

mp723

Min Pang's Individual Contribution Page

Fall2011 Stacked Rapid Sand Filtration Contributions

This semester I participated in SRSF research team. We conducted several experiments on both pilot scale study and bench scale study.

With respect to pilot scale study, in the beginning, we worked on control system study. I learnt the mechanism of the whole system and purpose of each component. My teammates and I reconstructed this structure. We replaced the previous inlet box with an apparent 4" pipe, and built a U-shaped backwash pipe to seal water. We proceeded several trials of the filter, then obtained the data of flow distribution and analyzed the pipe stub configuration. In addition, we also built a sand removal system to test its performance. During the experiment, we have successfully removed the sand down to the end of the pipe, thus validate the viability of this system.

As to the bench scale study, we compared the performances between upflow and downflow, the first set of results didn't turn out to be as satisfactory as we expected. That's due to a lack of backwash. Then after solving this problem, we obtained a nice graph showing the same performance of the two flow directions. However, another study on bench scale which is called self-healing study, we obtained some results different from what was expected. More tests would be conducted in the future.