

ktb9

Midterm Report

For those of us new to the [Demo Plant](#) team, a lot of the semester so far has been spent familiarizing ourselves with general principles and operation of the actual plant, as well as with using MathCAD and the basic MathCAD files and programs used for plant design. This was necessary in order to be able to partake in the design of a new demo plant.

Along with [Christina](#), I determined a factor to more accurately represent [flocculation efficiency](#) in the [MathCAD flocculation model](#) used for plant design. We did this by observing the flocs in the current plant, and then testing various efficiency values in the [MathCAD design program](#) created by [James Leung](#). It was assumed that the correct efficiency factor was the one that returned a plant design with a length similar to the length at which we were seeing the largest flocs in the actual flocculator. Once we felt confident with all of these things, we were able to use the [Demo Plant SP08 Flocculator D&C](#) program created by [James Leung](#) to create a new design for the flocculator, based on the current plant, but with a different length intended to maximize efficiency. We have also been discussing in depth future construction goals, and beginning plans for a new [Flow Controller](#) for the desired plant flow rate, based on head loss equations and using the [FCM design tool](#), a new sedimentation tank (possibly with the inclusion of a sludge blanket), and a new flocculation tank design.

On the wiki, I have created the [Demo Plant Flocculation Efficiency](#) page, added pictures from the [Ithaca Youth Bureau](#) demonstration of the plant to the photos page in the [Outreach](#) section, and contributed to the [Demo Plant Fall 2007 Report](#), creating all of the pages for equations referenced in the report. As plans for construction of the rest of the plant components are finalized, we will be posting more design drawings and calculation explanations.

Content Created

Content created by Anonymous

There are no pages at the moment.
