

Longevity and Effective Turbidity Removal

Trident® Package Treatment Plant and Adsorption® Clarifier



CASE STUDY

Location: El Dorado Hills, CA
Owner: El Dorado Hills Irrigation District
Installed: 1993

Water Treatment Plant

The El Dorado Hills Irrigation District (EID) services more than 110,000 residents in El Dorado County, CA. Due to population growth, it became necessary for EID to double its flow rate. However, EID was severely limited by site constraints. Therefore, EID needed to find a way to retrofit a high-rate system into its existing concrete basins.

After much deliberation, EID selected the Microfloc Trident technology due, in large part, to its small footprint. EID initially purchased two units each treating 2 MGD.

Due to increased demands, the plant was expanded in 1995 with another set of two units. The plant expanded by converting existing concrete basins into Microfloc Adsorption Clarifiers and Gravity Filters — in essence, concrete Trident units. This increased the plant's capacity to 16 MGD.

Treatment Process

The Trident System is a two-stage process with an Adsorption Clarifier in the first stage and a mixed-media filter in the second stage.

Chemically treated water (coagulant and polymer) are added ahead of the Trident

system. The chemically treated water flows into the bottom of the Adsorption Clarifier and up through buoyant media where the bulk of the turbidity (70%-90%) is removed. Clarified water then flows into the filter and down through mixed media, producing high-quality water.

Successful Operation

The plant operators have been very pleased with the performance of the

Trident system for more than 20 years of operation. Bill Peterson, Chief Operator, says he prefers this technology over conventional treatment.

Below is graphical data taken from the EID WTP. The data shows effluent turbidity below 0.03 NTU and greater than 3 log removal of 5-15 micron sized particles.

