

# What's involved in operating a sewer treatment plant?

The Gold Hill sewer treatment plant is a Level 2 Activated Sludge plant. The basic process is as follows:

1. Wastewater is mechanically screened to remove trash and other large debris.
2. Wastewater flows into the aeration basin where air is injected to encourage bacterial growth. The bacteria consume organic material in the waste, reducing solid material.
3. Wastewater flows into a secondary clarifier where the liquid stream and solid stream are separated.
4. The liquid stream is treated with chlorine to disinfect and discharged into the river. The discharge effluent must meet strict standards for pollutants.
5. The solid stream is either returned to the aeration basin to promote bacterial growth (return activated sludge), or is put into an aerobic digester where the bacteria is starved and killed off (waste activated sludge).
6. After digestion the sludge is trucked to the regional treatment plant in White City where it is dried in the sun before ultimate disposal in a landfill.

Operation of the plant has two distinct functions: Process control and Maintenance.

**Process Control:** The task of process control requires that the operator maintain healthy bacteria populations by controlling the amount of air that is injected and determining how much sludge to return to the aeration basin and how much to send to the digester. Additionally, the operator must carefully control the feed rates of other chemicals to ensure that discharge limitations are met.

**Maintenance:** The mechanical components of the plant must be maintained in good working order. The plant has a variety of pumps and motors that must be regularly serviced and periodically replaced.

The Oregon DEQ requires that the operation of the plant be supervised by an operator certified at Treatment Level 2 or higher. (there are about 430 individuals in Oregon with level 2 certification or higher).

Operation of the Gold Hill Treatment plant typically takes between 1.5 and 2 full time employees.