

TECH 4398

Appendix I: Senior Design Project Abstract

Product Description: Pilot-Scale Advanced Water Purification System for Direct Potable Reuse of Wastewater

An advanced purification system that purifies reclaimed water into drinkable supply using sophisticated treatment technologies.

Abstract:

With the growing concern of water scarcity, intense droughts and population growth, there is a need to utilize unconventional sources of water. One possible source that could be considered is reclaimed water, because it is locally available, treated & disinfected, and can be purified using available advanced technologies. Reclaimed water can be a drought resistant source that will be able to bolster current and future water supplies for semi-arid areas such as Central Texas. Moreover, to purify reclaimed water into potable quality, we are proposing an advanced treatment train consisting of ozonation, biological and granular activated carbon, ultrafiltration, reverse osmosis, advanced oxidation process and chlorination. For this project, we will be tasked to create engineering design documents, construct an ozone contactor and biological & granular activated carbon columns, design a plumbing system, and conducting wet tests in Dr. Ikehata's water research lab.

Project Customer: Name and contact info for the sponsor's contact person

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