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CASE STUDY

Passaic Valley Sewerage Commission | Newark, New Jersey

New Jersey Wastewater Facility Renovates Plant With BILCO Access Doors

Established in 1902, the Passaic Valley Sewerage Commission (PVSC) serves as a fundamental component of wastewater management in northern New Jersey. As the largest wastewater treatment plant in the state and the fifth largest in the U.S., PVSC plays a crucial role in handling about 25% of New Jersey's wastewater.

The PVSC's infrastructure includes a 22-mile main interception sewer, 18 miles of branch interceptors, several field pumping stations and approximately 2,000 miles of lateral sewers. The Newark Bay treatment plant, completed in 1924, has undergone numerous upgrades to accommodate the region's growing demands. Despite these efforts, the facility faced operational challenges due to aging infrastructure, particularly in its grit chambers.

A recent project at PVSC included replacing deteriorating grating on sewer meter chambers with floor access doors from The BILCO Company. The original aluminum and metal grating had been used for decades and required frequent removal and reinstallation by workers to access the chambers for cleaning. The chambers are essential for containing grit—heavy inorganic solids such as sand and gravel that can damage mechanical equipment and disrupt wastewater treatment processes.

The primary challenge facing workers was the inefficient and labor-intensive process of cleaning the chambers. The old grates had to be manually removed to allow access for clamshell operators who extracted the grit. This process was not only cumbersome but also posed safety risks due to the heavy and potentially hazardous materials being handled. Additionally, the grates' deterioration compromised the safety and effectiveness of the chambers.

To address these issues, PVSC, in collaboration with BR Welding and BILCO, implemented a solution involving 14 BILCO floor access doors. These doors were selected for their durability, ease of use and ability to improve operational efficiency. The BILCO doors streamline access to the grit chambers, allowing quicker and safer maintenance operations.

Chris Giglio, President of BR Welding, highlighted the transformation: "There were multiple panels that the workers had to lift out to allow the clamshell operators to access the chamber. Now they just pop the doors open. The difference is like night



and day." The new doors not only enhance efficiency but also improve safety by reducing the manual handling of heavy grates.

The installation involved significant site work, including excavating, backfilling, paving and modifying existing chamber openings to fit the new BILCO doors. BR Welding, which procured the doors from manufacturer's rep Fontana Metal Sales in New York, executed the project with precision, ensuring that the doors were correctly integrated into the existing infrastructure.

The double-leaf doors are frequently used in wastewater infrastructure projects. The doors include Type 316L stainless steel hardware and are equipped with AASHTO H-20 wheel loading. They also include engineered lift assistance for easy, one-hand operation and have a 25-year warranty. Some of the doors were extraordinarily large. Two doors measured 6-feet, 10-inches x 4-feet, 8-inches while another pair measured 7-feet, 8-inches x 4-feet, 6-inches.

Giglio praised the new system saying, "It was tricky form work. But we've worked with BILCO doors a million times. It's a quality product, you know what you're getting."

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