

Residuals Management

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The AguaClara facilities produce residuals from the entrance tank and sedimentation tank, high turbidity waste water from back washing the filter, and chemical waste from preparing chlorine solutions. These waste streams have been ignored by AguaClara because they are largely innocuous. Depending on national regulations it will be necessary to have a residuals management strategy. We need to provide an environmentally sound strategy for dealing with all facility residuals.

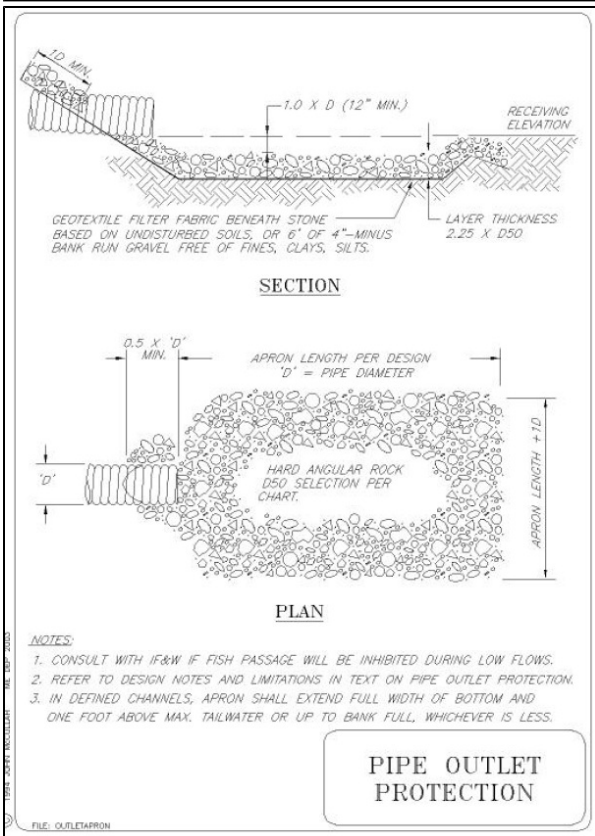
Current & Future Research

During the fall 2011 semester, the Residuals Management subteam conducted research into possible methods of disposal in Honduras.

There are no Honduran laws governing sludge or wastewater disposal, and very few regulations exist in the United States that specifically govern the disposal of alum sludge containing no toxic or radioactive material. As such, the main reasons for developing a responsible disposal strategy are to reduce AguaClara plants' effect on nearby residents as well as to avoid having to deal with this problem on a larger scale once plants are developed with greatly increased flows.

The subteam explored numerous dewatering options for the sludge, determining that lagoons and drying beds were not feasible due to the lack of a freeze/thaw cycle as well as the desire not to provide a breeding location for disease spreading mosquitoes. Other options were deemed too expensive, or required electricity.

The lack of available treatment options led the Residuals Management subteam to explore the possibility of simply reducing the impact that AguaClara wastes have on the surrounding environment. The team designed a rock-based pipe outlet protection structure which is constructed at the residual pipe exit. This structure dissipates the energy contained within the flow and prevents erosion. Further design work will attempt to reduce the ability of the waste flow to reconsolidate after exiting the structure.



Team Members

Patrick Farnham
Residuals Management Documents

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Past Research

None.