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Rose Linehan's Individual Contribution Page

Spring 2017 Contributions

This semester I was a member of the StaRS Filter Theory subteam. The overarching goal of this subteam is to establish a model of filter performance which will predict head loss through the filter based on filter parameters such as media size and bed length as well as parameters pertaining to the influent including coagulant dosage and turbidity. Last semester's team established a tentative model based on experimental data and began a rough draft of a research paper presenting this data. This semester the team worked closely together to improve the proposed model by determining how exactly flocs build up in the filter using head loss data. We found that the initial geometry proposed—the washer geometry, found using head loss data—does account for the expected geometry volume based on the mass of particles in the filter at failure. I was the lucky team member who spotted the mistake in the MathCAD file that invalidated the model. Moving forward the team will examine new geometries, and I will be in Honduras working as an AguaClara Engineer! Yay!