



ENVIROQUIP MBR HELPS SAFEGUARD IRREPLACEABLE RESOURCE IN CHINO VALLEY



Many communities across the US are dealing with an increased strain on available water supplies and are facing challenges regarding how to protect the quality of that resource. Many communities simply do not have enough water and in others, the quality of the receiving streams is poor and effluent discharge is not permitted. As populations increase and the amount of wastewater generated increases, proper treatment and disposal becomes ever more critical.

Chino Valley, AZ, a fast-growing community north of Phoenix, is one municipality that has utilized membrane bioreactor (MBR) technology to replenish water supplies and provide long-term protection of their drinking water source. With no centralized treatment system and widespread use of conventional septic tank/drain field systems, Chino Valley had no way to treat and reclaim wastewater to supplement groundwater supplies. In addition, due to complete dependence upon the local aquifer for drinking water, there was concern about the quality of wastewater being discharged into the ground.

Therefore, in late 2002, the Town set forth to gradually centralize all wastewater treatment in the region, and to select a technology that could produce an effluent of high enough quality to be utilized to recharge the local aquifer. Following a review of available technologies, MBR technology was chosen as the best solution for the Town.

Construction began in December 2003 and the plant began operation in early July 2004. The facility consists of a septage receiving station, fine screening, grit removal, anoxic, aeration and membrane filtration stages, and UV disinfection. Final effluent from the plant is pumped approximately one mile away to a series of rapid infiltration basins and is injected back into the local aquifer. The headworks and disinfection systems have been sized for 1.0 MGD capacity, while the process basins and equipment have been initially sized for 0.5 MGD. Membrane capacity is only 0.15 MGD initially and will be expanded as need arises. The plant site has been developed to permit an eventual full build-out capacity of 5.0 MGD.

The plant will eventually service the entire town. However, initially only a few homes are connected. In order to supplement the loading, septage is delivered to the plant and is passed through the receiving station for preliminary treatment prior to entering the MBR facility. Handling septage at the plant also helps to ensure proper disposal of such material in the area and further protects local water supplies and resources.



Protected by USA patent #'s 5192456, 5482625, 5651888, 6277209, 6287467 and patent pending.