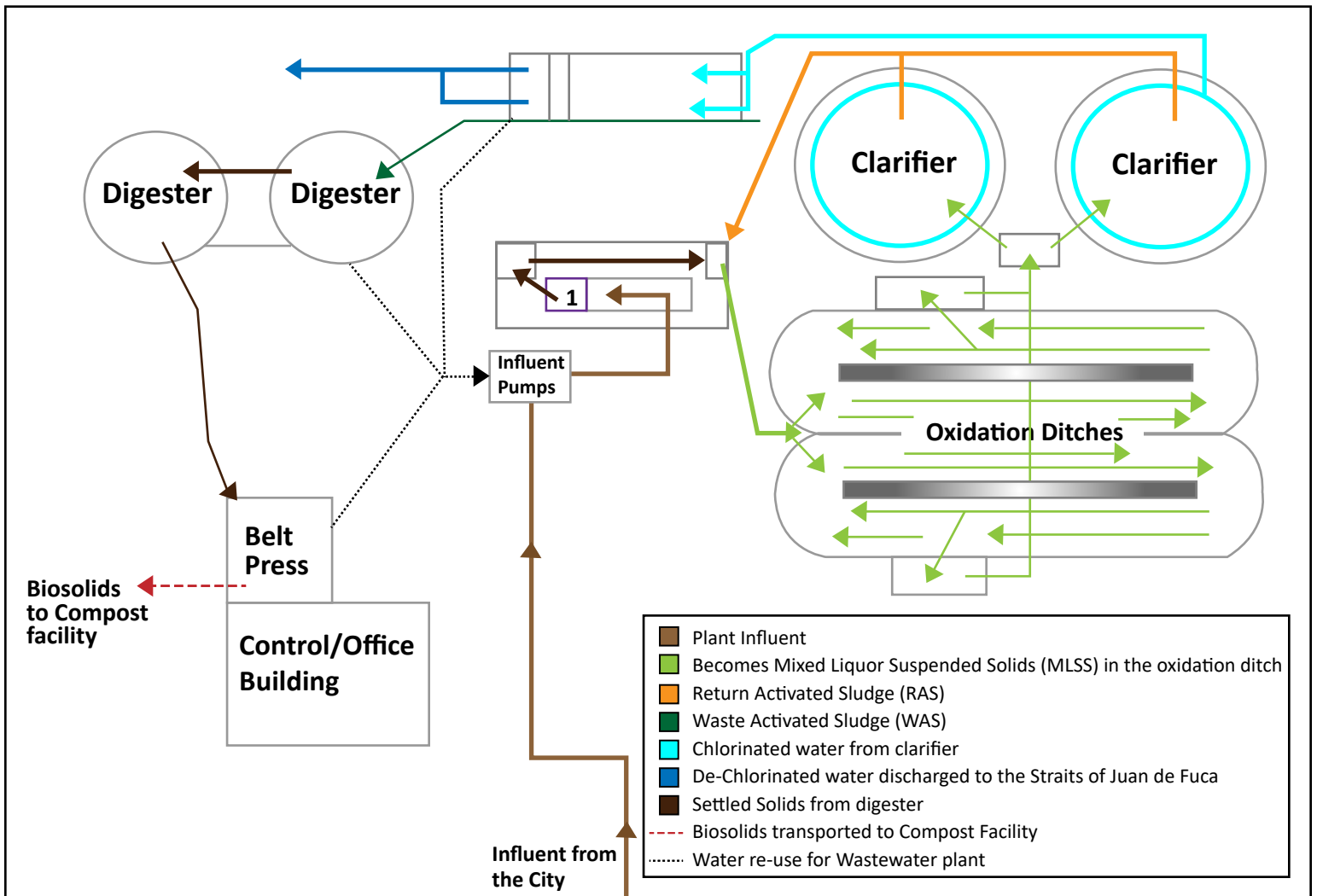


# Wastewater Treatment Plant Process



## 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.