



## **Staff Report**

### **Origin**

On October 27, 2003, City Council authorized entering into a three-year agreement with Neptune Technology Group to undertake the volunteer residential water metering program. The contract commenced on January 8, 2004 with a termination date of December 31, 2006.

The purpose of this report is to provide Council with a status update on the progress of the volunteer residential water metering program and recommend that the program be extended for a further three-year term.

### **Analysis**

The City is into its third and final year of the voluntary water metering program for single family and duplex residential units. Since its official launch in February 23, 2004, 4,650 homes volunteered for the program as of July 2006, which represents over 16% of the total single family and duplex homes in Richmond. The total approved budget for the three-year volunteer water metering program was \$4.5 million and is projected to be on budget.

In the first two years, the projected number of installations has been exceeded by as much as 12% (2,000 projected but 2,248 installed in 2004, and 1,500 projected but 1,679 installed in 2005). The estimated number of volunteers for 2006 is 750, which has already been exceeded in July of this year by 34%. The new estimate of total number of volunteers for 2006 is 1,500. This surge in additional volunteers is attributed to the larger utility flat rate increase (15% for combined water and sanitary) over metered rates (8% for combined water and sanitary) for 2006, and the program has been presented to the public as being in its final year. Staff have recently received numerous inquiries in support of an extension of the volunteer water metering program as there is concern about the future potential of the imposition of a mandatory program through the GVRD.

For 2004 and 2005, 89% and 80% of the volunteers realized savings, respectively. The reduction in the number of volunteers that experienced a savings in 2005 is due to higher water consumption homes volunteering in the second year. The number of customers that realized savings at the end of the second quarter of this year is 84% of the total with an average savings of \$134 when compared to the water and sanitary sewer flat rate bill. A summary of the foregoing statistics is included in Appendix A.

The program has also generated some public complaints, which may be categorized as relating to the installation process, billing, leaks, and thermal expansion. Between the City and Neptune, a total of 142 complaints were registered against 4,650 installations since the program's inception (complaints received from 3% of installations).

In order to address the thermal expansion complaints, installations in older single family homes were altered accordingly. Thermal expansion is no longer an issue for the volunteer water metering program.

Billing related complaints are frequently related to property owners who are unaware of actual savings compared to the flat rate. As a result staff are working towards adding information to billings to indicate savings. In addition, the program helped detect 285 system leaks to date. It is through programs such as Water Metering that the average per capita daily consumption of water is steadily decreasing according to the GVRD. By reducing per capita water consumption, infrastructure upgrades regionally and within Richmond can be deferred and infrastructure life can be prolonged thereby minimizing utility rate increases.

Duplex units were included in this program in December 2004, with 1% of the total volunteers representing this residential base. The main issue is that most duplex homes share a common water service connection at the property line, so providing separate meters for each unit is difficult. The City has embarked on a pilot program this year exploring the option of separating the service connection before installing meters for new homes. A report to committee will be forthcoming next year on its success and associated costs for this methodology should Council support an extension of the volunteer water metering program.

Multi family units, including apartment and townhouse complexes, require mandatory metering for all new developments. Existing apartments and townhouses can also apply for a master water meter, but the associated components to facilitate metering will be an added cost. Should the apartment or townhouse complex choose to install individual meters for each unit, responsibility remains that of individual property owners.

### **Recommendations**

This is the final 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 local communities. With the anticipated continued escalation in regional water supply rates, staff foresees a steady demand for equity through a user pay system.

Moving forward, the City is committed to the Long Range Drinking Water Management Plan to reduce per capita water consumption and to equitably allocate water and cost to individual users. The City has three options to fulfill this commitment:

1. Extend the current Volunteer Water Meter Program for another three years for all residential users and retain Neptune Technology Group as the single-source contractor;
2. Move to a full mandatory program for all residential users; or
3. Abandon the volunteer program.

#### *Option 1 - Extending the Volunteer Water Meter Program (Recommended)*

Extending the program for an additional three years will allow the City to potentially capture an additional 16% (based on 1,500 volunteers per year for three years) of the single family residential base, increasing the total number of metered single family residential units from 30% to 46% in Richmond. Additionally, the proposed program would also incorporate multi-family units as volunteers, capturing apartment and townhouse units for the installation of master meters. These units represent 53% of the total combined single family and multi-family residential base for Richmond.

When the City has reached a critical mass of metered customers, it can consider the option of moving to a full mandatory program with the intent to eventually meter all of Richmond water users. The City's incentive plan for encouraging water meters involves increasing the flat rate utility fees for Water and Sanitary at a greater rate than the metered one. The flat rate increase will account for the GVWD rate increase with seasonal variations, address higher consumption users, and allocate system losses to non-metered customers. The metered rate will reflect the GVWD rate increase with seasonal variations. This utility cost allocation strategy will encourage residential water users to volunteer for metering.

At the end of this additional three-year program, the City will evaluate its progress and make a recommendation at that time. The program is a significant investment by the City and requires a multi-year commitment to appreciate measurable results. A three-year program would provide enough time for residents to recognize the potential for savings, attract competitive cost savings for the City from the selected contractor, and provide adequate time to address the volunteer request load.

The current program has evolved incrementally with the contractor, Neptune Technology Group, adjusting to variations in administration and adapting to unanticipated operational challenges. Neptune Technology Group has worked closely with the City to streamline and improve the process substantially since the genesis of the program. The synergy developed over the three-year contract has provided the City and its customer base an efficient and effective program to achieve the City's goals. If a new contractor is retained, the City will lose the experience base developed by the current contractor over the past three years. The steep learning curve for a new contractor would mean additional cost, staff time and resources to ensure the same level and quality of service currently provided to Richmond water meter customers.

#### Option 2 - Move to a Full Mandatory Program

Moving to a full mandatory program at this stage with only 30% of the single family residential users of Richmond with meters poses a significant frontend cost to the City, and may invoke strong public opposition. There are currently many homes that have installation difficulties necessitating additional frontend cost to resolve in addition to the cost of meter installation. Moving to a full mandatory program requires that the City address these cost and technical issues at this time. The City also currently lacks the necessary resources to deal with the installation difficulties and volume of installations.

Option 3 - Abandon Volunteer Program and Maintain Existing Mandatory One

Abandoning the program would result in achieving a fully metered residential base over a much longer period of time with only the current mandatory program model in place, and would disallow residents the ability to potentially save money and take control of managing their consumption patterns through an equitable user pay system. The current mandatory program requires that all new developments, building permit requests greater than \$50,000, and City water main renewal and service connection upgrades include a water meter installation.

**Financial Impact**

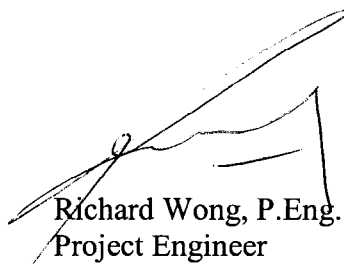
The program cost is estimated to be \$2 million per year for the next three years. The current operating budget includes a \$1.5 million provision for the program, and the remaining \$500,000 request will be funded by utility rates increase, which represents an average of less than 2% of the total expected water utility revenue base (approximately a \$0.02 per cubic metre increase for water meter rates). This estimate provides for the single family water meter demand as per the previous program and, in addition, provides for multi-family master meter installation costs, costs for difficult installations, separation of water service connections for duplex home volunteers, and higher material costs.

**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 through user pay, conserving our limited resource and helping volunteers save money. Currently, with only 29% of Richmond's single family homes metered and even fewer multi family units metered, there is still substantial demand from a number of un-metered customers. Extending the voluntary and maintaining the mandatory water meter programs will help the City reduce per capita water consumption, detect system leaks, and extend the life of the water infrastructure over the long term.



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## Appendix A

### Flat Rate and Water Meter Cost Comparison

Number of Volunteer Water Meter Customer	4,650
Single Family Flat Rate	\$604
Average Amount Paid by Volunteer Water Meter Customers	\$470
Average Savings	\$134
Percentage of People Who Saved Compared to Flat Rate for 2006 (up to July 31)	84%