

Water matters

A newsletter from
the Black Mountain
Irrigation District

Issue Number 11
July, 2000

Medical health officer applauds BMID's "efficient" and "cost-effective" water treatment system

Kelowna's Black Mountain Irrigation District (BMID) has a new coagulation/flocculation water treatment system that is exceeding everyone's expectations, including those of Okanagan Similkameen Health Region's medical health officer, Dr. Bill Moorehead.

"BMID's new system is a progressive, wise, and thoughtful response to the district's specific water management challenges," says Dr. Moorehead, who particularly applauds the system's efficiency and cost effectiveness.

Administrator Phil Ruskowsky is also thrilled with BMID's new treatment facility, which — at 102 megalitres daily — has the distinction of being B.C.'s largest. "BMID's collection system is such that turbidity (cloudiness) caused by spring runoff has been a perpetual problem," he explains. "Our turbidity levels were often in the neighbourhood of 55 NTUs. Shutting the system down and issuing boil water advisories were not uncommon. The new system is performing better than expected. It has reduced turbidity levels to less than 2 NTUs and, more importantly, has resulted in a 50 percent reduction in chlorine usage."

As explained by engineering project manager Bob Hrasko from Reid Crowther & Partners Ltd., "by settling out most of the organic compounds, we've significantly reduced the amount of chlorine needed before distribution. This reduces the levels of trihalomethanes (known carcinogens) produced when organic compounds are mixed with chlorine, which provides a significant health benefit."

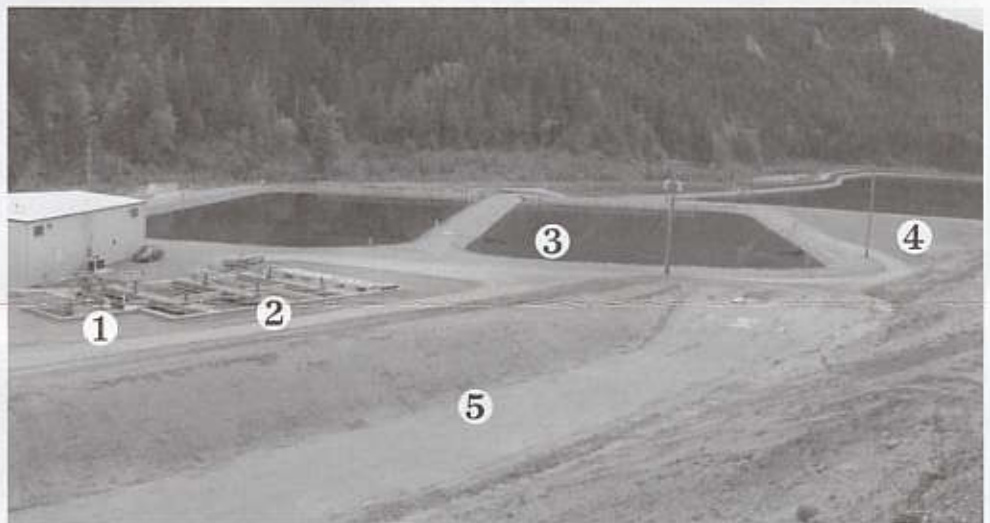
BMID started exploring its treatment options seriously in '97, when a "one-in-

one-hundred-year runoff" caused landslides and riverbank erosion that played havoc with water supplies throughout the valley.

"We cannot control Mission Creek," says BMID operations supervisor Malcolm Tomlinson. "We have to play the hand we're dealt, and what we got in the spring of '97 was a very dirty hand! What we can do, though, is improve the part of the system we can control — from our initial intake through to where our last on-line customer receives water."

To meet that objective, Reid Crowther began by researching and testing treatment options that were feasible and affordable considering 85 percent of the district's considerable output is used for agricultural and domestic irrigation. Other objectives were that the system be built entirely on BMID lands; that it minimize capital, operations and maintenance costs; make use of existing infrastructure

See 'Treatment system' page 4



Water is drawn from a new intake on Mission Creek before being directed to a grit pond, where heavier particles such as fine gravel and sand settle out. It then travels over a fish screen (to divert fish back to Mission Creek) before overflowing into the sedimentation headworks 1, where it's injected with a chemical coagulant before being directed into one of the two flucclulators 2, where a polymer is added and mixing occurs to encourage floating particles to stick together. The bigger these "floc" particles become, the better they'll settle out in the polyethylene-lined clarifier basins 3, each of which is designed to accommodate 51 megalitres daily. The clarified water will then flow to Stevens 4 and Hadden Reservoirs for further settling before flowing through the screening and chlorination station on its way to BMID's 6,600 connections. Settled "floc" sludge from the clarification basins will be diverted into a clay-lined holding pond 5, where it will dry before being disposed of.

Trustees' Annual Report

Meetings: The Board of Trustees held 38 regular and special meetings to conduct BMID's business activities.

Election: Allen Kirschner was elected to a three-year term as BMID trustee. Gord Ivans was appointed chairman of the board. The terms of office for Gord Ivans and Alf Kempf expire in 2000. Both will seek re-election. Since there were no other nominations, both were re-elected for three year terms.

Water Treatment Facility: Trustees approved a \$3.5-million water treatment project that will improve drinking water quality, especially during spring runoff. Construction commenced in early August and was complete by runoff. The facility includes a new intake on Mission Creek, and rapid-mix tank where chemical (alum) is added, two flocculators, two large sedimentation clarifiers, an operations building, and all necessary pipe works, instrumentation and chemical dosing equipment needed to operate the plant.

Water-Main Failures: You may recall, late in December 1998, a 4' by 6' section of the main conduit failed — the result being that a 90' section of concrete had to be removed and replaced at considerable cost. In June, failure of a section of 36" pipe caused an interruption of service for several days and, again, at great expense. Shared connections with Rutland Waterworks District and Glenmore Ellison Improvement District again proved beneficial, and BMID trustees are very grateful to both districts for supplying emergency service while repairs were carried out.

Backflow Prevention Program: Amendments to the BC Plumbing Code require water purveyors to monitor for cross-connections and comply with various standards established by the Canadian Standards Association. The program was undertaken by the Kelowna Joint Water Committee, of which BMID is a member — along with all other water districts operating within City of Kelowna boundaries. This ongoing project will eventually require additional staff.

Financial Summary: BMID continues to operate in a sound financial position. Due to an anticipated increase in operating costs for the water treatment plant, both irrigation and domestic water rates were increased. Domestic rates were increased by \$1.50/month effective January 1st, 2000, with a further increase of \$1.50 planned for January 1st, 2001. Irrigation rates were increased by \$1 per acre per year effective in 1999. The district has applied for a government debenture to finance the water treatment facility.

Subdivision Development: Growth in BMID's service area continued to be moderate, with 77 units being added to the system. The increase of 1.18% brings the total number of serviced units to 6,596.

Capital Works: In addition to the water treatment facility being constructed, the Cornish Road well was upgraded and will be ready for use this year. Also, some additional water main looping was undertaken in the Totem Industrial Park to achieve required industrial fire flows.

Gallagher's Canyon — Reserve Status: all negotiating parties have accepted Draft No. 14 of the Master Agreement. Barring further amendments, all stakeholders will accept the agreement. Negotiations have been underway since 1993.

BMID Website: In August, BMID introduced its website on the World Wide Web. Located at www.bmid.org — the site offers a convenient look at the district's history, bylaws, billing, current and future projects, newsletters (under construction), and links to other related sites.

Acknowledgement: On behalf of all BMID water users, the trustees thank all staff for their continued cooperation and dedication, and overall for a job well done.

Respectfully submitted,

Gord Ivans
Alf Kempf
Allen Kirschner
Heinz Koetz
Laurence Petch

Wally and Wanda say...

...be responsible when playing in our watersheds

- Recognize that you're in a community watershed and that water is a priority resource.
- Stay on designated roads to avoid damaging soft ground such as meadow lands and creeks.
- Pack out what you pack in.
- Go to the bathroom well away from streams and lakes.
- Make sure your campfire is "out cold."
- Obey all signs and keep vehicles off dams and other structures.
- Observe, record, and report questionable activities to BMID at 765-5169.
- Remember that damage to the watershed causes damage to your drinking water.

