

## Operating Conditions required by Interior Health

In May of 2003, the *Drinking Water Protection Act* (DWPA) and corresponding regulations were adopted to modernize drinking water protection in B.C. Overseen by the Ministry of Health and drinking water officers in each of the province's five health regions, the act requires:

- certified operators for water systems,
- more thorough water system assessments, and
- ongoing water quality monitoring and reporting.

More specifically, Interior Health (IH) requires that all water systems serving more than 500 people do the following:

### Use certified operators

The Village of Lumby recently reviewed its water distribution system in conjunction with the Environmental Operators Certification Program, and is now classified as a Level-2 Water Distribution System and a Level-1 Water Treatment System. With three operators certified as Level-1 Water Distribution System operators on the crew, training and job experience will allow the operators to obtain their Level-1 Water Treatment level along with the Level-2 of the Water Distribution System level in the next coming years.

### Operate a cross-connection control program

The Village of Lumby is working with Interior Health to develop a bylaw that will identify a framework for a cross-connection program. This timeline is set for 2008.

### Conduct a drinking water sampling program

The Village of Lumby and Interior Health have worked closely to formulate a sampling program that captures an overall statistical review of the water system in Lumby.

Daily readings for chlorine residuals along with weekly water sampling for *E-coli* and total coliforms ensure an excellent base is gathered that accurately dictates water source trends.

### Conduct continuous online turbidity sampling and recording of raw water for each surface source

With the Village of Lumby now acquiring its water from a deep-well aquifer, turbidity issues are drastically reduced and are not considered a threat. Having said that, operators will still monitor turbidity levels on a daily basis as part of the sampling program.

### Conduct continuous online monitoring of the disinfection process

The Village of Lumby no longer draws water from Duteau Creek. As a result, flooding or non-manageable upstream activities within the creek, that can increase viruses and bacteria at the head of the distribution system, will be avoided. Still, a chlorine residual will be injected at the water treatment plant for distribution system maintenance.

### Perform *Giardia* performance monitoring calculations as prescribed by the public health engineer

Again, with a confined deep-well water source, the threat of *Giardia* is very low. A chlorine residual in the distribution system will ensure a safe final product.

### Develop long-term plans for source, treatment, and distribution system improvements

Council for the Village of Lumby took an aggressive stance in securing funds for the new water treatment plant. As part of this process, the new deep-well source has been proven to sustain potable water for many years to come. As well, the planning and engineering depart-

ments of the Village of Lumby are developing a large digital database of all water infrastructure within the village. This database will help identify future programs for replacing aging infrastructure, and will allow developers to foresee the commitment needed if they wish to develop raw land.

### Review and update emergency response plan annually

The Village of Lumby Municipal Emergency Response Plan for the water system has been approved by Interior Health and now only requires minor yearly updates.

### Provide a well protection plan for each well source

Presently, Golder and Associates engineers have been retained to develop the Village of Lumby Wellhead Protection Plan. This plan will set out maintenance programs and guidelines that the Village of Lumby and the general public will have to adhere to around Lumby's aquifer source. This plan will be presented to the council of the Village of Lumby early in 2007.

### Report prescribed monitoring results to the public health engineer monthly

The Village of Lumby submits reports by the 15th of each month that outline all test results for the water system for the previous month. These include bacterial results performed by an independent environmental lab, as well as daily chlorine and turbidity readings gathered by Lumby operators. Daily and monthly water volumes are recorded, pump hours and their efficiency are noted, and various sampling points are identified. Constant communication is guaranteed between the village and Interior Health staff. ■

## Water Conservation and Drought Contingency Plan

A grant from the Land and Water Division of B.C. helped institute the Village of Lumby's Water Conservation and Drought Contingency program. In general, the program recognizes concerns of our existing water system and makes recommendations to improve water-use efficiency and infrastructure shortfalls through short- and long-term planning. More specifically, the program reaffirms the Village Of Lumby's commitment to sprinkling restrictions. The following criteria explains the program's trigger points:

**Stage 1** Triggered at 65 percent water treatment capacity or well draw-down of 25 percent:

- Promote voluntary compliance of sprinkling regulations (odd/even days of sprinkling between 6 PM and 8 AM)
- Reduce water use through increased public awareness and compliance
- Institute the comprehensive water-level monitoring program.

**Stage 2** Triggered at 65-85 percent treatment capacity for 30 consecutive days or well draw-down between 25 and 50 percent.

- Continue voluntary compliance of sprinkling regulations
- Reduce non-essential municipal water use
- Increase public awareness and compliance (possible door-to-door handouts).

**Stage 3** Triggered at 85-95 percent treatment capacity for more than 15 consecutive days or well draw-down

between 50 and 75 percent.

- Initiate mandatory water restrictions for non-essential use
- Limit landscape watering to once a week between 8 PM and 8 AM
- Discontinue municipal/government watering
- Discourage the establishment of new landscape vegetation
- Discourage new connections onto the system.

**Stage 4** Triggered at 95-100 percent of treatment capacity for seven consecutive days or well draw-down between 75 and 98 percent.

- Increase water-level monitoring with daily reports to mayor and administrator
- Enforce mandatory watering restrictions strictly
- Prohibit draining/filling of pools
- Prohibit landscape watering
- Require a reduction in commercial water use
- Broadcast crisis alert through local media. ■

## Water-Use Efficiency Project

continued from page 1

resulting in enormous cost savings for the water system in pumping and maintenance costs.

With the continued support of the residents, and the forthcoming upgrading of the water system, this will only confirm that Lumby is "Simply the Best." ■



## WaterWise

Published by:

Village of Lumby  
P.O. Box 430  
Lumby, B.C. V0E 2G0  
Phone: 250-547-2171  
Fax: 250-547-6894  
Email: lumbyvil@junction.net  
Website: www.lumby.ca

## Meet the Staff



In keeping with its philosophy of having experienced and well-trained employees to run the water treatment plant, the Village of Lumby hired Jeremy Jewitt in January 2002.

Jeremy is a certified Level-1 Water Distribution Operator and has his certification in Cross-Connection Control through B.C.'s Environmental Operators Certification Program. He is a key contact in implementing the Village of Lumby cross-connection control program, and is instrumental in performing the hydrant maintenance program, the water valve program, and the leak detection program. Bringing a strong work ethic every day, Jeremy enjoys the teamwork involved in performing the routine water maintenance or occasional emergency repairs.

A long-time Lumby resident, Jeremy is married to Leanne; they have a daughter, Shae, and son, Troy. ■

VILLAGE OF LUMBY

# WaterWise

Fall 2006

## Water-Use Efficiency Project

On May 23rd, the Village of Lumby launched its Water-use Efficiency Program. In keeping with the newly adopted Water Conservation and Drought Contingency Plan, a Stage-1 Water Conservation threshold was declared that instituted water sprinkling regulations, a public education awareness program, and increased water-level monitoring for village wells.

The summer of 2006 was officially recorded as the second hottest summer in average temperature since the Ministry of Environment began recording temperatures in 1963. In keeping with this statistic, it is easily explainable that a slight increase in water consumption was observed through the summer. Early implementation of Stage-1 measures,

## Water Treatment Plant Update



After four years of adhering to provincial and federal regulations that resulted in construction delays, the Village of Lumby's Water Treatment Plant was finally commissioned the week of October 9, 2006.

Water is pumped from a deep confined aquifer, located at the north end of town, directly into the plant. As it enters the plant, water is injected with sodium hypochlorite to achieve chlorine residual. After receiving adequate contact time in the reaction tanks, the water is directed to two large filter vessels that, through a series of filter media, remove iron and manganese (and, therefore, the potential for bothersome staining).

The aquifer is a proven source that will meet the village's water demands for many years, and the state-of-the-art plant has potential for future expansion.

combined with the cooperation of Lumby residents, resulted in usage much lower than that experienced in 2003. (It is important to note that

2004 was the first year the Water Conservation and Drought Contingency Plan was adopted and implemented.)

In 2006, the highest recorded peak day of water consumption was 620,000 gallons. This represents 69 percent of the village water system's pumping capacity. In 2005, the highest peak day was 770,000 gallons. This statistic proves that education has been effective,

continues on page 6

## Water Use Comparison

| Month  | 2003       | 2004       | 2005       | 2006       |
|--------|------------|------------|------------|------------|
| June   | 12,624,000 | 9,314,000  | 7,604,000  | 8,567,000  |
| July   | 17,761,000 | 12,456,000 | 11,009,000 | 13,987,000 |
| August | 14,921,000 | 10,894,000 | 13,734,000 | 13,580,000 |
| TOTAL  | 45,306,000 | 32,664,000 | 32,347,000 | 36,134,000 |