

Maple Leaf Reservoir Project

(Seattle, WA)



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| OWNER | Seattle Public Utilities Seattle, WA |
| GENERAL CONTRACTOR | Ferguson Construction Seattle, WA |
| MATERIAL TESTING ENGINEER | Professional Service Industries Tacoma, WA |
| CONCRETE SUPPLIER | Calportland Seattle, WA |
| TRANS-UNLOADER | Lafarge Seattle, WA |
| TRANS-HAULER | ISI Seattle, WA |
| LIGHTWEIGHT SUPPLIER | Utelite Corporation Coalville, UT |
| PROJECT LOCATION | 1020 NE 82nd Street Seattle, WA |
| COMPLETION DATE | Mid-2012 |

Project Description

The Maple Leaf Reservoir Project is a part of the Seattle Public Utilities (SPU) Reservoir Covering Program. Under the Reservoir Covering Program, the city is replacing its “open” reservoirs with underground structures that will improve the quality and security of its water supply and provide an additional 76 acres of new “open space.”

The first phase of the project required demolishing the existing 60 million gallon open reservoir and then constructing an underground 60 million gallon concrete-reinforced reservoir system with 768 columns, 25-35 foot ceilings, and 30,000 cu. yds. of concrete, in the existing basin. The 60 million gallon reservoir is separated into two huge concrete cells holding 30 million gallons each with a single slab of concrete for a roof which covers 7 acres. Once completed, SPU will cover the 7 acre reservoir with “UTELITE” structural mediums material and then add a layer of topsoil and grass.

According to Calportland's Spencer Kull and Mike Middling, who researched various lightweight aggregates which included pumice, expanded clay & slate, UTELITE aggregates was better suited for this project at roughly 1/3 the weight of conventional drainage/ structural aggregates yet had good strength and degradation properties. Normal drainage aggregate would be far too heavy and create undue stress on the already cracking roof.

Upon completion, the site will then be turned over to the Seattle Parks Department for a \$5,000,000 new park development makeover which will include: "Adventure Play" and "Children's Garden" themed park equipped with ADA Accessible Pathways, a Zip Line, Puddle Paths, Adventure Paths, Swings, Sports Courts, Tunnels, and lots of "Open Lawns" for playing various outdoor games. The funding is part of the 2008 Parks and Green Spaces Levy

PROJECT REQUIREMENTS

- ✘ Lightweight Aggregate meeting ASTM C-330 Specification requirements.
- ✘ 11,982 cu. yds. of Utelite "Mediums" Expanded Shale Lightweight Aggregates
- ✘ Density: 47-55 lbs. cu. ft.
- ✘ Minimum Timeline: 1,500 cu. yds./wk. to arrive, offload, deliver, and place.