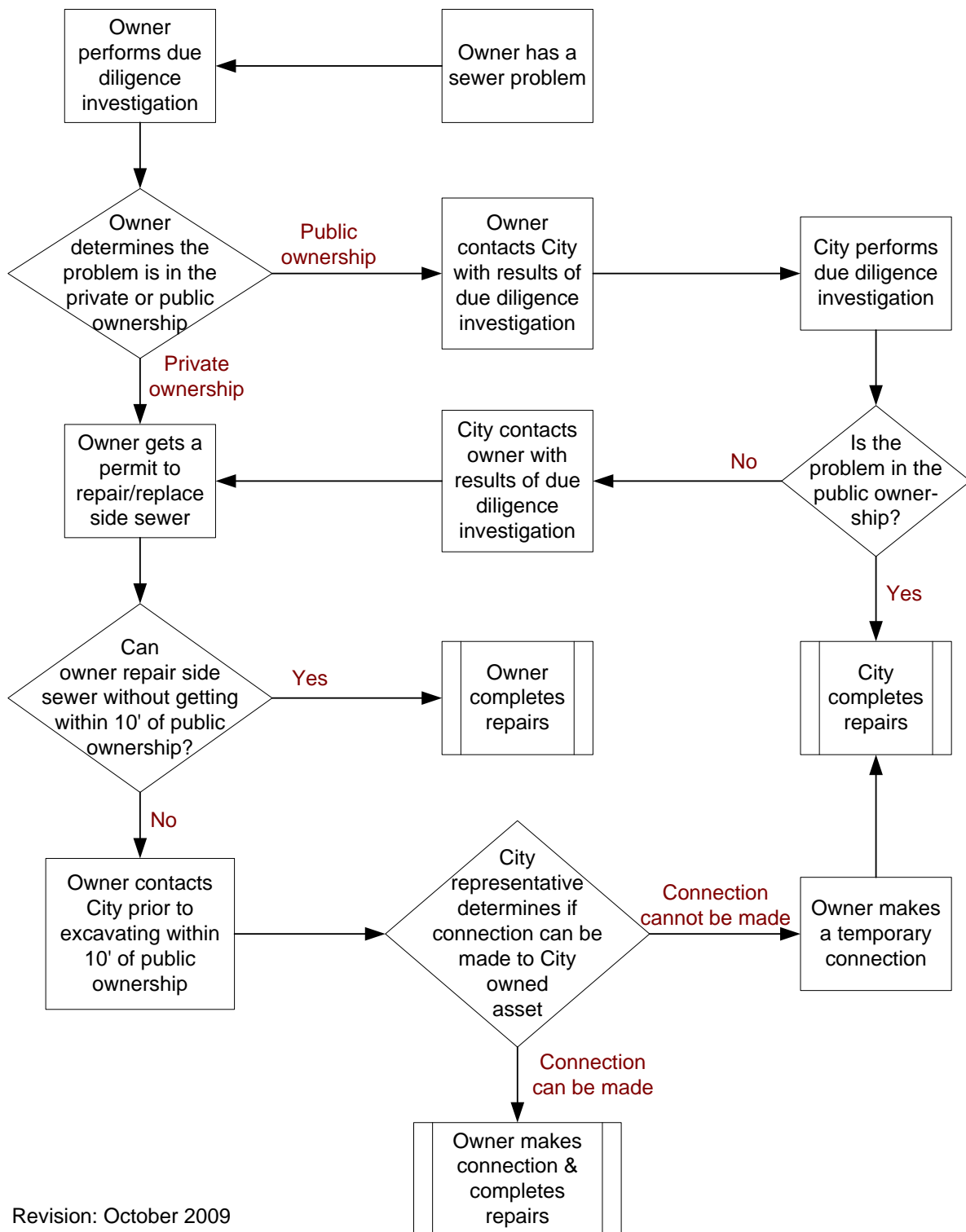


Figure 5-1. Side Sewer Area of Responsibility

Private Side Sewer Repair Flowchart



Revision: October 2009

Figure 5-2. Private Side Sewer Repair Flowchart

In the event that a property experiences a service problem, the property owner (or their representative) must perform a due diligence investigation to determine if the cause of the problem lies within the private ownership or within the public ownership. Methods that may be used to determine the likely source of the problem include, but are not limited to, the following:

1. Investigate within the building being served to see if the problem affects all fixtures or just a subset;
2. Perform an investigation of the side sewer through a cleanout with a device such as a sewer roter, jetter or a camera to determine if the source of the problem is within the private ownership;
3. Determine if adjoining property owners are having problems.

An informational sheet is provided in Appendix C to aid property owners in troubleshooting and fixing problems in private side sewers.

Problem in Private Ownership

If the results of the property owner's due diligence indicate the problem is in the private ownership, then the property owner must implement the solution. If the solution requires repair or replacement of any part of the private side sewer, then a permit must be obtained from the City's Building and Land Use Services in accordance with Section 1.020. They may be contacted at (253) 591-5030 or on the web at:

<http://www.cityoftacoma.org/Page.aspx?nid=153>. If work on the side sewer requires excavation then a call must be made to locate underground utilities. Any work within the right-of-way must be performed by a licensed and bonded contractor who must have a license with the City as a side sewer contractor. The property owner (or their representative) shall schedule an inspection of the side sewer repair 24 hours in advance of excavation by contacting the Construction Division at 253-591-5760. If any excavation by the property owner (or their representative) occurs within 10 feet (horizontally in the plan view) of the sewer main and the City's representative is not on site, then the excavation must stop and the property owner (or their representative) shall contact the Construction Division of the Public Works Department at (253) 591-5760 or the Construction Inspector assigned to this repair project and request an inspection.

Upon receipt of this call the City's representative will respond within 2 to 4 hours during the normal business day. The response by the City may include one of the following actions: 1) verbal communication with the excavation contractor, 2) a site visit or 3) other action as deemed appropriate by the City. This will ensure that the property owners need not pay for repairs to City-owned structures, and that City-owned structures are protected from damage. In the event a connection cannot be made per the plumbing code due to condition of the City-owned structures, the City's representative will authorize the use of a temporary connection by the best means available with the intent that the City will make a repair to the public portion of the system after the property owner has finished their work. The property owner (or their representative) may make a temporary patch directly over the public portion but shall be responsible for the permanent restoration of any other area affected by their excavation. The City will be responsible for the permanent site restoration over the City owned asset.

However, if the property owner (or their representative) continues the excavation to within 10 feet (horizontally in the plan view) of the sewer main and uncovers City-owned structures without the prior notification to the City, the property owner will then assume responsibility for costs and completion of the work, including replacement or repair of risers, wyes and

sections of sewer main as necessary to provide an approved connection to serve the premises.

Problem in Public Ownership

If the results of the due diligence investigation by the property owner indicates the problem is in the public ownership, then the property owner must contact the City's Environmental Services Maintenance Division of the Public Works Department at (253) 591-5585. The City will then perform a due diligence investigation to verify the property owner's determination of the source of the problem. The methods of investigation may include, but are not limited to, one or more of the following:

1. A review of permit information for the property and other records available to the City;
2. A visual inspection of the main from adjacent manholes;
3. Other investigative means employing devices such as a jet rodder or closed circuit TV camera.

Based upon the information from the property owner's investigation and the City's investigation, the City will make a determination of whether the likely source of the problem lies within the public or the private ownership.

If the source of the problem lies within the public ownership the City will implement the corrective measures. If the source lies within the private ownership the City will inform the property owner (or their representative) of the results of the City's investigation. If jurisdiction cannot be fully ascertained during the investigation, the City may elect to perform an excavation to determine jurisdictional responsibility. Any excavation or repair of the public portion the system under those circumstances shall in no way be considered an assumption of responsibility for the service problem.

5.030 Private Side Sewer Easement Agreements

Side sewers crossing separate parcels from the one it serves should be avoided, if possible. However, in certain circumstances crossings are necessary. A private side sewer easement agreement is required for side sewers that cross a separate parcel that is not owned by the same owner as the parcel being served. This agreement shall identify the responsible parties for maintenance of the side sewer and provide an access easement to construct and maintain the side sewer. The property owner shall record the agreement with the Pierce County Assessor's Office and provide a copy to the Building and Land Use Services permit counter prior to obtaining a side sewer connection permit. Property owners are encouraged to seek legal advice when entering into private side sewer easement agreements.

If a side sewer for a parcel must cross a second parcel and the two parcels are owned by the same person or company, the property owner cannot assume an easement across the second parcel. Instead, the property owner must enter into a recorded agreement with the City that states it will provide a future side sewer easement in the event that the parcels are sold to separate owners. Environmental Services will coordinate preparation of this document. The property owner shall record the document with the Pierce County Assessor's Office and provide a copy to the Building and Land Use Services permit counter prior to obtaining a side sewer connection permit. For more information regarding agreements between the City and the property owner, contact Environmental Services at (253) 591-5588.

Appendix A

Sewer Availability Examples for Parcels Inside City Limits

EXAMPLE #1



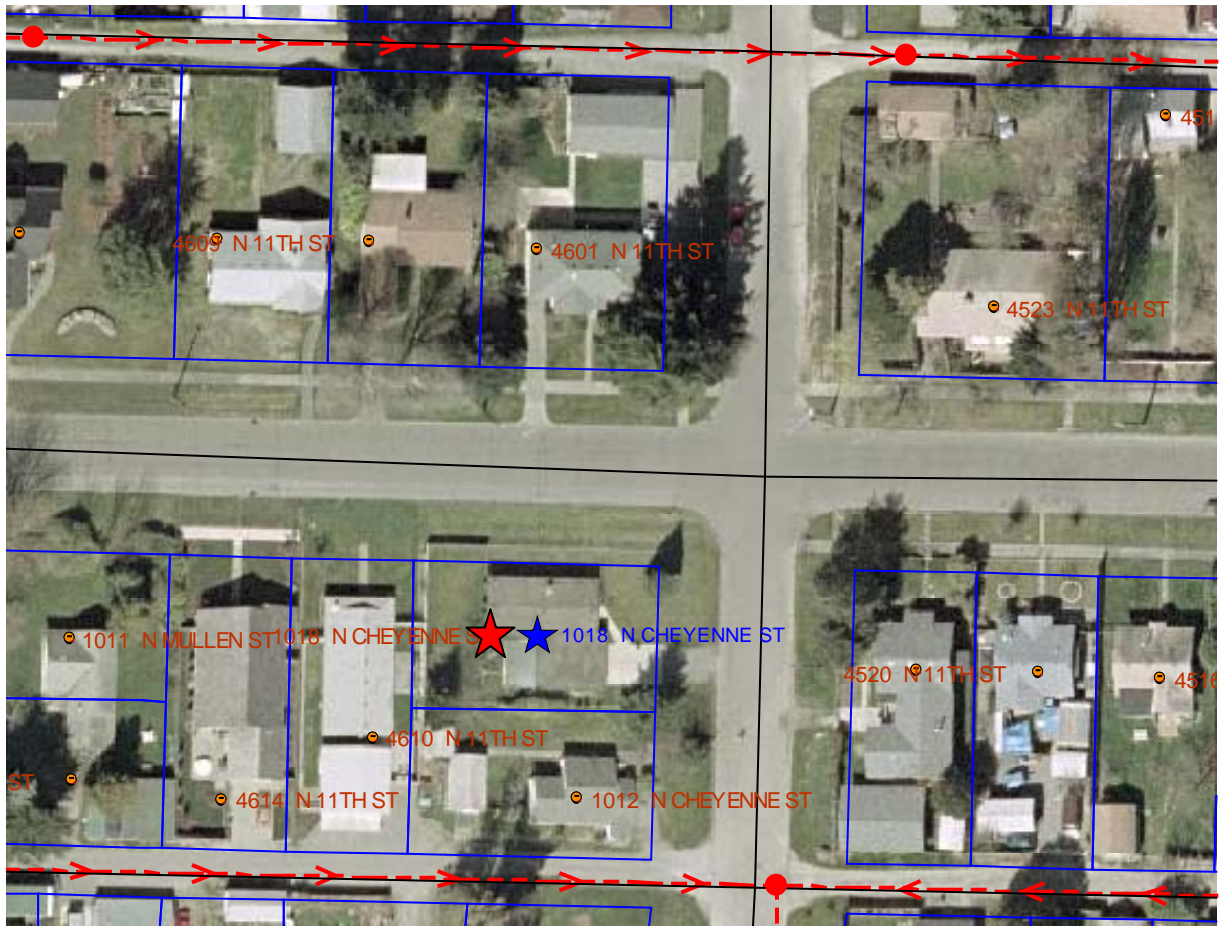
Address: 4543 - 41st St NE

Situation: A property owner is considering building a house on an undeveloped parcel and would like to know if sewer service is available.

Question #1: Does the parcel directly abut the public sewer within a right-of-way or public sewer easement?

Determination: Since sewer abuts this parcel in two locations, service is already available to this parcel. The property owner must determine whether a gravity side sewer is possible or whether a private pump system is necessary. If a private pump system is required, the property owner must submit a design for review prior to receiving a side sewer permit.

EXAMPLE #2



Address: 1018 N Cheyenne St

Situation: A property owner has an on-site septic system and would like to connect to the public sewer.

Question #1: Does the parcel directly abut the public sewer within a right-of-way or public sewer easement? No, sewer does not abut the parcel. Environmental Services must determine if sewer is available.

Question #2: Including the parcel in question, how many parcels in the region need sewer service? Since all other parcels are abutting the sewer, this is the only parcel that still needs sewer service. Therefore, the answer to this question is one.

Question #3: Does the parcel have access to the public sewer via the rights-of-way using a shoestring side sewer? Yes, the property has access via rights-of-way.

Determination: Because there is only one parcel in need of sewer, an extension would not be required and the parcel would be permitted to shoestring. The property owner must determine whether a gravity shoestring side sewer is possible or whether a private pump system is necessary. The property owner must submit a Shoestring Side Sewer Permit Exhibit for review prior to receiving a side sewer permit in accordance with Section 3.040.

EXAMPLE #3



Address: 4632 N Lexington Street

Situation: A property owner has an on-site septic system that requires ongoing maintenance and would like to hook up to sewer soon.

Question #1: Does the parcel directly abut the public sewer within a right-of-way or public sewer easement? No, sewer does not abut the parcel. Environmental Services must determine if sewer is available.

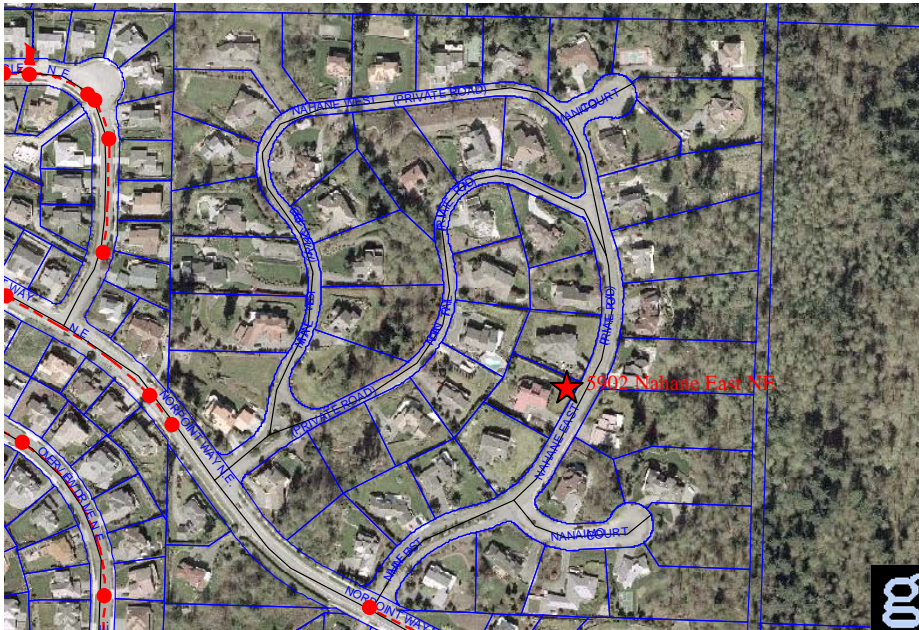
Question #2: Including the parcel in question, how many parcels in the region need sewer service? Since there is no sewer in Lexington Street, which is fully developed, there are more than four parcels that are in need of sewer service.

Question #3: Can the public sanitary sewer main be extended? Using the govME website to find ground elevations and the most current record drawing of the nearest sanitary sewer, evaluate whether a sewer can be extended that meets the current standards. Assume in this example extending a gravity main to this parcel is possible.

Determination: The public sewer must be extended to provide sewer service. A sewer extension is encouraged; however, repair to the on-site septic system would be allowed since sewer service is not currently available. Any repairs to the on-site septic system would need to be permitted through the Tacoma-Pierce County Health Department.

Once the public sanitary sewer main has been extended and is available for connection, the property owner must determine whether a gravity side sewer is possible or whether a private pump system is necessary. If a private pump system is required, the property owner must submit a design for review prior to receiving a side sewer permit.

EXAMPLE #4



Address: 5902 Nahane East NE

Situation: A property owner has a failed on-site septic system and either needs to connect to the public sanitary sewer or rebuild the drain field. Rebuilding the drain field will be very expensive so the property owner would like to know how to receive public sanitary sewer service.

Question #1: Does the parcel directly abut the public sewer within a right-of-way or public sewer easement? No, sewer does not abut the parcel. Environmental Services must determine if sewer is available.

Question #2: Including the parcel in question, how many parcels in the region need sewer service? Since there is no public sanitary sewer in the Nahane Development, there are significantly more than four parcels that are in need of sewer service.

Question #3: Can the public sanitary sewer main be extended? Using the govME website to find ground elevations and the most current record drawing of the nearest sanitary sewer, evaluate whether a sewer can be extended that meets the current standards. In this example, sewer cannot be extended to serve this development, since they are at a significantly lower elevation than the sewer in Norpoint Way.

Question #4: What is the ideal method to provide sewer to the region? Since gravity sewers cannot serve this site, alternative solutions must be explored to determine how to serve all these parcels with sewer.

Determination: Meet with Environmental Services to discuss options for obtaining public sanitary sewer service for this region. In this particular situation, methods for providing sewer service to the region may consist of constructing a regional public pump station or other alternative sewer system. Until the region is served with a sewer system, the property owner may repair the drain field. Any repairs to the on-site septic system would need to be permitted through the Tacoma-Pierce County Health Department.

Appendix B

Troubleshooting Common Sewer Problems

Trouble-Shooting your

Sewer Problem

Helpful Hints from City of Tacoma Wastewater Management

The City of Tacoma maintains more than 700 miles of sewer lines. Wastewater crews are available 24 hours a day to respond to problems with City lines and service. However, most of the problems homeowners face are found in the sewer line that connects their house to the City's main line. This private line — commonly called a "side sewer" or a "lateral sewer" — is the homeowner's area of responsibility.

This fact sheet is intended to help you discover where the problem with your sewer service is and how to get it fixed as soon as possible. It is the City's mission to provide customers with an efficient, cost-effective, and professionally maintained wastewater and surface water collection system.

Call the CITY if...

Call the City *immediately* if sewage is coming up inside your home when you are not using water. Wastewater crews will check the City sewer system serving your area and will send a maintenance crew if needed. The crew will notify you of the results as soon as possible. Wastewater maintenance crews are responsible for maintaining the City's main sewer lines and the connection to customers' side sewers, but not the side sewers themselves.

Call a PRIVATE service provider if...

Call a private service provider if you have slow drainage or you suspect a blockage. The problem is likely in your side sewer line. However, if the worker is unable to unblock the line and you are still having problems with your sewer system, call the City *before* you incur any more expense.



Tree roots are a common cause of clogged side-sewer lines. Roots can easily penetrate pipes made of porous concrete such as this one, which is more than 25 years old. Modern side-sewer lines are made of heavy duty, water-tight plastic and therefore last much longer.

Which private service provider should I call?

Companies offer a full range of services including unblocking, repairing and replacing lines or pipe, but some specialize only in certain areas. Make sure to ask which services they provide. You can check with the Better Business Bureau (206-431-2222, or betterbusinessbureau.org) to find reputable companies, and you might also want to ask friends and relatives for recommendations. Since companies offer a wide range of prices, it's a good idea to get at least three written estimates before choosing a company.

- **Rooter Services:** Drain cleaners or "rooters" unclog plumbing and private side sewers using water pressure or mechanical "snakes." Make sure the rooter service's snake cable is long enough to reach from your side sewer to the City's main sewer line (typically located underneath the street or alley). Rooter companies may also repair and/or replace side sewers.
- **Side Sewer Contractors:** Side sewer contractors repair and/or replace structural problems such as breaks or holes in side sewers. Some contractors may also unclog lines.
- **Plumbers:** Plumbers repair leaky or broken fixtures and they install systems in new construction and remodeling. If only some of your fixtures are not draining, or if your pipes are leaking, a plumber may be able to remedy the problem.

What questions should I ask the service provider?

We recommend having all questions answered in *legible* writing at the time of service with the provider's signature and date.

- **Where is the blockage?** If you have your line rootered, have the service provider write down the specific footage where the blockage was found, or where he or she thinks it is. Also have the provider mark the

continued on back



Side-sewer contractors are licensed and bonded to work in the City right-of-way as well as on your side-sewer line. Replacing your damaged concrete side sewer with a modern plastic version is easy with the City of Tacoma Sewer Conservation Loan Program for qualified applicants. Call 253-591-5588 for more information.

spot on the ground. This information is helpful to determine if the problem is within the City's area of responsibility (see drawing). It can also be helpful if the pipe must be dug up to be repaired.

- **What is causing the problem?** Have the service provider write down what the probable cause of the blockage is. Identifying the type of blockage is helpful in determining what method should be used to open it, and in determining if regular maintenance of your side sewer is needed to prevent further back ups.

- **Should I have a service provider use a TV camera to see blockages in my line?**

Generally, this is *not* an effective method of determining what is blocking a line. TV cameras usually cannot see under water, so if a line is blocked and not draining, it won't be able to see inside your pipes. Camera inspections are most useful *after* the blockage has been cleared to determine the current

condition of your pipes and where future problems might turn up.

Can I do it myself?

Unclogging a line: A variety of tools and products can be found at your local home improvement store. Portable roter machines are available at many rental companies. You'll need to measure the distance between your side sewer and the City's main line in order to determine what size machine to rent.

Repairing or replacing a broken or leaky side sewer line: You may work on your own private sewer

system, but the City requires you to get a permit so wastewater maintenance crews can keep track of work that may affect the City's main line. Permits start at \$125 and are available at the City of Tacoma Building and Land Use Department, 747 Market St., Room 345, during business hours, M-F, 8 am to 5 pm. Call 253-591-5030 for more information.

How do I know where my side sewer is and where it hooks into the City's main line?

Check your house plans for side sewer locations or call the previous owner. You may also try accessing the permit records kept by the City of Tacoma Building and Land Use Department, 253-591-5030. Unfortunately, the City has very little information on homes built before 1950. Also, if previous work on your side sewer was done without a permit, the City will not have record of it.

What if the problem lies in my private side sewer line within the City right-of-way?

All activity in the City right-of-way *must* be done by a contractor who is licensed and bonded to work in the City of Tacoma. Check in the phone book under "Sewer Contractors."

Low-interest loans available

The City offers low-interest loans to *qualified* businesses and homeowners for side sewer repair and replacement. Call 253-591-5588 for more information.



Contact information:

City of Tacoma
Public Works Department
Environmental Services/Wastewater Management
Business Hours: 7:30 am to 4 pm
253-591-5585 (Phone service available 24 hours)

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Glossary

The glossary provides definitions for the terms and acronyms found in this manual.

Annexation	The formal process of incorporating areas of Pierce County into the City of Tacoma by expanding the city boundaries. Parcels must be contiguous to the existing City of Tacoma boundaries to be annexed into the City of Tacoma.
Availability	See Sewer Availability.
Billable Work Order Process	The process used by the City to review and inspect privately designed plans for the construction of changes or additions to City-owned infrastructure, such as sewers, streets, etc. These changes or additions to infrastructure are designed and constructed by the project proponent in accordance with City standards, then dedicated to the City for ownership and maintenance upon completion of construction. The Billable Work Order Process is managed by the Construction Division.
Building Drain	The lower horizontal pipe inside the building to a point 2 feet outside the foundation of the building.
Building Sewer	The portion of pipe between the building drain and the public sanitary sewer main. Building Sewer, which is used in the Uniform Plumbing Code, has the same meaning and is another term used for “Side Sewer.”
CEDD	Community and Economic Development Department
Capital Improvement Program (CIP)	This program allows the City to design and contract for the construction of sanitary sewer mains. These projects are paid for with sewer utility funds. As property owners connect their buildings to the new mains, they must pay a sewer assessment fee, also known as a ‘connection charge-in-lieu-of-assessment’, if it has not already been paid, to replenish the funds used to pay for construction of the sewer. (See TMC12.08.350.B).
CIPP	See Cured-In-Place Pipe.
Cleanout (Side Sewer Cleanout)	A side sewer cleanout is a vertical portion of side sewer pipe that tees or wyes off from the side sewer and stops at the surface with a cleanout lid. It provides an access point for maintenance and inspection of the side sewer. The location and number of cleanouts required for a side sewer are specified in Section 3.020E.
Commercial Developments	All developments other than single family residences and duplexes are considered commercial developments for the purposes of determining sewer availability. Commercial developments include triplexes, townhomes, apartments,

	industrial and commercial businesses, offices, restaurants, public buildings, etc.
Connection charge-in-lieu-of-assessment	Parcels not participating in the cost of extending the sanitary sewer system through either an LID or work order are required prior to a permit being issued to pay to the City a Connection charge-in-lieu-of-assessment.
Cured-In-Place Pipe (CIPP)	A trenchless technology method for rehabilitating sewers. This method consists of installing a felt liner impregnated with resin into an existing pipe (host pipe). Pressure is then placed inside the liner expanding it to form a new pipe within the existing host pipe. Heat or Ultra Violet (UV) light is applied to the inside of the liner, which cures the resin and felt or fiberglass liner into a strong solid pipe within the existing host pipe.
Direct Customer	A customer whose parcel is located outside City of Tacoma limits in another jurisdiction, connected to City of Tacoma public sewer, and is billed directly from the City of Tacoma for sanitary sewer service.
Dye Test	A test performed by City crews to confirm connections to public sewers. The test consists of placing a small amount of non-toxic dye into a plumbing fixture or side sewer cleanout upstream and tracing the dye downstream by looking into side sewer cleanouts and manholes to determine where connections exist.
Easement (Sanitary)	A dedicated tract of land to allow for the construction, operation, and maintenance of a sewer line within private property. Easements are recorded against the title of a parcel with the Pierce County Assessor's Office. Typically, no permanent structures are permitted within an easement area to provide access for operations and maintenance. Public easements allow for a public sewer to be located within a parcel, whereas private easements allow for a private side sewer to be located within a parcel.
Franchise Agreement	An agreement between the City of Tacoma and another jurisdiction that allows the City of Tacoma to extend its sewers into the other jurisdiction. The sewers are usually within easements and are owned, operated, and maintained by the City of Tacoma. Parcels served under a franchise agreement are usually direct customers of the City of Tacoma.
govME	Government Made Easy – a City website found at http://govME.cityoftacoma.org
Growth Management Act (GMA)	An act of legislature passed in 1990, the GMA requires state and local governments to manage Washington's growth by identifying and protecting critical areas and natural resource lands, designating urban growth areas, preparing

	comprehensive plans and implementing them through capital investments and development regulations.
HDPE	High-density polyethylene pipe
Holding Tank	See On-Site Sewage Holding Tank.
Incorporated Property	A parcel located within the boundaries of a city or town.
Interlocal Agreement	An agreement between the City of Tacoma and another jurisdiction that allows the other jurisdiction to discharge sewage into the City of Tacoma sewer system that is generated and collected in the other jurisdiction. Parcels served under an Interlocal Agreement are usually billed by the jurisdiction they are located within, and in turn, that jurisdiction pays the City of Tacoma a user fee based upon City of Tacoma rates, as per the agreement. In addition, the other jurisdiction has generally purchased capacity for treatment in the City of Tacoma sewer system.
Latecomers Agreement	Applicants may apply for Utility Reimbursement Agreements for the construction of wastewater and surface water improvements from parcels not participating in the cost of extension of the infrastructure. If approved by the Public Works Director, parcels connecting to the new infrastructure within 15-years would reimburse the owners who originally bore the expense.
Local Improvement District (LID)	Special purpose financing tool providing a means whereby property owners can make capital improvements benefiting their neighborhood and distribute the cost equitably among all owners and allow financing the costs over a number of years. Tacoma's LID programs consist primarily of paving streets and alleys, new sidewalks, new sewer mains, construction and replacement of water mains, new street lighting, new primary electrical service and the conversion of overhead utilities to underground although not limited to those types of improvements.
On-Site Septic System	An on-site septic system is a small-scale wastewater treatment system owned and maintained by the property owner. On-site septic systems typically consist of a septic tank and a drain field, but may have more complex components depending on the soil characteristics where the system is located. On-site septic systems located within the City of Tacoma are regulated by the Tacoma-Pierce County Health Department.
On-Site Sewage Holding Tank	A holding tank is an on-site sanitary wastewater storage tank connected to the plumbing system of a building not connected to a public sewer or a septic drain field. Holding tanks must be regularly pumped out and wastewater disposed of in an appropriate manner.

Pipe Bursting	A semi-trenchless technology method for replacing sewers. In this process, a pipe bursting tool is dragged through an existing pipe which crushes and expands the existing pipe into the surrounding soil. A High Density Polyethylene Pipe (HDPE) is attached to the rear of the bursting tool and is dragged into the void created by the bursting tool. This process requires a small amount of excavation at each end of the pipe replacement to create an insertion pit and a retrieval pit for the bursting tool.
Private Side Sewer Easement Agreement	An agreement between two property owners allowing for a side sewer serving one parcel to cross another parcel to reach the public sewer. The agreement describes the easement area where the side sewer is located and identifies who is responsible for construction and maintenance of the side sewer. This document is recorded to all affected properties by the affected property owners with the Pierce County Assessor's Office.
Private Sewage Pump System	A private sewage pump system serves an individual customer that cannot be served with a gravity side sewer due to grade issues or other obstructions. Private pump systems are owned and operated by the property owner and are located on private property.
Public Pump Station	Regional public pump stations are City-owned and operated pump stations that serve multiple customers within a region that cannot be served by gravity sewer mains alone. Public pump stations are generally located within City rights-of-way or easements near the lowest elevation of the region.
Public Sewer (Main)	The portion of the wastewater collection system owned and maintained by the City of Tacoma and to which private side sewers are connected. Tees and wyes are considered part of the public system. Some mains were originally constructed with bends at the tee or wye and a vertical riser pipe was used to bring the connection point up to a reasonable depth. These bends and vertical riser pipes are also considered part of the public sanitary sewer main. See Figure 5-1.
Rehabilitation (of side sewers)	Repairing a portion or the entire length of side sewer line using trenchless technology rather than digging up and replacing the line.
Residential Developments	For the purposes of determining sewer availability, only single family residences and duplexes are considered residential developments.
Septic System	See On-Site Septic System.
Sewer Availability	Sewer availability is the term used to define whether a parcel may or may not connect to the public sewer in accordance with

the flowcharts in Chapter 2.

SFR	Single-family residence
Shoestring Side Sewer	A side sewer connecting to a public sanitary sewer main that is not directly abutting the parcel it serves. Shoestring side sewers typically travel through a private easement or along the right-of-way to reach the public sanitary sewer main.
Side Sewer	The portion of pipe between the building drain and the public sanitary sewer main. Side sewers are considered private systems. Property owners are responsible for construction, maintenance and rehabilitation of side sewers. Side sewer has the same meaning and is another term used for “Building Sewer,” which is used in the Uniform Plumbing Code.
Smoke Test	A test performed by City crews to confirm connections to public sewers. A smoke test consists of forcing a non-toxic smoke produced from heated mineral oil into an open manhole using a smoke blower. The smoke will travel through the public sewers into side sewers and exit through building plumbing vents.
Television Video Inspection	This inspection method consists of inserting a small closed circuit television camera into a sewer pipe to view and record the visual condition of the sewer pipe. This inspection is sometimes used prior to construction to determine potential rehabilitation methods or verify side sewer connections and is sometimes used after construction is complete to ensure the pipe construction or rehabilitation was successfully completed.
TPCHD	Tacoma-Pierce County Health Department
Trenchless Technology	Methods for rehabilitating or replacing existing side sewers that do not require digging up the existing pipe. Cured-In-Place Pipe (CIPP) and pipe bursting are two common examples of trenchless technology.
Unincorporated Property	A parcel located outside the boundaries of a city or town (i.e., in the county).
Urban Growth Area (UGA)	An area in which a city expects to grow. The Growth Management Act requires cities to prepare maps showing their expected UGA and provide a comprehensive plan on how that area will be developed.