

# **Bowser Waterworks District**

## **History**

The Waterworks District was formed in January 1964. There are five Board members; Rita Boles, John Lyotier, John Perrino, Don Smith and myself. Our Administrator is Ken Carter, who runs the office which is open 5 mornings a week upstairs in Magnolia Center.

## **Aquifer**

We draw our water from the Quadra Sands of the Bowser Aquifer which is like a great big saucer (approx 20 sq km) running from Nile Creek in the east to Deep Bay in the west; known as Aquifer 416. This aquifer is largely confined but there are also many areas which are unconfined. Groundwater is simply an underground creek or stream that we can not see; that moves very slowly, often only feet per year- so what happens a mile away today may not show up until 100 years from now! Our hydrology report from 1997 states, " The important point is that there is a large area containing a large volume of groundwater available for exploitation by properly designed drilled wells and present use is insignificant."

## **System**

Our 4 wells, 2 dug and 2 drilled, are located up Crosley Road. The estimated combined yield for calculation purposes is 22 l/sec (424,000 l/gpd). The water flows (or is pumped) from the wells to our below ground reservoir (90,000 l/g- 409,150 liters). Our water is untreated and flows throughout the system via gravity. The water is tested 2x a month for bacteriological indicators. We have recently entered into a joint program with Deep Bay to do a series of in depth tests so that we develop a baseline for future comparisons. The system is predominately linear and runs from Jamieson in the west to the Nile Creek bridge in the east. For emergency purposes our system is linked to the Qualicum Bay system at the Nile Creek bridge; we have recently begun discussion with Deep Bay for a similar arrangement. Like Deep Bay we are a combination of older AC pipe (approx 40%) and newer PVC pipe. All connections are metered. We have approximately 300 residential users and 15 commercial users.

## **Consumption**

Our annual consumption is approximately 540 liter/person/day. Summertime high is approximately 890 liters per person/day and at this time of year we are approximately 300 liter/person/day. This figure is probably low due to absentee owners and snowbirds.

## **Future**

Current demand is at 55% of the yield on wells #3 and #4. We do not use Well #1 and #2 for calculation purposes as they are dug wells. Our reservoir is at 81% of capacity. We have recently received a new Water Report from our Engineers, which is on file at the library. This report takes a look at the present system, community growth projections and recommends future needs regarding maintenance and capital expenditures. The present population is estimated to be 689 persons and using a 2.25% figure for growth, the population would rise to 1678 persons over the next 40 years.

We are presently discussing a number of issues...Increasing storage so that we do not run out as demand rises, Budgeting for future costs so that we are prepared, Replacing old or undersized pipes, increasing flows in lower pressure areas, and wresting with the cost of providing fire flows. Additional wells are also a future consideration.

We have recognized that we need to talk about consumption levels...read waste. There is not an endless supply and the day of cheap water is about to end, so I am sure we will be introducing education and conservation programs. This all translates into cost for the ratepayer. We are looking at increased parcel taxes, higher user rates and Tiered billing rates as a reality in the future.

## **Chlorination**

I think I am safe in stating that there is no wish by anyone to chlorinate our water. Our board is committed to maintaining the high quality of our present supply. Our supply is drawn from a vulnerable aquifer. Thankfully we are generally buffered by large tracts of Crown land. But if the quality deteriorates due to a lack of care; community or otherwise or we have some other unforeseen problem...we still need potable water and we could be ordered to provide treatment. There are a number of options for treatment and they are all expensive. We are blessed with very high quality water but it is up to us all to protect it. Garbage dumping on rural backroads is not a happy thought!

## **Fire Flows**

Generally any form of construction needs to meet a requirement for firefighting.

For single family dwellings and other small buildings, your insurance company wants to know if you are located in a fire improvement district and if the fire department has access to your property. They also want to know how far away to the nearest hydrant. Every community is assessed by the Fire Underwriters Survey and a multiplier is established which is then part of your insurance fee calculation. The Survey reviews every thing from water supply, paid or volunteer fire dept, fire dept equipment, etc, etc. A supply of community water is not a guarantee of adequate fireflows in unorganized areas.

For bigger, more complicated buildings, the builder is required by law to confirm that there is adequate water available for fire fighting. This can be achieved through a number of options...fundamentally on-site water or an adequate supply of piped water but there are a number of alternate solutions such as types of construction, sprinklering the building, building a reservoir, even buying a fire truck for the local fire dept.

## **Summary**

The development of villages generally means other types of development in the vicinity; lower density, acreages or farms. What is going to happen to the Crown lands that lie inland from present development? Our sources are not very far away and any form of upland development could have an effect on the aquifers that are our present sources for water. What types of low impact activity can we tolerate? What controls need to be put in place?

We all need to take a bit more notice about the systems that support our place on this earth. Water almost as much as air is vital to our future; I think there is about 7 days difference! We need to be in touch; where is the water coming from and where is it going? Even in the West Coast Temperate Rainforest there is not a surplus!