

The new artificial turf field at Trinity-Pawling School (Pawling, N.Y.) will feature a subsurface stormwater management system by CULTEC (Brookfield, Conn.). Engineers at KG&D Architects (Mt. Kisco, N.Y.) collaborated with contractors from Fastracs Inc. (Red Hook, N.Y.) to design and install the system to provide stormwater detention. The team chose the CULTEC's Recharger 330XLHD®, an efficient chamber that has a lower volume in the early stages of a storm. The design called for a total of 95 chambers in five rows.

The system features two inlets and one outlet. The turf field has an under-drain network throughout its surface, which connects to a header pipe along the south side of the field and leads into the south side of the system. The second inlet pipe is located at the north side of the system, and handles runoff from a new parking area, walkways, spectator areas, and existing roof drainage systems. Runoff from the parking lot is pretreated in dry swales adjacent to the parking area before discharging into the underground chambers.

It took approximately a day and a half to install the entire system, and students were able to use the new facility in the fall of 2013.



CULTEC

The Sacramento (Calif.) Regional County Sanitation District

(SRCSD) awarded a contract to CH2M Hill (Englewood, Colo.) to provide design and services during construction for the new primary effluent pumping station at its Sacramento Wastewater Treatment Plant. The project is part of SRCSD's \$1.5 billion to \$2.1 billion EchoWater Project, a major effort to upgrade the district's water resource recovery facilities and make them the most advanced in California.

When completed, the EchoWater Project will enable SRCSD to meet the state's treatment requirements by removing nitrogen and ammonia from wastewater before it enters the Sacramento River. Additionally, the project provides SRCSD more water reuse and recycling opportunities for irrigation.

Under the contract, CH2M Hill will design the new primary effluent pumping station to provide the necessary lift within the existing facility's process stream to accommodate the new treatment process. The project also includes extending the existing primary effluent channel, constructing new diversion pipelines to connect the primary effluent channel to the

emergency storage basins, rerouting existing dual 1829-mm (72-in.) diversion lines via a new juncture structure to a 2134-mm (84-in.) chlorinated final effluent line, and controlling odors within the new facilities.

The Metropolitan Water Reclamation District of Greater Chicago

selected TrojanUV (London, Ontario, Canada) to provide one of its water resource recovery facilities (WRRFs) with an ultraviolet (UV) light disinfection system.

The system, a TrojanUVSigna™, will be installed at the Terrence J. O'Brien Water Reclamation Plant in Skokie, Ill. The activated sludge, single-stage nitrification facility currently discharges secondary effluent into the North Shore Channel of the Chicago River, which is part of the Chicago Area Water System that is designated for primary contact recreational use. Recent regulations have required that the WRRF add a disinfection process to further enhance effluent water quality.

Trojan will supply 14 UV banks equipped with TrojanUV Solo Lamp™ technology. The system will have a flow capacity of 1.7 billion L/d (450 mgd), making it one of the 10

largest WRRFs in the U.S. Of the 30 largest WRRFs in the U.S., Chicago is the first to use UV technology.

The upgrade of the Maleny Sewage Treatment Plant in Queensland, Australia,

will include the GE (Trevose, Pa.) LEAPmbr membrane bioreactor wastewater-treatment technology. The technology is expected to enable the water resource recovery facility (WRRF) to double the amount of water treated to 1 million L/d (0.264 mgd).

New environmental regulations and expected population growth led Unitywater (Caboolture, Queensland, Australia) to expand the existing Maleny WRRF. The membrane bioreactor technology will help Unitywater to meet environmental guidelines for safe, high-quality water in a recreational area as well as for discharging upstream of a water supply catchment.

Monadelphous (Perth, Western Australia, Australia), an engineering, construction, maintenance, and industrial services company, will conduct the upgrade to the Maleny WRRF.