

Demo Plant Team Detailed Task List Spring 2013

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May 12, 2013

For India Trip

Finish by February 13th

- Complete Demo Plant: (1) Obtain closures to connect tubing to stacked rapid sand filter, and (2) Drill hole for clean water exit (Completed)
- Refine Demo Plant: (1) Fix coagulant head tank vs discharge elevation into drop tube. . Dosing issues are unrelated to fluid in the drop tube, especially since current issues pertain to too much coagulant flow. (3) Correct tube lengths for water and coagulant flows to account for head loss. (Completed)
- Simplify Assembly: (1) Develop a straightforward instruction manual for setup - Check the old one for reference/improvement. (Manual in Progress - other work has been done to simplify setup and operation including a labeled backdrop) (2) Needs to be up and running within 20 minutes (Completed)

Rest of the Semester

February 20th

- Add feet to stabilize the flocculator (Completed)
- Collected all parts available and assembled a nearly complete Demo Plant. (Completed)
- Re-label all PVC parts of current and additional plant frames for easier assembly (Completed)
- Find and install a plug at the bottom of the sedimentation tank to prevent unwanted outflow of water. (Completed)

February 27th

- Label Chem stock tank with coagulant concentration (Completed)
- Acquire filter fittings and wrap with Teflon tape for a watertight seal. (Completed)
- Assemble, fill, and backwash filter to make sure the fittings work. (Completed)
- Test-run the Demo Plant and assess any leaks or similar issues (Completed)

March 27th

- Doser adjustments: Zero the doser, add an adjustable counterweight that doesn't interfere with the float, and correctly label/calibrate the doser (Completed)
- Alter and fix thin tube from Coagulant constant head tank to chemical dose controller for consistent flow. (Completed)
- Collect information on flow rates, tubing lengths, and components of plant parts in order to replicate plant and update plant documentation. (Completed)

April 17th

- Improved methods/system development: Resolve quick wearing on O-rings in the Sed tank's seal system (This has not appeared to be an issue over the course of the semester and has not been pursued)
- More efficiently mix coagulant and clay with one scoop per liter of water (Completed)
- Resolve issues with the setup and back-washing filter to remove air from the tubing and filter (Completed)
- Create detailed drawings of plant parts for construction. (Completed)

Additional time will be spent resolving currently unforeseen issues in the Demo Plant, and creating our final presentation and report. Some additional time may be needed to deal with the goals stated above as well