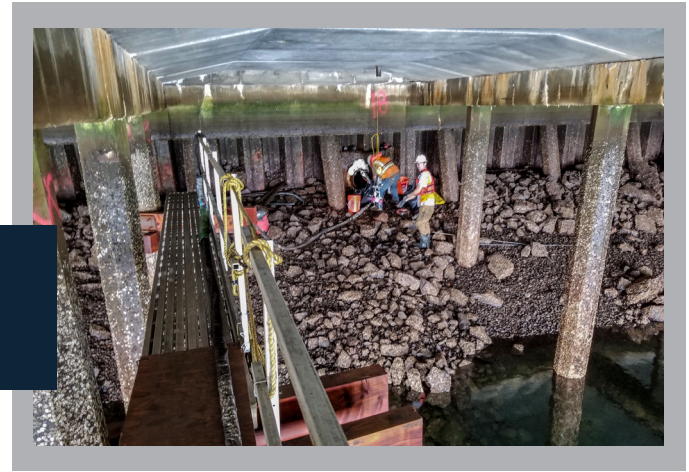


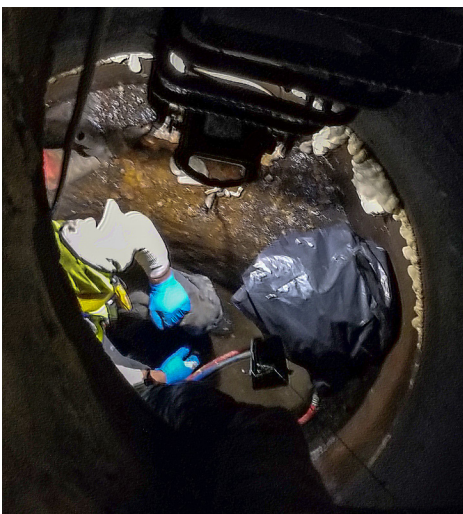


Port of Seattle Seawall Stormwater I/I Repair



Problem

The port of Seattle was experiencing severe settlement in its stormwater conveyance systems that were adjacent to its seawalls. The 5 outfalls and culvert pipes had formed large annular voids due to severe inflow and infiltration (I&I) that was degrading the support soils which consisted of fine silty loam soils and sands. The diameter of the pipes ranged between 16-42 inches and lengths between 22-65 feet. The depths varied between -10 to -15 ft.



Solution

The contractor, SlabJack Geotechnical, approached the project using the TerraThane 24-003 to fill the voids around the outfalls and pipes, seal the joints, and stabilize and densify the support soils. With access restrictions due to the pipe diameter, SlabJack injected the polyurethane laterally down the length of the pipe at the 2 and 10 o'clock positions from the seawall outfall and from access manholes. The injection rods were inserted lengthwise down the pipe and cut to varying lengths to provide injection zones at every 5ft.

In areas where soil densification was required, this was especially important at the pipe bellies, SlabJack Geotechnical inserted rods at angled positions to create a multiple depth injection to effectively rehabilitate the soils against future settlement.

Results

The project took 18 days to complete, a schedule which consisted of working around tide schedules and port operations. It was finished on budget and within the port's schedule. In total, SlabJack Geotechnical



used 12,250 lbs of 24-003 to complete the project. They ensured the project's success with pre and post CCTV inspections and removed any polyurethane tailings and screened all material from entering the ecosystem.

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24-042 CASE STUDY

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