

NANAIMO WATER TREATMENT PLANT

- Project Details

Need for the Project:

New regulations: VIHA adjusted the City's Operating Permit to require filtration (also known as 4-3-2-1 Treatment Policy). This means:

- 4-log (99.99%) removal of viruses that may be in the water.
- 3-log (99.99%) removal of pathogenic organism (cryptosporidium and giardia lamblia) that may be in the water.
- 2 forms of treatment: filtration and disinfection.
- 1 NTU maximum turbidity in finished water.

Project Start:

Fall 2009

Construction Start:

May 2013

Construction Completion:

December 2015

Date of Operation:

December 4, 2015

Official Opening:

April 7, 2016

General Contractor:	Kenaidan Contracting Ltd. (Richmond, BC)
Site Works:	Knappett Industries Ltd.
Mechanical:	Archie Johnson
Electrical:	Houle Electric
Total Workforce:	During construction, varied on day's activities from 45-90 workers
Engineering:	Associated Engineering & MWH
Architect:	Dialog
Membrane Design:	GE Water & Process Technologies



Design Features of the Plant:

- Membranes remove particles down to 0.1 micron – one ten-millionth of a metre, smaller than most bacteria.
- Membrane filtration in two stages – highly water efficient.
- One of only two plants in Canada to use gravity siphon to draw water through the membranes, rather than suction pumps. This is estimated to save in excess of \$60,000 per year in power costs.
- Two stages of filtration will recover greater than 99% of the water that passes through the plant.
- The plant has the capacity to filter up to 117 Million Litres per day – enough for consumption in excess of 150,000 people; this will be achieved in stages as growth progresses. After this population, the plant is expandable for greater capacity.
- Currently providing between 30 million (winter) and 60 million (summer) litres per day to a population of 91,000.



Costs:

Overall project budget: \$72.5 Million, including design (\$10 M), pipeline installation (\$9 M), construction (\$51 M), contingency. Funding sources are:

- Senior Government Grants: \$17.8 M
- Community Works (Gas Tax): \$17.1 M
- Strategic Priorities Fund: \$1 M
- Development Cost Charges: \$8.5 M
- Water Fund Reserves: \$5.4 M
- Borrowing: \$22.5 M
- Private Contributions: \$0.2 M

Questions:

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