



## City of Richmond

## Report to Committee

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**To:** Finance Select Committee  
**From:** Jim Bruce  
General Manager,  
Finance and Corporate Services

**Date:** October 22, 2003

**File:** 0970-01

Jeff Day, P. Eng.  
General Manager,  
Engineering & Public Works

**Re:** **2004 Utility Budgets**

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### Staff Recommendation

1. That the 2004 Utility Expenditure Budgets (as presented in the staff report dated October 22, 2003 from the Managers of Water, Sewer & Environmental Programs) be approved as the basis for establishing the 2004 Utility Rates.
2. That staff be directed to bring forward the following:
  - (a) Bylaws to impose fees for water, sewer and solid waste/recycling services as presented in the staff report dated October 22, 2003 from the Managers of Water, Sewer & Environmental Programs, and
  - (b) Bylaw amendments to implement the Water Metering Strategy, approved by Council on February 24, 2003, R03/4-19.

Jim Bruce  
General Manager,  
Finance and Corporate Services

Jeff Day, P. Eng.  
General Manager,  
Engineering & Public Works

## Staff Report

### Origin

This report presents the 2004 utility budgets and rate bylaws for Water, Sewer, Drainage and Solid Waste & Recycling. The utility rates must be established by December 31, 2003 to enable billing in 2004.

### Analysis

The total 2004 utility billing is detailed in the following table, which shows the total utility rates by customer class for 2004, and provides a comparison to 2003 rates.

<i>Customer Class</i>	<i>2003 Actual</i>	<i>2004 – Recommended Rates</i>	<i>\$ Difference over 2003</i>
Single-Occupant (Single-Family Dwelling)	\$591.44	\$641.95	\$50.51
Single-Family Dwelling	\$671.49	\$728.54	\$57.05
Larger Homes (4 or more bathrooms)	\$944.61	\$1,023.99	\$79.38
Single-Occupant Townhouse (on City garbage service)	\$553.04	\$602.55	\$49.51
Townhouse (on City garbage service)	\$577.82	\$628.57	\$50.75
Single-Occupant Townhouse (not on City garbage service)	\$457.25	\$503.31	\$46.06
Townhouse (not on City garbage service)	\$482.03	\$529.33	\$47.30
Single-Occupant (Apartment)	\$355.27	\$393.23	\$37.96
Apartment	\$347.47	\$385.19	\$37.72
Business: Water (\$/m <sup>3</sup> )	\$0.5398	\$0.6112	\$0.0714
Business: Sewer (\$/m <sup>3</sup> )	\$0.4783	\$0.4999	\$0.0216
Business: Garbage	\$16.87	\$20.08	\$3.21
Business: Drainage	\$11.21	\$22.30	\$11.21

The major cost drivers which are contributing to the increases in 2004 are:

- Increase in regional charges for water purchases, water filtration and sewer treatment.
- Increased infrastructure replacement needs, particularly in the water and dykes and drainage areas.

An explanation of the budget differences and significant issues within each of the utility areas follows.

## Water

The 2004 Water budget has increased \$1,866,000 over 2003:

Budget Items	2003	2004	\$ Difference
Operating Expenditures	\$5,541,800	\$5,873,400	\$331,400
Rate Stabilization Contribution	\$858,600	\$1,491,000	\$632,400
GVRD Water Purchases	\$9,298,700	\$10,228,600	\$930,100
Capital Program	\$3,267,000	\$3,871,400	\$604,400
Other Fiscal	\$1,632,300	\$1,000,000	-\$632,300
<b>Total</b>	<b>\$20,598,400</b>	<b>\$22,464,400</b>	<b>\$1,866,000</b>

These amounts reflect an overall increase of 9% in 2004. The principal increases in the budget are in capital replacement costs and GVRD water purchase charges. GVRD water purchases have increased 13.5% in 2004. To lessen the impact of this increase on the water user rates, a portion of the City's water levelling fund has been applied to offset the rate increase by 3.5%. The remaining 10% increase is reflected in the water user rates. It is significant to note that this is the first time that the City's rate levelling strategy has been applied to avoid a more significant hike in the water rates.

GVRD rates are now projected to rise 65% over the next 5 years for the drinking water treatment program. These costs are rising faster than originally anticipated, which translates into a 12% increase in water rates over the next 5 years. The City's water levelling fund will continue to be applied to limit the impacts of these increases up to 21%. In light of these significant increases, the benefits of Council's foresight concerning the rate levelling strategy are now becoming very apparent.

The GVRD rate increases over the next 5 years are due to increased costs associated with the construction of a new water filtration plant, scheduled for completion in 2007. This facility is required in order to meet the new water quality treatment guidelines, which were introduced in 2001. Specifically, the new filtration plant will address turbidity (cloudy water) issues in order to reduce the number of occurrences of discoloured water, which must have additional treatment before it is suitable for drinking by elderly and very young individuals. As construction is completed for these projects, Richmond will start paying for the additional operation and maintenance costs for these new facilities.

Another significant issue of note relates to the overall regional water supply. Given the water shortage issues of the past year, the GVRD is currently investigating alternative additional water sources. This includes negotiations with the province and B.C. Hydro to secure additional water rights for Coquitlam Lake and development of Pitt Lake as a new source. Should it be determined necessary to bring this additional water source into the supply system, this would be a significant driver in future rate increases for water.

The operating expenditure increases relate to staff contract salary increases, plant growth, increases in paving and fleet costs, and inflationary cost increases for supplier-provided services.

The capital program is increased to accommodate infrastructure replacement needs. Previous reports to Council highlighted the need to accelerate capital funding levels to more closely align with ageing infrastructure replacement needs. Similarly, demand replacement costs have increased due to failures of system components which have exceeded their life expectancy. The fiscal portion of the budget is reduced due to a pay-down of the City's debt. These funds have been reallocated to the rate stabilization account to help fund the capital cost of installing water meters, scheduled to commence in early 2004.

This results in the following 2004 Recommended Rates for the Water Utility. A comparison of the 2003 and 2004 water rates is also provided. The chart details the amount of the change by customer class.

<i>2003/2004 Water Rates Comparison</i>			
<i>Customer Class</i>	<i>2003 Actual Rates</i>	<i>2004 Recommended Rates</i>	<i>\$ Difference 2004/2003</i>
Single Occupant	\$227.20	\$253.30	\$26.10
Single Family Dwelling	\$273.64	\$304.85	\$31.21
Larger Homes (4 or more bathrooms)	\$432.09	\$480.74	\$48.65
Townhouse	\$229.93	\$256.33	\$26.40
Apartment	\$148.40	\$165.18	\$16.78
Metered Rate (\$/m <sup>3</sup> )	\$0.5398	\$0.6112	\$0.0714

Other factors contributing to the rate increases for the various customer classes relates to re-distribution of costs due to:

- a decrease in water consumption in the industrial and commercial sector,
- the agreement with the Vancouver Airport for a reduced water rate,
- an increase of water consumption in the non-metered sector.

These revenue reductions and cost increases are balanced across all the other customers to maintain the same amount of revenue recovery.

The Council approved voluntary water metering program is scheduled to begin consumption-based billing by January 1, 2004. The purpose of this program is to provide for more equitable distribution of costs on the basis of user pay. The control for savings is in the hands of the customer – if they use less than the average consumer, they will pay less for water consumption. The goal is to implement metering over a 3 year period, where the incentive to meter is increased gradually based on a comparison between flat rate and meter rate charges.

There are a number of changes required to the Water Utility Bylaw to facilitate the implementation of the residential metering program, as follows:

- Include applicable charges and rates as outlined in the above tables
- Change existing metered residential customers from a flat rate billing to the metered rate as outlined in the above table.
- Require all new residential construction to be metered with the cost of the meter and installation to be borne by the property owner.

- Require all water connection renewals, replacements or repairs to convert to a metered account from a flat rate account.
- If a property is a residential strata development, the City may permit single metered service and will bill the Strata Council for the water so provided.
- A grace period is provided for those consumers who volunteer to have a meter installed by the City under the residential water metering program. These customers may receive a one-time credit equal to the difference between the metered water charges for the first 12 months of consumption and the flat rate charge.
- Adjust the charges in Schedule F for user paid services to reflect actual costs.

There are approximately 2,500 single-family dwellings who will be impacted by the transition to metering. These are households which have water meters installed at the present time, but are currently paying the flat rate charge. Effective January 1, 2004, these households will be charged the metered rate. A letter will be sent to these affected households explaining the change in the water billing method once the rate bylaws are approved by Council.

**Sewer**

The 2004 Sewer budget has increased \$865,300 over 2003:

Budget Items	2003	2004	\$ Difference
Operating Expenditures	\$3,209,900	\$3,374,400	\$164,500
GVS&DD O&M	\$7,566,400	\$8,117,100	\$550,700
GVS&DD DD Debt	\$6,001,500	\$6,184,400	\$182,900
Rate Stabilization Contribution	\$290,000	\$270,000	(\$20,000)
Capital Program	\$800,000	\$1,115,000	\$315,000
Other Fiscal	\$1,349,000	\$1,204,100	(\$144,900)
<b>Sub-Total</b>	<b>\$19,216,800</b>	<b>\$20,265,000</b>	<b>\$1,048,200</b>
Investment Income	(\$150,000)	(\$150,000)	\$0
Property Tax Levy for DD Debt	(\$6,001,500)	(\$6,184,400)	(\$182,900)
Rate Stabilization	\$0	\$0	\$0
Sub Total	(\$6,151,500)	(\$6,334,400)	
<b>Net Revenue Required from Rates</b>	<b>\$13,065,300</b>	<b>\$13,930,600</b>	<b>\$865,300</b>

These amounts reflect an overall increase of 6.6% in 2004.

The operating expenditure increases relate to staff contract salary increases, plant growth and inflationary costs for materials and city equipment rate increases.

GVRD operating and debt charges are increased associated primarily with the future upgrades and expansion of the Lulu Island Sewage Treatment Plant. The Capital Program is increased in order to carry out approved capital construction projects.

A comparison of the 2003 and 2004 sewer rates is provided below.

<i>2003/2004 Sewer Rates Comparison</i>			
<i>Customer Class</i>	<i>2003 Actual Rates</i>	<i>2004 Recommended Rates</i>	<i>\$ Difference 2004/2003</i>
Single Occupant	\$156.11	\$162.65	\$6.54
Single Family Dwelling	\$189.72	\$197.69	\$7.97
Larger Homes (4 or more bathrooms)	\$304.39	\$317.25	\$12.86
Townhouse	\$178.16	\$185.64	\$7.48
Apartment	\$148.31	\$154.61	\$6.30
Metered Rate (\$/m <sup>3</sup> )	\$0.4783	\$0.4999	\$0.0216

The chart below provides a breakdown of the rate increase by customer class for each of Richmond's and GVRD cost increases.

<i>Percentage Breakdown of 2004 Sewer Rates Change from 2003 Rates</i>				
<i>Customer Class</i>	<i>2004 Rate Increase</i>	<i>Proportion of Rate Increase from Richmond Costs</i>	<i>Proportion of Rate Increase from GVRD Costs</i>	<i>Proportion of Rate Increase from Equity Adjustment/ Offset from Load Growth</i>
Single Occupant	+4%	+2%	+4%	-2%
Single Family Dwelling	+4%	+2%	+4%	-2%
Larger Homes (1" connection)	+4%	+2%	+4%	-2%
Townhouse	+4%	+2%	+4%	-2%
Apartment	+4%	+2%	+4%	-2%
Metered Rate (\$/m <sup>3</sup> )	+4%	+2%	+4%	-2%

To complement the voluntary water metering program being introduced in January, 2004, the charges for sewer rates will correspond directly to water consumption for single-family residential customers. This means that in 2004, the metered sewer rate will be charged to those customers with water meters. The sewer rate will be charged based on a percentage of water used, based on the water meter readings. This approach is based on the methodology that the amount of water discharged is approximately 80% of the amount of water consumed.

The following table shows an estimated comparison of costs for residential metered customers versus customers who pay the flat rate charge. Both water and sewer charges are included in this comparison. These rates will be reviewed on an annual basis and adjusted to meet revenue requirements as more customers make the transition to consumption-based water rates.

<i>Customer Class</i>	<i>Estimated Combined Water &amp; Sewer Annual Metered Charge</i>	<i>2004 Residential Recommended Flat Rates for Combined Water &amp; Sewer</i>	<i>Residential \$ Difference Metered Versus Flat Rate</i>
Single Occupant	\$401.11	\$415.95	-\$14.84
Single Family Dwelling	\$495.55	\$502.54	-\$6.99
Larger Homes (4 or more bathrooms)	\$795.55	\$797.99	-\$2.44
Townhouse	\$406.66	\$441.97	-\$35.31
Apartment	\$282.66	\$319.79	-\$37.13

## Drainage

In 2003, the new Sewerage & Drainage Rates Bylaw 7551 was introduced to begin developing a reserve fund for drainage infrastructure replacements costs. As identified in a staff report to General Purposes on July 16, 2001, the first significant increase in replacement costs to the drainage system will occur around 2020. This is the result of rapidly deteriorating asbestos cement pipe. The largest cost for the drainage infrastructure occurs in 2085-2100 when the box culverts are expected to fail. A predicted average annual expenditure of \$4.85 million is required to replace the infrastructure in the first 30 years and \$4.25 million for the remainder of the analysis period.

Bylaw 7551 created a drainage utility to begin developing a reserve fund, with the objective of building the reserve to the anticipated amounts noted above. In 2003, this rate, which appears as a separate line item on the utility bill, was \$11.15 per property. The intent is to add an additional \$11.15 each year to this rate until such time as the \$4.85 million annual reserve requirement is reached -- expected to take approximately 8 years. Therefore, in 2004, staff are recommending the rate be increased to \$22.30. This rate is expected to top out at \$90.00 - \$100.00 per property, at which time the annual requirement for drainage infrastructure replacement will be reached. The required reserve amount and associated rates may vary subject to ongoing review of the drainage infrastructure replacement requirements.

Drainage operating and maintenance costs will remain on the tax requisition in 2004. This is because it was determined not viable to shift these costs to a utility due to the difficulty in establishing a fair indicator for measuring the amount of drainage from properties, and the significant impact this transition would have had on many land owners. Staff will continue to evaluate these issues and concerns, with the objective of transferring this cost to the utility in the future.

The Sanitary Sewer System and Drainage System amendment bylaw presented with this report also identifies user fees for inspection chamber and manhole installations relating to the drainage system. These are charges which are currently being assessed, and are included in the amendment bylaw as a matter of procedure.

## Solid Waste & Recycling

The 2004 Solid Waste & Recycling budget has increased \$186,600 over 2003:

Budget Items	2003	2004	\$ Difference
Operating Expenditures	\$427,500	\$428,600	\$1,100
Rate Stabilization	\$767,300	\$742,400	-\$24,900
Collection Contracts	\$2,852,400	\$2,947,400	\$95,000
Disposal Costs	\$1,988,500	\$2,001,000	\$12,500
Program Costs	\$983,000	\$998,400	\$15,400
Environmental Programs	\$317,700	\$405,200	\$87,500
<b>Total</b>	<b>\$7,336,400</b>	<b>\$7,523,000</b>	<b>\$186,600</b>

These amounts reflect an overall increase of 2.5% in 2004.

The collection contracts increases are due to inflationary increases, as stipulated in the contract documents. Disposal costs are increased slightly due to an increased in the amount of waste disposed per household. It should be noted that this budget reflects no change in the regional disposal rate for 2004, as an increase is not anticipated. The increases in program costs are due to salary increases associated with litter collection and the Recycling Depot. Environmental programs is increased as a result of anticipated expenditures in 2004 associated with additional mosquito treatment to combat the spread of West Nile virus.

This results in the following rates for 2004. A summary of the rates by customer class is presented in the following table. The 2003 rates are also provided for comparison purposes.

<i>2004/2003 Solid Waste &amp; Recycling Rates Comparison</i>			
<i>Customer Class</i>	<i>2003 Actual Rates</i>	<i>2004 Recommended Rates</i>	<i>\$ Difference 2004/2003</i>
Single Occupant	\$196.98	\$203.70	\$6.72
Single Family Dwelling	\$196.98	\$203.70	\$6.72
Larger Homes (4 or more bathrooms)	\$196.98	\$203.70	\$6.72
Townhouse	\$158.58	\$164.30	\$5.72
Apartment	\$39.61	\$43.10	\$3.49
Business Rate	\$16.87	\$20.08	\$3.21

The main costs which are expected to impact the Solid Waste and Recycling budget in future years are the annual rate of inflation, due to this being the identified cost escalation factor in our solid waste and recycling contracts. Costs could also increase in the event additional materials are received for disposal, i.e. garbage/yard waste volumes, etc. In the event the GVRD disposal rate is increased in future years, there would be a direct corresponding impact on our budgets and rates.

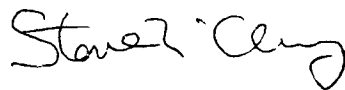
**Financial Impact**

The 2004 utility budgets and the rates outlined in this report, represent full cost recovery for each respective area. These rates maintain the existing practices of reserve funding and rate stabilization. The utility rate bylaws reflect the rates as outlined in this report.

**Conclusion**

The 2004 utility rates and associated bylaws are presented with this report. The strategy in developing these rates represents a sound approach to addressing significant pending increases in regional charges for water purchases, water filtration and sewer treatment in future years. In addition, they reflect a move toward gradually increasing the amounts that will be required to maintain an ageing City infrastructure. This corresponds with the direction to develop a comprehensive plan for infrastructure replacement over the longer term.

  
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