Residuals Management Plan
Pawtucket WTP

The Pawtucket Water Treatment Facility utilizes 2 PVC geomembrane lined settling basins to accept wash water residuals from the clarifier rinse and filter backwash cycles. This wash water is pumped from the treatment facility to the LSRB's via a forced main. The wash water enters one of the 3 million gallon capacity LSRB's through the inlet structure. The solids then settle across the length of the LSRB and clean decant water is gravity filtered through the 18" sand bed filter or spills over the outlet structure weir. These 2 collection systems of the decant water combine into a 15" pipe and discharge to the Blackstone River (Outfall 002B RIPDES permit No. RI0001589).

The LSRB system was designed to operate in series or parallel arrangement. We operate the system in the parallel configuration where one LSRB is online while the other is offline and isolated for dewatering, freeze/thaw cycle, drying of sludge, removal of sludge, and ultimately the remediation of the basin to original engineering specs. Once a year, Suez will remove residuals from offline LSRB, remediate basin and place online. At that time the other LSRB will be taken offline to begin the entire process again.

Both online and offline LSRB processes are continually monitored. The LSRB's decant water is monitored by the effluent limitations and monitoring requirements set forth in the RIPDES permit. Also, daily observations of LSRB'S include visual inspection of outlet structure discharge. Periodic observations of sludge build-up across the length of online LSRB provide useful information in regards to LSRB performance. As previously mentioned it is Suez practice to limit runtime of LSRB to one year. This time trigger allows us to budget sludge removal and remediation on a yearly basis and mitigate any exceedances of the limitations set forth in the RIPDES permit.

In late fall or early winter of every year a scheduled removal of dried sludge commences. This sludge has been dewatered, frozen, thawed, and dried through the summer and fall. With the unpredictable variable of weather during the summer and fall months, the sludge water content varies from year to year. Typically, the sludge and sand removal weight from one LSRB will range from 1,000 to 1,500 tons. The sludge consists mostly of dried organic matter, clay silts and residuals of Alum, polymer and carbon from our water treatment process. The sludge is hauled to 20 Industrial Park Road in Lebanon Connecticut which is a solid waste volume reduction facility operating under Permit #07101118-PO issued by the Connecticut Department of Energy &Environmental Protection.

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