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Chris DeFeo's Individual Contribution Page

Summer Semester 2009 Contributions

I am currently a member of the Design team, working in a sub-team with Ben Jones to develop the floc hopper for the plant. Our task involves writing the MtoA code for the floc hopper, as well as testing out different sizes of floc hoppers to fit the changing geometries of various plants. So far, after adjusting myself to the various programs and codes that the team uses, I have determined the best dimensions for the geometry of the floc hopper by viewing and studying various MathCad codes for sedimentation tanks and inlet channels, and have rewritten the MathCad code that defines and calculates the geometric dimensions of the floc hopper. I have also created the [Floc Hopper Design Program](#) page for the wiki, as well as the [inputs](#) and [outputs](#) page for the floc hopper variables. Ben and I will soon finish writing the MtoA code, as well as begin testing out the floc hopper with different plant sizes to confirm that our floc hopper will fit for any plant.

Since the midterm report, Ben and I have finished working on the MtoA code that will not only draw the floc hopper, but will place it in the correct spot in each sedimentation bay as well. We tested out several placements, but ultimately decided the floc hopper had to be placed in between the sed. slope plates, rest on the sed. sludge drain, and line up vertically with the end of the first lamella, as well as have an angle of sixty degrees or greater with respect to the sludge drain. We added this code to the Sed. Tank with Pieces MathCad file, so that when the sedimentation tank is drawn, the floc hopper will be drawn as well. We also updated the wiki page for the floc hopper and corrected the mistakes on the page from the midterm report. Finally, we had to reorient the lamella, as they were facing towards the entrance chimneys originally. We rewrote parts of the code so that they are now angling away from the entrance channel/chimney, which is desired.

Pages Created

[Floc Hopper Design Program](#)

[Floc Hopper Design inputs](#)

[Floc Hopper Design outputs](#)