



# Corporate *NO: R133*

# Report *COUNCIL DATE: June 24, 2002*

<b>REGULAR COUNCIL</b>			
<b>TO:</b>	<b>Mayor &amp; Council</b>	<b>DATE:</b>	<b>June 20, 2002</b>
<b>FROM:</b>	<b>General Manager, Engineering</b>	<b>FILE:</b>	<b>5600-46</b>
<b>SUBJECT:</b>	<b>Groundwater Supply Strategy – New Initiative</b>		

## RECOMMENDATIONS

1. That the City of Surrey secure its rights with regard to groundwater supply as a municipal service area.
2. That the City of Surrey's groundwater supply strategy move to the next level by undertaking a full environmental assessment review process of an extensive groundwater extraction program in both the South and North Surrey Uplands.
3. That the GVRD be notified of Council's decision.

## INTENT

The intent of this report is to present to Council options to move the City's groundwater supply strategy on to the next major step of this new initiative.

## BACKGROUND

City staff have been consistently working towards ensuring both secure and cost-effective sources of water supply for the City water utility and its customers. These efforts are primarily focused through working with the Greater Vancouver Water District; however, independently, the City has reviewed the possibility of supply from Harrison Lake as a very long-term option for supplementing GVRD supplies and, in the shorter term, is proceeding with a groundwater supply initiative.

Historically, a number of groundwater wells did exist in Surrey, but they were phased out when significant

quantities of GVWD water became available at low cost. Recently, however, the GVWD costs to municipalities for bulk water have increased dramatically. Their costs have increased four-fold in the last 15 years and are presently just under 20 cents per cubic metre ( $\text{¢}/\text{m}^3$ ), and are projected to rise to  $34\text{¢}/\text{m}^3$  by 2008. Presently, it is estimated that groundwater supply costs are  $8\text{--}12\text{¢}/\text{m}^3$ . At these costs, groundwater usage is very cost-effective.

In 1998, the City commissioned the first phase of a groundwater supply study to investigate groundwater sources in Surrey in order to supplement water supply currently received from the Greater Vancouver Water District (GVWD). That study concluded that the City should develop a system of wells to supplement the GVRD supply. The highest priority areas identified were the North Surrey and South Surrey Uplands.

In September of 1999, Council authorized staff to proceed with exploratory investigations as the next phase of the groundwater supply strategy. As part of this strategy, we have carried out a major upgrade of the well in South Surrey and will be drilling a new well in Newton in 2002.

## DISCUSSION

### **New Initiative to be Accelerated**

It is proposed that the City accelerate the implementation of its groundwater supply initiative for a number of reasons:

- It is anticipated that significant savings are possible with a full groundwater supply program in the North and South Surrey uplands (20± wells could save in the range of \$2 to \$3 million once regional water costs reach the range of  $30\text{¢}/\text{m}^3$ ).
- Such a program will provide an alternate source for drinking water which would be available for emergency situations if there ever was another disruption in the regional supply system crossing the Fraser River.
- Such a program would also benefit the entire region, as it would incrementally defer the need to expand the region's surface sources.
- Because of the complexity and scope of the Environmental Assessment Process, it is more cost-effective to review a large groundwater extraction program than to review it on a well-by-well basis.

### **Environmental Review Process**

The current environmental assessment (EA) process is triggered by withdrawal rates in excess of 75 litres/second for each water distribution system involved. This rate is approximately what can be produced by the South Surrey well. Since the South and North Surrey water systems are separate, Surrey can implement both the South Surrey well and the new proposed Newton well without triggering the environmental assessment review process.

Any further expansion of the groundwater program will trigger an EA, which includes significant background studies and an extensive public review process. There are also significant costs involved (it is anticipated that the process including the necessary hydrological studies and process related costs would be in the order of \$300,000). In addition, there would be significant demands on City staff time to coordinate the many aspects of the groundwater supply strategy. The annual savings projected from the South Surrey and first Newton well would fund the one-time costs of the additional staff or external resources necessary to secure the ultimate

supply system.

## **Jurisdictional Issues**

At the present time, a number of municipalities South of the Fraser are using groundwater sources for drinking water purposes. This includes White Rock (who use groundwater exclusively), the Township of Langley, Delta and now Surrey. The GVRD has recently embarked on the preparation of a drinking water management plan which will be looking at a variety of potential new water sources including accessing the groundwater resources in the Surrey area. Their initial conclusion was that while this source is too small to delay their plans for filtration at their North Shore facilities, it is a very cost-effective source and they are continuing to review the possibility of developing a groundwater well system in the Surrey area as part of the Regional system of supply.

This raises the need to clarify whether or not the GVRD should continue to review Surrey's groundwater supply sources. It is recommended that groundwater utilization should be considered a municipal service and that the GVRD need not provide this service. This is supported by the historical position of a number of municipalities which have utilized groundwater and the lack of historical involvement by the GVRD in groundwater programs.

## **Amenities for the Community**

As part of an expanded groundwater supply program, amenities for the community related to the resource will be included. Community reaction in Delta was very positive to the installation of a water fountain and interpretive board associated with their drinking water well. The development of Surrey's groundwater resources offers similar opportunities to develop significant amenities to the community at minimal cost. These amenities would be best located in a park-like setting. It is likely that these types of amenities could be installed at a variety of other locations within Surrey as the groundwater strategy expands.

## **Water Quality Issues**

Before proceeding with development of a well, the water is tested to ensure it meets the Canadian Drinking Water Guidelines and disinfection/chlorination is provided where necessary. Once it is tied into the distribution system, a well is tested in accordance with protocol established with the local Health Board. Wells are approved by the Regional Health Engineer before construction begins.

## **Timelines**

As outlined, the City is immediately proceeding with a new well in Newton, with construction to take place this year. Parallel with this, the necessary team will be assembled to commence the Provincially mandated environmental assessment review process. Based on information from the Province, this process can take from 1 ½ to 2 ½ years to complete.

## **CONCLUSION**

Surrey's groundwater supply initiative can provide significant advantages to Surrey, thereby justifying a much more intense effort to develop groundwater supplies. The next stage is for the City to embark on a full environmental assessment review process for the full strategy. Additionally, Surrey should also adopt the position that groundwater utilization is a municipal, not regional, service area.

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