



## Low Pressure Sewer System Policy

### 1 PURPOSE

The City of Warrenton Commission has developed this policy statement to provide a clear guide as to where and how low pressure sewers can be used in the City of Warrenton.

### 2 SCOPE

The City of Warrenton Commission has a clear preference for its sewers to be conventional gravity systems but it also recognizes that this is not always possible and therefore will permit the limited use of Low Pressure Sewer Systems within the City, where conventional gravity sewers are not environmentally or physically feasible.

### 3 DEFINITIONS

**Boundary Kit:** Valve at the property boundary incorporating an isolation valve, check valve and inspection tee piece, which allows the property to be isolated from the low pressure sewer main in the right-of-way.

**City:** City of Warrenton

**Commission:** City of Warrenton Commission

**Control Panel:** The box incorporating the electrical controls, high level alarms, switches for pumps, and telemetry.

**Emergency Storage:** The capacity in the storage vessel above the high level alarm point.

**Equivalent Dwelling Unit (EDU):** An Equivalent Dwelling Unit (EDU) is the basic unit of measure used to quantify the demand or loading on water supply or sewer services respectively. One EDU represents the equivalent demand or loading from a single-family residence.

**Low Pressure Sewer Lateral:** Line from the sewer main to the property boundary kit.

**Preferred Service Provider:** Service providers who are known to provide service in the City, to a low pressure system through a maintenance contract.

**Private delivery line:** Pipeline connecting the property boundary kit to pump unit.

**Pump Unit:** Comprises of grinder pump, storage vessel, control panel, pressure switches, and ancillary equipment.

**Sanitary Sewer Overflow (SSO):** A condition in which untreated (raw) sewage is discharged from a sanitary sewer into the environment prior to reaching a treatment facility.

**Standard connection:** Single dwelling equivalent to 1 EDU.

#### **4 POLICY STATEMENT**

The purpose of this policy is to define where and when low pressure sewer systems will be allowed within the City boundary, whose is responsible the installation and maintenance and what systems will be permissible.

#### **5 ROLES AND RESPONSIBILITIES**

The Public Works Director or their designee (authorized representative) will be responsible for approving all new low pressure sewer installations.

The Public Works Director or their designee (authorized representative) will be responsible for investigating if a land owner/tenant has inadvertently, through introducing banned substances (as set out in the home owner's manual) or willfully, damaged a low pressure system, including downstream systems. They will also determine whether the land owner/tenant will be billed for the repairs to the unit and the relevant cost.

## 6 POLICY DETAIL

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## **6.2 Low Pressure Sewer Systems**

### **6.2.1 WHAT IS A LOW PRESSURE SEWER SYSTEM**

A low pressure sewer system is broadly defined as a system where macerated sewer is conveyed under pressure generated by a pump unit located on each property to a low pressure sewer main.

A low pressure sewer system as covered in this Policy is defined as comprising of:

- a) A pumping unit containing a grinder pump, specifically designed for low pressure sewer applications, installed on each property to drain sewer from an individual property. These pumping units will only be those that have been approved by the City of Warrenton Public Works Department for that purpose;
- b) An alarm system built within the overall pumping unit to warn residents, who in turn will be required to contact the Preferred Service Provider either during work hours or after hours, that the pump is no longer working and to allow maintenance to occur within an acceptable timeframe;
- c) Connections of these pumping units to City of Warrenton's public low pressure sewer main, via a specially designed Boundary Kit;
- d) A public sewer system specifically designed for low pressure sewer applications, and capable of supporting a number of individual pumping units to transport the sewer to the system discharge point.

### **6.2.2 WHERE CAN LOW PRESSURE SEWER SYSTEMS BE USED**

Use of low pressure sewer systems will only occur where designated by the Public Works Department.

Low pressure sewer system will only be considered where thorough studies of all alternatives clearly indicate a gravity collection and disposal system with (or without) a central sewage pump station is not practical. No pressure sewer laterals will be ran parallel to and inside the right-of-way. Pressure sewer laterals must be connected to public pressure sewer main.

### **6.2.3 LIMITED LOW PRESSURE SEWER PUMP TECHNOLOGIES**

Public Works Department will advise the type of low pressure sewer system to be used in the City. After evaluation of proven reliable systems, one system will be established in the City Engineering Specifications and Design Standards.

### **6.2.4 SUPPORTING DOCUMENTATION**

Public Works Department will, in support of this Policy Statement, prepare the following supporting documentation:

- a) City Engineering Specifications and Design Criteria to regulate the nature of all low pressure sewer pumping units purchased and detail the manner in which they are to be installed and maintained.
- b) A Home Owner's Manual to inform the resident what is expected of them and what

they can and cannot do in relation to the low pressure sewer system on their property. It will also contain instructions on what to do if their system should fail.

c) A preferred service provider list with known service providers that have proven they provide a standard level of service within the City.

## **6.3 General Responsibilities**

### **6.3.1 OWNERSHIP OF THE RESIDENTIAL PUMPING UNITS**

The basic configuration for approved pressure applications will be a separate single pumping unit provided for each separate property and this will be based on a uniform sized tank. The ownership of the pumping unit, in this standard configuration, will reside with the property owner and includes the following:

- a) Pump;
- b) Storage vessel;
- c) Control panel and ancillary fittings;
- d) Private delivery lines;
- e) Boundary Kit.

The hydraulic termination point for City ownership of the low pressure sewer system will be the first valve on the ROW side of property boundary. The point for electrical termination will be the connection to the dwelling's circuit panel where a separate circuit is to be used.

The City requires an access easement over any part of the "on- property" installation of the low pressure sewer system, to inspect safe ongoing operation of the system, the minimization of any health concerns, or the protection of any City property. This access easement will allow the city to provide emergency service in the event of an imminent or active SSO – fees will apply.

For non-standard connection (larger than 1 EDU), i.e. commercial connection, see section 6.4.2.

### **6.3.2 MAINTENANCE OF THE RESIDENTIAL PUMPING UNIT**

Property owners with low pressure sewer systems will be responsible for the costs associated with repair and maintenance of the pumping unit and the items called out in section 6.3.1. When the resident is not also the property owner, the responsibility nonetheless falls to the property owner.

It will be a condition of being connected to the City's sewer system that the property owner enters into a service agreement with a preferred service provider. This agreement will define what is expected of both parties in the operation and maintenance of the low pressure sewer system.

### 6.3.3 POWER FOR THE PUMPING UNIT

The pumping unit's power connection will not be metered separately, and the residents will be responsible for the power costs for the low pressure sewer pumping unit. The pumping unit will be installed on a separate electrical circuit breaker.

### 6.3.4 DISCOVERING THE PROPERTY HAS A LOW PRESSURE SEWER SYSTEM

The property will be marked, by deed or other legal document, to indicate that the property is served by a low pressure sewer system. This is specifically required to allow a prospective land purchaser to discover prior to their purchase that the property is serviced by a low pressure sewer unit.

In addition to this notification, an access easement reinforcing the City's right of access to the property to inspect the unit will also be required.

## **6.4 Installing Low Pressure Sewers – General**

### 6.4.1 DESIGN SERVICES

The design of low pressure sewer system shall be completed by a registered professional engineer, or other qualified and duly authorized representative of the applicant, with verification that the drawings, plans and specifications submitted with the application comply with applicable technical codes, rules and regulations and the City Engineering Specifications and Design Criteria. All improvements require review and approval by the Public Works Department before build out. The low pressure sewer system must be reviewed and approved by the Oregon Department of Environmental Quality (ODEQ)

For new systems or developments, design shall be checked by the City's nominated supplier of Low Pressure Sewer System pump units.

### 6.4.2 NUMBER OF PUMP UNITS PER PROPERTY/NON STANDARD CONNECTION

Developments for commercial or industrial properties or residential properties which are greater than 1 EDU are classified as NON-STANDARD connections.

Any internal sewer system within the property boundary of the non-standard connection will be the responsibility of the property owner and will require City approval. The sizing of the pumping units and the overall design of these non-residential systems needs to be carried out by an experienced designer, based upon the actual anticipated sewer output and the capacity of the receiving sewer system.

The ownership of these systems including design, installation, replacement and payment of all City charges and fees will be the responsibility of the owner.

## **6.5 Installation on the Property**

The units will be installed by an accredited installer of low pressure sewer system to ensure warranty.

The units are to be installed to the requirements of the electric and plumbing codes.

Where a pressure unit is to be installed, to service an existing dwelling the accredited installer will first undertake a full audit of the existing dwelling circuit breaker and sewer connections. The installer will then advise the property owner what needs to be done to upgrade these connections if necessary to allow a pumping unit to be installed. The property owner will be responsible for the costs associated with these upgrades.

## **6.6 Installation of the Sewer Mains**

Prior to construction of the sewer system, the design of low pressure sewer systems shall be undertaken by an appropriately qualified individual or company. The design plans shall be completed by a registered professional engineer and duly authorized representative of the applicant, with verification that the drawings, plans and specifications submitted with the application comply with applicable technical codes, rules and regulations.

Construction will then be in accordance with these design plans and will be from acceptable pipe materials, generally laid at the minimal depths as defined in the City's Engineering Specifications and Design Criteria.

The low pressure sewer lateral will be extended from the public sewer main to just inside of the property boundaries. A valve arrangement known as the Boundary Kit will be placed at this termination point, to allow the connection of the property at a later date. The valving arrangement within the boundary kit should allow for the isolation of the property.

## **6.7 Application of the Technology**

### **6.7.1 EXISTING ON-SITE SYSTEMS**

Owners of properties that have existing on site systems on the fringe of a sewer system area are NOT covered in this policy.

Any existing property that discharges into a sewer main through a private pumping arrangement (pump up) may continue to operate their private system. They remain the responsibility of the property owner and resident.

Existing Step Systems shall not be allowed to connect to the low pressure sewer system. When an existing step system needs replaced, the property owner must comply with the requirements of this policy by installing the approved low pressure sewer system pump unit.

### **6.7.2 NEW DEVELOPMENT – SINGLE LOT**

Where allowed by this policy, installation of a low pressure unit to service a new lot will be allowed. However the installation, running costs and maintenance will be the responsibility

of the land owner. The City will not accept the asset or carry out any repairs or maintenance.

Developers will be required to pay System Development Charges (SDCs), connection charges and any other applicable charge or fee prior to release of final plans the proposed development.

## **6.8 Operation and Maintenance of the Low Pressure Sewer System**

### **6.8.1 CITY RESPONSIBILITIES**

The City is responsible for the public sewer system. The City will only respond to emergency conditions, such as:

- a) Threats to human health and the environment.
- b) Sanitary Sewer Overflows (SSO) - these are required to be reported to ODEQ,

The City will also provide one Home Owner's Manual to the original developer – this manual will also be available online via the City's website.

### **6.8.2 RESIDENT RESPONSIBILITIES**

The Resident's primary role is to notify their contracted Preferred Service Provider if their system's alarm sounds or if the system overflows. If the system overflows, the City must be notified immediately. The resident is also required to:

- a) Avoid discharging into the pumping unit any of those substances identified in the Home Owner's Manual as inappropriate for low pressure sewers;
- b) Comply with the other requirements set out in the Home Owner's Manual;
- c) Not interfere with the electrical operation of the pumps in accordance with what is detailed in the Home Owner's Manual;
- d) Comply with the low pressure sewer permit and conditions;
- e) Properly maintain and operate the system.

### **6.8.3 PROPERTY OWNER RESPONSIBILITIES**

The property owner is responsible to ensure that the resident (if different from the property owner), understands that the property is serviced by a low pressure sewer system and that they have a copy of the Home Owner's Manual. Property owners will be required to sign a user agreement confirming that they have read and agree to the terms set out in this policy and the Home Owners Low Pressure Sewer Manual.

### **6.8.4 EMERGENCY ACCESS FOR CITY MAINTENANCE EMPLOYEES**

It will be a condition of being connected to the City low pressure sewer system that the property owner's consent will be given to allow the City or its agents to enter the property and inspect the pumping unit. The City will attempt to contact the homeowner prior to system inspections. The City may also respond in the event of an imminent or active SSO.



#### 6.8.5 IDENTIFICATION OF MAINTENANCE EMPLOYEES AND CONTRACTORS

Any City employee (or contractor) entering private property should have photographic identification and appropriate authorization to enter the property.

### 6.9 Modifications or Household Additions

Building over the low pressure sewers system will not be allowed. Any modifications to the approved system must be completed with approval and permits from City Planning, Building and Public Works Departments, subject to:

- a) The hydraulics on the property allow for the pumping unit to be moved;
- b) There being a suitable alternative route/s for the property delivery pipeline;
- c) The associated costs for the relocation works being paid by the property owner;
- d) All technical requirements, as set out in City's Engineering Specifications and Design Criteria, being met;
- e) Full details of the "as constructed" works being provided to the City;
- f) Any modifications being carried out by an accredited installer.

Residents wanting to relocate the pumping unit or property delivery line are required to contact the Public Works Department for advice on what will be required.

Residents interfering with delivery lines or pumping units without the City's approval may be subject to relevant fines. Residents will also be required to meet all costs arising from the loss of warranty on that pumping unit, and/or damage to that unit and/or, all other costs associated with such unauthorized work.

### 6.10 Change of Ownership

Properties in low pressure sewer areas will be required to enter into an agreement for maintenance of the "on property" pumping system and be specified on the property deed or other legal document. The annual permit is not transferable to new property owners.

### 6.11 Annual Permit

Property owners connected to a low pressure sewer system will be required to apply for and pay a fee for an annual permit through the Public Works Department. If the property owner is found to be in violation of the permit or without a permit, the water service to the property will be locked-off until such time as the violation has been addressed to the satisfaction of the City. The permit shall be renewed annually with a copy of the operations records (6.11.1) submitted at renewal. The annual permit is not transferable to new property owners.

#### 6.11.1 OPERATION RECORDS

Property owners will maintain records of the operation of the low pressure sewer system, and include them with the annual permit renewal. This requirement includes:

- a) All alarms on the system and the solution
- b) All sewer overflows and the response
- c) Any modifications to the system and the approval documentation
- d) All maintenance performed
- e) Verification of a service agreement
- f) Acknowledgment of review and compliance of Home Owner's Manual

#### 6.11.2 PROPERTY DIAGRAMS

Property owners must maintain a copy of all house service details for their records and provide copies to the City when requested.