

## NEWTON, NJ COMMERCIAL LIFT STATION MAINTENANCE & REPAIR

A store in Newton, New Jersey cares about their customers, and serves the community by providing customer service excellence and product value.

### PROBLEM

This property owner in New Jersey had selected AQUALIS to take over the execution of their routine stormwater inspection and maintenance program.

AQUALIS acquired the store from a previous stormwater contractor. During AQUALIS' first service visit to the site, a review of the grading and drainage plans was completed, and a thorough inspection was performed throughout the entire property. A Contech Filter Vault was identified, and quickly found to be out of compliance with manufacturer guidelines. It was likely functioning in bypass mode, or not operating such that water quality and quantity rates were being achieved. In addition to an above-ground Stormwater Control Measure (SCMs), this Storm Filter system was required during the construction of the store for long-term management of a specific water quality and quantity output. This output was defined by local, state or federal jurisdiction.

In July 2017, during the service visit, AQUALIS inspectors observed significant sediment and debris build up around and on top of the filters that were located inside the underground proprietary system. Site conditions, like the soil stability or landscaping practices at the site, largely influence the large-scale maintenance cycles of filter vault systems. Heavy loads of sediment and nutrients from upstream impervious surfaces will increase the frequency of costly vault cleaning and replacement of filter cartridges. Manufacturer recommendations state that cartridge replacement should occur at 1-5 year cycles, depending on the results of the routine inspections. Filter vaults, and other underground systems, are often neglected, due to their location, if a qualified professional is not engaged to understand the design criteria and long-term needs of the entire system. Additionally, property owners do not appropriately budget for the long-term maintenance costs of these assets. The manufacturer maintains records of filter cartridge replacement, and AQUALIS found that despite this system being in place for more than ten years, the cartridges had never been replaced.

### SOLUTIONS

Storm Filter Vaults are designed to remove sediment and pollutants from stormwater runoff before it leaves the property. Total Suspended Solids (TSS) are captured as stormwater flows through an engineered media, designed to target specific pollutants, within the filter cartridges. Chemical and biological processes also occur within the filters to target the removal of specific pollutants. However, these systems need to be cleaned regularly, and often cartridges replaced, on a frequency that is dependent on the input, or sediment loading, to the system. By providing labor, equipment, and materials, AQUALIS was able to rehabilitate the Storm Filter Vault back to a functional and effective state. A vacuum and pressure washing service was performed on the Storm Filter Vault Pretreatment, Stormgate Structure, Inlet/Outlet bay, and Cartridge Bays. All of the 18 filter cartridges were replaced, a total of 112, and the underdrain manifolds were inspected and jetted, with water reclaimed, as needed. All reclaimed material was disposed of at an approved offsite facility.

Every stormwater control measure (SCMs) is intended to have a post-construction maintenance plan to ensure the longevity of the stormwater asset; AQUALIS worked to ensure the system was compliant and functioning for the design it was intended. Had this store not worked with AQUALIS to address and correct the issue, there would eventually be system failure and a possible Notice of Violation (NOV). AQUALIS has the technical expertise to monitor and manage these systems over their lifespan, and provides technology in many areas that it applies, to identify sediment loading and lifecycle analysis within such systems. Another mission of AQUALIS' is education. Many times, AQUALIS uses non-structural Best Management Practices (BMPs) to assist a client with managing their property to limit the impact to their stormwater system, and reduce overall costs. From stabilizing upstream sources of sediment, to recommending modifications to landscaping practices, or providing routine parking lot sweeping services, AQUALIS looks for every opportunity to extend the life of each Stormwater Control Measure maintained.

