

DID YOU KNOW?

- Owen Sound's Wastewater Treatment Plant Treats an average of 10 Million litres of wastewater per day. Enough to fill more than 150 backyard swimming pools!
- The Wastewater Treatment Plant Protects the environment. When the water is returned to the Bay, the levels of solids, organics, phosphorous, ammonia and bacteria are well below the required limits. The treated water clarity is comparable to drinking water.

OWEN SOUND WASTEWATER TREATMENT PLANT

The City of Owen Sound Wastewater Treatment Plant is located on the eastern shore in Owen Sound, on 3rd Avenue East, just north of the Bayshore Community Centre. The wastewater from the City of Owen Sound is collected in a sewer system consisting of 150 km of sewer mains, which convey the wastewater generated by the City to the plant. Originally constructed in 1962, the plant has been substantially upgraded over the years, culminating in the most recent, and most significant upgrade; from 2014 to 2017 the wastewater treatment plant was upgraded to full secondary treatment at a total project cost of \$48 Million; the largest capital project in Owen Sound's history.

To protect the environment, care should be taken in what is flushed down the toilet. Collection and treatment of some adverse materials or substances is difficult or impossible. Oil, paint, and cooking grease create problems in the sewer system and at the treatment plant. Cleaning rags, paper towels, and so-called "flushable" wipes can clog sewers and pumps and should never be flushed. Nor should pharmaceuticals and household chemicals. The City has regular, free household hazardous waste collection days at Public Works from April to October; call 519-376-4274 for more information.

OWEN SOUND WASTEWATER TREATMENT PROCESS & INFORMATION



The Wastewater Treatment Process

1 Screening Facility (2010)
Wastewater flows to this facility, the first part of the treatment process, from the City's main "trunk" sewer. Here, coarse objects such as sticks and rags are screened out to protect the large pumps which pump the sewage from this building to the rest of the treatment process.

2 Grit Removal Facility (2010)
Two large concrete degrit tanks remove heavy grit and sand from the wastewater by centrifugal action. Screenings from the screening facility and grit from this facility are removed from the plant approximately biweekly as a landfillable solid waste.

3 Primary Clarifiers (2 X 1962, 2 X 1977)
The original treatment process at the plant, and still in use today, the four primary clarifiers are basically large settling tanks where heavy solids (sludge) sink to the bottom and floatables (scum) are removed by skimmers and sent to the digester (step 7) for further treatment.

4 BAF Secondary Treatment Building (2017)
The City selected a compact proprietary treatment process (Biostyr by Veolia) via a competitive process to achieve efficient treatment in a small footprint. Called Biological Aerated Filtration (BAF for short), treatment occurs in 6 tanks where naturally occurring bacteria are grown on a filter-type media. These bacteria consume the contents of the sewage, leaving much cleaner water as a result. This building and its internal processes and equipment were by far the most significant and successful part of the most recent plant upgrade.

5 Disinfection (1962, 2017)
The city achieves very good disinfection results, with E Coli counts routinely below the Provincial requirements in the Plant effluent. Chlorination in a large contact tank is used to ensure effective disinfection. Just prior to release in the environment, however, the effluent is dechlorinated to remove residual chlorine, to protect the biosphere.

6 Plant discharge (1962, 2017)
The original plant outfall pipe was augmented during the most recent upgrade, by adding a diffuser pipe to improve mixing for better environmental protection. The wreck of a schooner built in the 1800's was found adjacent the outfall and required a minor design change to the outfall, so as to not disturb the wreck. Two other, older wrecks were also found, about 200 feet south of the intake.

7 Digester (1977)
The purpose of the digester is to treat the solids from the clarifier, to stabilize the material and produce a treated biosolid suitable for land application. This process produces methane biogas, which is burned in the boiler building.

8 Boiler Building (2017)
The digester produces methane biogas, which is burned in the boiler building. The methane biogas is used both to heat the digester to facilitate digestion, and in the winter, to heat the onsite buildings.

9 Biosolids Storage Tanks (1999, 2017)
Two onsite biosolids storage tanks provide wintertime storage for the biosolids produced by the digester. In the spring and fall, the biosolids are land applied in accordance with the Nutrient Management Act.

10 Odour Control (2017)
As part of the most recent upgrade, a separate odour control facility was constructed onsite, to reduce off-site odour impact.

11 Standby power (2010 and 2017)
Two on-site generators provide sufficient backup electrical supply to allow the plant to continue to function, even during extended power outages lasting days.

