

Waterproofing the \$3.1b Alaskan Way Viaduct



Project	Alaskan Way Viaduct
Waterproofing Subcontractor	F.D. Thomas
GCP Solution	Preprufe [®] SCS waterproofing system

Project

The Alaskan Way Viaduct is a mammoth \$3.1 billion transportation infrastructure project, set to be delivered in late 2018. It's transforming the waterfront of central Seattle with a series of 30 major interrelated construction projects. The headliner: a 2-mile-long highway tunnel carved under Seattle city centre. The project replaces the original Alaskan Way Viaduct, an aging highway overpass vulnerable to earthquakes.

"As a West Coast company, we've put up millions of metres of the Preprufe® SCS system. We haven't had any issues whatsoever with major leaks or system failure at any level."

Bill Parks, Project Manager
F.D. Thomas



Challenge



Bill Parks, Project Manager for waterproofer F.D. Thomas, was tasked with several epic assignments, including waterproofing the south tunnel portal, a cut-and-cover section formed with shotcrete. The 60-foot-deep (18 m) site was virtually floating in water. Water fountains shooting four feet or higher routinely burst through the mud slab. Secant piles offered only token water resistance. And still it rained and rained.

The transportation infrastructure faced a daunting series of issues, including:

- Having to meet specifications that called for a clay membrane waterproofing solution
- Working dozens of feet below the water table during one of the wettest periods on record
- Complying with harsh warranty requirements for near-zero water leakage
- Maintaining a hyper-aggressive project schedule

Solution

Parks knew if they could clear one crucial hurdle—changing the original waterproofing specs of the transportation infrastructure—he and his team could meet the demanding expectations.

“We insisted on the PREPRUFE®SCS system”, Parks recalls “If we had used the other system, it would have been a disaster”.

PREPRUFE®SCS pre-applied system engineered for shotcrete linings is manufactured and sold by GCP Applied Technologies, a global construction and technologies leader. The easy-to-apply membrane and injection grout create a uniform and continuous waterproofing system, sealing off the structure with a resilient cover and ending lateral water migration.

“If a leak appears”, Parks says, “your chances of immediately stopping it are about 90 percent with PREPRUFE®SCS”.

The Results

While up to two years of work remains on tunnel boring and finishing, the south portal transportation infrastructure results are outstanding. F.D. Thomas has installed PREPRUFE®SCS system to about 400,000 square feet of walls. Verdict: a bone-dry tunnel.



“When waterproofed by an experienced team, shotcrete applications are completely waterproof,” Parks explains. “General contractors, owners, architects, and engineers can definitely specify watertight shotcrete with confidence.” There’s a \$3.1-billion project in Seattle that proves it.

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Last Updated: 2022-11-21

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