



**February 25, 2013**

## **Inflow and Infiltration of the City's Wastewater System**

The City of Coos Bay's wastewater treatment plants (WWTP), pump stations, and collection systems experience high in-flows during the winter months. This can be attributed to "holes" in the sewage collection and piping system that leads to inflow and infiltration (I/I). I/I are terms used to describe the ways that groundwater and stormwater enter into our sanitary sewer systems. When I/I occurs, it can potentially cause the local pump stations and WWTPs to exceed their limits of design and capacity.

The Oregon Department of Environmental Quality (DEQ) has mandated the City to take steps to reduce I/I that plagues our City's sanitary sewer collection system and overtaxes our pump stations and WWTPs. Therefore, in an effort to locate these holes and reduce the high seasonal inflows and to be in compliance with DEQ's mandates and permits, the City of Coos Bay completed a Citywide smoke testing project.

Smoke testing is an engineering/surveying tool used to locate, identify, and classify potential I/I sources in a wastewater collection system. Smoke testing involves pumping large volumes of smoke into the sanitary sewer system through an open manhole to identify escape points (holes) and/or locations in which I/I is occurring. A special non-toxic smoke was used in the smoke testing investigation. The smoke is manufactured for this, therefore, leaving no residuals or stains, and no effect on plants and animals. Escape points can be as simple as open cleanouts, a dry or unused "trap" in a home's plumbing, recreational vehicles hooked into the sewer system. Escapes can range from deficient sewer pipes, cross-connections to the storm drainage system, or downspouts on buildings connected to the sanitary sewer.

The majority of escape points were identified within the City owned portions of the sanitary sewer system. The City is actively working on several projects at this time to reduce I/I levels. Some of the escape points were identified within private laterals. City staff is kicking off a project that will entail working with the private property owner to remedy the deficiencies identified in the smoke testing within the portions of the sewer system that is privately owned. The City will waive permit fees if a City permit is required (however permits may be required through the State). The City is also investigating the possibility of purchasing supplies in bulk so savings can be passed onto private property owner.

The City is committed to complying with DEQ's regulations and improving our sanitary sewer system. The City will be contacting the private property owners individually, identifying the problem and working with them to reduce I/I to the sewer system. The overall goal is to assist in reduction of unnecessary sewer treatment costs and associated rate increases. For additional questions, please contact the Public Works Department at City Hall at 541-269-8918.

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