

## **Attachment 10. Operation and Maintenance Plan**

Operation and maintenance efforts made by UC Berkeley and IID for the CWTS will take place over a three-year period following construction. IID will monitor the operation of the CWTS weekly while UC Berkeley will make bi-weekly visits for the first growing season (March – August 2013), and then a minimum of once a month for the next three years, with additional inspections as required. These efforts are described in the table below.

<b>Operations Parameter</b>	<b>Maintenance Requirement</b>
Maintenance access	Accessibility to each treatment cells and other facilities will be maintained in good condition.
Pumping	Pumping rates will be controlled based on research needs.
Clogging control	Trash and litter will be removed from the screen, pipes, weirs and other facilities to prevent clogging.
Basin excavation	Periodical removal of bottom sediment is necessary to maintain the settling capacity of the basin.
Influent and effluent monitoring	Inflow and outflow will be monitored to investigate potential seepage in the system.
Soil conditions	Soil amendments may be required to minimize seepage
Residence time	Inflow and water depth will be manipulated to create various residence times. Valves at the inlet will be used to control the inflow. Flashboards in the weir at the outlet will be adjusted to maintain water levels.
Plant maintenance	Cattail is a competitive species in the local area. Massive growth is expected and preferred. Plant maintenance for cattails will be minimized while harvest will not be necessary.
Re-planting / Re-inoculation	Replanting will still be required if they are damaged or fail to grow, especially for some algal species.
Disposal of plant waste	Cattail litter produced in the CWTS will be recycled as a fallen litter layer. Therefore, there is no need to dispose of plant waste.
Fencing	Fencing may need to be installed to keep people and animals out.
Nuisance control	Wetlands might attract rodents. Burrowing animals, e.g. muskrat, will be checked frequently. When found, we will remove them, replace embankment materials, and reseed.
Storm water runoff / River water	Top of cell banks will be raised 15 cm higher than the ground to prevent runoff from entering the cell. Spillways will be installed to discharge extra river water from the site.
Mechanical support systems	Maintenance of pumps, pipes, valves, weirs and other electricity facilities will be conducted periodically.