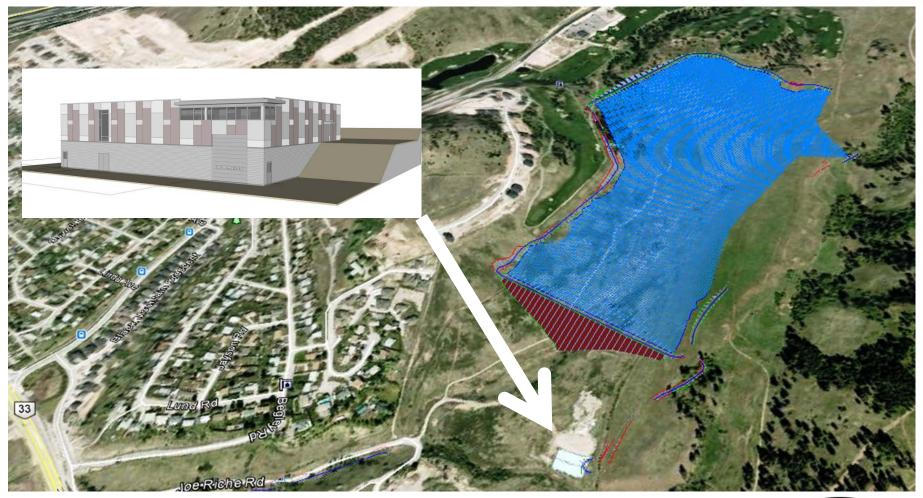


Black Mountain UV Disinfection Facility and Pipeline Project



Proposed Borrowing Plan Presentation



1.0 Borrowing Proposal and Process

- BMID proposes to develop a bylaw that will allow BMID to borrow up to \$7,000,000 for the construction of a \$9,435,000 UV Disinfection Facility and associated Pipelines;
- ☐ There is a potential to receive Federal-Provincial infrastructure grant funding for a portion of the proposed project, so the amount to be financed may be less;
- ☐ To obtain ratepayer assent to borrow the funds, BMID is utilizing an Alternative Approval Process;
- BMID has completed substantial work to date in pipeline purchase & preparation and transmission main construction.

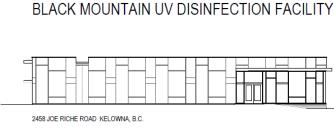














2.0 UV Disinfection - Why it is necessary

- The project is required within the Conditions on Permit issued by Interior Health to BMID that BMID is obligated to follow. Both Interior Health and BMID agree the project is necessary;
- The project is identified within the 2007 BMID Capital Works Plan and the 2012 Kelowna Integrated Water Supply Plan;
- Ultra-violet disinfection provides protection from illness due to Protozoa (*Cryptosporidium* and *Giardia Lamblia*). Combined with chlorination, UV deals with all common microbiological risks;
- It is considered best available technology and is 1/10th the cost of filtration.





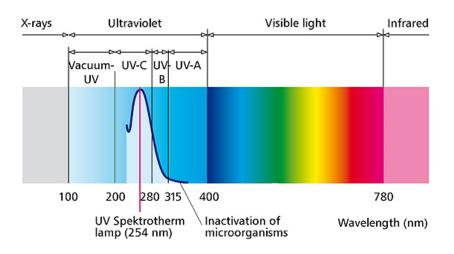
3.0 UV Disinfection - How it Works

Water is passed through UV reactor chambers housing UV lamps that operate targeting a specific wavelength of 254 nanometers. The UV light is absorbed by the organisms within the water. UV light prevents microorganisms from reproducing by damaging their nucleic acids.

UV disinfection is a non-chemical process. It does not leave any residuals, have any taste or odour implications, or have any known by-products.



Spectrum of Light ULTRA VIOLET LIGHT VISIBLE X-RAYS VACUUM VISIBLE BLUE VISIBLE GREEN VISIBLE UV-C UV-A UV-B 300 400 500 600 700 Wavelength MICROBICIDAL REGION

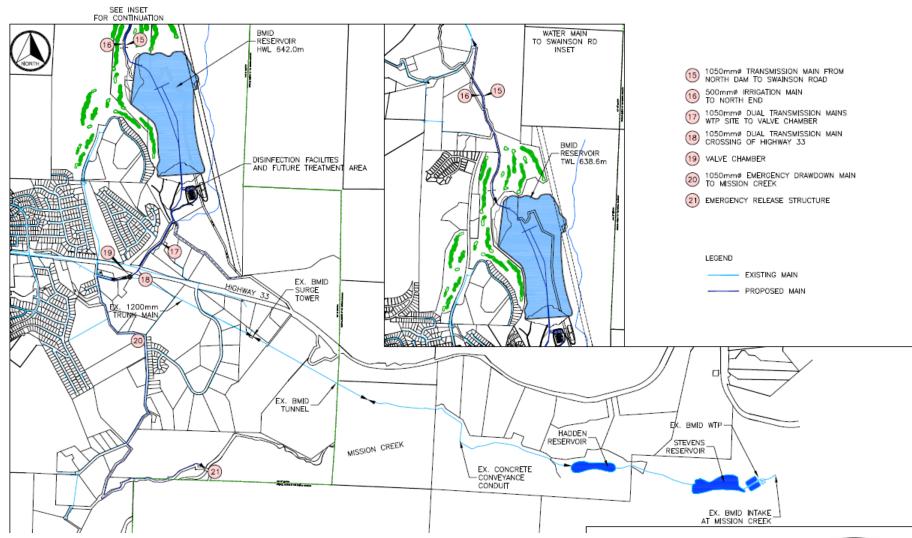


Wedeco (Xylem) - UV Disinfection reactor





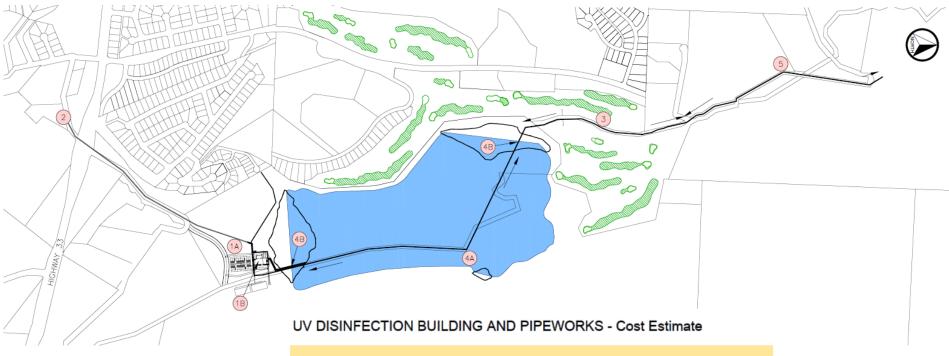
4.0 Integration into the BMID Water System







5.0 Project Components and Costs



No.	Contract Name	TOTAL
1a	UV Facility - Site Preparation Contract	\$ 611,959
1b	UV Facility - Building Contract	\$ 5,565,126
2	Tie-in - Transmission Main to Existing Pipe	\$ 373,819
3	1050mm Transmission Main - Gulley	\$ 921,127
4a	1050mm Transmission Main - Across Reservoir	\$ 690,723
4b	Pipeworks Through Future Dams	\$ 672,509
5	1050mm Transmission Main - to North End	\$ 600,272
	TOTALS	\$ 9.435.537





6.0 Project Funding Considerations

Options considered by the Board:

- Use Capital Expenditure Charge Reserve Funds;
- 2. Borrow the full amount of \$9,435,000;
- 3. Borrow a portion of the funds (\$7,000,000) and fund remainder through revenue surplus and reserve funds.

On \$7,000,000, for 20 year term and Interest Rate of 3.50% Annual Payment = \$492,527 (Requires 14% net increase)

Rate increases of 8.0% in 2013 and 3.5% in 2014 resulted in a significant portion of this annual payment being accounted for in the existing taxes and tolls. Total further tax and toll rate increases should be less than 4.0% for each of next 2 years.

The inflation component of the recent annual water rate increases has been 1.50% meaning the net increase has been 6.5% in 2013 and 2.0% in 2014.



7.0 Alternative Approval Process (APP)

An Alternative Approval Process (APP) is a method for Electors to have direct input into a decision proposed by a Board. BMID must advertise information on the matter and the Electors have the opportunity to petition against it. If more than 10% of the Electors petition against the matter, the Board cannot proceed with the matter unless the approval of the Electors is obtained through a referendum or special meeting general vote.

BMID is utilizing the AAP to obtain Electoral assent to borrow funds for the UV Disinfection Facility and Pipelines Project.

If the proposal is rejected, BMID would be required to fund the project by depleting reserve funds and/or through rate increases.

To oppose the borrowing proposal, Electors are to fill out an Electoral Response Form available at the meeting, BMID office or off of the BMID website at www.bmid.ca





8.0 Project Funding Continued

Table 1 - Water Rate Increases and Tax and Toll Revenue 2012-2016

Yr End	Revenue (increasing at inflation rate)		Year End Revenue \$		Cumulative Revenue incr.	Total Net % Increase
2012	\$ 3,726,914	3.00%	\$ 3,726,914	 		
2013	\$ 3,782,818	9.27%	\$ 4,072,533	\$ 289,715	\$ 289,715	7.77%
2014	\$ 3,839,560	3.50%	\$ 4,215,072	 \$ <u>81,451</u>	371, <u>166</u>	2.00%
2015	\$ 3,897,153	3.00%	\$ 4,341,524	\$ 63,226	\$ 434,392	1.50%
2016	\$ 3,955,611	3.00%	\$ 4,471,770	\$ 65,123	1 \$ 499,515	1.50%
	italicized - estima	ated numbers				12.77%
	Inflation Rate	1.500%	target Revenue	\$ 492,500		

If 1/10th of the Electors oppose the borrowing plan, BMID cannot proceed with a borrowing bylaw unless they get approval from the public through a referendum.

The total estimated number of Electors in the BMID service area is 11,400 persons, therefore 1,140 Electoral Response Forms must be submitted to stop the borrowing bylaw.



9.0 Project Feedback - AAP

If you <u>are not opposed</u> to the proposed borrowing bylaw, no action is required on your part.

If you <u>are opposed</u> to the proposed borrowing bylaw, you must first determine if you qualify as an Elector within the BMID boundaries. If you do qualify, fill out an <u>Electoral Response</u> <u>Form</u> and submit it to the BMID office by Sept. 5th, 2014.

BMID also is accepting general comments on the feedback forms that are provided at the open house and on our web page at www.bmid.ca.

