RR-3(a)

CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date:	November 19, 2012
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Meeting Date:	November 27, 2012

TO: Standing Committee on City Finance and Services

FROM: General Manager of Engineering Services

SUBJECT: 2013 Annual Review of Water Rates under the Water Works By-Law

RECOMMENDATION

A. *THAT fees for water consumption increase 3.0%, as detailed in this report and as set out in Appendix A, through adjustments to the following fees under the Water Works By-law:*

- *Flat rate annual consumption fees for single family dwelling units (increase from $513 to $528) (Schedule "B"),*
- *Other flat rate water service charges for single family dwelling unit with suite and each strata title duplex (Schedule "B"),*
- *Charges for metered water service (Schedule "D"), and*
- *Charges for temporary water service during construction (Schedule "F");*

B. *THAT fees for water connections and other services included in the Water Works By-law be increased by 3.0% as follows:*

- *Flat rate water connection fees for single family and two family dwellings (Schedule "A"),*
- *Flat rate water connection fees for properties other than single family and two family dwellings (Schedule "A") and service pipe removal fees (Schedule "A.1"),*
- *Meter service charge (Schedule "E"), flat service charges for unmetered fire service pipes (Schedule "C"), and fees for installation of water meters (Schedule "G");*

C. THAT Council approve By-Law revisions that establish a peak and off-peak seasonal rate structure for all remaining metered properties not already included in seasonal rates previously established on January 1, 2012;

D. THAT Council approve By-Law revisions that change meter reading and billing frequency from 4 reads and 4 bills per year to 3 reads and 3 bills per year to better align with seasonal rates;

E. THAT the Director of Legal Services be instructed to bring forward for enactment amendments to the Water Works By-law substantially as set out in Appendix A to give effect to recommendations A, B, C and D of this report.

SUMMARY

Each year, the Water Utility reports past year results and proposes rate changes for the coming year. For 2012, the Utility is experiencing regular inflationary pressures and an unexpectedly lower increase in Metro Vancouver costs. The rate increase proposed in this report utilizes existing reserves to smooth the impact of the upcoming Metro increases, and continues a program to reduce future City capital borrowing costs.

The report contains four key recommendations for 2013. They are:

- To recommend increases in water charges for 2013, and continue to the second year of a 20 year strategy to move towards a "pay as you go" funding model for water capital projects. Recommendation "A" and "B"
- To recommend applying seasonal water rates to all metered customers including industrial and institutional classes of properties that have been exempted pending analysis of impact. Details of the anticipated impact are discussed in the report. Recommendation "C"
- To approve By-Law provisions to change the frequency in which water meters are read and billed for consumption from 4 reads and 4 bills per year to 3 reads and 3 bills per year. This change will align the billing cycle to the seasonal rate changes minimizing confusion from season to season. Recommendation "D"

These recommendations, if approved by Council, will serve to maintain adequate funding levels to provide efficient water service and to support water conservation initiatives.

*COUNCIL AUTHORITY/PREVIOUS DECISIONS **

Water rates for both metered and non-metered customers are specified in the Schedules of Rates and Charges included in the Water Works By-law. These schedules are updated annually by Council.

In 2001, Council endorsed the Greater Vancouver Regional District Board (Metro Vancouver) decision to construct the Capilano Seymour filtration plant.

On July 12, 2011, Council approved "in principle" the requirement for mandatory water metering on all new single family and duplex properties commencing January 1, 2012, subject to consultation and a report back on details of the program including a rate structure.

On December 15, 2011, Council approved transition from a uniform volumetric rate for commercial and residential metered customers to a seasonal rate consisting of two different rates for low and high seasons.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The recommendations set out in this report are necessary to meet two policy objectives:

1) to fully recover all costs in the water utility, and;

2) to address Council's Greenest City Goal 8 – Clean Water to reduce water consumption.

The recommendation to extend seasonal water rates to all remaining customers effectively completes a rate structure change from uniform water rates to seasonal rates. The seasonal water rates, modelled after Metro Vancouver's rate structure place more price emphasis on summer time water use when regional storage and transmission are most stressed.

The City Manager and General Manager of Engineering Services RECOMMEND approval of A through E above.

REPORT

Background/Context

The following sections highlight the relevant background information to understand the various components of the report.

1. The City of Vancouver's Water System

   The City's water system is comprised of approximately 1,450 km of water mains buried underneath the City streets. This system supplies water to over 100,000 service connections and 6,000 fire hydrants and has a replacement value of approximately $2 billion. The City also maintains the Dedicated Fire Protection System (DFPS) which protects the City's most densely inhabited areas from large fires and which has been designed to withstand an earthquake for post-disaster fire fighting. All water supplied to the City is purchased from Metro Vancouver, which is responsible for supply reservoirs, treatment, and delivery of water to the City system

2. The Utility Financial Structure

   The waterworks distribution system of the City of Vancouver operates as a Utility. Utility operating costs and debt charges are combined with the cost of water purchased from the Metro Vancouver supply system and are recovered through charges to system users. The Utility uses a Water Rate Stabilization Reserve to balance revenues and expenditures each year.

Presently, revenues are collected from metered customers based on consumption and from most single family and duplex dwellings through an annual flat fee. Approximately 55% of consumption is currently metered. Metered customers are charged for seasonally adjusted rates for each unit of water consumed, and a fixed meter rental charge.

The utility has generally financed capital work through debt. This report continues a proposal approved last year to transition towards a "pay as you go" funding model. This will result in all new Capital work funded from revenues in 10 years with complete elimination of debt costs in 20 years.

3. Metro Vancouver – Bulk Water Wholesaler

Since 1931, when the City of Vancouver relinquished the water rights to Capilano and Seymour rivers, the Greater Vancouver Water District (Metro Vancouver) has provided the source water to the 22 member municipalities' water distribution systems. Metro charges each municipality based on consumption. With those revenues, Metro maintains and operates the watersheds, dams, reservoirs, treatment, and bulk transmissions system.

Significant increases to the regional cost of water since 2004 are a result of regional capital water quality initiatives - primarily the new Seymour-Capilano Filtration project and the associated twin tunnel project between Capilano and Seymour lakes. We are now seeing stabilized rate increases from Metro as all of the new costs for the treatment plant have now been built into their wholesale rates.

The filtered water coming from the Seymour source has greatly improved water quality characteristics. The plant has successfully removed nearly all turbidity ensuring that Canadian, North American and International water quality guidelines are met and exceeded.

In addition to new capital and operating costs associated with the filtration plant, lower regional consumption (resulting in lower revenues for Metro) and increasing demands for transmission upgrades will continue to place significant upward pressure on the rate charged by Metro Vancouver.

4. Key Priorities for the Water Utility

The water utility has a number of objectives as detailed in its Long Range Plan:

- Provide clean, safe, secure and accessible drinking water
- Support the sustainable use of water resources, as a way of living within our means in perpetuity
- Be prepared for emergencies
- Manage assets proactively
- Operate a fully cost recovered utility ensuring best value for customers and citizens
- Provide excellent customer service
- Support innovation in the way we do our work

Over the past twenty years, numerous initiatives like summertime sprinkling restrictions have resulted in declining water consumption, despite population growth, as shown in figure 1. In order to live within our means and defer the need for expensive source and transmission expansion, significant on-going consumption reductions will be required to offset anticipated population growth.

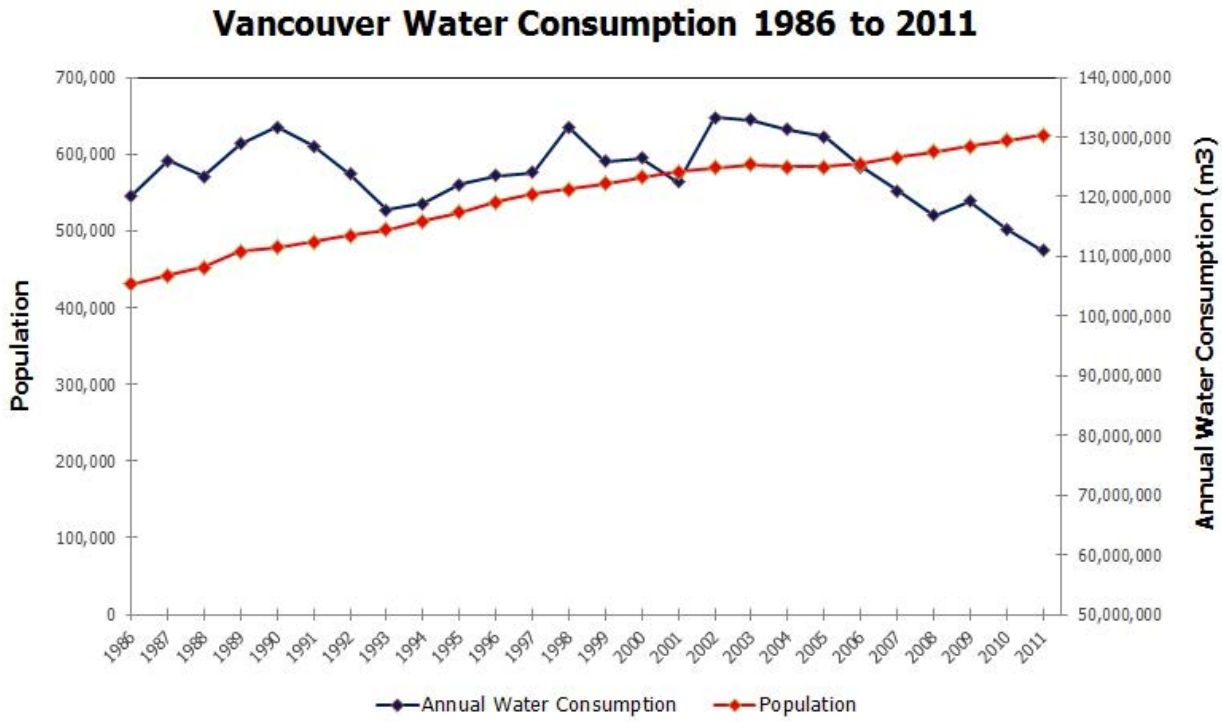

Figure 1: Total City Water Consumption vs. Population

5. Greenest City Action Plan

The Greenest City Action Plan set an overall goal for Vancouver to be the greenest City in the world by 2020. A total of 10 specific goals were identified, including goal 8 – Clean Water. The Clean Water goal encourages actions to ensure Vancouver has the best water in the world. To achieve the goal, two targets were set:

a) Meet or beat the most stringent of British Columbian, Canadian and International drinking water standards and guidelines, and;

b) Reduce per capita water consumption by 33% over 2006 levels.

To achieve these goals, a phased approach has been developed with the highest priorities for the next three years being:

- Requiring water metering on all new single and dual family home services (new construction and major renovations) effective 2012;

- Developing and commencing enhanced water education, incentive and conservation programs;
- Continuing to expand public access to drinking water;

Over the course of 2012, the Clean Water implementation plan was implemented with many new programs brought online. Residential water metering for new homes commenced early in the new year. Development levels suggest 1,250 homes (1.5%) will be fitted with meters in 2012. Lawn sprinkling enforcement using uniformed parking enforcement officers ran from June 1 to September 30th. For the first time in 19 years of sprinkling restrictions, the City had the authority to issue fines in addition to warnings.

On October 16, 2012, Council received a presentation documenting progress thus far. As of the end of 2011, total per capita consumption has been reduced by 16.6%, just over half way towards the 33% target.

Strategic Analysis

2012 Waterworks Operating Budget Performance

Table 1 summarizes the operating budget and current forecasts for the Water Utility for 2012. Table 1 includes estimates of City operating and debt costs as well as the costs of purchasing water from Metro Vancouver.

	2012 Forecast	2012 Budget	Variance %
Expenditures ($ millions)			
Operating and Maintenance	12.16	12.16	(0.03%)
Capital Program - Pay As you Go	5.00	5.00	0.00%
Capital Program - Debt Charges	19.66	19.66	0.00%
Water Purchases (GVWD)	66.77	68.77	(2.91%)
Transfer (from)/to Reserve	(1.69)	(1.63)	3.26%
Total Expenditures	**101.90**	**103.96**	(1.98%)
Revenues ($ millions)			
Flat Rate Revenues	43.20	43.34	(0.32%)
Metered Rate Revenues	52.40	54.30	(3.50%)
Meter Service Charges	3.30	3.37	(2.00%)
Flat Rate Fire Line Charges	2.50	2.45	2.06%
Other Revenues	0.50	0.50	0.00%
Total Revenues	**101.90**	**103.96**	(1.98%)

Table 1 - 2012 Anticipated Financial Performance

Water Purchases/Metered Revenue

For 2012, water purchases are anticipated to be 2.9% lower than budget due to lower consumption from metered customers and there will be a corresponding reduction in metered revenue (forecasted to be down by 3.5%). No other large variances occur resulting in a lower total cost for the Water Utility. (2.0% reduction in costs and revenues)

Operating and Maintenance

The operating and maintenance accounts are projected to finish 2012 slightly under budget, although this could change if the system suffers significant main breaks in November and December when water temperatures are lower and breaks are more common. Service Leaks and Meter Maintenance deserve discussion.

Service Leaks

The primary driver of increasing operating and maintenance expenditures is leaking connections. Within the maintenance accounts, significant budget pressure has occurred due to aging service connections failing at the end of their lifespan. For 2012, maintenance costs will exceed budget by $500,000 and capital costs will exceed budget by $300,000. The 4 year trend for the number of services leaks are as follows:

2009 – 370
2010- 529
2011 - 599
2012 - 611 (projected)

Over the past three years, the number of service leaks has been increasing due to the large amount of development and number of services that were installed between 1959 and 1969. On average, a copper service has a 50 year lifespan; therefore much of this old asset now requires repair and often replacement. The Utility uses an algorithm to decide whether to repair or replace the service depending on age, pipe material, and number of previous leaks. For the 2013 budget, an allowance for a $300,000 increase in the service leak budget has been added, subject to approval through the Operating Budget process. As well, a request to transfer $500,000 of Capital from main replacement to service replacement will help replace fully expired services.

Meter Maintenance

Another pressure on the operating & maintenance budgets is meter maintenance. Approximately 22% ($200,000) of the meter maintenance budget was spent repairing old meters that should be replaced instead. Under investing in the meter asset creates accuracy and equity concerns between customers. Capital funding will be reviewed and if possible reallocations will be proposed in 2013. Further work to develop a more comprehensive meter maintenance and replacement proposal will also be completed in 2013, for consideration during the 2015-18 Capital Plan process.

Operational Efficiencies

Several efficiency initiatives are either underway in 2012 or will commence in 2013. They are:

- Implementing several satellite work staging areas where equipment and materials can be stored reducing mobilization and demobilization times, fuel consumption and GHG's
- Using the Hansen system to schedule work geographically. (Location based scheduling now being used for meter testing program – now up to 3 meters per day from 2 per day)
- Having Streets crews apply permanent asphalt patching over water utility cuts, instead of a temporary patch followed later by permanent repairs.

Results for these initiatives will be analyzed in 2013 and incorporated into future budgets.

Key Performance Indicators

The following KPI's provide a high level summary of performance in the Water Utility.

KPI	Benchmark	Current Performance	% change
	Target	*2012 Anticipated*	
% of system replaced	0.8%	0.45%	(44%)
	10 year Average	*2012 Anticipated*	
Main Breaks	61	62	1.6%
	10 year Average	*2012 Anticipated*	
Service Leaks	527	611	15.9%
	2006 Baseline	*2011 Actual*	
Per Capita Water Consumption	583	486	(16.6%)
	Target	*2012 Anticipated*	
Water Quality total E.Coli counts exceeding regulation	0	0	0%

Table 2 – Water Utility KPI's

KPI Discussion
A strategic decision was made during the Capital plan process to increase the capital allocation in sewer separation and reduce water main replacement activity. The current rate of system replacement of 0.45% (220 year lifespan) is significantly lower than the target of 0.8% (125 year lifespan). Main break trends are holding flat; using key metrics, we will monitor the trends closely and review on an annual basis – at

some point in the future, increased investment in main replacement will be required. Funding for service leaks is being increased in 2013. Per capita water consumption is declining as planned through GCAP and should achieve the 33% reduction target by 2018. Water continues to be delivered to customers at exceptionally high quality.

2013 Key Utility Drivers

An important first step in preparing any rate analysis is to have an accurate understanding of the known drivers. The following list of drivers, contribute to the 2013 Budget presented in Table 3 later in the report.

1. Water Purchase Costs

The cost of water purchased from Metro Vancouver comprises 63% of the total Utility budget. The key drivers that cause major fluctuations in water rates are the impact of costs for bulk water purchases, which depend on metro unit rates and our customer consumption.

Conservation efforts through the GCAP program are now materializing in the Water Purchases budget as total purchase costs are lowering as consumption lowers. A full analysis is provided in the preliminary budget section later in the report.

2 Property Connection Leaks

Increasing amounts of failing service connections require additional budget. For the 2013 budget, an allowance for a $300,000 increase in the service leak budget has been added, subject to approval through the Operating Budget process.

3. Rate Mitigation – Water Rate Stabilization Reserve

The Water Utility uses the Water Rates Stabilization Reserve to mitigate year-over-year increases in water rates, and balance year-end differences between budgeted and actual revenues. This strategy has been particularly effective in keeping increases in the City's water rates to an average of 6.5% from 2003 to 2012 when the cost of water purchased from the region has increased an average of 12.8% for the same period. Figure 2 demonstrates how the City has used the reserve to smooth rates over time.

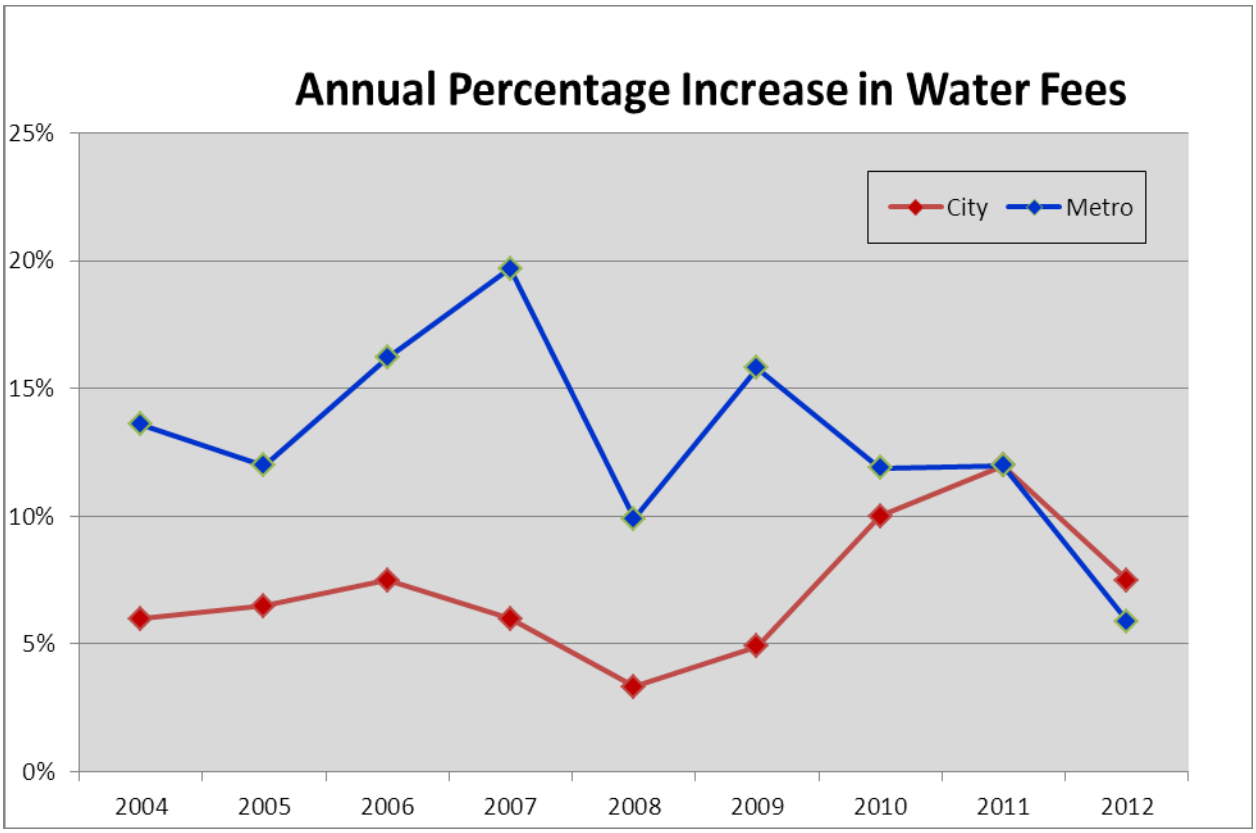

Figure 2: Annual Percentage Increases in Water Fees

Several years ago, in anticipation of the significant capital costs of the Seymour/Capilano water filtration project the City began to build the reserve. The reserve was used to smooth the impact of this substantial project on the City's water utility customers.

The current target balance in the reserve is $5.0 million which is equivalent to 7.5% of water purchases. A projection for the stabilizing reserve out to 2018 is presented in table 4.

4. Financing Opportunities

It has been City practice to finance the Water Utility capital program 100% through debt. Debt is generally amortized over 10 years, and the annual debt servicing charge (interest and principal) is funded from utility fees. While debt amortization reduces the annual budget impact, it increases the capital cost over the long term as approximately $3 to $4 million of interest (per year) is payable on the outstanding debt. By gradually transitioning from debt financing to pay as you go, interest savings can be realized in the long run.

In the 2012 Rate Report presented in December 2011, Council approved a 20 year strategy that transitions the utility to a "pay as you go" capital financing process. The gradual transition from debt financing to "pay as you go" will not materially impact intergenerational equity – both current and future users will contribute to the system.

A full transition from debt financing of new projects can be achieved over the next 8 years. By year 8, the majority of the Utility's capital would be funded through current year revenues. In years 9-20, the outstanding debt will be retired lowering total capital costs until eventually all capital is funded from water utility revenue at a lower ongoing cost than possible with debt-financing. Figure 3 depicts the scenario graphically. Note that this graph is for illustrative purposes only, as actual costs will depend on approved capital programs and their financing costs.

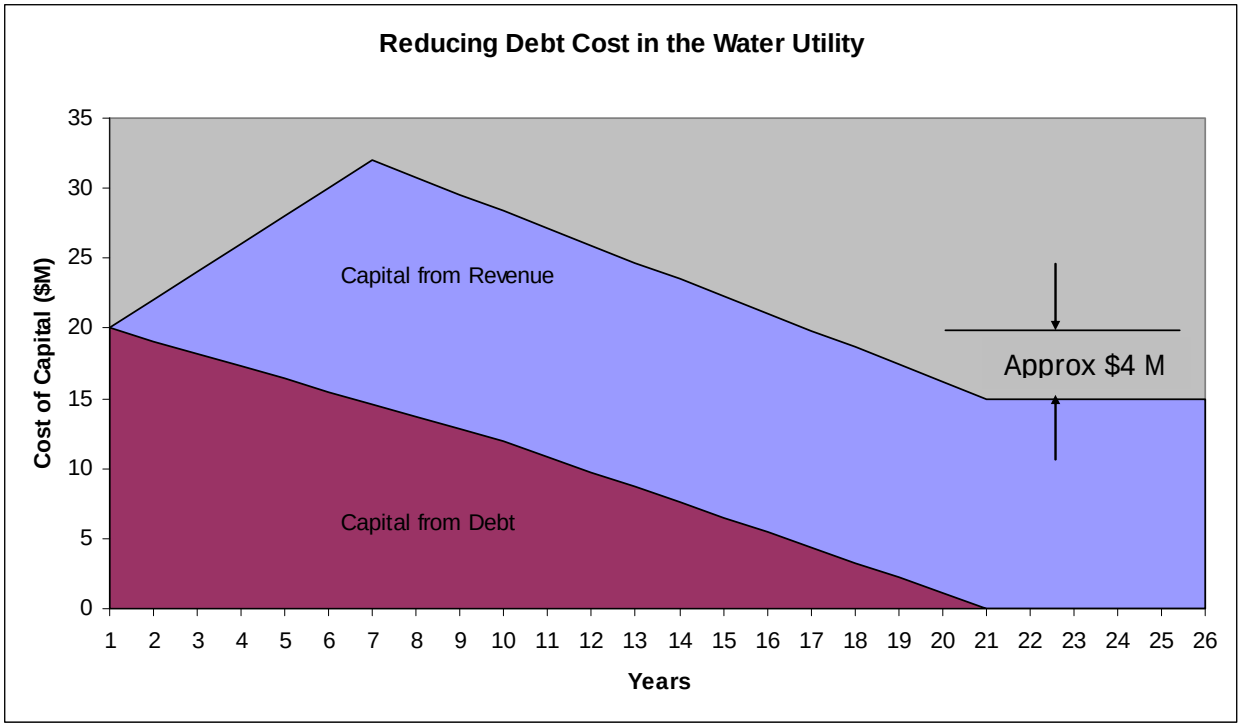

Figure 3 – Capital from Revenue Strategy

The 2013 budget will mark the second year of this strategy and staff is proposing to transition a further $7.5 million of capital work from debt financing to pay as you go. Over the next 7 years, this strategy will require approximately a two percent rate premium to achieve. By year 8, the rate premium will be removed and the total cost of capital will reduce until all of the old debt has been retired. The outcome will be approximately a $4 million annual (2011 dollars) reduction in borrowing costs.

In addition to the interest savings, the rate surcharge sends a stronger price signal to metered water customers and will strengthen conservation efforts while the City strives to reduce water use 33% by 2020.

Recommendation: Continue implementing the transition from debt financing to "pay as you go" for the Waterworks Capital program.

5. Application of Seasonal Rates to all Metered Customers

Last year, Council approved a change to the water pricing structure for all residential and commercial customers. The new rate structure consists of two distinct seasons with a high season occurring during the summer months (June 1 to September30th). During high season, the cost per unit of water consumed is increased by 25% to reflect the increased stress on regional storage and transmission systems. Reducing summer water use has the most potential to minimize the need for expensive source expansion and upsizing of piping capacity. The seasonal rates are structured exactly the same way Metro Vancouver charges water rates to member municipalities. Vancouver is the first member municipality to price water in a similar manner.

Staff did not recommend including the industrial and institutional sectors in the seasonal rate pricing structure last year as impact analysis and consultation had not been completed.

In the first half of 2012, financial analysis was conducted on the 150 largest industrial and institutional water customers. Their annual water bills were compared against the existing uniform variable rate and the proposed seasonal rate. The analysis identified the following impacts of adopting a seasonal rate:

- Moving from a uniform rate to seasonal rate would reduce industrial and institutional customers annual bill by 1% on average suggesting that they use slightly less water than average in the summer
- Two healthcare organizations would see an increase of 2% while 2 others see a 2% decrease in water costs
- Golf courses are the only property class that would consistently experience an increase of between 5-12% if consumption patterns remain the same

Other than golf courses, the variations were minimal indicating that industrial and institutional water consumption is generally consistent throughout the year. All of the golf courses have been notified of the pending policy recommendation in writing and staff are available to offer suggestions to the golf course managers on ways they can reduce water consumption.

Recommendation:
Implement the seasonal rate for all remaining metered customers (Industrial and Institutional customers) consisting of a 25% premium applied during the high season.
2013 Rates
October 1 to May 31 $0.81/cu meter of water
June 1 to Sept 30 $1.02/cu meter of water

Economic studies have shown that conservation oriented pricing enables water conservation among all customer classes. Properties that maintain consistent usage patterns all year should benefit with lower total purchase costs as the unit rate will be

lower for 2/3 of the year. Conversely, high summer water users will pay more than average depending on consumption.

6. Business Process Change – Billing and Meter Reading

The move last year to seasonal rates created the need to consider a new billing frequency that aligns with the seasonal periods. Currently, all meters are read and billed four times each year. With seasonal rates, the high and low seasons are grouped into four month units which better aligns to a three bill annual schedule.

By reading all of the meters in and around the transition dates from low season rates to high season rates, customers will understand the true effect of the seasonal rates.

Staff from the Water Utility, IT and Revenue Services has collaborated on a solution. The group proposed the following:

- Switch from 4 meter reads and 4 bills per year to 3 meter reads and 3 bills per year.

If approved, customers will receive flyers with each bill in 2013 notifying and reminding them of the change.

There is potential that more frequent consumption information will lead to higher levels of water conservation. The extra cost for additional meter reading and billing may be justified if they are offset by water purchase reductions. Staff will analyze information and, if justified, bring forward a business case in 2013 to increase billing frequency.

Recommendation: Transition from 4 meter reads and 4 bills to 3 meter reads and 3 bills per year.

Implications/Related Issues/Risk (if applicable)

Financial

2013 Preliminary Budget Summary

In building the 2013 preliminary budget, all of the recommendations discussed in this report have been factored in. Most notably the impact of Metro rate increases, declining consumption, the forecasted mitigation with the stabilization reserve, and the increase in capital program charges as a result of transitioning from debt financing to pay as you go. (See table 3)

The implementation of seasonal rates for industrial and institutional customers is not expected to have a significant revenue impact in 2013. Experience during the 2012 summer indicated that revenues were moderately lower than forecasted.

	2012 Budget	2013 Preliminary Budget	$ Inc/(Dec) from 2012 Budget	Variance %
Expenditures ($ millions)				
Operating and Maintenance	12.16	12.56	0.40	3.31%
Capital Program - Pay As you Go	5.00	7.50	2.50	50.00%
Capital Program - Debt Charges	19.66	19.42	(0.24)	(1.23%)
Water Purchases (GVWD)	68.77	65.99	(2.78)	(4.04%)
Transfer (from)/to Reserve	(1.63)	(2.30)	(0.67)	41.08%
Total Expenditures	**103.96**	**103.17**	**(0.79)**	(0.76%)
Revenues ($ millions)				
Flat Rate Revenues	43.34	44.61	1.27	2.92%
Metered Rate Revenues	54.30	52.12	(2.18)	(4.02%)
Meter Service Charges	3.37	2.50	(0.87)	(25.80%)
Flat Rate Fire Line Charges	2.45	3.43	0.99	40.22%
Other Revenues	0.50	0.51	0.01	2.00%
Total Revenues	**103.96**	**103.17**	**(0.79)**	(0.76%)

Table 3 - 2013 Preliminary Budget

The bottom line for 2013 is a 0.76% decrease in expenditures largely due to declining consumption rates reducing the amount of bulk water purchases. For 2013, it is anticipated that total water consumed will drop by 2.67%. Therefore, even in light of a 1.2% increases to Metro water rates, water purchase expenditures are expected to drop $2.8 Million. A forecast of the long term consumption and annual water expenditures is projected later in this report (Table 4).

As for Capital and Debt Charges, the net $2.3 Million increase for 2013 is fully attributed to the pay as you go strategy.

The 3.9% increase to Operating and Maintenance consists mainly of general inflation plus an allowance of $300,000 to address the growing demand for service leak maintenance expected to remain higher than normal over the next 10 years. This allowance is subject to operating budget approval.

Total revenues are projected to decrease by 0.76% despite a 3% fee increase. This is mainly attributable to the conservation efforts which result in a decrease in Metered Rate revenues by 4.02% (or $2.18 million).

New Services versus Inflationary Increases

For 2013, no new or enhanced services are contained in the budget. Increases to the water conservation program were added in 2012 and additional funding is not recommended at this time. The proposed $300,000 increase for service leaks is required to support the anticipated level of service.

Forecasted Impact on the Rate Stabilization Reserve

Past practice has been to maintain a balance in the water rate stabilization reserve of at least 7.5% of water purchases, which is approximately $5.0 million based on the 2013 budgeted water purchases. However, because the reserve has been built up to the current balance of $14.8 million, the City can continue to use the reserve over the next few years to mitigate the increase in Metro's projected cost of water and to help fund the transition from debt financing to pay as you go for the capital work. Following this strategy, the projected reserve balance in 2018 will be just under the 7.5% minimum target (as shown in Table 4).

	2013	2014	2015	2016	2017	2018
Projected GVWD Water Rate						
($ per cubic meter)	$0.6054	$0.6593	$0.7272	$0.7474	$0.8100	$0.8505
Metro Anticipated % Increase*	1.2%	8.9%	10.3%	6.50%	4.6%	5.0%
Anticipated Purchase Costs (millions)	65.6	71.4	77.5	81.0	83.2	85.7
Anticipated Total Consumption (billion litres)	109	108	106.5	105	103	101
Projected Per Capita Demand	476	464	453	442	430	419
Anticipated Change in City Water Rate	3.00%	6.50%	7.00%	6.00%	5.0%	3.0%
Water Rate Stabilization Reserve						
Reserve Balance Beg. of Year ($ millions)	$13.8	$11.7	$15.0	$12.3	$11.1	$10.4
Operating Surplus / (Deficit) ($ millions)	(2.1)	3.3	(3.7)	(1.2)	(.4)	(4.4)
Reserve Balance End of Year ($ millions)	$11.7	$15.0	$12.3	$11.1	$10.4	$6.0
% of Water Purchase Costs	17.8%	21.0%	15.9%	13.7%	12.5%	7.0%

* 2014-18 increases based on Metro's 2011 projections, the most recent available. City of Vancouver rate projections subject to review and revision when updated Metro projections are available.

Table 4 - Forecast of Water Rate Stabilization Reserve

Achieving the result indicated above will depend on how Metro Vancouver structures their capital programs going forward. For 2013, Metro Vancouver has reflected current resource levels with available output. The result was a lower than anticipated water rate increase for 2013. This reserve forecast will also depend on the cost of future capital works undertaken by the City and the associated cost of borrowing for capital works, as well as annual operating costs. If there are changes to these projections, City water rates will be adjusted appropriately to manage the reserve.

1. Proposed 2013 Water Utility Fees and Bylaw Changes

The report thus far has focused on the 3.0% proposed increase to consumption based rates. Also requiring adjustment are the miscellaneous fees and charges contained within the By-Law.

With the exception of the water rate categories (Schedule B and D), most other fees are proposed to increase by 3.0% to cover inflationary increases.

As of January 1, 2012 all new single family and duplex properties are required to have a water meter installed as part of their water connection. In preparation for setting policy last year, staff recommended a $500 increase to cover the added cost of installing the meter along with the connection from the city main.

With nearly a year of experience installing meters and having gone to tender for the necessary materials, staff has determined that the true additional cost for the meter is $781. A recently completed tender for the supply of prebuilt meter boxes garnered a low bid of $506. Financial analysis has shown the labour increment for the installation to be on average $275. In order to close the remaining gap, staff is proposing an 8% increase to the cost of 40 mm SFD/Duplex Service connection permits to ensure the program be delivered in a cost neutral manner. All other connections flat fees in Schedule A will only be inflated 3%.

Appendix A provides a complete summary of the changes in fees proposed for 2012.

Recommendation: Increase fees and charges as follows:

Schedule A – Flat Rate Connection Fees	3.0% increase
• Note 40 mm SFD/Duplex Services contained in Schedule A - 8.0% increase	
Schedule A1 – Removal Fees	3.0% increase
Schedule C – Unmetered Fire Service Pipes	3.0% increase
Schedule E – Meter Service Charge	3.0% increase
Schedule F – Temporary Construction Water	3.0% increase
Schedule G – Water Meter Installation	3.0% increase
Schedule H – Miscellaneous Fees	0.0% increase
Schedule I – Miscellaneous Charges	0.0% increase

BY-LAW 4848 AMENDMENTS

Recommendation E seeks approval to authorize the Director of Legal Services to bring forward necessary By-Law amendments to require residential metering, establish the discussed rate structure and increase rates as outline in Recommendations "A" and "B".

There are also a number of minor housekeeping amendments that are proposed for enactment. Most are language clarification with no change in the intent. However, a couple of sections merit further discussion. They are as follows:

- Section 39
  - Clarification of what action will be taken if inaccurate meter readings have occurred. This language clarifies the difference in the citys' collection approach between equipment malfunction and deliberate tampering.
- Sections 42 and 43
  - These sections propose new language that provides that the collector may back bill or reimburse customers for only two years. This provision is intended to put a reasonable cap on the amount of staff time expended in these types of enquiries and investigations and to give some certainty to both customers and the collector as there are no clear limits in the By-law at present.
  - Staff do not expect there to be a revenue implication with this change as the necessity to back bill and reimburse customers is rare but is often administratively intensive.

ASSUMPTIONS WITHIN REPORT

The forecasts and long term guidance within this report is subject to many assumptions regarding the cost of bulk water, inflation rates etc. The City has no long term obligation to update the content within this report. Future annual rate reports will include updated projections.

CONCLUSION

Rates for water consumption and services are adjusted annually to offset cost increases in the water utility, including operating and debt charge costs and the costs of purchasing water from Metro Vancouver. Based on a review of the waterworks costs for 2012, it is recommended that water consumption based fees be increased by 3.0% and service and connection fees be increased by 3.0%, as described in this report.

As of January 1, 2013, it is recommended that all metered properties in Vancouver be billed on the basis of seasonal water rates.

* * * * *

Appendix 1
Water Works By-Law No. 4848
2012 Rate

Water rate increase	**3.00%**	Applicable to Sch B, D & F
SF & Two-Family Dwellings Connection Fee Increase	**3.00%**	Applicable to Schedule A, A.1 and C
Other Connection Fee Increase	**3.00%**	Applicable to Schedule A, A.1 and C
Meter Service Fee Increase	**3.00%**	Applicable to Schedule C, E & G

Schedule A **Flat Rate Connection Fees**

Service Pipe Size	Present	Proposed Fee
Single-Family & Two-Family Dwellings		
20 mm (3/4")	$4,251	$4,379
25 mm (1")	$4,403	$4,535
40 mm (1 1/2")	$5,000	$5,400
50 mm (2")	$5,888	$6,065
Other Connections		
20 mm (3/4")	$7,991	$8,231
25 mm (1")	$8,314	$8,563
40 mm (1 1/2")	$9,593	$9,881
50 mm (2")	$9,593	$9,881
100 mm (4")	$13,871	$14,287
150 mm (6")	$17,156	$17,671
200 mm (8")	$18,735	$19,297
300 mm (12")	$26,365	$27,156

Schedule A.1 **Removal Fees**

20mm (3/4") to 50mm (2") inclusive	$1,004	$1,034
100mm (4") to 300mm (12") inclusive	$3,011	$3,101

Schedule B	Flat Service Charges for Residential Properties	
	Present	Proposed
Single dwelling unit	$513	$528
Single-Family with suite or laneway house	$695	$716
Single-Family with suite and laneway house	$876	$904
For each strata title duplex	$347	$358

Schedule C	Flat Service Charges for Unmetered Fire Service Pipes	
Pipe Size	Present	Proposed
50 mm (2") or smaller	$200	$206
75 mm (3")	$299	$308
100 mm (4")	$413	$425
150 mm (6")	$476	$490
200 mm (8")	$558	$575
250 mm (10")	$592	$610
300 mm (12")	$635	$654

Schedule D	Charges for Metered Water Service		
Three Monthly Period		Present Rate	Proposed Rate
Seasonal Rate Applies to all Use Codes	All units		
October 1 - May 31		$2.237	$2.304
June 1 - September 30		$2.803	$2.887

Schedule E	Meter Service Charge	

The following schedule shows the meter charge based on the size and type of meter, payable on each service, in addition to water consumption charges.

Per Four Monthly Period	Present	Proposed

Services with Standard Type Meters

17 mm (1/2") and 20 mm (3/4")	$20	$28
25 mm (1")	$20	$28
40 mm (1 1/2")	$47	$65
50 mm (2")	$64	$88
75 mm (3")	$145	$199
100 mm (4")	$176	$242
150 mm (6")	$229	$315
200 mm (8")	$355	$488
250 mm (10")	$435	$598
300 mm (12")	$516	$709

Services with Low Head Loss Meters / Detector Check Valves

100 mm (4")	$203	$279
150 mm (6")	$298	$409
200 mm (8")	$400	$549
250 mm (10")	$498	$684
300 mm (12")	$595	$817

Schedule F — Charges for Temporary Water Service during Construction

Building Size in Square Meters of Gross Floor Area	Present	Proposed
Up to an including 500 sq.m	$226	$233
Over 500 but not exceeding 2,000	$443	$456
Over 2,000 but not exceeding 9,000	$666	$686
Over 9,000 but not exceeding 24,000	$1,119	$1,153
Over 24,000 but not exceeding 45,000	$1,675	$1,725
Over 45,000	$2,222	$2,289

Schedule G — Fees for Installation of Water Meters

Size of Standard Meter	Meter on City Property	Present	Proposed Fee
20 mm (3/4")		$2,923	$3,011

25 mm (1")	$3,055	$3,147
40 mm (1 1/2")	$3,330	$3,430
50 mm (2")	$3,443	$3,546
75 mm (3")	$12,015	$12,375
100 mm (4")	$13,139	$13,533
150 mm (6")	$42,910	$44,197
200 mm (8")	$44,133	$45,457
250 mm (10")	$59,625	$61,414
300 mm (12")	$65,928	$67,906

Size of Standard Meter	Meter on Private Property	Present Fee	Proposed Fee
20 mm (3/4")		$462	$476
25 mm (1")		$533	$549
40 mm (1 1/2")		$711	$732
50 mm (2")		$982	$1,011
75 mm (3")		$2,168	$2,233
100 mm (4")		$3,292	$3,391
150 mm (6")		$6,891	$7,190
200 mm (8")		$8,350	$8,601
250 mm (10")		$16,830	$17,335
300 mm (12")		$21,133	$21,767

Schedule H	**Miscellaneous Fees for Water Users**		
		Present	Proposed
Cross Connection Control Administration Fees			
	First Assembly	$25	$25
	Additional Assembly	$12.50	$12.50
Charges when service pipes are shut off for more than ninety days (per month)			
15mm, 20mm or equivalent unmetered services		$2	$2
Extra Charge for inaccessible meter reading (per month)		$45	$45
Annual Flat Rate for air conditioning units drawing more than 28.4 litres per minute (fee per year)		$300	$300

Special Meter Reading (per occurrence)		$75	$75
Customer requested Meter Test (deposit)		$110	$110

Schedule I	Miscellaneous Charges		
		Present	Proposed
Charges for Returned Cheques		$35	$35
Residual Water Pressure Estimate Fee			
	Original calculation	$35	$35
	Additional copies for same location	$10	$10
Miscellaneous water information requests (per hour)		$40	$40
City Crew Call Out fee (normal working hours) (per occurrence)		$50	
City Crew Call Out fee (outside normal working hours) (per occurrence)		$200	
Frozen pipe thawing request			
Deposit		90	
Fee to thaw frozen pipe		at cost	
Water Service Shut off or Turn On request (per occurrence)		$50	

BY-LAW NO. _____

A By-law to amend Water Works By-law No. 4848 regarding 2013 fee increases and miscellaneous amendments regarding billing matters

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. Council strikes out section 31(3), and substitutes:

"(3) Charges to new premises for water services listed in Schedule B commence on the expiration of the temporary construction period provided for in Section 6.

(4) Charges to new premises for un-metered fire service pipes listed in Schedule C commence on the date of installation of the service pipe."

2. In section 32.3, Council strikes out "three" wherever it occurs, and substitutes "four".

3. Council strikes out section 34, and substitutes:

"34. **Non-Payment**

34.1 **Penalty for Non-Payment**

Fees, rates, meter charges and other charges which are not paid in accordance with this by-law are subject to the following penalties:

(a) Fees, rates, meter charges and other charges which have been entered on the property tax roll in accordance with this by-law are subject to any applicable interest and penalty by-laws enacted by Council in the same manner as if such fees, rates and charges were general taxes within the meaning of such interest and penalty by-laws;

(b) Fees, rates, meter charges and other charges which are due and owing in accordance with section 31(2) of this by-law and remain unpaid are subject to a loss of discount, or a penalty of 5%, calculated on the balance outstanding at the close of day on the day the payment is due;

(c) Fees, rates, meter charges and other charges which are due and owing in accordance with sections 32.1 and 32.3 and remain unpaid are subject to a loss of discount, or a penalty of 5% , calculated on the balance outstanding at the close of day on the day the payment is due.

34.2 **Shut-off for Non-payment**

If fees, rates, meter charges and other charges are unpaid on a date 30 days after the date on which a penalty was added to those charges in accordance with section 34.1:

(a) The Collector may serve notice on the customer demanding payment within 10 days of the date of the notice; and

(b) If the customer fails to pay in accordance with the notice, the Collector may cause the water service to be shut off until the customer has paid:

(i) the amount owing plus any penalty,

(ii) the amount specified in the by-law for crew call out or water service shut off, and

(iii) any additional costs incurred by the city for capping the water service."

4. Council strikes out section 35, and substitutes:

"35. **Collection of Water Rates, Fees and Charges**

35.1 **Invoices for Water Rates, Fees and Charges**

An invoice issued by the Collector for rates, meter charges, fees and other charges levied pursuant to this by-law must be paid by the customer within 30 days of the date of mailing of the invoice.

35.2. I**nsertion of Outstanding Water Rates, Fees and Charges on Tax Roll**

If a customer fails to pay an invoice in accordance with this by-law, the Collector may cause the insertion in the property tax roll of any outstanding water rates, fees and charges as charges imposed with respect to the parcel upon which the water was used, or to which the water was made available for use."

5. Council strikes out section 37, and substitutes:

"37. **Charges for Shut off Service Pipes**

Charges for shut off service pipes shall be as follows:

(a) The charge for service pipes shut off for 90 days or less is:

(i) for metered services, the charge for metered services set out in Schedule E,

(ii) for unmetered fire lines, the charge for unmetered fire lines set out in Schedule C, and

(iii) for unmetered services, the charge set out in Schedule H for unmetered services; and

(b) The charge for services pipes shut off for more than 90 days is:

(i) for metered services, one half of the charge for metered services set out in Schedule E,
(ii) for unmetered fire lines, one half of the charge for unmetered fire lines set out in Schedule C, and
(iii) for unmetered services, the charge set out in Schedule H for unmetered services."

6. Council repeals section 38, and substitutes:

"38. **Meter Tests**

Meter tests may be conducted, subject to the following provisions:

(a) If a customer requests a meter test and pays the meter test fee in accordance with this by-law, the Collector may cause a meter to be tested for accuracy;

(b) If a meter test indicates that the meter has an accuracy within 2% more or less of actual water consumption, the Collector must retain the meter test fee; and

(c) If a meter test indicates that the meter does not have an accuracy of 2% more or less of actual water consumption, the Collector must:

(i) if the meter is under registering by more than 2%, retain the meter test fee and adjust the billing in accordance with section 43 of this By-law, and
(ii) if the meter is over registering by more than 2%, return or credit the meter test fee to the customer and adjust the billing in accordance with section 42 of this By-law."

7. In section 39, Council strikes out section 39.2, and substitutes:

"39.2 If the Collector determines that the water consumption record for a property is inaccurate due to a missing, malfunctioning, damaged or broken meter, the Collector must estimate the actual water consumption by calculating the previous average water consumption, based on the current years consumption and up to two previous years consumption, or, if no consumption history exists, based on median consumption rates for similar properties, and must issue an invoice based on that calculation, which invoice must be for no more than twelve months' estimated water consumption.

39.3 If the Collector determines that the water consumption record for a property is inaccurate due to removal of or tampering with an existing meter, the Collector

must estimate the actual water consumption by calculating the previous average water consumption, based on the current years consumption and up to two previous years consumption, or, if no reliable consumption history exists, based on median consumption rates for similar properties, and the Collector must issue an invoice based on that calculation, which invoice must be for estimated water consumption for the entire period during which the meter was removed or tampered with, as determined by the Collector, and for all administrative costs directly incurred by the city in estimating consumption and repairing or replacing the meter."

8. Council strikes out section 41, and substitutes:

"41 **Change in Use, Occupancy or Property Served**

The customer must notify the Collector in writing of any change in the use, occupancy, site served, or any similar matter which may affect the fees, rates, meter charges or other charges payable under this By-law."

9. Council re-numbers sections 42, 43, and 44, as 44, 45, and 46 respectively.

10. After section 41, Council adds:

"42. **Overpayments**

The Collector may reimburse or refund overpayments to a customer if a change or recalculation results in a reduction in fees, rates, meter charges or other charges, subject to the following provisions:

(a) the Collector must calculate the reduction or refund from the later of the date of receipt of notice or of the actual change,

(b) the Collector must refund any overpayment for the current year and may refund overpayments for up to two years prior to the current year,

(c) the Collector must not pay interest on refunds of overpayments; and

(d) the Collector must not refund overpayments for any more than the two years prior to the current year.

43. **Back Billing**

The Collector must issue an invoice to a customer if any change or recalculation results in an increase in fees, rates, meter charges or other charges, subject to the provisions of section 39.3 and to the following provisions:

(a) the Collector must calculate the increase in fees or charges from the actual date of the change or recalculation as determined by the Collector, and

(b) the Collector must not back bill the customer for a period greater than twelve months, except in accordance with the provisions of section 39.3."

11. In re-numbered section 45, Council strikes out the words "Section 37 of".

12. In the Table of Contents, Council:

(a) Opposite "34.", strikes out "Penalties for Late Payment", and substitutes "Non-Payment";

(b) Opposite "35.", strikes out "Collection of water rates and charges", and substitutes "Collection of Water Rates, Fees and Charges";

(c) Opposite "37.", strikes out "Reduced Charges Where Service Pipes are Shut Off for More than Ninety Days", and substitutes "Charges for Shut Off Service Pipes";

(d) Opposite "38.", strikes out "Testing of Meters", and substitutes "Meter Tests"; and

(e) After "41.", adds " 42. Overpayments" and "43. Backbilling", and re-numbers "42.", "43.", and "44.", as "44.", "45.", and "46." respectively.

13. Council repeals Schedules A to I inclusive of the Water Works By-law, and substitutes:

"SCHEDULE A: Flat Rate Connection Fees

Service Pipe Size	*Single-Family and Two- Family Dwelling with or without a Laneway House*
20 mm (3/4")	$4,379.00
25 mm (1")	4,535.00
40 mm (1 ½")	5,400.00
50 mm (2")	6,065.00

Service Pipe Size	*Other Connections*
20 mm (3/4")	$ 8,231.00
25 mm (1")	8,563.00
40 mm (1 ½")	9,881.00
50 mm (2")	9,881.00
100 mm (4")	14,287.00
150 mm (6")	17,671.00
200 mm (8")	19,297.00
300 mm (12")	27,156.00

SCHEDULE A.1
Removal Fees

Service Pipe Size

20 mm (3/4”) to 50 mm (2”) inclusive	$ 1,034.00
100 mm (4”) to 300 mm (12”) inclusive	3,101.00

SCHEDULE B
Annual Flat Rate Service Charges for Residential Properties

The following charges apply to single family dwellings and dwellings comprising not more than two separate dwelling units:

Single-Dwelling Unit	$528.00
Single-Family with suite or laneway house	716.00
Single-Family with suite and laneway house	904.00
For each strata title duplex	358.00

SCHEDULE C
Annual Flat Rate Service Charges for Unmetered Fire Service Pipes

Fire Service Pipe Size

50 mm (2”) or smaller	$206.00
75 mm (3”)	308.00
100 mm (4”)	425.00
150 mm (6”)	490.00
200 mm (8”)	575.00
250 mm (10”)	610.00
300 mm (12”)	654.00

SCHEDULE D
Charges for Metered Water Service

Four Month Period		*Rate In Dollars per Unit (2,831.6 Litres)*
Rate for all metered uses		
October 1 - May 31	Per unit	$2.304
June 1 - September 30	Per unit	$2.887

SCHEDULE E
Meter Service Charge

The following schedule shows the meter charge based on the size and type of meter, payable on each service, in addition to water consumption charges:

Per Four Month Period

Services with Standard Type Meters

17 mm (1/2”) and 20 mm (3/4”)	$ 28.00
25 mm (1”)	28.00
40 mm (1 1/2”)	65.00
50 mm (2”)	88.00
75 mm (3”)	199.00
100 mm (4”)	242.00
150 mm (6”)	315.00
200 mm (8”)	488.00
250 mm (10”)	598.00
300 mm (12”)	709.00

Services with Low Head Loss Meters/Detector Check Valves

100 mm (4”)	$279.00
150 mm (6”)	409.00
200 mm (8”)	549.00
250 mm (10”)	684.00
300 mm (12”)	817.00

SCHEDULE F
Charges for Temporary Water Service During Construction

	Building Size in Square Meters of Gross Floor Area	*Rate in Dollars of Gross Floor Area Per Building*
Up to and including	500	$ 233.00
Over 500 but not exceeding	2,000	456.00
Over 2,000 but not exceeding	9,000	686.00
Over 9,000 but not exceeding	24,000	1,153.00
Over 24,000 but not exceeding	45,000	1,725.00
Over 45,000		2,289.00

SCHEDULE G
Fees for Installation of Water Meters

Size of Standard Meter	*Meter on City Property*	*Meter on Private Property*
20 mm (3/4”)	$ 3,011.00	$ 476.00
25 mm (1”)	3,147.00	549.00
40 mm (1 1/2”)	3,430.00	732.00
50 mm (2”)	3,546.00	1,011.00
75 mm (3”)	12,375.00	2,233.00
100 mm (4”)	13,533.00	3,391.00
150 mm (6”)	44,197.00	7,190.00
200 mm (8”)	45,457.00	8,601.00
250 mm (10”)	61,414.00	17,335.00
300 mm (12”)	67,906.00	23,827.00

SCHEDULE H
Miscellaneous Fees for Water Users

Cross Connection Control Administration Fees	
First Assembly	$ 25.00
Additional Assembly	12.50
Charges when service pipes are shut off for more than 90 days for 15mm, 20mm or equivalent unmetered services, for each month or part thereof	2.00
Extra charge for inaccessible meter reading (per month)	45.00
Annual flat rate for air conditioning units drawing more than 28.4 litres per minute (fee per year)	300.00

Special Meter Reading (per occurrence)	75.00
Customer Requested Meter Test (deposit)	110.00

SCHEDULE I
Miscellaneous Charges

Charges for Returned Cheques	$ 35.00
Residual Water Pressure Estimate Fee	
Original calculation	35.00
Additional copies for same location	10.00
Miscellaneous water information requests (per hour)	40.00
City Crew Call Out fee (normal working hours) (per occurrence)	50.00
City Crew Call Out fee (outside normal working hours) (per occurrence)	200.00
Frozen pipe thawing request	
Deposit	90.00
Fee to thaw frozen pipe	at cost
Water Service Shut Off or Turn On request (per occurrence)	50.00”

14. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.

15. This By-law is to come into force and take effect on the date of enactment, except for section 13 which is to come into force and effect on January 1, 2013.

ENACTED by Council this day of , 2012

_____
Mayor

_____
City Clerk