

SECHELT CREEK HYDROELECTRIC PROJECT

Conwest Exploration (Regional Power)

Sechelt Creek, B.C.



Project Description

KGS Group was retained by Conwest Exploration to design the Sechelt Creek Hydroelectric Project. The project is located north of Vancouver in the Coastal Mountains and develops 16 MW from 340 m of head using two four jet Pelton Turbine Generators supplied by GEC Alsthom. The energy is supplied to BC Hydro. Flow is diverted from two high gradient mountain streams into two separate sediment exclusion and sediment desanding basins. Flow from the desanders is conveyed to the units through a 4200 m long 1.5 m diameter welded steel penstock that crosses over Sechelt Creek with two 35 m span aerial crossings and bifurcates at the powerhouse.

KGS Group was responsible for: sediment and hydrologic studies; initial project layout, final detailed design, tender documents, and field assistance for construction of: sediment excluding intakes; flow desander basins; 30 m by 3 m overflow gated spillway; HDPE and welded steel penstock; penstock bifurcation; two aerial penstock crossings up to 35 m in span; powerhouse; powerhouse foundation and penstock route assessment using drilling, seismic, and pressuremeter testing; along with the blasted and excavated tailrace channel.

Designing structures to be constructed, operated and maintained in a remote and environmentally sensitive (the site is in the mountains of BC on a salmonid stream) proved challenging. The \$25 million project was completed in 18 months and is now generating energy and profits for the owner (now Regional Power).