



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Date: November 7, 2007
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TO: Standing Committee on City Services and Budgets

FROM: General Manager of Engineering Services

SUBJECT: Annual Review of Water Rates for 2008 under the Water Works By-law

RECOMMENDATION

- A. *THAT Council approve an increase of 5.5%, as detailed in this report and as set out in Appendix A, to the following fees under the Water Works By-law:*
- *Flat rate annual consumption fees for single family dwelling units (increase from \$349 to \$368) (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 other services included in the Water Works Bylaw be increased as follows:*
- *Flat rate water connection fees for single family and two family dwellings (Schedule "A") by 8%,*
 - *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") by 15%,*
 - *Meter service charge (Schedule "E") and fees for installation of water meters (Schedule "G") by 4%.*
 - *Cross connection control administration Fees (Schedule "H") "first assembly" by \$5 and "additional assembly" by \$2.50.*

- C. *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, and C of this report.*

GENERAL MANAGER'S COMMENTS

The General Manager of Engineering Services RECOMMENDS approval of A through C.

COUNCIL POLICY

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.

PURPOSE

The purpose of this report is to recommend increases in water charges for 2008.

BACKGROUND

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. The cost of purchasing water from Metro Vancouver had annual increases between 12% to over 19% in the past three years and will increase by an additional 27% by 2009. This level of increase is a result of the capital costs requirement for the regional water quality initiatives - primarily the new Seymour-Capilano Filtration Project. In anticipation of significant increases in these costs, Council adopted a strategy of using the Water Rate Stabilization Reserve to provide funding to "smooth" significant year-over-year increases in water rates.

DISCUSSION

1. 2007 Waterworks Operating Budget

The waterworks budget is dominated by debt charges (related to City capital works) and regional water purchase costs, which together account for 89% of total expenditures. The remainder of the expenditure budget is comprised of administration, operation and maintenance of the City's water system.

Table 1 summarizes the 2007 Waterworks Operating Budget and the projected year-end results.

Table 1
2007 Budget and 2007 Projected Results

	2007 Budget	2007 Year-end Projection	Variance
<u>Expenditures</u>			
Debt Charges	\$21,691,500	\$21,691,500	\$0
Water Purchases (GVWD)	44,353,800	42,917,000	(1,436,800)
Water Rates Billing	655,900	565,900	(90,000)
Operating and Maintenance	8,075,200	6,153,200	(1,922,000)
Total Expenditures	\$74,776,400	\$71,327,600	(\$3,448,800)
<u>Revenues</u>			
Flat Rate Revenues	\$29,057,000	\$29,004,300	(52,700)
Metered Rate Revenues	40,687,200	38,873,700	(1,813,500)
Meter Service Charges	2,531,100	2,531,100	0
Flat Rate Fire Line Charges	1,600,000	1,836,500	236,500
Other Revenues	2,400	3,000	600
	73,877,700	72,248,600	(1,629,100)
Transfer from/(to) Reserve	898,700	(921,000)	(1,819,700)
Total Revenues	\$74,776,400	\$71,327,600	(\$3,448,800)

It is anticipated that the 2007 financial actual results will show a positive variance of approximately \$1.82 million.

On the expenditures side, staff projects a year-end operating surplus of approximately \$3.44 million (4.6% under-expenditure). About 58% of the operating surplus is from the operating and maintenance accounts. Although the labour disruption did not impact on the delivery of water to the City's customers, the preliminary calculation shows most of the cost savings in the operating and maintenance accounts is attributed to labour disruption. The remaining 42% is attributed to water purchase costs being \$1.43 million lower than originally budgeted due to lower than anticipated consumption.

On the revenues side, staff projects an overall reduction of approximately \$1.63 million compared to budget (2.2% under recovery) at year-end. This is primarily attributed to lower metered revenues due to lower than expected usage in the metered accounts which resulted in a \$1.81 million reduction. The new account established in 2007 to track fire line charges has been over by \$236,500 which provides some offset to the under recovery in the metered rate revenues account.

Staff expects that a surplus of approximately \$921,000 will be transferred to the Water Rates Stabilization Reserve at year-end. This compares to the original budgeted transfer of \$898,700 from the Reserve that was required to balance the 2007 budget.

2. 2008 Waterworks Operating Budget

Table 2 summarizes the anticipated operating budget for the Water Utility for 2008. The table includes estimates of City operating and debt costs as well as the costs of purchasing water from Metro Vancouver. Also included are adjustments to the budget based on the revenue and expenditure variances indicated above.

Metro Vancouver has recommended an increase in its water rate of 9.9% for 2008, making water purchase cost the most significant driver in the Water Utility during the period. Based on the City of Vancouver water consumption projection, it is estimated that the 2008 water purchase costs will increase by 9.4% from 2007.

Table 2
2007 and 2008 Water Budget

	2007 Budget	2008 Proposed Budget	Inc/(Dec)	%
<u>Expenditures</u>				
Debt Charges	\$21,691,500	\$21,312,600	(\$378,900)	-1.7%
Water Purchases (GVWD)	44,353,800	48,522,800	4,169,000	9.4%
Water Rates Billing	655,900	668,600	12,700	1.9%
Operating and Maintenance	8,075,200	8,331,300	256,100	3.2%
Total Expenditures	\$74,776,400	\$78,835,300	\$4,058,900	5.4%
<u>Revenues</u>				
Flat Rate Revenues	\$29,057,000	\$30,706,300	\$1,649,300	5.7%
Metered Rate Revenues	40,687,200	42,199,300	1,512,100	3.7%
Meter Service Charges	2,531,100	2,632,300	101,200	4.0%
Flat Rate Fire Line Charges	1,600,000	1,664,000	64,000	4.0%
Other Revenues	2,400	3,000	600	25.0%
	73,877,700	77,204,900	3,327,200	4.5%
Transfer from/(to) Reserve	898,700	1,630,400	731,700	
Total Revenues	\$74,776,400	\$78,835,300	\$4,058,900	5.4%

City operating and maintenance costs are anticipated to increase by 3.2% from the 2007 budget level as a result of inflationary increases. The 2008 debt charges which arise from the waterworks capital program are expected to be 1.7% (\$378,900) lower than the 2007 budget amount. The decrease in debt charges will help offset some of the water costs increase and brings the overall 2008 expenditures increase to 5.4%.

On the revenue side, metered water consumption is declining both in volume and as a proportion of total consumption while both the number of flat rate accounts and the overall non metered consumption is increasing slightly. These changes influence the proportion of the revenues being recovered from these two groups in 2008.

Based on the projected water consumption and the projected cost increases, utilizing Water Rate Stabilization Reserves of approximately \$1.63 million will allow the Water Utility to hold its water rate increase to 5.5% in 2008. This increase will bring the flat water fee for residential properties to \$368, up from \$349 in 2007. Rates for metered properties will also increase by approximately 5.5% over the 2007 levels.

The proposed fees are included in Appendix A, attached.

3. Water Rates Stabilization Reserve

The Water Utility uses the Water Rates Stabilization Reserve as a "shock absorber" to moderate significant year-over-year increases in water rates, and to balance year-end differences between budgeted and actual revenues. This strategy has been particularly effective in keeping increases in the City's water rates in the 5.5% to 7.5% range during the period in which the cost of water purchased from the region has been increasing at a much higher rate of between 9.9% and 19.7%.

In the short term, the reserve balance is historically high, with that balance being built and then drawn down in order to mitigate against the rate increases that would otherwise result from the significant growth in water purchase costs from the Metro Vancouver. In the longer term, the objective is to maintain the reserve at approximately 7.5% of water purchase costs (currently \$3.6 million and rising in future years with water purchase costs). This will ensure that there are adequate reserves to provide for fluctuations in annual consumption without impacting on the operating budget. The reserve also provides contingency funding for emergent waterworks funding issues.

On the assumption of a 5.5% rate increase in 2008, Table 3 projects City water rate increases from 2009 through 2012. By using the Water Rates Stabilization Reserve, it is anticipated that increases to users during this period can be gradually lowered to the 4% range by 2011.

Table 3
Forecast of Water Rate Stabilization Reserve

	2008	2009	2010	2011	2012
Projected GVWD Water Rate (\$ per cubic meter)	\$.3825	\$.4428	\$.4672	\$.4859	\$.5053
% Increase	9.9%	15.8%	5.5%	4.0%	4.0%
Anticipated Change in City Water Rate	5.5%	5.5%	5.0%	4.0%	4.0%
Water Rate Stabilization Reserve					
Reserve Balance Beg. of Year (\$ millions)	\$18.66	\$17.03	\$9.70	\$8.81	\$6.82
Operating Surplus / (Deficit) (\$ millions)	(1.63)	(7.33)	(0.89)	(1.99)	(1.66)
Reserve Balance End of Year (\$ millions)	\$17.03	\$9.70	\$8.81	\$6.82	\$5.16
% of Water Purchase Costs	35.1%	17.0%	14.7%	11.0%	8.0%

Success in achieving the result indicated above will depend on the region completing its capital program and translating those costs to water rates as currently projected.

4. Connection Fees and Other Water Fees and Charges

In addition to consumption based charges, the Water Works By-law includes fees and charges for a variety of services provided by the Water Utility, including service connection fees, service removal fees, unmetered fire service fees and meter installation and service charges. These are detailed in Schedules A, A.1, C, E, G, H and I of the by-law.

(A) Public Water Services Connection Fees for 2008

Public water services connections to new developments are provided through a cost-recovery program. Fees for this program are adjusted annually to reflect actual costs incurred and anticipated inflation. On average, fees have been increased between 2% and 5% per year over the last four years with the exception of an additional 5% increase that was approved in 2007 to cover the City's street cut degradation fees. The actual cost increases however have been greater than the rate increases incorporated in the annual fees for the connection program during this period.

A recent detailed review shows the connection program has been operating in an imbalance position with a deficit of 10% (comparing revenues from fees to actual costs) accumulated in the commercial and multi-family group and about 4% in the single and two family group. The review leads to the conclusion that fee adjustments are needed for 2008.

(i) Commercial and Multi-family Connection Fees

There has been a significant increase in the proportion of connections on arterial streets in recent years compared to the historical average. The latest review shows a 45% increase in the number of connections installed on arterial streets in 2006 than during the prior capital plan (2003-2005).

Furthermore, the cost to install connections on arterial streets has increased significantly over the last three years. Arterial street construction typically is more expensive due to issues such as wider right-of-ways, higher street repair costs because of thicker asphalt/concrete required and wider sidewalks, additional traffic control requirements and slower progress rates because of the need to keep traffic flowing around work sites. Increasing traffic volume and new traffic control procedures over time have put upward pressure on the cost to install these types of connections.

Procedures which have been gradually introduced over the last few years prohibit work on arterial streets during rush hours and require that a higher level of traffic control measures (warning signage, additional flag personnel, delineators, etc.) be implemented. More pre-construction planning and consultation with parties that might be affected by the work are also now employed. These measures improve public service, but also increase the cost of connection installations.

The greater proportion of installations on arterial streets, combined with the increase of time required to install a connection on an arterial street, have caused the under-recovery of the overall permit fees by about 6%. This is one of the two main reasons that the commercial and multi-family connection group is now in an imbalance position.

The other main reason for the under-recovery is that the inflationary fee increases approved for this program in the last four years were much lower than the actual increases in the material and equipment costs that the program utilized. The inflationary allowance of 4%, 2%, 5% and 5% made in the fees for 2004, 2005, 2006 and 2007 respectively are notably lower than the 9%, 7%, 11.7% and 9% for the comparable years that were documented by Statistics Canada and other publications, for similar types of construction work in metropolitan areas of British Columbia. The cumulative impact of the understated inflationary allowance is about 5% of the overall program cost.

In addition, staff estimates that an inflation allowance of 4% will be needed for next year. This allowance is to cover projected increase in wages, materials and equipment rental costs. This projection is at the low end compared to the range of inflationary increase for 2008 of 4% to 6% projected by industry sources for services similar to connection installation. Therefore, staff recommends that 2008 commercial water connection and removal rates be increased by a total of 15%.

Finally, staff recommends that the deficit accumulated in this program be addressed in the capital budget and close-out reporting process rather than incorporating this cost into future connection rates.

(ii) Single-Family and Two-Family Connection Fees for 2008

The evolving rush hour work procedures, the increased proportion of connections on arterial streets, and the understated inflationary allowance in the fees over the last four years have had similar cost impacts on the connection program for single family and two family dwellings. The overall cost impact, however, has been about 4% rather than 11%, because of a lower proportion of residential connections on arterial streets and efficiency benefits that are achievable for these smaller services such as being able to install the water and sewer connections in the same trench.

Also the recent review shows that the residential connection group has less outstanding connection from permits issued in previous years than the commercial and multi-family connection group. This is because the lead time between application and installation of a connection (while the building is being constructed) for the residential connection group is significantly shorter than the commercial and multi-family group. The cost impact of having to install connections for permits issued several years ago at an old/lower rate is less severe compared to the commercial and multi-family group especially in a period that has significant annual inflation.

Taking all of the above into consideration, staff recommends that the 2008 residential connection rate for single and two family dwellings increase be held at 8%, consisting of 4% to bring the understated fees to the current level and 4% for inflation anticipated for 2008.

Similar to the commercial and multi-family connection program, staff recommends that the deficit accumulated in this program be addressed in the capital budget and close-out reporting process rather than incorporating this cost into future connection rates.

(B) Installation of Water Meter Fees and Cross Connection Control Administration Fees for 2008

The water meter installation program has been operating very close to breakeven and staff recommends these fees be increased by 4% in 2008 to cover projected increases in wages, materials and equipment rental costs.

The by-law requires customers whose premises contain one or more cross connection control devices pay a yearly administration fee. This fee has remained the same (\$20 for first assembly and \$10 for additional assembly) since the inception of the program in 1995. Staff recommends these fees be increased by \$5 and \$2.5 for each first assembly and additional assembly respectively in 2008 to cover costs related to compliance enforcement and site inspection requirements that were added to the cross connection program over the years.

No changes are recommended to other fees in Schedules H and I.

The proposed fees are included in Appendix 1, attached.

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 the Metro Vancouver. Based on a review of the waterworks costs for 2008, it is recommended that water consumption based fees be increased by approximately 5.5% and service and connection fees be increased by 4% to 15%, as described in this report.

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Water Works By-Law No. 4848
Schedules of Rates and Charges for 2008
(with comparable rates for 2007)

Recommended Fee Adjustments		
Water rate increase	5.50%	Applicable to Sch B, D & F
Single-Family & Two-Family Connections	8.00%	Schedule A
Other Connections	15.00%	Schedule A and A1
Service Fee Increase	4.00%	Applicable to Sch C, E & G

Schedule A	Flat Rate Connection Fees	
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<u>Service Pipe Size</u>	<u>Present</u>	<u>Proposed Fee</u>
<u>Single-Family & Two-Family Dwellings</u>		
20 mm (3/4")	\$2,978	\$3,216
25 mm (1")	\$3,098	\$3,346
40 mm (1 1/2")	\$3,572	\$3,858
50 mm (2")	\$3,572	\$3,858
<u>Other Connections</u>		
20 mm (3/4")	\$5,957	\$6,851
25 mm (1")	\$6,199	\$7,129
40 mm (1 1/2")	\$7,153	\$8,226
50 mm (2")	\$7,153	\$8,226
100 mm (4")	\$10,341	\$11,892
150 mm (6")	\$12,790	\$14,709
200 mm (8")	\$13,967	\$16,062
300 mm (12")	\$19,656	\$22,604

Schedule A.1	Removal Fees	
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20mm (3/4") to 50mm (2") inclusive	\$749	\$861
100mm (4") to 300mm (12") inclusive	\$2,245	\$2,582

Schedule B	Annual Flat Rate Service Charges for Residential Properties	
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	<u>Present</u>	<u>Proposed</u>
Single dwelling unit	\$349	\$368
Single-Family with suite	\$473	\$499
For each strata title duplex	\$236	\$249

Schedule C Annual Flat Service Charges for Unmetered Fire Service Pipes

Pipe Size	Present	Proposed
50 mm (2") or smaller	\$164	\$171
75 mm (3")	\$246	\$256
100 mm (4")	\$340	\$354
150 mm (6")	\$393	\$409
200 mm (8")	\$460	\$478
250 mm (10")	\$488	\$508
300 mm (12")	\$524	\$545

Schedule D Charges for Metered Water Service

		Present	Proposed
		Rate per Unit (2,831.6 liters)	
Two Monthly Period	Four Monthly Period		
Per unit	Per unit	\$1.687	\$1.779

A minimum charge of 8 units per month will be charged should lower or no consumption be recorded in any billing period

Schedule E Meter Service Charges

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 Two Monthly Period	Present	Proposed
<u>Services with Standard Type Meters</u>		
17 mm (1/2") and 20 mm (3/4")	\$24	\$25
25 mm (1")	\$26	\$27
40 mm (1 1/2")	\$30	\$31
50 mm (2")	\$39	\$41
75 mm (3")	\$79	\$82
100 mm (4")	\$96	\$100
150 mm (6")	\$124	\$129
200 mm (8")	\$192	\$200
250 mm (10")	\$236	\$245
300 mm (12")	\$282	\$293
<u>Services with Low Head Loss Meters / Detector Check Valves</u>		
100 mm (4")	\$111	\$115
150 mm (6")	\$162	\$168
200 mm (8")	\$217	\$226
250 mm (10")	\$270	\$281
300 mm (12")	\$323	\$336

Per Four Monthly Period	Present	Proposed
<u>Services with Standard Type Meters</u>		
17 mm (1/2") and 20 mm (3/4")	\$30	\$31
25 mm (1")	\$36	\$37
40 mm (1 1/2")	\$47	\$49
50 mm (2")	\$63	\$66

Schedule F	Charges for Temporary Water Service During Construction
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Building Size in Square Meters of Gross Floor Area	Present	Proposed
	Rate in Dollars of Gross Floor Area per Building	
Up to and including 500 sq.m	\$154	\$162
Over 500 but not exceeding 2,000	\$302	\$319
Over 2,000 but not exceeding 9,000	\$454	\$479
Over 9,000 but not exceeding 24,000	\$762	\$804
Over 24,000 but not exceeding 45,000	\$1,141	\$1,204
Over 45,000	\$1,514	\$1,597

Schedule G	Fees for Installation of Water Meters
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Size of Standard Meter	Meter on City Property	Present	Proposed Fee
20 mm (3/4")		\$2,323	\$2,416
25 mm (1")		\$2,390	\$2,486
40 mm (1 1/2")		\$2,470	\$2,569
50 mm (2")		\$2,470	\$2,569
75 mm (3")		\$8,798	\$9,150
100 mm (4")		\$8,798	\$9,150
150 mm (6")		\$30,365	\$31,580
200 mm (8")		\$30,365	\$31,580
250 mm (10")		\$36,428	\$37,885
300 mm (12")		\$36,428	\$37,885

Size of Standard Meter	Meter on Private Property	Present	Proposed Fee
20 mm (3/4")		\$293	\$305
25 mm (1")		\$311	\$323
40 mm (1 1/2")		\$311	\$323
50 mm (2")		\$441	\$459
75 mm (3")		\$681	\$708
100 mm (4")		\$681	\$708
150 mm (6")		\$762	\$792
200 mm (8")		\$882	\$917
250 mm (10")		\$1,148	\$1,194
300 mm (12")		\$1,148	\$1,194

Schedule H	Miscellaneous Fees for Water Users
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	Present	Proposed
Cross Connection Control Administration Fees		
First Assembly	\$20	\$25
Additional Assembly	\$10	\$12.50
Charges when service pipes are shut off for more than ninety days (per month)		
15mm, 20mm or equivalent unmetered services	\$2	\$2

Schedule I	Miscellaneous Charges
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	Present	Proposed
Charges for Returned Cheques	\$35	\$35
Residual Water Pressure Estimate Fees		
Original calculation	\$35	\$35
Additional copies for same location	\$10	\$10
Miscellaneous water information requests (per hour)	\$40	\$40