
MEMORANDUM

TO: EILEEN CASHMAN
FROM: LUKE ANNANDALE
SUBJECT: ARCATA WASTE WATER TREATMENT PLANT FIELD TRIP
DATE: OCTOBER 7, 2016

Purpose

The purpose of this trip was to learn more about wastewater treatment plants via a tour with one of the operators at the Arcata waste water treatment plant. It was also meant for us to learn and understand more about the Arcata Marsh and Wildlife Sanctuary.

Discussion

This tour began in the treatment plants facility, where we viewed where all the waste water arrives and gets processed. Before we went into the marshes of the plant however, we first learned about all the interworking processes of the facility during primary treatment. They explained how the use of Archimedes screws were used to pump a certain amount of water each day and how the seasons can affect the amount of water that gets pumped. After the tour of the site, we then moved into the marshlands where we were introduced to the oxidation ponds.

Oxidation ponds begin secondary treatment, unfortunately there wasn't enough time for us to elaborate on this section, but the essential idea is to let bacteria degrade organic matter that is still left in the sewage water. After this area, we arrived in the marsh treatment wetlands which have new modifications that have been added to them called Blue Frogs. Essentially these machines are meant to remove any other suspended matter and BOD5 that is still soluble. There is still study to be done to see if the Blue Frogs have in fact made any impact, or if the matter they have stirred up has simply spread to other areas of the marsh. Currently there is a team of engineers that are studying the effectiveness of this new method and whether or not it is, in anyway at all, benefitting the marsh.

Conclusions

This field has actually peaked my interest in the waste water treatment field. I have always known that I wanted to work with fluid mechanics and hydro engineering, so this has definitely given me a new viewpoint on the profession I may wish to go into. Overall, this trip has greatly affected my desire to pursue a degree in engineering and hopefully make a career out of it.