Where should downspouts, sump pumps or drains be directed if they can't be discharged to the sanitary sewer?

Modern subdivision construction standards generally call for water from sump pumps, foundation drains, area drains and the like to be diverted to the storm sewers, front or back yards or above ground drainage ditches.

What else can be done?

Clean your eaves troughs and downspouts. Extend downspouts 1.8 meters (6 feet) away from your basement walls. Disconnect all downspouts from the sanitary drain and have a certified plumber check your flood-proofing devices (sump pump, backflow preventers) regularly.

The sump pump discharge could be run overland to a ditch or swale that could drain to another location. Also, a long flexible tube that can be moved around the yard to avoid discharge in only one portion of the yard could be used.

The sump pump can be run underground through a 4" or 6" diameter perforated PVC pipe, with holes at the bottom and backfilled with washed gravel. An overflow tube should be placed at the opposite end to allow the water to escape in the event that the volume of the pipe is exceeded. This pipe tube is located at a convenient area of the yard such a garden. Another option could be to run it to a dry-well.

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Inflow and Infiltration (I&I) Reduction Program

Fact Sheet Number 1:
Information you should know about your sewer connections.

Inflow and Infiltration, or **I&I**– also referred to as **Extraneous Flow** – is defined as storm water that has infiltrated into the City's sanitary sewer system.

What is a sanitary sewer?

A sanitary sewer is a relatively small diameter pipe, usually located under the road, which is designed solely to collect and transport wastewater from sanitary fixtures (such as sinks, toilets or bathtubs) and floor drains inside your home or business to the Region of Niagara's Wastewater Treatment Plant. Sanitary sewers are owned, operated and maintained by the City of Port Colborne.

What is a storm sewer?

A storm sewer is a relatively large diameter pipe, often located beneath the road that is designed to carry rain water and related runoff. Storm sewers are normally much larger than sanitary sewers because they are designed to carry much larger amounts of flow. They are owned, operated and maintained by the City of Port Colborne.

Storm water runoff does not require the same treatment as sanitary sewage and results in unnecessary treatment costs if permitted to infiltrate the sanitary sewage system.

What is a sewer lateral?

A sewer lateral is a small pipe (usually 4" to 6") that runs from your house to the main sewer. All properties serviced by City sanitary sewers have a sanitary sewer lateral. Some properties, but not all, depending on their age and the presence of local storm sewers, also have a storm sewer lateral.

What is an illegal connection?

An illegal connection is a connection that permits extraneous (storm runoff) water to enter the sanitary sewer system. Storm water should be directed to the storm sewer or allowed to soak into the ground without ever entering the sanitary sewer.

Examples of illegal connections include connections of down spouts, sump pumps, foundation drains and area drains to the sanitary sewer or private service lateral. In addition, defective service laterals can cause extraneous water to enter the sanitary sewer, thus they are also illegal connections.

These connections have always been there. Why are they are illegal?

These types of connections were allowed in the past, and older sanitary sewers were designed to accommodate a certain amount of rainwater.

The City of Port Colborne has passed a new Sewer Use By-Law that will prohibit connection of rainwater sources to the sanitary sewer system.

Is the requirement to remove illegal connections unique to Port Colborne?

No. In response to various Provincial and Federal Acts and Regulations, many local governments, including the City of Niagara Falls and the Town of Fort Erie have adopted or are considering ordinances or codes prohibiting the stormwater infiltration to sanitary sewers.

Why the change?

One important reason for the change is to reduce treatment costs. All extraneous flow permitted (I&I) in the sanitary sewers eventually reaches the sewage treatment plant. The more flow, the bigger the bill.

It is estimated that the amount of storm water in the City's sanitary sewer system has resulted in approximately **One Million Dollars** per year in unnecessary treatment costs. These costs are directly absorbed by property owners through their water and sewer rates.

In addition to unnecessary treatment costs, the sudden addition of storm water during a heavy rainfall can overflow the sewers and treatment plant, causing sewage backups in our homes and pollution to the environment.

Reducing sources of extraneous flow (I&) will also reduce the potential for surcharging and sewer back-ups.

What is sewer surcharging and how can it cause basement flooding?

During storm events, the addition of storm water, through illegal connections, to the normal sanitary flow could exceed the capacity of the sanitary sewer resulting in a "surcharged" sanitary sewer. As flow to the surcharged sewer increases, pressure within the sewer builds and seeks to relieve itself through any means possible. One way is by backing up private sanitary sewer services into basements and crawl spaces, **leaving a flood of sewage**. If your home has sanitary fixtures or floor drains at a height below the surcharge level, basement flooding can occur.

My basement has never flooded. Why should I remove my illegal connections?

You may not have basement flooding due to surcharged sewers. But if your plumbing pumps or drains storm-related water into the sanitary sewer it may well be the cause of flooding in your neighbour's basement.

Do illegal connections really contribute large amounts of extraneous water to the sanitary sewer system?

Yes. For example, an eight-inch sanitary sewer can handle domestic water flow from up to 465 homes; however, it takes only twelve sump pumps operating at full capacity to overload an eight-inch sanitary sewer.