



OREGON CITY PUBLIC WORKS

POLICIES & PROCEDURES

City References : City Code Chapter 13.08, Oregon City Sanitary Sewer Design Standards

Subject: Inflow and Infiltration Reduction in Private Laterals and Downspouts - DRAFT

Effective Date: xx/xx/2020

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Approved: TBD

PURPOSE:

As part of the City of Oregon City's (City) 2014 Sanitary Sewer Master Plan, the City has identified sewer basins that are significant contributors of inflow and infiltration (I/I). I/I increases flow in pipes and by doing so will consume the system's capacity and affect its ability to convey sewage to the treatment facility. In an effort to mitigate the effects of I/I, the City is performing projects to repair and rehabilitate sewer infrastructure in neighborhoods that contribute the most I/I to the sewer system.

Studies have shown that a considerable portion of I/I is introduced into the system from private service laterals or illicit stormwater connections on private property. To address this, the City is implementing a pilot program to identify and address sources of I/I on private property by rehabilitating private service laterals and disconnecting private stormwater connections.

APPLICABILITY:

For sewer basins that have exhibited the greatest amount of I/I, the City will be performing rehabilitation on its public sanitary sewer system. The City is implementing a program to reduce I/I sources on private property in conjunction with the public improvements. Private improvements include the rehabilitation of defective private service laterals and the disconnection of stormwater systems that exist with the private laterals. This program provides benefits to the public which include reducing excessive flows resulting from I/I, applying a standard approach to rehabilitating private laterals, ensuring that industry standards for construction are adhered to, and reducing the cost of repairs to private property owners.

The pilot program will involve infrastructure in the McLoughlin and Rivercrest Neighborhoods. If the pilot program is shown to be successful, this policy will be used to continue implementation of the reduction of I/I throughout the City as resources and funds become available.

DEFINITIONS:

Inflow and Infiltration (I/I): I/I refers to water entering the public sanitary sewer system by either *infiltration* of groundwater through pipe defects or direct *inflow* of stormwater runoff through illicit connections to the public sanitary sewer system.

Public Sanitary Sewer System: Collection system public sewer mains, laterals generally located within the right-of-way, and manholes conveying domestic wastewater to treatment facilities. These are owned and operated by public agencies and generally located within the public right-of-way.

Service Lateral: A small diameter sewer pipe extending from a building to a collective sewer main in order to convey sewage from the building to the sanitary sewer collection system.

Private Service Lateral: The portion of the service lateral that is located generally on private property and also includes the segment of pipe between the private property line and the edge of pavement or back of curb.

Sewer Basin: A portion of the public sanitary sewer collection system which shares a drainage area and flows into a common outlet or downstream sewer main.

Rehabilitation: To repair or replace defective sewer infrastructure in order to bring it to a fully structural and operational working condition.

POLICY:

This Policy has two components to address private sanitary sewer service laterals and downspout disconnections as described below.

Private Sanitary Sewer Service LateralsInitial Inspections:

The City or its agent will perform visual inspection via closed caption television (CCTV) of the private sanitary service lateral from the main line to as far as reasonably possible but not beyond the building foundation. The laterals will be accessed from the public sewer mainline using a main line/lateral launch camera. Inspections using this method do not require persons to access the property, and equipment access can be obtained via notification letter. The City shall bear the cost of the CCTV inspection.

If the private service lateral is found by the City to be not defective:

If, upon analysis of the visual inspection by the City or its consultant, the private sanitary service lateral is found to be in acceptable condition (appropriate material, no defects, no illicit

connections) as determined by the City, no further work will be required. A courtesy letter will be sent to the property owner notifying them of the inspection and stating that no defects were found.

If the private service lateral is found by the City to be defective:

If, upon analysis of the visual inspection by the City or its consultant, the private sanitary service lateral is found to be defective, the City will notify property owners of defects in their laterals and the determination that the lateral must be rehabilitated. The City will offer to rehabilitate the lateral for a fixed cost as listed in the Engineering Fee Schedule as part of a pilot project to address I/I. Following this notification, the property owner will be given **30 days** to opt in or out of participation in the pilot program.

Criteria to Determine if a Lateral is Defective:

- If the pipe material of the lateral is not PVC or ductile iron
- If the pipe has any separation in pipe joints
- If the pipe has any cracks whereby groundwater is infiltrating or root intrusion of soil or plants exist

Methods for Rehabilitation of Defective Lateral – Determination about how sewer laterals will be rehabilitated or replaced is generally determined as a part of the design and further confirmed during construction. Often the work method is determined based on the condition of the lateral and the available construction methods available to the contractor. Bid documents typically allow for flexibility on how private laterals can be replaced or rehabilitated. The typical methods for rehabilitation of defective laterals includes:

- CIPP Lining – Generally to be used when pipe material has less than 50% cracks with no joint separation or holes in the pipe
- Trenchless Pipe Bursting using HDPE Pipe – Generally to be used when pipe material has 50% or more cracks or contains joint separation or holes in the pipe
- Boring/Drilling using PVC Pipe – Generally to be used when no obstructions exist within the drilling area
- Open Cut Replacement with PVC Pipe – Generally to be used when all other methods are not possible

If the property owner **OPTS IN** to the pilot project:

If a property owner agrees to participate in the City's pilot project, the private sewer lateral will be repaired by the City for a fixed fee as listed in the Engineering Fee Schedule charged to the property owner, and the property owner agrees to the following terms:

- The property owner authorizes the City to perform the necessary sanitary service lateral rehabilitation efforts as determined by the City or its consultant from the CCTV inspection. Sanitary service lateral repair and rehabilitation efforts include, but are not

limited to, pipe lining, trenchless pipe bursting, open cut trench construction, boring/drilling, and cleanout installation where required.

- The property owner will be charged a fee as defined in the Engineering Fee Schedule. The property owner may pay this fee in full upon completion of the work. Otherwise, the fee shall be paid under the terms of an installment agreement, along with an administrative fee for the cost to the City of administering the installment agreement over a period of time yet to be established. The City shall provide financial assistance to those who qualify for reduced rates, as predetermined by the City's reduced rate payer database used for Utility Billing.
- The City will provide two separate notifications to the property owner prior to construction:
 - An initial notice of construction will be provided at least 90 days in advance of the projected construction window notifying homeowners of the anticipated construction impacts and identify any landscaping, or irrigation that will need to be removed by the property owner prior to construction.
 - A second notice will be provided with a minimum of 48 hours and a maximum of 72 hours prior to any construction work being performed on the property.
- The property owner shall remove, replant, or replace any plants within the construction area that the property owner wants to preserve. Any landscaping remaining in the construction area at the time of construction may be removed to implement the repair of the sanitary service lateral. The City shall be held harmless for any landscaping remaining in the construction area after construction starts.
- The City will restore the property to pre-construction conditions, but only to the following extents:
 - The City will replace or repair any fences, concrete walkways, steps, or structural and decorative features damaged by the City or its contractors. The area of repair or replacement shall be limited to the area of damage and may differ in appearance due to weathering or aging.
 - The City will grade the property to preconstruction conditions and re-seed and re-bark dust or mulch, as needed.
- The City will obtain all permits as required.
- After the post-construction contractor warranty period of one year, the property owner shall assume responsibility for maintaining the portion of the private sanitary service lateral. Outside of this warranty, the City assumes no liability for the portion of the private sanitary service lateral.
- The property owner will be required to provide the following PRIOR to any work beginning on the property when they OPT IN:
 - Signed Right of Entry Document
 - Signed Liability Waiver (allowing City or its agent to be on their property)
 - Fee Agreement choosing pay in full or execute an installment agreement

If the property owner **OPTS OUT** of the pilot project:

If a property owner refuses to participate in the City's pilot project, the City shall provide the initial CCTV inspection video to the property owner and the property owner must agree to complete the following terms within **180 days** after the opt-in period ends:

- The property owner shall be responsible for arranging the repair of the sanitary service lateral in compliance with the City's code and Public Works Sanitary Sewer Design Standards.
- Upon completion of the required repairs, the property owner shall submit post-construction CCTV footage of the repaired lateral to the City for final approval of the repairs performed on the private sanitary service lateral.
- The property owner is responsible for obtaining and paying for all required permits necessary to perform the inspection and repairs to the private sanitary service lateral.
- The property owner is responsible for all costs associated with inspection and repair of the private sanitary service lateral.
- The City is not responsible for any costs that arise from performing work on the private sanitary service lateral.
- The City is not responsible or liable for any work performed on the private sanitary service lateral.
- If the required improvements as outlined above are not completed within 180 days, the property owner may be subject to code enforcement.

Downspout Disconnections

Discharge of stormwater to the public sanitary sewer system is prohibited per the City Code and City of Oregon City Public Works Sanitary Sewer Design Standards. Per City Code and City standards, it is unlawful for any person to permit to be drained, any oils, greases, chemicals, storm water, surface water, ground water, roof runoff, subsurface drainage, liquids and substances which might be detrimental to the sewage treatment plant, into any sewer, drain, or pipe leading to the plant from any premises in the city.

For this reason, the City is requiring all private roof drains that are connected to sanitary sewer laterals to be disconnected. The City completes smoke testing to determine which properties are illegally connected to the sanitary sewer. The City will notify property owners who need to disconnect their property's stormwater connections from the public sanitary sewer, after which the property owners have **180 days** to comply.

The City recognizes that for some of our earliest structures existing when the City had a combined sewer/stormwater collection system, options to disconnect downspouts may be complicated by existing plumbing or lack of down gradients or appropriate infrastructure for the existing downspouts to redirect within reasonable measures. In these cases, the City will notify the property owner, utilizing our design standards to seek out options and make a determination of the feasibility for a disconnection solution. In these cases, the determination

may be to allow the connection to remain, add it to a future capital program where the public infrastructure is made more readily available for private use, or force the property owner using the following steps to correct the illegal cross connection utilizing the existing gradient and available infrastructure.

Upon being notified, the property owner shall be responsible for:

- Arranging and paying for the disconnection of the property's stormwater from the public sanitary sewer.
- Arranging and paying for the rerouting of stormwater by installing a splash guard, routing stormwater to the street, or routing stormwater to the nearest stormwater conveyance system.
- Ensuring all performed work meets requirements as stated in the Oregon City Stormwater and Grading Design Standards.
- Obtaining and paying for all permits necessary for work to be performed.
- Ensuring downspout discharges do not enter the City's sanitary sewer system.

The City shall:

- Assume no liability for work performed related to private stormwater disconnections.
- Assume no liability for water pooling in yard, yard saturation, or standing water in crawlspace and/or basement as a result of private stormwater disconnections.
- Assume no responsibility for any costs incurred to meet disconnection requirements.
- Provide disconnection details and examples at no cost to the property owner.
- Inspect and confirm disconnections.
- In instances where the City recognizes that earliest structures existing when the City had a combined sewer/stormwater collection system, and options to disconnect downspouts may be complicated by existing plumbing or lack of down gradients or appropriate infrastructure for the existing downspouts to redirect within reasonable measures, provide technical assistance and determine feasibility of solutions.

After **180 days** of being first notified by the City, property owners who fail to disconnect their property's stormwater from the public sanitary sewer system may be subject to code enforcement.