

Mayor's Report on Effluent Usage Part 5

In our last Mayor's report on water stewardship, I noted that our wastewater treatment plant produces approximately 300,000 gallons of class A+ effluent per day. This effluent is clear, odorless, and (as previously noted) in many cases cleaner than the water in many Arizona lakes and streams. How to best utilize this resource in a safe and economically beneficial way has been the topic of numerous discussions in recent years.

Effluent reuse falls essentially into two categories: Above Ground Reuse and Recharge into the Aquifer. Above ground reuse has gained popularity in recent years through the use of Purple Pipe systems. These are separate systems in homes and businesses which supply non-potable water for uses such as landscaping. Piping and fittings in these systems are purple in color, and all spigots are prominently labeled "Non Potable Use Only". These systems are most cost effective in new developments, since piping retrofits tend to be expensive.

Another above ground reuse which is not as popular is called DPR, or Direct Potable Reuse. In this system, cleaned and polished effluent is blended with municipal water supplies in order to supplement surface water or pumped groundwater supplies. At present, this method is not being used anywhere in Arizona, since current legislation prohibits such uses for effluent. Until the technology has been perfected to ensure that the threat of contaminants has been minimized, DPR will probably not be in our immediate future.

When it comes to using effluent for aquifer recharge, only two options currently exist: recharge ponds (basins with permeable bottoms which allow the effluent to quickly soak into the ground), and injection wells (which get the effluent to within a short distance of the aquifer and minimize evaporation loss). Currently Chino Valley utilizes recharge ponds as a part of the Town's ongoing water stewardship. This allows several hundred feet of sandy soil to act as a natural filter to remove any remaining contaminants as the water returns to the aquifer.

Unfortunately, whether our effluent is reused above ground or recharged below ground, the water in our aquifer is still being used at a greater rate than it is returning. Whether we like it or not, we have some tough decisions ahead as a community and as a state.

Chris Marley, Mayor of Chino Valley