



University of Washington Medicine

Hycrete Saved 4,000 tons of CO2 by Eliminating De-Watering Pumps for UW Medicine.

HYCRETE360 PROVIDES SUSTAINABLE LONG-TERM CONCRETE PROTECTION

Structure: 2 Lab Buildings, 1 Office Building, and Below Grade Parking

Applications: Foundation Walls, Structural Slab, Fire Suppression Tank, Temporary Roof, Elevator Pits

Owner: UW Medicine

Developer: Vulcan Real Estate

Architect: Perkins + Will

General Contractor: Sellen Construction

Engineer: MKA

Ready Mix Provider: Stoneway Concrete

Introduction

U.W. Medicine Phase II consists of two five story laboratory buildings and one five story office building. The buildings are above three floors of below-grade parking and located in the South Lake Union District in downtown Seattle.

Challenge

To meet the parking requirements for the project, the lowest parking level had to be constructed eight feet below the existing water table, necessitating a solution capable of withstanding high hydrostatic pressure.

Solution

Hycrete360 (formerly System W) offered superior performance to other waterproofing systems, was more cost-effective and accelerated the construction schedule. Using Hycrete360 eliminated the need for waterproofing membranes and saved Sellen Construction approximately \$150,000 up front in material savings.

“Using Hycrete360 proved to be the most cost effective way to waterproof the structure. Hycrete was chosen because it did not have any negative effects on the workers placing the concrete and there were no environmental concerns associated with its use.”

Jack Avery, Senior VP, Director of Construction
Sellen Construction



Material Savings

Location	Membrane			Hycrete360	
	Type	Area (ft ²)	\$/ft ²	\$/ft ²	Savings
Slab on Grade	Rubberized Asphalt	55,950	\$6.00	\$3.70	\$128,685
Foundation Walls	Bentonite	9,600	\$6.00	\$3.70	\$22,080

Total Material Savings = \$150,000



Pumps Eliminated	8
Power Per Pump	24,177 kWh per year
Lbs. CO2 per kWh	1.34
Annual Savings	129 tons of CO2
Building Life	30 years
Total Savings	Almost 4,000 tons of CO2

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If a membrane is used behind a wall or under a slab, there is no way to repair it if it develops a leak. Water will continue to travel to find the nearest crack. When there is a breach in waterproof concrete you know where the problem is, and it can be addressed.

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Jack Avery, Senior VP, Director of Construction
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In addition, using Hycrete360 saved 30 days on the critical path (20 days on the slab on grade and 10 days on the foundation walls), totaling \$300,000.

Time Savings

Location	Membrane Type	Membrane Critical Path	Daily Cost	Hycrete360 Savings
Slab on Grade	Peel and Stick	20 Days	\$10,000	\$200,000
Foundation Walls	Bentonite	10 Days	\$10,000	\$100,000

Total Time Savings = \$300,000

Result

Total material and time savings are \$450,765. On top of CO2 savings associated with eliminating de-watering pumps, eliminating waterproofing membranes saved over 33,000 pounds of landfill waste, 16,000 pounds of asphalt, 1,100 pounds of VOCs (volatile organic compounds), and 62,000 square feet of non-renewable materials.

