
MEMORANDUM

TO: INSTRUCTOR RADECSKY
FROM: ARIANE PIERSON
SUBJECT: ARCATA WASTEWATER TREATMENT PLANT TRIP
DATE: NOVEMBER 27, 2013

Purpose

The purpose of this memo is to detail a field trip that was made to the Arcata Wastewater Treatment Plant. The Arcata Wastewater Treatment Plant is responsible for the treatment of the sewage for the city of Arcata. The purpose of the wastewater treatment visit was to learn more about wastewater treatment plants and specifically the Arcata Marsh and Wildlife Sanctuary via a tour with one of the operators at the Arcata wastewater treatment plant.

Discussion

The Arcata Wastewater Treatment Plant (WWTP) treats waste using several methods. Similar to most treatment plants, the Arcata WWTP includes headworks, a primary clarifier, digesters, oxidation ponds, and disinfection. It also uses treatment wetlands, enhancement wetlands, and composting. Each step of the system plays an integral part of the overall treatment of wastewater.

Sewage comes into the plant through the headworks, which removes grit and solids. Then the primary clarifier removes grease, where remaining solids are sent to the digester and the rest is sent to oxidation ponds. The digester uses anaerobic bacteria to break up solid waste and creates a sludge that can then be used for composting. The oxidation ponds however, use aerobic and anaerobic bacteria to break down solid waste. These large ponds use solar energy to encourage the growth of algae to oxygenate the water. The water then flows to treatment wetlands and enhancement wetlands which help filter out suspended solids, nutrients, organic matter, metals, and pollutants without using machines and chemicals. Finally, the water is sent through the disinfection process where it is chlorinated to kill off any remaining bacteria before it is sent to Humboldt Bay.

Summary

The trip to the Arcata Wastewater Treatment plant was very informative and educational. The most interesting things to me were the treatment and enhancement wetlands. It's encouraging to learn that some cities use more natural, cleaner ways to treat sewage, while also providing a habitat for animals and aquatic life. It makes me think of the wetlands that are near my house in Orange County and I wonder if these are also used as a way to treat wastewater since they are located next to some sort of Plant facility. Overall, this field trip gave me an in-depth lesson about the process of treating wastewater and sewage.