



To: Public Works and Transportation Committee      Date: June 20, 2008  
 From: Robert Gonzalez, P.Eng.      File: 10-6650-02/2008-Vol 01  
       General Manager, Engineering and Public Works  
 Re: Richmond Long Range Drinking Water Management Plan: Volunteer Water Meter Program Update

**Staff Recommendation**

That the Richmond Long Range Drinking Water Management Plan: Richmond Water Meter Program Update report from the General Manager of Engineering and Public Works be received for information.

Robert Gonzalez, P.Eng.  
General Manager, Engineering and Public Works  
(4150)

FOR ORIGINATING DIVISION USE ONLY		
CONCURRENCE OF GENERAL MANAGER		
REVIEWED BY TAG	YES <input checked="" type="checkbox"/> 65	NO <input type="checkbox"/>
REVIEWED BY CAO	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

## Staff Report

### Origin

On December 8, 2003, City Council adopted Bylaw 7620, amending the City's Waterworks and Water Rates Bylaw. The amendment includes provisions that allow the City to bill residential water customers based on a metered rate and is in alignment with the City's long-term water management strategy. City Council also endorsed extending the Volunteer Water Meter Program to multi-family units on October 23, 2006 for the 2007 budget. As committed by staff, the purpose of this report is to serve as the annual update to Council on the progress of the water metering program.

### Findings Of Fact

#### Volunteer Water Meter Program

The City has entered the fifth year of the voluntary water metering program of single family and duplex residential units, and the second year of extending this offer to multi-family townhouse and apartment complexes. Since its launch in February 23, 2004, 6,662 homes volunteered for the program and received meters as of December 31, 2007, which represents 23% of the total single family and duplex homes in Richmond. The allocated capital budgets for the first three years (2004 to 2006) were fully utilized with the number of volunteers exceeding the budgeted volume of 1500 volunteers per year. For 2007, the number of volunteers declined to 1100. Staff anticipate that the balance of homes may be more substantial consumers of water and may be sceptical that metering could offer savings.

The City still provides conservation devices and a water system audit used to identify opportunities to reduce water consumption in the home to volunteers who request them. The City is working with its contractor Neptune Technologies to expand the marketing campaign for 2008 to aggressively promote the program and encourage more conversions to water metering by raising awareness of the benefits of water metering through a series of public education initiatives. These initiatives include public education seminars, City open house information booth, education through elementary schools, advertising in news media and on websites, and bill inserts and informational brochures. The greatest incentives to date has been advertising the program's last year (2006) of the first three-year program, and the continued user pay philosophy. The increasing cost of water from the Metro Vancouver (MV) resulting in higher flat utility rates over the metered rate is also a notable incentive. The MV costs for water are anticipated to increase by 6% annually over the next few years.

The following table summarizes the results of the last four years of the program:

Year	Number of volunteers	Conservation devices installed	Leaks detected	Volunteers that saved money over flat rate
2004	2,408	1267	100	89%
2005	1,490	981	140	80%
2006	1,674	699	73	85%
2007	1,090	342	82	84%
Total	6,662	3,289	395	

There has been a lot of interest from the public for the multi-family volunteer water meter program that was introduced in 2007. For this program, the City installs a water meter vault just inside the property line or a meter within the mechanical room of a multi-family complex. These meters are typically larger than the single family residential ones and require additional plumbing components. The City has not installed any meters since this program began because volunteers have not fully resolved issues within their strata council to meet the City's criteria, which include consensus among strata members for moving to a metered system, registration of a Statutory Right-of-Way for the meter vault, and acceptance of default billing to a single assigned unit. The billing system is scheduled to be upgraded with a new one that will remove the default billing issue, and the City continues to work with these groups to help them reach a viable resolution that best fit their needs.

### **Mandatory Water Metering**

All new construction of residential single family, duplex and multi-family (apartments and townhouses) homes, and water service renewal requests are currently required to have a water meter installed, as per Bylaw 5637. City initiated capital improvement works for water main upgrade and replacement also require existing serviced homes to be metered. The total number of mandatory meters installed in 2007 is 725. The total mandatory water meters installed up to December 31, 2007 is 4,826 which represents 17% of the total single family and duplex homes in Richmond.

The Volunteer and Mandatory Water Meter Programs has received an estimated 56 complaints in 2007. Most of the complaints focussed on leak issues (high consumption), billing concerns and installation variances. These complaints were largely resolved given the certainty allowed in the Bylaw that residents do not have to pay more than the flat rate amount in the first year. This represents approximately 3% of the total number of 2007 metered residents. Staff no longer receive a significant number of thermal expansion complaints as we have eliminated the requirement to install the dual-check valve for older homes.

### **Regional Benefits**

Through the reduction in leaks and better conservation practices, Richmond residents realized a 5.8% reduction in per capita consumption in 2007 with almost 1,150,000 m<sup>3</sup> of water conserved. It is through programs such as Water Meters that the average per capita daily consumption of

water is steadily decreasing in Richmond according to the Metro Vancouver. By reducing per capita water consumption, infrastructure upgrades regionally and within Richmond can be deferred which assists in keeping the water utility rates down. In addition, the forthcoming MV Liquid Waste Management Plan will require commitment from the Lower Mainland municipalities to develop and implement water conservation plans such as water metering. Richmond will already have met this commitment and is a recognized leader in this area.

**Next Steps**

This is the fifth year of Richmond's Volunteer Water Meter Program. The program, based on a user pay system, has been well received and used as a model by other communities.

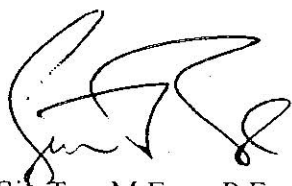
With the anticipated sustained escalation in regional water supply rates, staff foresee a steady demand for and strong support of an equity-based program that promotes a user-pay system. Through an aggressive marketing campaign and improvements to internal systems to enhance access to the program by multi-family homes, staff is confident that the number of volunteers will reach budgeted capacity level for 2008. The program will be re-evaluated in early 2009 to determine the most optimal strategy moving forward that will best meet the City's long range drinking water management plan.

**Financial Impact**

None at this time.

**Conclusion**

The Volunteer Water Metering Program initiated in 2003 has been very successful in detecting leaks, providing cost control to residential consumers, advocating equitable cost allocation, conserving our limited resource and helping volunteers save money. With 40% of Richmond's single family and duplex homes metered through the Volunrter and Mandatory Water Meter Programs, there is still a reasonable amount of homes un-metered. Continued commitment to and promotion of the voluntary, and maintaining the mandatory water meter programs will help the City reach its goals over a long term planning horizon without incurring substantive financial commitments.



Siu Tse, M.Eng., P.Eng.  
Manager, Engineering Planning  
(4075)