

# Small Scale Model Plant

## Detailed Task List

June 13, 2013

### **Literature Review**

Finish by Friday, June 14

### **Organization**

Finish by Tuesday, June 18

- Match the template components to the 3D composite shots
- Create a system to label template components for easy assembly
- Decide how to resize plant components to account for thickness of Plexiglas
- Determine how to minimize material use in the construction of our model

### **Reconfigure**

Finish by Thursday, June 20

- Adjust AutoCAD templates to account for thickness of Plexiglas
  - Reconfigure for water-jet cutting if laser-cutting is inaccessible during the summertime
  - This would require separation of individual pieces, and allows for larger template sizes
- Send the plexiglass to be cut once this is completed
  - Assume Plexiglas is cut by Thursday, June 27

### **Assembly Specifics**

Finish by Thursday, June 27

- Identify important features the plant will highlight, such as:
  - Confusing features

- Revolutionary features(technology developed/modified by AguaClara)
- Path of water flow
- Geometries of sed tank, entrance tank
- Emphasize gravity-powered features, lack of electricity
- Determine how to best highlight the features identified above as most important
  - Re-evaluate which components should be removable vs. permanent, transparent vs. opaque
  - Explore use of hinges, transparent slides

## **Assembly**

### **Structure**

Finish by Wednesday, July 10

- Assemble Plexiglas structure

### **Labeling**

Finish by Friday, July 12

- Determine how to label certain features
  - Use of lights or magnets to demonstrate flow path

### **Plumbing**

Finish by Tuesday, July 16

- Determine materials to represent plumbing specifics in the plant
  - Research use of free 3-D printer in Collegetown
  - Evaluate cost of different plumbing materials

### **Instruction Manual**

Finish by Tuesday, July 23

- Create an instructional manual with detailed, step-by-step assembly instructions
- Should include laser templates and/or water jet cutting templates (see reconfiguration section)
- Divided into subsections for different plant components (flocculator, sedimentation tank, etc.,)
- Should include a key identifying individual Plexiglas pieces, Plumbing parts, etc.,

## **Re-evaluation of Assembly Specifics**

Finish by Friday, July 26

- Determine if there are model parts which we can create separate from the Small Scale Plant Model which add to viewer understanding (perhaps larger than the scale of the plant for understanding), such as:
  - Sedimentation tank manifolds with diffuser
  - LFSRSF manifolds
  - SRSF/LFSRSF
  - Turbidimeter
  - Turbid water/clean water vials