

Detailed Task List Spring 2013

Mihir Gupta, Kris LaPan, Rachel Proske, Nadia Shebaro

February 18, 2013

Slotted Pipe Manifold Design

Finish by February 15th

- Improve the existing design that is currently vulnerable to breakage.
- Construct the manifolds.
- Complete hydraulic and strength performance testing.

Sand Drain

Finish by February 22nd

- Design type, size, and location of sand drain keeping in mind operation of the filter.
- Construct drain.
- Test drain.

Cap Design

Finish by March 1st

- Create an air tight design to provide a pressurized filter column.
- Research using a material or method that is less costly and more sturdy.
- Simplify the cap connection so that the rods attaching to the bottom are no longer necessary.

Pipe Drilling Methods

Finish by April 12th

- Research and compare alternative methods keeping in mind the resources available in Honduras.
- Test methods, which appear to be the most practical.

Improve Filter Operation (Minimize Valves and Improve Fluidization Pipe)

Finish by May 3rd

- Create a design that requires the managing of fewer valves when switching between filtration and backwash.
- Redesign pipe to check for sand bed fluidization during backwash to make the pipe more reliable and the connection secure.

Operator's Handbook

Finish by May 3rd

- Provide details that will enable a user to set up an already constructed filter, run the system in filtration and backwash, troubleshoot the system, and make basic repairs.
- Translate to Spanish.

Testing of Completed Filter

Finish by May 3rd

- Construct entire filtration unit with modifications.
- Test the hydraulic performance of the system in filtration and backwash at 0.8 L/s.