

Authorities that Already Play a Role in Addressing Stormwater and Watersheds

Recognizing that water quality protection, public health and safety and resiliency are common goals, some New Jersey authorities have already joined in the effort to address the adverse impacts of stormwater. These include Brick Township Municipal Utilities Authority (BTMUA), Plainfield Area Regional Sewerage Authority (PARSA) and Passaic Valley Sewerage Commission (PVSC).

BTMUA participates in the Brick Township Floodplain Management Planning Committee (BTFMPC), whose goal is taking actions that protect local water supply by returning water back into the ground. BTMUA leaders see being part of this committee as a direct benefit to its primary mission of providing drinking water. The authority operates a 16 million gpd water treatment plant, manages 700 miles of water and sewer pipes, five water storage tanks, and 25 sewage pumping stations. The authority recognized the impact of stormwater and nonpoint source discharges on drinking water quality and supply quantity.

Through the BTFMPC and using NJDEP grants, the authority designed upgrades for stormwater detention basins, which it now manages and maintains. In accordance with the terms of a shared services agreement, eventually the basins will be turned back over to the community. BTMUA shares its CCTV truck and has done stormwater improvements in the community. Rain barrels collect rainwater for plants and flowers on the BTMUA property.

To help combat flooding in the future, BTMUA has undertaken several flood proofing and resilience equipment projects. Its staff visits schools and community groups to educate people about non-point source pollution and water conservation. BTMUA staff has conducted workshops titled “Greening Your Landscape While Protecting the Watershed: Build your own Rain Barrel.” Outreach activities include age-appropriate exhibits, presentations, and educational materials.

BTMUA has worked with the township on model stormwater ordinances relating to bio-swales, rain gardens, offline regional treatment, vegetative rooftop covers, and other “green” techniques. The staff stays on top of advances and best management practices so that they can be incorporated into the overall management plan.

In 2016, Plainfield Area Regional Sewerage Authority (PARSA) initiated a cleaning program for seven of the eight towns in three counties it provides regional interceptor sewer collection service to. PARSA operates a 14-mgd interceptor and serves 135,000 customers. Working under service agreements with each participating town, PARSA’s Clean Collection System Program cleaned the entire local collection system for each “client” at a rate of 20 percent each year for five years. Altogether, PARSA cleans approximately 350,000 feet of pipe annually. Each year, PARSA also inspects 10 percent of the municipal collection system using CCTV and helps to troubleshooting in stormwater pipes. Sometimes, when doing line cleaning, PARSA discovers an issue. Its staff may then do a video inspection, do further cleaning, and/or make repair recommendations. Ensuring the integrity of the local collection system protects sanitary sewers, it keeps stormwater out of the pipes, and it minimizes the likelihood of sewage overflows during wet weather events.

Passaic Valley Sewerage Commission (PVSC), which serves 1.5 million residents in the 48 municipalities of Bergen, Essex, Hudson, Union and Passaic counties, constructed a 2.4 mile flood water interceptor, stormwater pumping stations, and a stormwater collection system at a cost of \$200 million to help PVSC cost-effectively treat sewage and protect the environment. Its Passaic River/Newark Bay Restoration Program is designed to combat pollution, reduce flooding in its service areas, and preserve the recreational and economic uses of the bay, the river, and its tributaries. Under the program, a vessel called an Aquarius System Trash Hunter-34 Skimmer removes floating debris and litter.

Like BTMUA, PVSC works with its communities. PVSC municipalities may request the Commission’s help organizing clean-ups. Commission River Restoration staff provide tools and clean-up supplies for

collecting litter and debris along water ways. Over the more than 20 years it has been conducted, more than 1,200 volunteers have removed 13,000 tons of debris from 100 miles of waterways in the area.

PVSC offers free environmental programs to schools. The age-appropriate curricula help students learn how the PVSC wastewater treatment facility protects the Lower Passaic River and its tributaries. PVSC teaches how to do rain harvesting projects and funds green infrastructure demonstration projects.

Camden County MUA

Like many older cities, Camden had a sewer system that had been installed when combined sewers were considered “state of the art.” Population growth, urbanization, development and many other factors rendered the old systems obsolete. The NJDEP ordered Camden and other cities to phase out combined sewers. In 2011, Camden County Municipal Utilities Authority (CCMUA) joined five other organizations to form Camden SMART (Stormwater Management and Resources Training) with the goal of improving a variety of conditions, including water quality. As a result, CCMUA replaced 8,552 feet of sewer line. CCMUA also did sewer and drainage repairs at a city park which, along with other measures, helped divert 50 mg/year that were otherwise entering the sewer system.

In 2010, North Hudson Sewerage Authority broke ground on a new component of its sewer system, an \$18 million wet weather pump station that significantly mitigated street flooding. In 2016, NHTSA put another wet weather pump station online that further addressed both flooding and water quality.

The Landis Sewerage Authority is one of the few wastewater treatment plants in New Jersey to discharge to ground water using land infiltration and spray irrigation. This supports the aquifer, local wetlands, and the base flow of the Maurice River.

The Somerset Raritan Valley Sewerage Authority (SRVSA) was facing sanitary sewer overflows. An interceptor system in the lower Somerville Borough section of its system was surcharging during severe

storms because of its relatively flat gradient and low elevation. The SSO was causing water to partially flood a baseball field, and it was threatening water quality in Peter's Brook and the Raritan River. SRVSA hired Kleinfelder and CDM Smith to assist them. The options considered were: Doing nothing; working with its municipality members to reduce inflow and infiltration (I/I) reduction; constructing a storage tank for excess flow from storms; constructing a pump station and force main; or expanding the SRVSA treatment facilities by either enlarging the plant or building an auxiliary plant. The last option, auxiliary treatment, was considered the most feasible and cost-effective approach. It was the least expensive of the options, with a projected cost of \$20 million. The next lowest option, expanding SRVSA treatment capacity, was estimated at \$40 million. Controlling the stormwater in this case had clear benefits for the sewer system. It helped address the problem quickly, protected water quality and public health, and it helped ensure that SRVSA continued its exemplary record of compliance with its NJPDES permit.