

## **SANITARY SEWER OVERFLOWS (SSOs)**

### **What is a Sanitary Sewer Overflow (SSO)?**

Sanitary sewer systems are meant to collect and transport all of the sewage that flows into them to a wastewater treatment facility (WWTF). However, occasional unintentional discharges of sewage from sanitary sewers occur in almost every system. These types of discharges are called SSOs. The U.S. Environmental Protection Agency (EPA) estimates that there are at least 40,000 SSOs each year. The untreated sewage from these overflows can threaten public health, cause serious water quality problems, and cause significant property damage when overflows are into buildings.

### **Why Do Sewers Overflow?**

SSOs occasionally occur in almost every sewer system, even though systems are intended to collect and contain all the sewage that flows into them. When SSOs happen frequently, it means something is wrong with the system. Problems that typically cause chronic SSOs include:

- **Infiltration and Inflow (I/I):** Too much rainfall or snowmelt infiltrating through the ground into leaky sanitary sewers not designed to hold rainfall or to drain property and excess water inflowing into sewers through roof drains and sump pumps improperly connected to sewers, broken pipes and sections of pipe settling or shifting so that pipe joints no longer match, and poorly connected sewer service lines.
- **Undersized Systems:** Sewers and pump stations that are built too small to convey the quantity of sewage, and systems where sediment and other accumulated material reduces the capacity of the sewers.
- **Pipe Failures:** Blocked, broken, cracked, or collapsed pipes; tree roots growing into the sewers, and build-up of fats, oils, and grease in the sewers.
- **Equipment Failures:** Pump and power failures.
- **Sewer Service Connections:** Any of the problems list above, but occurring in sewer service connections to private houses and other buildings.
- **Deteriorating Sewer System:** General depreciation and deterioration of sewers and other infrastructure with time; improper installation; insufficient maintenance; and lack of funding to address these issues.

### **What Problems Do SSOs Cause?**

Because SSOs contain raw sewage they can carry bacteria, viruses, parasitic organisms, intestinal worms, and inhaled molds and fungi. The diseases they may cause range in severity from mild gastroenteritis (causing stomach cramps and diarrhea) to life-threatening ailments such as cholera, dysentery, infections hepatitis, and severe gastroenteritis. People can be exposed through:

- Sewage in drinking water sources.

- Direct contact in areas of high public access such as basements, lawns or streets, or waters used for recreation.
- Shellfish harvested from areas contaminated by raw sewage.
- Inhalation and skin absorption.

SSOs also damage property. When basements flood, the damaged area must be thoroughly cleaned and disinfected to reduce the risk of disease, and rugs, curtains, flooring, wallboard panels, and upholstered furniture usually must be replaced. Cleanup can be expensive for homeowners and municipalities.

SSOs that enter oceans, bays, estuaries, rivers, lakes, streams, or brackish waters can negatively impact water quality. When bodies of water cannot be used for drinking water, fishing, or recreation, society experiences an economic loss. Tourism and waterfront home values may fall. Fishing and shellfish harvesting may be restricted or halted. SSOs can also close beaches.

### **Why Is It Important to Report Sanitary Sewer Overflows?**

Chelsea is required to notify the EPA and the DEP of any SSO which may endanger health or the environment from portions of the collection system as soon as practicable, but within 24 hours of the time the city becomes aware of the overflow. A written report must also be submitted within five days of the time the city became aware of any overflow that is subject to the immediate reporting provision. In an effort to ensure compliance with these requirements, the City of Chelsea is asking residents and business owners to help by reporting any and all SSOs you may observe. ***Please report all SSOs immediately to Chelsea Water & Sewer at (617) 466-4310.***

### **Want More Information?**

For more information on SSOs, please go to the EPA New England website at <http://www.epa.gov/region1/> and follow the Quick Finder link for “Water” and then scroll down to “Sanitary Sewer Overflows.”