
MEMORANDUM

TO: KRISTEN RADESKY
FROM: MALIA GONZALES
SUBJECT: ARCATA WASTE WATER TREATMENT
DATE: APRIL 30, 2013

Purpose:

The purpose of this memorandum is to explore the Arcata Waste Water Treatment plant, which was held on April 26, 2013 at 2pm. The tour was for us engineer students to learn more about the wastewater treatment plant and understand each process of engineering water.

Discussion:

In our tour we explored five different stages. The first stage of treating water is called the pre-treatment. In the pre-treatment, water is collected from toilets, sinks, showers, and any other drain. When this water is collected the water goes into a huge pump/grinder, which separates materials from the water such as trash. After the pump the water goes into a grit removal that removes sand and gravel. Next is the primary treatment, this treatment removes suspended solids. The wastewater is placed into a sedimentation basin, which eliminates settled solids by using a mechanical scraper and pumps. Oil and grease float at the top of the sedimentation basin and is skimmed and removed for further processing. From the processes sludge is produced, which is placed into a digester. The digester boils and heats the sludge, the two main bacteria produced from the digester is acid and methane. If the sludge is thick it is placed into a tank, which is released every six months to be composted.

After the primary treatment, secondary treatment is next. This treatment is used to remove BOD from the water. At the Arcata wastewater treatment plant they use oxidation ponds and treatment wetlands to treat the water by biological and physical procedures. When the sunlight is on the oxidation ponds it allows algae to grow. Algae provides oxygen to the microorganisms, which degrade BOD. Next the water goes through chlorination to make the water disinfected and after this it is discharged into the Humboldt Bay. When wastewater is recycled it is placed into a tertiary treatment that is called enhancement wetlands. The water that is remaining contaminated from the primary and secondary treatment is placed into the tertiary treatment. This is an optional last step for wastewater treatment process and Arcata uses it.

Conclusion:

The tour has helped me understand more about the processes of a wastewater treatment plant. The most interesting thing I learned from our tour was the concern of water when people's sewer is contaminated with prescription drugs or any drug.

