

## Most Frequently Asked Questions

1. What chemicals are used for treatment? Chlorine is used to kill harmful bacteria and Sodium Bisulfite is used to de-chlorinate.
2. Is treated wastewater discharged into Chinese Lagoon? No; facility discharge takes place about 900 feet offshore in the Strait of Juan de Fuca.
3. Can the plant run during a power outage? Yes; the facility has a generator that provides enough electricity to run all equipment.

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Wastewater Treatment Facility  
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**CITY OF PORT  
TOWNSEND, WA**

**WASTEWATER  
TREATMENT  
FACILITY**



*Environmental Excellence  
Through Treatment and Reuse.*

**For a Tour (360) 385-3193**

## WELCOME

This pamphlet provides a brief history and overview of the City of Port Townsend's Wastewater Treatment Facility. It is located in the environmentally sensitive areas of the North Beach neighborhood, inclusive of Fort Worden State Park, and Chinese Garden Lagoon.

Wastewater treatment in Port Townsend did not begin until 1967. Prior to that time untreated wastewater was discharged directly into Port Townsend Bay and the Strait of Juan de Fuca. The facility was updated in 1993 and currently serves approximately 9,500 residential and commercial users. Together, they contribute wastewater flows averaging 950,000 gallons per day.

Our treatment facility has a 21 year perfect operating record with the Washington State Department of Ecology since the award program was started 23 years ago (1995). What makes the facility unique is its ability to operate and perform five procedures consistently, even during storm events.

### HOW TREATMENT TAKES PLACE

Wastewater treatment is the process of removing contaminants from wastewater. This task is accomplished by separating solids and harmful bacteria from water through the following methods:

1. Untreated wastewater flows into the facility, through a bar screen and a grit classifier. The screen removes large materials like rags or pieces of food. The grit classifier removes finer materials, such as sand and grit. All removed materials are sent to a landfill. Untreated wastewater from the grit classifier is

loaded with fresh organic material (food) for the consumption of hungry microorganisms in the presence of oxygen. To achieve this the wastewater is sent to a pair of oxidation ditches.

2. The oxidation ditches have large paddles that churn oxygen into the wastewater. Microorganisms consume organic materials and oxygen from the wastewater. This mixture flows from the oxidation ditches to clarifiers.
3. Clarifiers allow enough detention time for the microorganisms and suspended particles to stick together. They become heavier and slowly sink, leaving behind a clear water that flows to chlorination basins.

The basins provide enough time for added chlorine to kill harmful bacteria. The water is then de-chlorinated and discharged into the Strait of Juan de Fuca.

Concentrated solids at the bottom of the clarifier contain concentrated microorganisms; which are pumped to two different places. Some are sent back to the oxidation ditches to eat food and the other portion of solids are sent to digesters.

4. Digesters allow solids to break down further and to become dense over extended periods of time. Solids from the digester floor are pumped into a belt press.
5. Belt press equipment squeezes remaining water from the solids, providing 250 dry tons of nutrient rich bio-solids per year. Bio-solids are composted with yard debris for use without restrictions in lawns and gardens.

# FLOW DIAGRAM OF WASTEWATER TREATMENT PLANT

4. Digesters



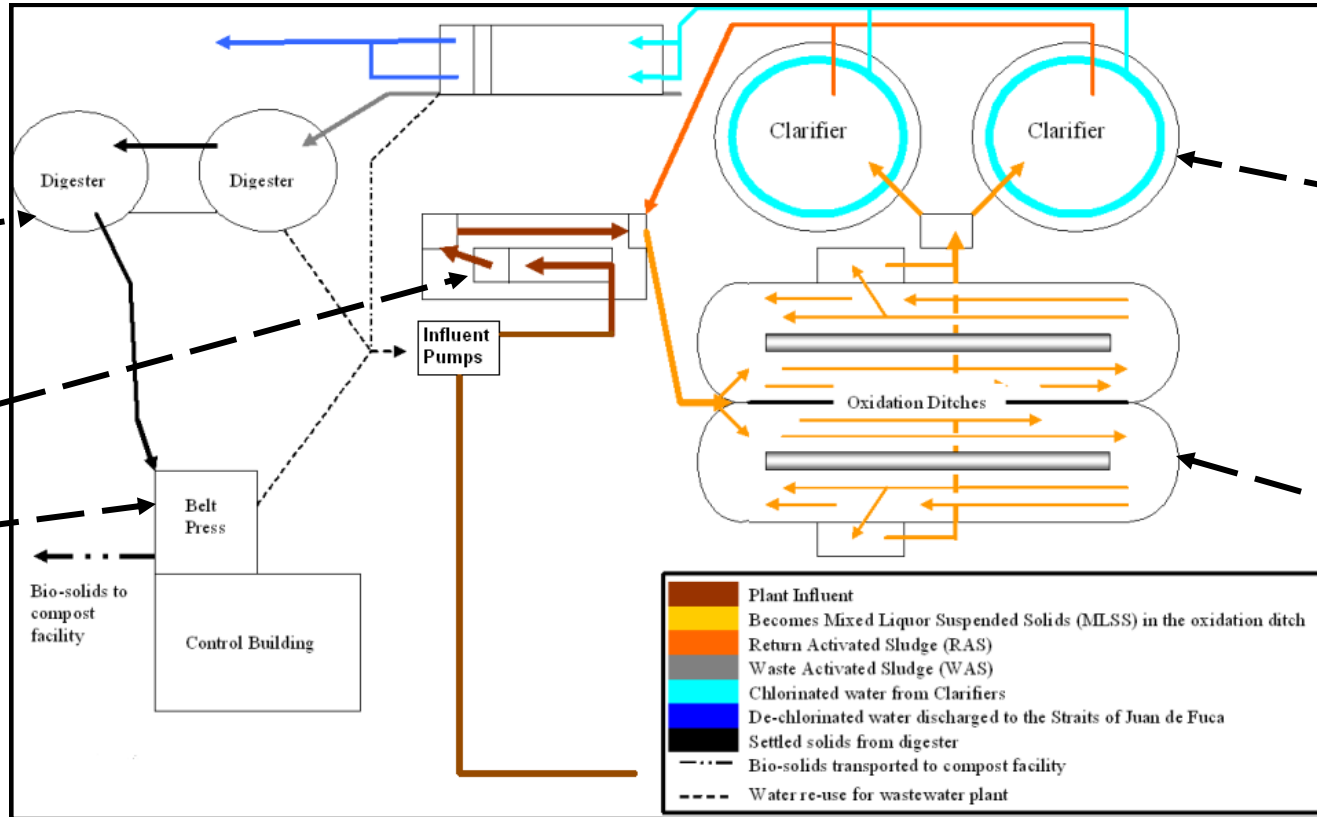
3. Clarifier



1. Bar Screen



2. Oxidation Ditch



**Keep these products out of the sewer and help Port Townsend with continued environmental excellence.**  
 (These items cause expensive repairs to sewer lines, pumps, monitoring equipment, and home sewer lines)

5. Belt Press



- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"> <li>Any plastic items</li> <li>Coffee grounds</li> <li>Egg shells</li> <li>Produce labels</li> <li>Food wrappers</li> <li>Sanitary napkins</li> <li>Diapers</li> <li>Rubber items</li> <li>Underwear</li> <li>Hair</li> </ul> | <ul style="list-style-type: none"> <li>Dental floss</li> <li>Rags and towels</li> <li>Cotton swabs</li> <li>Syringes</li> <li>Cleaning sponges</li> <li>Clothing labels</li> <li>Wipes</li> <li>Paper towels</li> <li>Flushable cat litter</li> </ul> | <ul style="list-style-type: none"> <li>Aquarium gravel</li> <li>Toys</li> <li>Condoms</li> <li>Flammables and petroleum products</li> <li>Prescription and over-the-counter drugs</li> <li>Household hazardous substances</li> <li>Solvents, paints</li> <li>Antifreeze</li> <li>Food grease and oil</li> <li>Disposable toilet brushes</li> </ul> |
|--|---|--|

Design Criteria for Flow in Millions of Gallons per Day (MGD)	
Average Annual	1.44 MGD
Maximum Monthly	2.05 MGD
Maximum Daily	2.92 MGD
Peak Flow	5.27 MGD