The Seymour Capilano Twin Tunnels Project, Vancouver, BC

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Abstract:  
The Greater Vancouver Water District is currently constructing the Seymour-Capilano Water Filtration Project to enhance the quality of drinking water in the Vancouver metropolitan area. The Seymour-Capilano Water Filtration Project comprises the 1,800 million litres per day Seymour-Capilano Filtration Plant, the 1,080 million litres per day Capilano Pumping Station, twin tunnels with associated shafts, and the Capilano Energy Recovery Facility. The twin tunnels will convey raw water under pressure from the Capilano Reservoir to the Seymour Filtration Plant and return treated (filtered) water for distribution. The Twin Tunnels component of the project comprises two, 3.7 m diameter, 7.2 km TBM bored tunnels, the 180 m deep Seymour Shaft as the main launch shaft, and two 4 m diameter, 268 m deep raisebore exit shafts at Capilano. The Twin Tunnels have been planned as predominantly unlined tunnels sited at depth entirely within granitic bedrock and cross under two major buried glacial valleys of breadths in excess of 1500 metres that are filled with glacial sediments to depths up to 200 metres. The maximum overburden along the tunnel alignment is approximately 400 metres. Comprehensive site investigations and studies were completed during the detailed design stage of the project. The construction of the twin tunnels is planned to start in the rail of 2004 and be completed by mid-2008.

Keywords: North Vancouver; site geology; bedrock alteration; rock mass quality; hydrogeology; Geotechnical Baseline Report; Seymour Shaft – depth to bedrock; Capilano Valley – depth to bedrock; groundwater inflows and grouting; Seymour length of steel linings; Capilano length of steel linings; shafts length of steel linings.