

How Water Works

ILLUSTRATED PROCESSES, EQUIPMENT, AND TECHNOLOGY

Water Reuse Augments Sustainable Water Resources

Properly treated wastewater effluent, also known as “reclaimed water,” has been used for decades to meet nonpotable water needs in many parts of the United States. Specific requirements for implementing reclaimed water systems vary from state to state, but, generally, reclaimed water use for nonpotable water demand is an accepted practice.

More recently, interest has increased in the use of highly treated reclaimed water to augment potable water resources. A few projects have been implemented, and several others are being planned. As communities continue to stress current water supplies, water reclamation and reuse will play a greater role in water resource management.

1. Reclaimed water pipelines must be identified clearly when they are manufactured and installed. The most common method is to use purple-colored pipe.
2. Water-quality requirements for reclaimed water used to augment potable water resources may include limits to levels of pathogens, nutrients, trace organics, trace metals, total dissolved solids, and microconstituents. Following conventional preliminary, primary, and secondary treatment, processes typically used for producing reusable water include advanced treatment, natural treatment systems, disinfection, and solids management.
3. Several groundwater recharge methods can be used to add reclaimed water to a groundwater aquifer, including injection wells, recharge basins, and alluvial infiltration. Reclaimed water also may be introduced to potable water supplies via natural systems or surface water augmentation, in which reclaimed water is added directly to surface water supplies.
4. Agricultural irrigation accounts for the largest use of reclaimed water in the United States and the world. For most irrigation applications in the United States, a minimum of secondary treatment is required.



Some illustration elements exaggerated for emphasis.

ILLUSTRATION: RON KNOWLTON