



PUBLIC WORKS DEPARTMENT

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Storm Sewer Sanitary Sewer Diversion Valve Standards

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The objective is to discharge all soap, or chemically contaminated, water into the sanitary sewer for treatment, while preventing rain water from flooding the sanitary sewer. All discharges to the sanitary sewer are required to pass through a Sand/Oil Separator (per Salem Revised Code). If oily surfaces (under-hood or under-body) are washed, discharges to the stormwater sewer system are required to pass through a stormwater pretreatment system appropriate for the facility. This system requires the installation of valves or pumps, a collect point for wash waters, a basin/vault to house the equipment, automatic control system, and pipelines for transferring the liquids.

System order shall be:

1. A collection area with no area containing or holding of contaminated water
2. Diverter system & controls (see below)
3. Sanitary system with a separator as needed, and
4. Storm system with approved storm water pretreatment

DIVERSION METHODS

Gravity Valves:

A gravity valve is a mechanical system which opens a valve set at an elevation lower than the storm piping, causing the wash waters to simply drain to the sanitary sewer. When the valve is closed, the basin will fill and discharge to the storm sewer. A second valve, or system, is required to provide positive direction control and prevent sewage from backing up into the storm system. The multi-directional valve system has two valve openings at different times, never together. When the storm valve is open, the sanitary valve is closed and vice a versa.

Transfer Pumps:

The transfer pump system pumps the wash water to the sanitary sewer from an elevation lower than the storm sewer. When the pump is off, the basin will fill and discharge to the storm sewer. In accordance with plumbing code, the pump shall have a float control and a check valve to prevent sewage from entering the catch basin.

SYSTEM OPERATORS

System operations are required to be **automatic** to eliminate the potential of human error in operating the system, or remembering to open valves. A timed delay control is required for the purpose of operating the system until **ALL** contaminated flows have completely drained through the diversion.

Flow Activation:

A flow activated system has a motion, or flow detector, within the water supply used for washing. When it senses movement, or flow, it activates the diversion system.

System Activation:

A system activation timer can be installed to activate the diversion system and open a solenoid valve on the wash water supply, allowing washing. When the timer is off, no wash water is available and the diversion system discharges to the storm system.

Rainfall De-Activation:

The rainfall deactivating system uses the same technology found in the irrigation industry. When the sensor mounted outside the building senses rain, it turns off the diversion system. This system assumes that washing is not normally performed during a rain storm.