

2007 ENERGY AWARE AWARD

Seymour-Capilano Filtration Project Metro Vancouver

Executive Summary

The Seymour-Capilano Filtration Project (SCFP) is being submitted for consideration of the 2007 Energy Aware Award in the Community-Level Planning and Development Category. Completion of this project and other concurrent treatment system upgrades will permit Metro Vancouver's water supply to meet all required criteria stipulated by the Canadian Drinking Water Quality Guidelines and Provincial Regulations. Through principles defined in its Sustainable Region Initiative, Metro Vancouver has demonstrated its commitment to sustainable development and energy use optimization through projects such as the SCFP. The filtration plant, which is the flagship component of this project, will be Canada's largest and will provide valuable insight into methods available to optimize energy utilization.

Design elements include a unique geothermal heating/cooling system installed beneath a 200 million litre water reservoir, providing an alternative to electric resistance and natural gas heating. This application is planned to be featured as a demonstration project through BC Hydro's Power Smart program, for consideration in other municipal projects. A life cycle cost comparison of different ultraviolet (UV) disinfection technologies was used to confirm the selection of energy efficient systems, which have higher capital costs, but longer term operational efficiencies. The project will also recover energy through an electrical turbine generator, which will be used to offset approximately forty percent of the energy requirements of the pumping system.

The sustainable development philosophy adopted for this and other Metro Vancouver projects has the advantage of reducing energy usage in addition to addressing social impacts. For instance, use of on-site construction materials such as gravel for concrete production and backfill, on-site batching of concrete, and on-site disposal of excavation materials, all contribute to a considerable reduction in truck hauling distances. This has the effect of significantly reducing energy consumption, emissions to the environment, and community impacts.

Contact Information: Inder Singh, P.Eng.
Metro Vancouver
4330 Kingsway, Burnaby, B.C. V5H 4G8
(604) 436-6891 phone
(604) 432-6420 fax