

Welcome to the Black Mountain Irrigation District Open House

McDougall Tunnel Extension Project Request to Public For Borrowing

Open House Dates

3:00 pm-7:00 pm, August 19 and August 26, 2026

Main Office - Black Mountain Irrigation District

The McDougall Tunnel Extension project request to borrow was advertised in the two local newspapers, posted on the BMID Website, and public notification was issued through the Voyent Alert cell phone app directly to 5,700 customer accounts.



The Problem:

After numerous failures and near failures of BMID's primary water supply conduit, with the last one being in 2018, the BMID Board is working to ensure there is secure water supply for the District. The BMID Board of Trustees and Senior Management believe that the existing conveyance conduit must be relocated to a safe location away from the silt bluffs along Gallaghers Canyon.

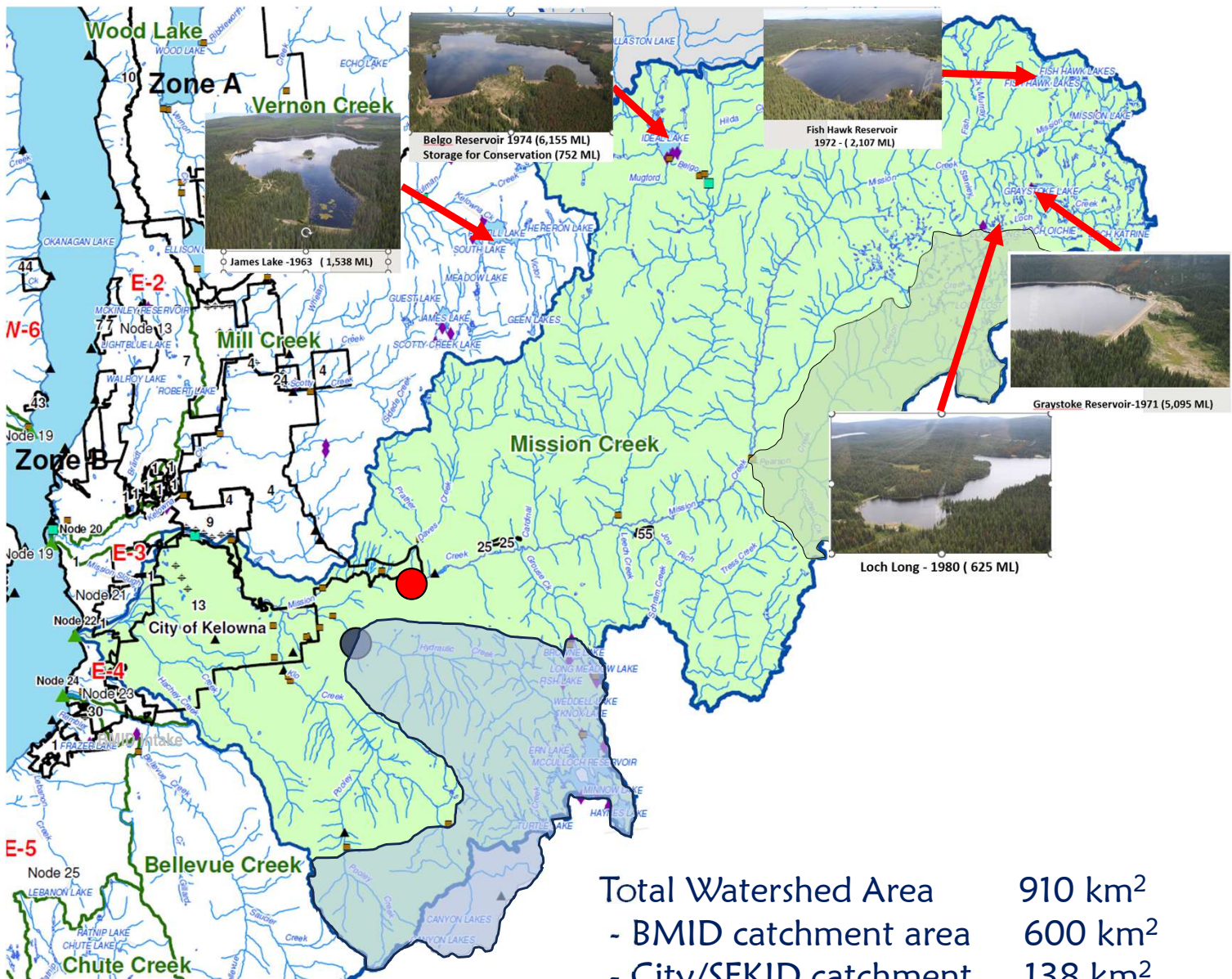
The Solution:

The solution is to construct a tunnel bypassing Gallaghers Canyon. The tunnel will be 1,650 metres long and will maintain the long-term gravity water supply to the region. The new tunnel is to be in stable bedrock and will extend the existing tunnel that is located below the shoulder of Black Knight Mountain. BMID has relied on the existing water tunnel for 80 years and is confident of this solution.

The Cost:

The project cost is \$40,000,000. Since inception in 2018, BMID has expended \$8,000,000 in preparation for this project with renewal of key infrastructure adjacent to the Tunnel Extension work. Funding the remaining \$32,000,000 will come from a combination of excess revenue, development reserve funds, borrowing and possible support from a Federal Grant.

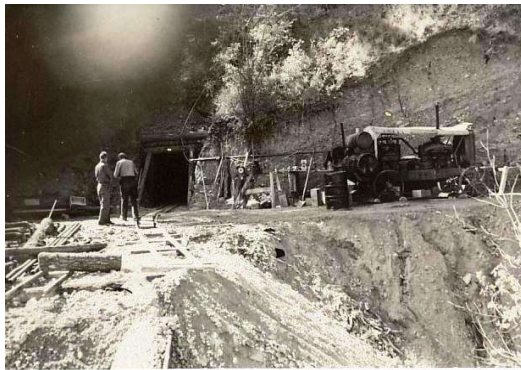
Mission Creek Watershed



BMID operates five upper watershed reservoirs with four of them in the Mission Creek watershed and one in Scotty Creek watershed. The drought through the winter of 2025-26 and the summer of 2026 highlights their importance.

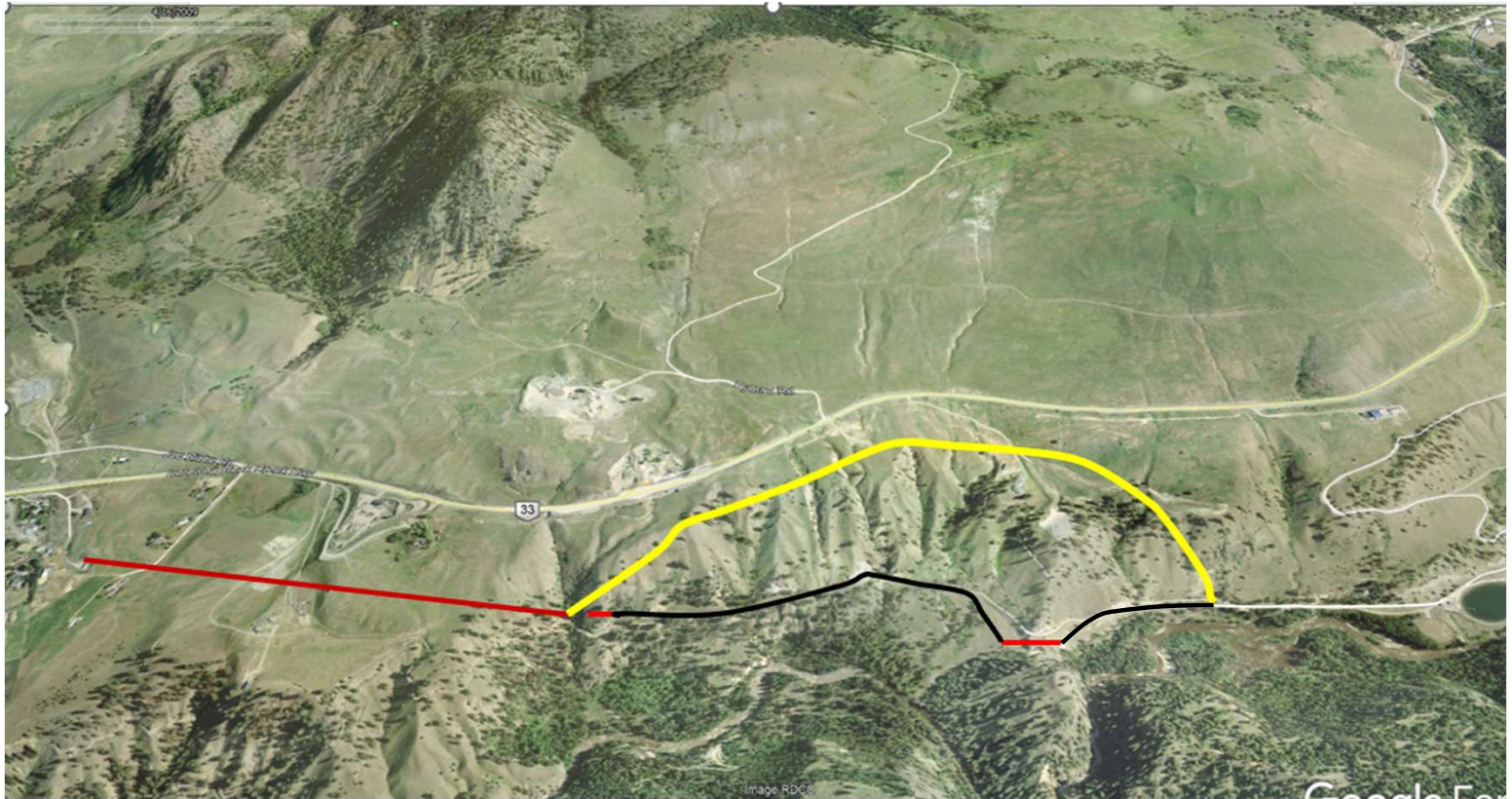
Mission Creek is the largest catchment area with the largest inflow to Okanagan Lake. In the long term, the reliance and demand for this source will increase. The tunnel size is designed to meet the long-term needs of the Kelowna region.

McDougall Water Supply Tunnel (1945)

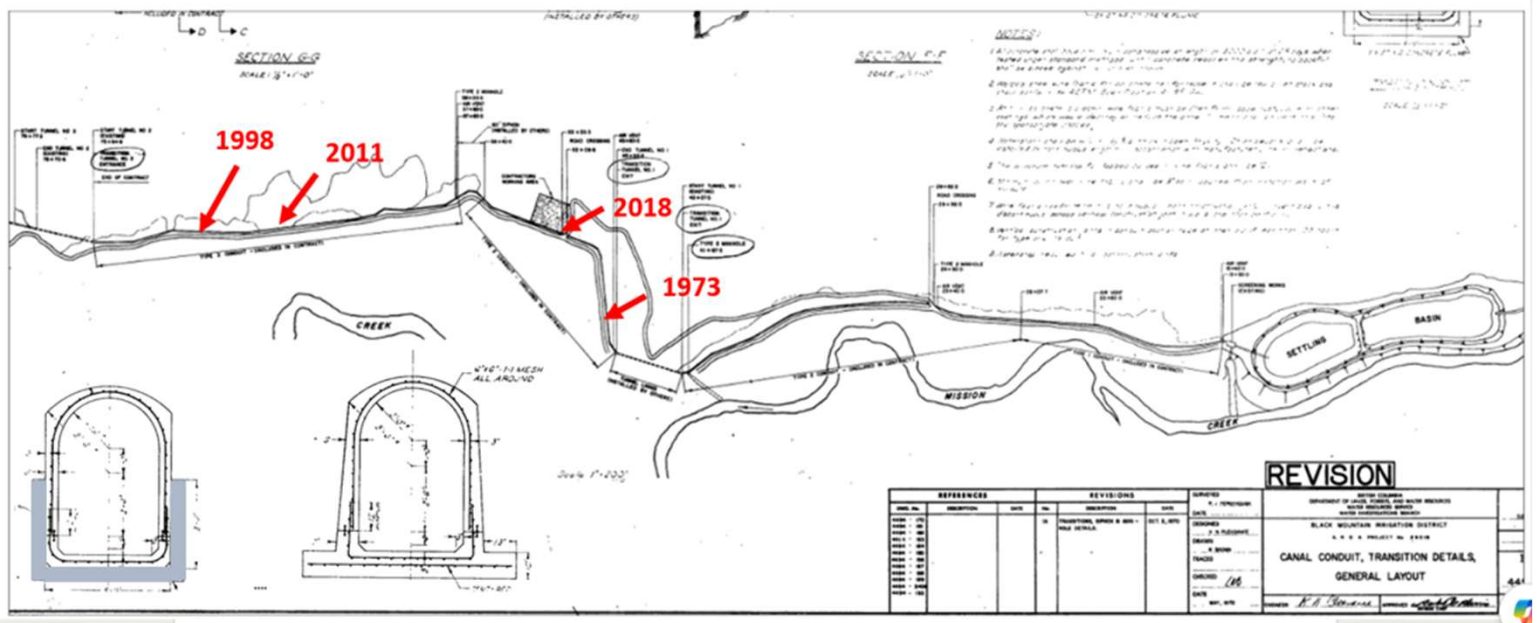


The McDougall Tunnel was conceived by Dougall McDougall in the 1920s as a means to access raw water directly from Mission Creek by gravity. The 1,000m long tunnel was constructed over several years in the 1940s. The tunnel portals were reconstructed again in the 1960s ARDA project. The unlined tunnel is an excellent component of the BMID water infrastructure.

CONVEYANCE - HADDEN RESERVOIR TO EAST PORTAL OF THE EXISTING McDougall Tunnel



Redline - Existing McDougall Tunnel – 1000m length
 Yellow line - Proposed McDougall Tunnel Extension – 1650m length
 Black Line – Concrete conduit to be replaced – 1400m length



The existing tunnel is secure however the conveyance route from Mission Creek to the east tunnel portal has seen numerous failures over the past 55 years.

October 1973 Conduit Major Failure / Washout



November 1998 Conduit Repairs



March 2011 Repair prior to Irrigation Season



March – October 2018 Monitoring and Repair



The 2018 slope movement was over the summer months and highlighted how high the natural risks are in Gallaghers Canyon.



Economic Impact of Water Supply Failure

Should the supply conduit fail in mid summer season, the economic impact would be severe. Failure of the slopes below the existing conduit are not a “What-if” scenario, but rather a “When” scenario. Preventative measures to secure the route will cost far less than the expenditures to remediate after a failure. The 2018 Economic Loss estimate due to water supply failure was updated to 2026-year dollars and is presented in the Table below.

LOSS OF COMMUNITY WATER SUPPLY - AGRICULTURAL IMPACT																Aug. 13/2026
Groupings	Acres	Revenue / Acre	Replant Cost / ac.	Gross cost / yr	TOTAL LOSS	Replant Cost/ac	2027	2028	2029	2030	2031	2032	2033	2034	2035	Description / Comments
Cherry	640.00	\$ 55,004	\$ 18,335	\$ 35,202,445	\$ 229,989,305	\$ 11,734,148	\$35,202,445	\$35,202,445	\$35,202,445	\$35,202,445	\$35,202,445	\$23,585,638	\$11,616,807	\$ 7,040,489		
Sour Cherry	37.23	\$ 24,446	\$ 18,335	\$ 910,023	\$ 6,324,660	\$ 682,517	\$ 910,023	\$ 910,023	\$ 910,023	\$ 910,023	\$ 910,023	\$ 609,715	\$ 300,308	\$ 182,005		
Apple HD	537.69	\$ 30,558	\$ 44,169	\$ 16,430,506	\$ 92,757,436	\$ 23,749,311	\$16,430,506	\$16,430,506	\$16,430,506	\$11,008,439	\$ 5,422,067	\$ 3,286,101				\$350/bin x 90 bins / acre
Apple MD	163.79	\$ 12,223	\$ 44,169	\$ 2,002,031	\$ 15,643,073	\$ 7,234,541	\$ 2,002,031	\$ 2,002,031	\$ 2,002,031	\$ 1,341,361	\$ 660,670	\$ 400,406				\$350/bin x 60 bins / acre
Apple LD	197.61	\$ 6,112	\$ 44,169	\$ 1,207,688	\$ 13,800,496	\$ 8,728,205	\$ 1,207,688	\$ 1,207,688	\$ 1,207,688	\$ 809,151	\$ 398,537	\$ 241,538				\$350/bin x 45 bins / acre
Soft Fruit Apricot/Peach/Pear/Plum	37.46	\$ 18,335	\$ 18,335	\$ 686,876	\$ 3,571,756	\$ 686,876	\$ 686,876	\$ 686,876	\$ 686,876	\$ 460,207	\$ 226,669	\$ 137,375				Est.
Berry Crop (rasp, strawberry, berry)	29.16	\$ 36,669	\$ 18,335	\$ 1,069,368	\$ 5,026,029	\$ 534,684	\$ 1,069,368	\$ 1,069,368	\$ 1,069,368	\$ 716,477	\$ 352,891	\$ 213,874				
Grape - Vineyard	320.00	\$ 24,446	\$ 18,335	\$ 7,822,765	\$ 38,722,689	\$ 5,867,074	\$ 7,822,765	\$ 7,822,765	\$ 7,822,765	\$ 5,241,253	\$ 2,581,513	\$ 1,564,553				
Floriculture (flowers)	0.29	\$ 61,115	\$ 24,446	\$ 17,723	\$ 77,983	\$ 7,089	\$ 17,723	\$ 17,723	\$ 17,723	\$ 17,723						
Cash-Crop-Garden (corn, veget....)	65.56	\$ 18,335	\$ 4,889	\$ 1,201,954	\$ 3,361,464	\$ 320,521	\$ 1,201,954	\$ 1,201,954	\$ 396,645	\$ 240,391						
Turf farm	57.91	\$ 24,446	\$ 3,056	\$ 1,415,680	\$ 3,758,631	\$ 176,960	\$ 1,415,680	\$ 1,415,680	\$ 467,175	\$ 283,136						
Forage / Pasture / Grass	439.74	\$ 2,445	\$ 611	\$ 1,074,990	\$ 2,988,471	\$ 268,747	\$ 1,074,990	\$ 1,074,990	\$ 354,747	\$ 214,998						200 days/yr, feed livestock/horses 0.5 bales/day/livestock x 2 livestock/acre
Alfalfa	99.75	\$ 2,750	\$ 611	\$ 274,336	\$ 755,035	\$ 60,964	\$ 274,336	\$ 274,336	\$ 90,531	\$ 54,867						90 square bales/acre x \$10,000 bale x 2.5 cuts/year
Greenhouse / nursery	44.67	\$ 122,231	\$ 30,558	\$ 5,459,916	\$ 12,284,811	\$ 1,364,979	\$ 5,459,916	\$ 5,459,916								
TOTAL	2670.85	acres		\$ 74,776,302	\$ 429,061,839	\$ 61,416,617	\$ 74,776,302	Order trees, two years	replant							
	2027	Complete Loss Year				Replant	Year of failure									
	2028-30	Order trees, new stock														
		Designates Replant Year														
		0 First year after replant year														
		0.33 Designates reduced production 33%														
		0.67 Designates reduced production 67%														
		0.80 Designates reduced production 80%														
Value added services				50%	\$ 214,530,919											
Vegetation on Single family lots		6000 lots	\$3667 per lot		\$ 22,002,000											
Sports fields, schools, Parks		300 acres	intangible amount													
				Subtotal	\$ 665,594,758											
ORDER OF MAGNITUDE COMMUNITY IMPACT					\$ 670,000,000											



The direct economic impact of a conduit failure in mid-summer is huge. The indirect economic impact, such as spin-off industries and community impacts could be up to 1.5x more.

There are no other sources of water that are sufficient to provide an alternate supply of any significance. BMID has sufficient alternate water connections in the winter months, however the summer flows are 15 times greater than the winter water demands.

McDOUGALL WATER TUNNEL EXTENSION



Purple line – McDougall Tunnel Extension

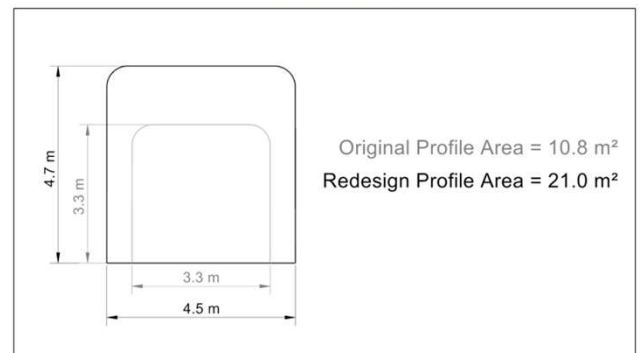
Tunnel Cost Estimate	\$ 30,000,000
Ancillary pump Station	\$ 680,000
Rock Lining BMID Facilities	\$ 1,320,000
TOTAL	\$ 32,000,000

- Tunnel Extension Length = 1,650 m
- Excavate from East portal location
- Cross Section Size 4.7m H x 4.5 m W
- Neat Rock Volume 35,000 m³
- Enlarged to increase secure water storage
- Blasted Rock expanded volume 51,000 m³
- Rock to line BMID Facilities along Mission Creek
- Project includes Pump station to service local landowners who provided registered Statutory Right-of-Way for the tunnel.
- Tunnel bedrock tested for drinking water safety



Photo - Trans-Mountain Pipeline Tunnel -2024
(same end section size as BMID Tunnel Extension)

Figure 1: Tunnel Profile Enlargement



How Does BMID Pay for the Tunnel Project ?

BMID has four potential sources of financing the project.

- 1. Reserve Funds:** The project is eligible as a renewal project and as a capacity expansion project and reserve funds from both the BMID Renewal Reserve and the Capital Expenditure Charge Reserve can be used. BMID has \$18,000,000 held in these two funds. These reserve funds earn > 4.0% interest per year.
- 2. Excess Revenue:** Typically, BMID has > \$2,000,000 of annual revenue in excess of expenditures. This money is used for system maintenance and upgrades of highest priority in the current year.
- 3. Borrowing:** BMID has the capacity to borrow a significant funds but requires public assent to do so. BMID has secured a 25-year term borrowing rate from RBC bank of 4.43% for a loan up to \$20,000,000. The debt servicing of a loan can be partially funded interest earned from BMID Statutory Reserve Funds that are earning an average return of 4.0% annually.
- 4. Federal Grant Funding:** BMID has applied to the federal Building Communities Strong Fund that was introduced in early May 2026. The fund is asking for shovel-ready projects. BMID has submitted an application and has been informed that the Tunnel Extension Project meets their criteria. BMID has requested funding of \$16,000,000 which is half the project cost.

Tunnel Project – Water Rate Impacts

There are two funding plans, one if the grant is successful, one if BMID has to fund the project without assistance.

Federal Grant is Successful

Government funds \$16,000,000

BMID funds \$16,000,000

BMID would utilize \$4,000,000 from Capital Reserves and then borrow \$12,000,000.

Annual debt servicing = \$804,000

To service the debt, rate escalation will be 5% increase over 2 years.

2026 Rates (current)

Single Family	\$ 804.00/yr
Multi Family unit	\$ 443.40/yr
Irrigation \$/acre	\$164.00/acre/yr

2027 Rate

Single Family	\$ 845/yr
Multi Family unit	\$ 466/yr
Irrigation \$/acre	\$ 172/acre/yr

2028 Rate

Single Family	\$ 886/yr
Multi Family unit	\$ 489/yr
Irrigation \$/acre	\$181/acre/yr

After 2028 rates projected to escalate at rate of inflation (min.)
Healthy reserve fund level will earn interest to support debt servicing and would be available for the construction of future upper watershed storage.

Federal Grant is Not Successful

BMID funds

\$32,000,000

BMID would be forced to utilize \$12,000,000 from Capital Reserves and then borrow \$20,000,000.

Annual debt servicing = \$1,340,000

Reserve fund levels will be reduced.

To service tunnel debt, rate escalation will be 5% increase over 4 years.

2026 Rates (current)

Single Family	\$ 804.00/yr
Multi Family unit	\$ 443.40/yr
Irrigation \$/acre	\$ 164.00/acre

2027 Rate

Single Family	\$ 845/yr
Multi Family unit	\$ 466/yr
Irrigation \$/acre	\$ 172/acre

2030 Rate

Single Family	\$ 977/yr
Multi Family unit	\$ 539/yr
Irrigation \$/acre	\$ 199/acre/yr

After 2030 water rates would escalate at rate of inflation (minimum).

Summary

IF YOU SUPPORT THE PROJECT

There is no action required on your part.

The water rates will increase.

The debt will be lower if the Federal Grant application is successful.

IF YOU DO NOT SUPPORT THE PROJECT

If you wish to oppose the project, please first ensure that you are eligible to submit an Electoral Response form.

Those persons that have name on title and have a current registered water account with BMID can submit the response form. If there are several names on title, each person can submit one form. If you own multiple properties, you can submit a form for each property.

If you belong to a strata that has one master account with BMID, then only one Electoral Response can be submitted by the Strata appointed representative.

The forms are available at the Main Office at 285 Gray Road up until the closing time and date of 4:00 pm September 21, 2026.