

**Report from** Financial Management Services, Accounting

**Date of Report:** March 8, 2011

**Date of Meeting:** March 21, 2011

**File:**

**Subject:** 2011 Water and Wastewater Budget and Associated Rates

**RECOMMENDATION**

That the report from the Financial Management Services Department – Accounting dated March 8, 2011 regarding the 2011 Water and Wastewater Budget and Associated Rates be referred to City Council for consideration after the Public Meeting scheduled for March 28, 2011 for which notice will be duly given.

**STAFF RECOMMENDATION**

That the 2011 Water and Wastewater Budget in Appendix “A” of the report from the Financial Management Services Department, Accounting dated March 8, 2011 be approved;

and further, that the City Solicitor be directed to prepare the necessary by-laws.  
FORTHWITH

**SUMMARY**

The Water and Wastewater Budget is fully funded by user rates with no reliance on property taxes. Both operating and capital expenditures are funded through the water and wastewater rates. This report seeks approval for the 2011 Water and Wastewater budget and associated rates.

In addition to seeking approval of the 2011 Water and Wastewater budget, this report provides information on various Water/Wastewater budget related issues that have been considered by staff during the preparation of the 2011 draft budget. These issues include the various reports requested by Council relating to the Water/Wastewater budget as well as a brief update of the results of the recently concluded Region Rate Setting and Billing Review Study.

The report has been organized into the following sections:

- A. Water Budget
- B. Wastewater Budget
- C. 2011 Water and Wastewater Proposed Rates
- D. Region Rate Setting and Billing Review
- E. Information requests from City Council
  - 1. Automated Meter Reading Technology
  - 2. Outsourcing of Billing and Collection Functions
  - 3. Allocation of Fixed Costs

# REPORT

## A. WATER BUDGET

### 1. Regional Water Rates

The City and Region are responsible for various aspects of water. The Region is responsible for supply and treatment including all reservoirs and water towers. In general, watermains sixteen inches (400 mm) or larger are a Regional responsibility and the City is responsible for the smaller distribution watermains.

### 2. Watermain Replacement Program

The total length of watermain under the City's jurisdiction is approximately 620 km. The estimated replacement value in 2011 dollars is \$435,000,000. Assuming an average service life of 50 years for the whole system, the annual cost for watermain replacement should be 2% of the total replacement cost of the whole system, or \$8.7 million to maintain a sustainable watermain distribution system.

There were recorded 105 watermain breaks in 2010, compared with 93 in 2009, and 120 in 2008. The number of watermain breaks can fluctuate significantly from year to year. An aggressive replacement program is still required to reduce the annual number of breaks.

The proposed 2011 water budget includes \$5,500,000 for the replacement of watermains. Additional waterworks improvements have been identified in the proposed Capital Budget for Regional Road Replacements. The 2011 program will replace approximately 8.56 km of watermain and also provide for the installation of 1.05 km of new watermains. Hence total watermain replacement and new installation equals 9.6 km or 1.55% of the water distribution system.

Watermain replacement is prioritized based on a number of criteria with the primary consideration being the previous number of breaks on a particular section. In addition, Council has directed that each year's water budget include an allocation of at least \$750,000 for the replacement of watermains in areas experiencing coloured water problems. In 2011, \$1,000,000 is proposed to be spent on an 805m long section of watermain on St. Paul Street from William St to Geneva St. This will help in alleviating coloured water problems in this section of the water system. Other factors used to prioritize the program include upgrading undersized mains and installing new mains to fill in "missing links" to improve the system integrity and increase fire flow protection. Co-ordination with other proposed road or sewer work can also accelerate the replacement of certain mains.

## B. WASTEWATER BUDGET

### 1. Regional Wastewater Charges

There is a shared responsibility for collection and treatment of sanitary sewage between the City and the Region. The Region is responsible for treatment facilities, pumping stations, sludge disposal and sewers with flows of six cubic feet per second or greater or sewers spanning a municipal boundary. The City is responsible for the remaining sanitary sewer pipelines.

The regional wastewater costs are billed to the City based on a 3 year average of wastewater flows, as opposed to actual monthly flows. This provides the City with the annual amount of wastewater charges that must be collected to meet its obligation to the Region. As most of the wastewater budget amounts are deemed 'fixed' in nature, these funds must be collected from the ratepayer regardless of the amount of water used.

### 2. Sanitary Sewer Replacement Program

The City currently has 566 km of combined and sanitary sewers. The estimated replacement value of these sewers in 2011 dollars is in the order of \$462,000,000. The proposed \$1,900,000 budget will include the replacement of approximately 2,000 lineal metres of sanitary sewers. The combined sewers allow rainwater to enter into the sanitary sewer system. In 2010, the Region supplied the City with approximately 16.9 million cubic meters of potable water (17.1 million in 2009) and treated 21.9 million cubic meters of wastewater. (24.5 million in 2009) Therefore the City's regional wastewater cost is not only influenced by the amount of water used but also the amount of precipitation the City receives in the year.

## C. 2011 WATER AND WASTEWATER PROPOSED RATES

### Rate Structure

The City's current water and wastewater rate structure is a combination of fixed and volumetric charges. The fixed rate is calculated to recover the costs of the Watermain and Sewer Replacement program budgets. The remainder of the costs are recovered through the volumetric charge.

### Calculation of the fixed charge in the City's rate structure

In the City's current water and wastewater rate structure the fixed charge is defined to be cost of the City's annual replacement programs. For each of the systems these capital-related costs are calculated to be:

	Water Budget	Wastewater Budget
Improvement program	\$5,500,000	\$1,900,000

Debt Charges	1,010,309	1,305,548
Contribution to Capital fund		
<b>Total Capital Related Costs</b>	<b>\$6,510,309</b>	<b>\$3,205,548</b>
Calculation of Recovery Rates		
Based on 42,450 customers	\$153.00	\$75.00
<b>2011 Proposed Rates</b>	<b>\$147.00</b>	<b>\$75.00</b>
2010 Rates	\$141.00	\$78.00

Note: the number of customers has been updated from 40,000 to 42,450 for 2011 due to the change to meter equivalency billing for fixed costs. This change in billing is a methodology used to allocate the fixed costs of the systems equitably based on usage of the system. Level of usage is determined by the size of the meter for each property. The change is a recommendation of the Region Rate Setting and Billing Review (see separate section) and addresses the concerns expressed by Council regarding proper allocation of fixed costs amongst users. The methodology is discussed further in section titled "Allocation of Fixed Costs".

As the chart above indicates, the calculated fixed component of the City's rate structure should be \$153 for Water and \$75 for Wastewater. While staff does not propose that the 2011 water fixed rates be increased in one year to fully recover these costs, a significant increase is necessary. For wastewater charges, the recommended 2011 fixed rates have been decreased.

Using the 2011 proposed rates, it is estimated that in 2011 overall revenue from fixed costs in comparison to overall revenue requirements will be:

	Estimated Revenue from Fixed Costs	Revenue Budget	% of Revenue Budget
Water	\$ 6,140,125	\$ 23,083,978	26.6%
Wastewater	3,173,125	24,531,563	12.9%
<b>Total</b>	<b>\$ 9,313,250</b>	<b>\$ 47,615,541</b>	<b>19.6%</b>

As discussed in the section titled "Region Rate Setting and Billing Review", the recommendations of that working group are that 50% of the annual revenue requirement should be charged based on a fixed rate. Currently, the fixed rates for the City of St. Catharines are significantly lower than this recommendation. While staff agree that increasing the fixed costs would improve the financial stability of the water/wastewater system, this change is not currently recommended by staff. The potential impacts of this change are discussed in greater detail in the heading below titled "Local municipality billing methods – fixed versus variable."

#### Effect of the Region's billing models on the City Rate

On February 14, 2011 General Committee received, for information purposes, a report regarding the 2011 Draft Regional Water and Wastewater Rates. The report indicated that the combined increase of 1.4% in Regional Water and Wastewater

budgets would result in a specific impact to City of St. Catharines ratepayers of 5.7% on a cubic meter basis. Subsequent to this report, on March 3, 2011, Regional Council approved their 2011 Water and Wastewater budgets at a lower increase. The net effect of the changes is as follows:

	Draft Budget	Approved	% Increase From 2010	Previously Reported
Water budget	\$ 42,375,164	\$ 42,018,284	0%	.85%
Wastewater budget	60,449,845	60,424,071	1.7%	1.78%
Combined Water and Wastewater	\$ 102,825,009	\$ 102,442,355	1.01%	1.40%

As the above table demonstrates, the changes approved have reduced the combined increase to 1.01% from 1.4%. As Council is aware, with declining consumption, a 1.01% total annual increase does not mirror the increase in rates required to adequately recover costs. The above chart details the impacts to all local municipalities. The specific analysis of the effect on St. Catharines is as follows:

	Water	Wastewater	Total
Draft 2011 Rates	\$ 12,005,166	\$18,219,754	\$ 30,224,524
Effective rate per cm - draft	\$0.81	\$1.24	\$2.05
Approved 2011 Rates	\$11,913,856	\$ 18,213,264	\$ 30,127,120
Effective rate per cm - approved	\$0.81	\$1.24	\$2.05

As per the above table, although the overall costs to the City have declined, the magnitude of the change is not large enough to result in a change to the effective rate per cm of water sold. The specific impact to the City of St. Catharines, on a per cubic meter basis, remains at 5.7% as previously reported to City Council. It is this increase of 5.7% (rather than the 1.01% as state above), that will need to be accommodated within the City's Water and Wastewater rates for 2011. The Regional report references the change in the overall budget request. When this amount is applied to the expected lower water consumption amount projected in 2011, the effective increase is significantly higher to ratepayers.

### **Regional Wastewater Charges**

The regional wastewater costs are billed to the City based on a 3 year average of wastewater flows, as opposed to actual monthly flows. The result is that these costs, representing 75% of the City's Wastewater budget are a fixed cost to the City. When the costs of the City's sewer rehabilitation program (project costs, debt charges and capital contributions) are also considered, the net effect is that at least 88% of the City's Wastewater charges are fixed in nature. While City staff are not recommending that Wastewater charges be billed on a predominantly flat rate basis, the fixed portion of the rate structure is essential to the financial stability of the rate structure.

### **Regional Water Charges**

The billing model adopted by the Region in 2009 (and continuing for 2011) for Water purchases contains a fixed rate calculated to recover 25% of their costs on

this basis. This rate structure has a significant effect on the rates that the City must charge to recover water costs. Previous to this change there was a direct correlation between the amount of water purchased by our customers and costs of purchasing that water from the Region. If water usage declined, the payments to the Region for the purchase of water would also decline. Now, a significant portion of the Regional costs will not vary with volume. Regional reports indicate that this fixed component of their rate will increase in the future. Regional staff are recommending a phased in approach to the increase beginning in 2012 at 34% fixed-recovery, increasing to 42% in 2013 and 50% in 2014.

**Conclusion**

Due to the increasing fixed component of both the Water and Wastewater budgets it is necessary that the fixed components of the City’s rate structure be increased. While an increased fixed charge can be interpreted as a disincentive to conservation, it remains important that the financial sustainability of the water and wastewater systems be improved. Implementation of the Meter equivalency method will provide for a more equitable distribution of fixed costs across users of the system.

The Volumetric Rate – Effect of Decreasing Water Consumption on the City’s Rate

An analysis of water purchases over the last 10 years has shown conservation efforts by St Catharines water customers have resulted in a significant reduction in cubic metres of water purchased from the Region. Since 1999 annual water purchases have decreased 39% from 27,599,000 cubic metres annually to 16,893,000 cubic metres in 2010. From 2008 to 2010 alone the decrease was 3.476 million cubic metres (17%). The net effect is that the water and wastewater costs must now be recovered from this lower volume of water sales. This reduction in volume necessitates an increase in volumetric rates for 2011 to ensure that costs are recovered. This experience is not unique to Niagara municipalities. Across the province, volumes have reduced and volumetric water/wastewater rates have increased to compensate for the reduction in revenue collected.

**Recommended Water and Wastewater Rates**

As a result of the severely declining volume of water utilized by the City’s customers and the rate increases from the Region, staff recommend that effective April 1, 2011, the rate structure for recovering water and wastewater costs be the following:

	Fixed Rate (Annual)	Volumetric Charge (per cubic metre)
Water	\$147	\$1.159
Wastewater	\$75	\$1.470

The proposed rates will result in an annual increase to the average ratepayer

(at annual consumption levels of 200 cubic metres) of \$37.80. A breakdown of this increase is as follows:

Description	Amount
Water Rates	\$ 16.60
Wastewater Rates	21.20
Total Increase - \$	\$ 37.80
Total Increase - %	5.32%

The above increase of \$37.80 can be analyzed as follows:

City Controlled Expenditures	\$ 2.71
Reduction in Water Consumption	28.96
Region Rate Increases	6.13
Total Increase	\$ 37.80

It should be noted that this comparison is made using an average annual consumption of 200 cm (vs the 250 cm comparison used in previous budget years). Current analysis of the water accounts has shown that the average City water customer is now using 200 cm of water annually.

#### **D. Region Rate Setting and Billing Review**

On November 23, 2009, City Council approved the participation of the City in a Regionally funded feasibility study to investigate if a common rate structure for water and wastewater costs could be developed and used by all the municipalities in the Region. The working group included representatives from Finance and Public Works for the local municipalities as well as the Region. A consulting firm was hired by the Region to complete the study.

While the result of the study is a list of recommendations that the Region would like all Niagara municipalities to consider, Regional staff, in their report to Regional Council indicate that

“the draft recommendations reflect a **convergence of opinions** from the staff working group but it **does not reflect consensus**”.

This conclusion is particularly relevant to the City of St. Catharines as staff are presently only recommending the implementation of two of the recommendations. Due to this lack of consensus, local municipalities are being asked to consider implementing the recommendations, but are not required to do so.

The recommendations are contained in Appendix “B”.

The following is a summary of the items of specific concern to the City of St. Catharines list of items discussed by the group:

1. Forecasting of water volumes (recommendations d, e, and g)

Staff concur with the conclusion that accurate water volume forecasting is a critical issue for both the Region and the local municipalities. With growing infrastructure needs and declining water consumption, the group recognized that significant upward movement in rates will continue. This situation is not unique to Niagara. The local municipalities and the Region agreed to work together to share information with the goal of improving the forecasting results.

## 2. Meter Multipliers (recommendations h and i)

The group recommended using meter multipliers as a method of allocating the fixed charges amongst customers. St. Catharines presently does not use meter multipliers. This means that all customers, regardless of meter size are charged the same fixed charge per billing. Meter sizes are determined by the required flow of water to the property. If a customer has a larger meter, this indicates that they are consuming larger quantities of water and hence they are a proportionately larger user of the system. This also indicates that they should be bearing a proportionately larger share of the fixed costs.

This issue is discussed in the section titled “Redistribution between Users” and is recommended for implementation in this report

## 3. Local municipality billing methods – fixed vs variable (recommendations a and b)

Both the Region and the local municipalities acknowledge that the majority of their water and wastewater costs are fixed. However, revenues are largely recovered on a volumetric basis.

Regardless of the rate setting challenges brought by declining consumption, the group agreed that water conservation should continue to be promoted. Therefore, a volumetric component of the water rate is necessary to provide incentive for the water customer to use water wisely.

To balance the needs of promoting wise water use and recovery of fixed costs, the group decided that local municipalities should consider moving towards a 50% fixed and 50% variable cost recover methodology for both water and wastewater rates.

This billing methodology change would significantly increase the fixed portion of water/wastewater bills for the City’s ratepayers. Households with lower consumption would see the most significant increase. If this policy were implemented in St. Catharines, the average household would experience a 22% increase in their annual water/wastewater bill with the fixed portion rising from \$219 annually to \$607 annually. While this would increase the financial stability of the system, staff do not consider this change appropriate for St. Catharines residents and will not be recommending such a significant change to our current billing model. As discussed previously in this report, the fixed portion of our billing model should be increasing but not to this extent.

## 4. Rate stabilization reserves (recommendation c)



The introduction of rate stabilization reserves was recommended by the Committee. Rate stabilization reserves provide funding in years where revenues fall short of expenditures. The reserves are replenished in years when revenues exceed expenditures. Presently the City does not have any rate stabilization reserves for water or wastewater. In order to establish a reserve the water/wastewater budgets would have to contain provisions for reserves. This would increase the rates currently charged to the ratepayers. Staff considers rate stabilization reserves a prudent financial tool. However, given the current upward pressure on the rates from declining consumption, staff do not recommend further increases to the rates for the purposes of establishing rate stabilization reserves at this time. Staff will continue to consider the possibility of establishing reserves with each budget cycle.

#### Summary of the Region rate setting and billing review

In summary, staff agree with the philosophy supporting all of the above four recommendations. Staff further recommend the implementation of the first two recommendations (working with the Region to forecast flows and implementing the meter multiplier method) for 2011.

However, for the reasons stated above, staff do not recommend the implementation of recommendations 3 and 4. Both recommendations would cause immediate upward pressure on water and wastewater rates at a time when rate increases are already significant. Each budget year, staff will reconsider the remaining two recommendations for implementation and report to Council accordingly.

## **E. INFORMATION REQUESTS FROM COUNCIL**

### **1. Automated Meter Reading Technology**

At the October 18, 2010 Council meeting, Councillor Phillips requested a staff report respecting the installation of digital water meters and associated technology which could be read from outside the residence.

The City currently used direct read meters to monitor water usage for the purpose of billing its customers. These direct read meters measure and display the total water usage based on the amount of water that passes through the meter. Direct read meters are usually installed in the basement of the building to help protect the meter from extreme weather conditions. While this protects the meter, this location makes it necessary for the City's meter reading staff to enter the building for the purposes of reading the meter.

New technology is available to automate this meter reading process and reduce the need for City staff to access the building. This technology benefits both the City and water customers as readings can be obtained in a timely manner without entering the customer's premises.

There are three types of automated technology currently available. They include:

#### Touch read meters

- Meters are read through the use of a handheld device
- Remote mounted touch pad is installed on the exterior of the building
- The meter reader walks onto the property to access the touch pad and obtain the reading
- The handheld device collect and stores the data for upload to the billing system

#### Radio read drive-by meters

- Radio transmitters are installed on the water meters
- A reading device is mounted in a City vehicle
- The meter reader drives by and the reading device obtains the reading
- The device collects and stores the data for upload to the billing system

#### Fixed base network meters

- Radio transmitters are installed on all water meters
- Radio towers are installed in strategic areas of the City
- Devices on the towers collect the meter readings
- The data is forwarded to the data storage/processing centre and uploaded to the billing system

As with any investment in infrastructure, the initial capital cost will be significant. Therefore it is important to consider the long term benefits, both quantitative and qualitative, when evaluating available options. For the purposes of evaluating the various options the following objectives were considered important.

#### Objective 1 – Reduce overall meter costs

Provide for an economical life cycle cost

#### Objective 2 – Provide more timely leak detection

Provide timely information to identify leaks and to better detect tampering

#### Objective 3 – Increase frequency of readings

Frequent readings provide the timely data necessary to better monitor the water distribution system and to provide for more frequent and precise billings.

#### Objective 4 – Improve customer service

Perform meter reading in a non-intrusive manner with less frequent access required for in-home inspections

Appendix “C “ provides a full analysis of how each option (touch read, radio read, fixed base) has been evaluated with respect to the above 4 objectives.

In summary, all of the identified options represent a significant upgrade over the current meter reading system and provide benefits to meet the four objectives identified by City staff to varying degrees. The touch read option meets objectives 1

and 4 by reducing the estimated annual operating costs and by improving customer service. However, the touch read option still requires a meter reader to “walk” the entire City. As a result, this method does not achieve objectives 2 and 3 cost effectively.

Both the radio read and fixed base network options meet all four objectives. Appendix “C” provides discussion regarding the implementation costs and potential cost savings of each option.

As detailed in Appendix “C” the radio read option is estimated to cost approximately \$8,900,000 versus a minimum of \$10,200,000 for the fixed base network option. Regarding operating expenses, both options are estimated to result in similar operating savings of approximately \$135,000 annually. Due to the significantly lower capital cost of the radio read option, that this option preferred by staff.

The initial capital expenditure of \$8,900,000 is presently cost prohibitive. The expected annual operating savings of \$135,000 (see Appendix “C”) are small in comparison to the large capital expenditure to purchase the new technology. It would be possible to phase the implementation of the new technology over a period of years. As an example, if the implementation was phased over four years the annual cost of implementing the new meter technology would be \$2,225,000. The budget presently contains approximately \$300,000 for meter replacement. This means that the budget would need to increase by \$1,925,000. The corresponding increase to the water rates would be \$0.13 per cm. For the average household consuming 200 cm of water this would raise their annual water bill by \$26.

Considering the recent and continuing increases to the water/wastewater staff are not proposing the implementation of automated meter reading technology for 2011. The current water system continues to adequately track water usage. However, automated meter reading technology can provide significant benefits to the City of St. Catharines and therefore staff will consider this project for future budgets.

## **2. Outsourcing of Billing and Collection Functions**

At the January 18, 2010 Council meeting, Councillor Gill requested that City staff evaluate the option of contracting out the billing and collection function of water billings to identify potential cost savings and efficiencies.

A detailed review of all water billing and collection expenditures was performed and staff identified an estimated \$590,000 in annual expenditures that would be eliminated by outsourcing the billing and collection function. The expenditures are primarily employee related as this function is labour intensive. This reduction in costs would be replaced by the contract costs of a service provider. Staff contacted a number of other municipalities which currently outsource their billing and collection functions. From discussions, it was determined that their costs of outsourcing exceeded current City costs for providing the service with our own staff. Staff are of the opinion that the costs incurred by the City for these functions are reasonable and the most cost effective method of providing the service.

In addition, by outsourcing, the City loses direct management and control over the day to day decision required in billings and collections. Per discussions with other municipalities, their management expressed dissatisfaction with the service due to this lack of control. Despite the fact that the policies and procedures are determined by the municipality, the loss of direct contact with the customers and detailed control of the data is considered a significant negative result of the outsourcing.

Due to the fact that cost savings are unlikely to be realized and the loss of control is considered a significant negative effect, City staff recommends against pursuing the outsourcing of billing and collection of water/wastewater bills.

### **3. Allocation of Fixed Costs**

At the March 29, 2010 Council meeting, Councillor Kushner requested that City staff prepare a report on alternatives to allocating fixed costs, including transference to property tax and possible redistribution between users. As discussion of both concerns follows.

#### Transference of fixed costs to property tax

The Water and Wastewater budgets are currently funded entirely through user fees. Long term debt is used in certain circumstances such as when larger capital projects are undertaken in addition to the regular improvement programs. The charges to fund the long term debt are charged to the Water and Wastewater budgets. In the past, taxation revenue has been utilized to fund a portion of the Regional wastewater treatment costs. This funding was decreased in an effort to increase the transparency and accountability of the Water and Wastewater rates. Since 2009, there is no taxation support included in the Water and Wastewater budgets as per Council's direction on July 14, 2008. Costs of the Water and Wastewater systems are fully borne by the Water and Wastewater rates.

Recent legislation by the Province now requires formalized financial plans to be submitted as a condition of licensing. The Province requires municipalities to report the full cost of operating their systems and develop a plan to fund the costs. The City has filed our financial plan and indicated that all funding for Water and Wastewater costs will be recovered through user rates with no reliance on property tax.

The Ministry of the Environment (MOE) guideline contains principles to help develop the plans and to inform the transition toward financial sustainability. The guidelines consider circumstances where tax-based support may be appropriate. These include fire protection costs and storm water infiltration. They do not include capital costs of the systems.

Staff do not recommend the tax budget as a source of funding for these costs. Transferring the costs to the tax bill would not significantly affect the overall costs to the average household. It is important that the costs of the water and wastewater systems be funded by the users of those systems. Staff supports the direction of the Province that user fees should fund the full costs of operating the systems. Any

redistribution of the fixed costs amongst users should be achieved through amendments to the water/wastewater billing model itself.

### Redistribution between users

The City's current water and wastewater rate structure is a combination of fixed and volumetric charges. The fixed rate is charged equally to all water customers and is calculated to recover capital costs as detailed in the section titled "2011 Water and Wastewater Proposed Rates".

Typically, residential customers have smaller meters than industrial / commercial /institutional (ICI) customers as their demand for water is much lower. Water meter sizes vary depending on the required water flow to the property. A typical house may have a 15mm meter whereas a hotel could have a 150 mm meter. For St. Catharines the fixed charge would be the same for both the smaller user (residential home) and the larger user (the hotel). The American Water Works Association (AWWA) recommends the use of the meter multiplier approach as an option for redistributing fixed charges. This approach shifts the weighting of fixed charges based on the type of meter. An ICI meter would bear a higher proportion of the fixed charges than a residential meter, which is reflective of the larger burden that the ICI customer places on the water system

The particular issue was addressed by the 2010 Region Rate Setting and Billing Review. In particular, the Review committee concluded that a consistent manner in allocating the fixed charge between the residential sector and the ICI sector should be implemented for all Niagara Municipalities. The AWWA meter multiplier approach is used by a number of Niagara municipalities and a significant amount of municipalities in Ontario. The Region Rate Setting and Billing Review committee concluded that this approach should be implemented in all Niagara municipalities for meters that are 25 mm or greater in 2011.

Staff have reviewed the number of meters 25 mm or greater in our system. Implementing the meter multiplier method would mean that those ICI customers that have a meter 25 mm (or 1 inch) or larger would pay a larger fixed cost based on the size of the meter. In effect, their fixed costs become the base fixed cost multiplied by the AWWA Multiplier. The AWWA meter multiplier factors are as follows:

Meter size (in inches)	Multiplier
1	1.4
1.5	1.8
2	2.9
3	11
4	14
6	21

The result is that the effect number of meters over which the fixed charged is applied increases from 40,000 meters to 42,450 meters. The result is that the larger water users (as identified by the necessity for a larger meter) are charged a

larger portion of the fixed costs. This new 'effective' meter amount has been utilized in the proposed 2011 water and wastewater rates.

## **FINANCIAL IMPLICATIONS**

The proposed 2011 water and wastewater rates will result in an annual increase to the average ratepayer (at annual consumption levels of 200 cubic metres) of \$37.80. A breakdown of this increase is as follows:

Description	Amount
Water Rates	\$ 16.60
Wastewater Rates	21.20
Total Increase - \$	\$ 37.80
Total Increase - %	5.32%

The above increase of \$37.80 can be analyzed as follows:

City Controlled Expenditures	\$ 2.71
Reduction in Water Consumption	28.96
Region Rate Increases	6.13
Total Increase	\$ 37.80

### **Approved by:**

Shelley Chemnitz, CA  
Director of Financial Management Services

City of St Catharines  
Water/Wastewater Budget Summary

	Estimate		Actuals	
	2011	2010	2010	2009
Reserve at Beginning of Year	930,975	1,793,260	1,793,260	2,976,867
Revenues	47,935,540	46,641,851	45,427,054	39,781,453
Less: Region expenditures	30,127,120	30,014,317	29,744,211	27,947,745
Net Revenue	17,808,421	16,627,534	15,682,842	11,833,708
City Expenditures				
Water Operating costs	5,700,552	5,665,847	4,898,303	4,851,947
Water Debenture debt	1,010,309	931,723	942,390	840,076
Water Infrastructure costs	5,500,000	5,682,000	5,134,872	2,811,157
Sewer Operating costs	3,010,074	2,778,748	2,793,566	2,508,826
Sewer Debenture debt	1,305,548	1,258,712	1,264,012	1,260,192
Sewer Infrastructure costs	1,900,000	1,921,000	1,511,984	745,117
	18,426,483	18,238,030	16,545,127	13,017,315
Annual Surplus/(Deficit)	-618,062	-1,610,496	-862,285	-1,183,607
Reserve at End of Year	312,912	182,764	930,975	1,793,260
City total	18,426,483	18,238,030	16,545,127	13,017,315
Region total	30,127,120	30,014,317	29,744,211	27,947,745
	48,553,603	48,252,347	46,289,339	40,965,060
cm - purchased	16,368,500	17,230,000	17,958,703	20,102,612

**WATER SYSTEM (515.XXX)**

**2011 Water Budget Summary**

	<u>Dept.</u>	<u>Acct.</u>	<u>Estimate</u>		<u>Actual</u>	
			<u>2011</u>	<u>2010</u>	<u>2010</u>	<u>2009</u>
<b>Operating Expenditures:</b>						
General Administration	FMS	105	1,280,185	1,274,873	1,230,326	1,232,415
Engineering Overhead	TES	110	1,485,197	1,390,134	1,291,671	1,282,621
Mains, Valves, Hydrants	TES	115	1,933,410	1,988,270	1,490,879	1,519,190
Water service lines	TES	120	398,120	394,700	413,544	385,096
Meters	TES	125	472,540	498,550	434,437	351,228
New Mains, Valves, Hydrants	TES	135	131,100	119,320	75,810	98,308
Services Rendered	TES	145	0	0	-38,363	-16,911
Total Operating Expenditures:			<u>5,700,552</u>	<u>5,665,847</u>	<u>4,898,303</u>	<u>4,851,947</u>
<b>Capital Expenditures:</b>						
Water Capital/Revenue	FMS	190	0	182,000	183,000	144,000
Debenture Debt	FMS	195	1,010,309	931,723	942,390	840,076
Water Improvement Program	TES	520	5,500,000	5,500,000	4,951,872	2,667,157
Total Capital Expenditures:			<u>6,510,309</u>	<u>6,613,723</u>	<u>6,077,263</u>	<u>3,651,233</u>
<b>Total Water Expenditures</b>			<u>12,210,861</u>	<u>12,279,570</u>	<u>10,975,565</u>	<u>8,503,180</u>

Note: FMS - Financial Management Services  
TES - Transportation and Environmental Services



**City of St Catharines  
2011 Water Improvement Program**

Account 520.	<u>Budget 2011</u>
520.'s	
937 Geneva Street Part 1 P09-001	\$530,000.00
028 Church/Geneva/Niagara P10-100	665,000.00
121 Mildred Avenue P11-062	385,000.00
122 Newton/St Joseph P11-063	250,000.00
123 Jones Street P11-064	145,000.00
124 Abbey/Masefield P11-065	50,000.00
125 Carlisle/The Parkway P11-100	320,000.00
126 Crown/Monarch Park P11-101	760,000.00
127 Deborah/Dolly P11-102	200,000.00
128 Linwell Rd P11-103	800,000.00
129 Moffatt/Orchard/Village P11-104	295,000.00
130 St Paul Street P11-105	1,000,000.00
131 Valves and Hydrants,2011 P11-118	50,000.00
132 Design for 2012 Projects P11-119	50,000.00
	<u>\$5,500,000.00</u>

**City of St Catharines  
2011 Sewer Improvement Program**

Account 731.	<u>Budget 2011</u>
731.'s	
931 Geneva Street Part 1 P09-001	\$380,000.00
110 Church/Geneva/Niagara P10-100	240,000.00
111 Albany/Bowstead/Glenholme P11-004	105,000.00
112 Sewer Spot Repair Program P11-011	100,000.00
113 2011 Sanitary Sewer Reaming Program P11-012	25,000.00
114 2011 TV Sewer Inspection P11-014	100,000.00
115 Design for 2012 Sewer Projects P11-015	10,000.00
116 Mildred Avenue P11-062	520,000.00
117 Newton/St Joseph P11-063	200,000.00
118 Abbey/Masefield P11-065	220,000.00
	<u>\$1,900,000.00</u>

**WASTEWATER SYSTEM**

**2011 Wastewater Budget Summary**

	<u>Dept.</u>	<u>Acct.</u>	<u>Estimate</u>		<u>Actual</u>	
			<u>2011</u>	<u>2010</u>	<u>2010</u>	<u>2009</u>
<b><u>Operating Expenditures:</u></b>						
Sewers - General	TES	730.100	442,415	441,580	371,075	358,630
Sewers - Insurance	FMS	730.105	0	0	0	39,262
FLAP Program	TES	732.115	192,212	191,294	138,088	197,469
Lateral Replacement	TES	732.100	432,250	404,700	498,182	400,418
New Laterals	TES	732.105	0	0	-5,487	-22,605
Drain Clearing	TES	732.110	167,350	132,170	117,179	78,485
Overhead	TES	732.190	775,678	644,945	720,112	577,147
Pollution Control	TES	735.300	667,748	655,167	602,873	548,407
Overhead	TES	735.304	332,421	308,892	351,544	331,613
Total Operating Expenditures:			<u>3,010,074</u>	<u>2,778,748</u>	<u>2,793,566</u>	<u>2,508,826</u>
Debtenture Debt	TES	731.195	1,305,548	1,258,712	1,264,012	1,260,192
Sewer Improvement Program	TES	731.100	1,900,000	1,900,000	1,490,984	702,117
Capital Out of Revenue	FMS	735.200	0	21,000	21,000	43,000
Total Capital Expenditures:			<u>3,205,548</u>	<u>3,179,712</u>	<u>2,775,996</u>	<u>2,005,309</u>
<b>Total City Wastewater Expenditures</b>			<u>6,215,622</u>	<u>5,958,460</u>	<u>5,569,562</u>	<u>4,514,135</u>

Note: FMS - Financial Management Services  
 TES - Transportation and Environmental Services

**WATER, WASTEWATER AND RELATED SERVICE RATES**

1. The following rates shall be paid to The Corporation of the City of St. Catharines for the use of water supplied by The Corporation of the City of St. Catharines:

(a)	<u>Consumption - Cubic Metres</u> (For each four month billing period)	<u>Current</u>	<u>Proposed</u>
	Customer Charge	\$47.00	\$49.00
	Consumption Charge - per cubic metre	1.106	1.159
	*Note: Large Industrial Users are billed monthly		

**Water meter size of 1" or greater will be subject to a water meter equivalency charge when calculating the Customer Charge.  
Exemption: Single Family Residential classification. See (b) below.**

(b) Meter Equivalency

**Water meter size of 1" or greater will be subject to a water meter equivalency charge when calculating the Customer Charge.  
Exemption: Single Family Residential classification.**

1"	meter =	1.4 meter equivalency units
1 1/2"	meter =	1.8 meter equivalency units
2"	meter =	2.9 meter equivalency units
3"	meter =	11 meter equivalency units
4"	meter =	14 meter equivalency units
6"	meter =	21 meter equivalency units
>6"	meter =	21 meter equivalency units

(c)	<u>Flat Rates</u> (For each four month billing period)		
	Dwelling (per billing period)	\$138.00	\$147.00
	Summer cottage (per season)	\$188.00	\$197.00

(d) Estimated Billing

Where consumption and/or Flat Rate does not apply, estimates are based on previous actual readings. In the absence of previous actual readings, amount to be determined at the discretion of the Treasurer.

(e) Rates for Services Outside City (For each four month billing period)

	Multiple of Regular Rate	2X	
	Customer Charge	\$94.00	\$98.00
	Consumption Charge - per cubic metre	2.212	2.318

(f) Bulk Water (Key Pad Operated)

	Per cubic metre	\$1.106	1.159
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(g) Rate when bypass valve is opened without Authorization or any other unauthorized use of water or determination that water provided has not passed through the meter. (For each four month billing period)

Two times the average of last three representative bills.

If not applicable, estimate to be determined at the discretion of the Treasurer.

(h) Water Under Construction

	First four month period Per sq. ft.	\$0.024	0.025
	Per sq. m.	0.261	0.273

	Next Flat Rate for each four month period until meter is installed	\$138.00	\$147.00
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If there are extenuating circumstances or if large Industrial/Commercial building, "Next Flat Rate" to be determined at the discretion of the Treasurer.

(i) Meter Relocation to a more appropriate position to facilitate reading and/or maintenance;

When requested by homeowner, equivalent to applicable Water Service Call as defined in Rates and Fees.

When determined by City Engineer, amount charged at the discretion of the Treasurer.

2. The following rates shall be paid to The Corporation of the City of St. Catharines for the use of water related services supplied by The Corporation of the City of St. Catharines:

(a)	<u>METER RENTALS</u> (Annually)	<u>Current</u>	<u>Proposed</u>
	<u>Meter Size</u>		
	*16mm (5/8") Displacement	\$19.00	
	19mm (3/4") Displacement	\$25.00	
	19mm (3/4") Displacement with ECR	\$41.00	
	25mm (1") Displacement	\$29.00	
	25mm (1") Displacement with ECR	\$46.00	
	38mm (1-1/2") Displacement	\$82.00	
	38mm(1-1/2") Turbine	\$111.00	
	38mm (1-1/2") Displacement with ECR	\$115.00	
	38mm (1-1/2") OMNI T2 Turbine	\$96.00	
	50mm(2") Displacement	\$92.00	
	50mm (2") Turbine	\$114.00	
	50mm (2") Compound	\$96.00	
	50mm(2") Displacement with ECR	\$128.00	
	75mm (3") Turbine	\$375.00	
	75mm (3") Compound	\$418.00	
<b>New -</b>	<b>75mm (3") OMNI T2 Turbine</b>		<b>\$375.00</b>
	75mm (3") OMNI C2 Compound	\$402.00	
	100mm (4") Turbine	\$475.00	
	100mm (4") Compound	\$498.00	
	100mm (4") OMNI T2 Turbine	\$475.00	
	100mm (4") OMNI C2 Compound	\$488.00	
	150mm (6") Turbine	\$587.00	
	150mm (6") Compound	\$671.00	
	150mm (6") Fire Assembly	\$900.00	
	200mm (8") Turbine	\$665.00	
	200mm (8") Fire Assembly	\$1,131.00	
	250mm (10") Turbine	\$794.00	
	250mm (10") Fire Assembly	\$1,408.00	

\* NOTE: No charge for 16mm (5/8") meter unless installed outside the City.

Where meter type consists of two meters combined, one rental rate is applicable, based on the largest meter.

(a)(i)	<u>METER PITS (CHAMBER) RENTALS (Annually)</u>	<u>Current</u>	<u>Proposed</u>
	<u>Meter Size</u>		
	16mm (5/8")	45.00	
	19mm (3/4")	45.00	
	25mm (1")	49.00	
	38mm (1-1/2")	108.00	
	50mm (2")	115.00	
	75mm (3")	Actual Cost	
	100mm (4")	Actual Cost	
	150mm (6")	Actual Cost	
	200mm (8")	Actual Cost	
	250mm (10")	Actual Cost	

(b) Late Payment Penalty

A penalty for late payment of 1.5% per month is added the day following the due date and the first day of each month thereafter.

(c) Water Certificate 25.00

(d) Final Demand Letter/Non Compliance Fee 10.00 **Delete**  
**Included in 2011 Rates and Fees**

3. The following rates shall be paid to the Corporation of the City of St. Catharines for the wastewater system and services as outlined herein: Current Proposed

(a) Wastewater Fees

Sewer Replacement Program	\$26.00	<b>\$25.00</b>
Wastewater charges – per cubic metre	1.349	<b>1.470</b>

Flat Rates (For each four month billing period)

Dwelling (per billing period)	180.25	<b>192.00</b>
Summer cottage (per season)	252.35	<b>268.00</b>

**Water meter size of 1" or greater will be subject to a water meter equivalency charge when calculating the Customer Charge.**  
**Exemption: Single Family Residential classification. See (b) below.**

(b) Meter Equivalency

**Water meter size of 1" or greater will be subject to a water meter equivalency charge when calculating the Customer Charge.**  
**Exemption: Single Family Residential classification.**

- 1" meter = 1.4 meter equivalency units
- 1 1/2" meter = 1.8 meter equivalency units
- 2" meter = 2.9 meter equivalency units
- 3" meter = 11 meter equivalency units
- 4" meter = 14 meter equivalency units
- 6" meter = 21 meter equivalency units
- >6" meter = 21 meter equivalency units

(c) Wastewater Under Construction

First four month period	0.00	
Next flat rate for each four month period until meter is installed	180.25	<b>192.00</b>

If there are extenuating circumstances or if large Industrial/Commercial building, "Next Flat Rate" to be determined at the discretion of the Treasurer.

4. The rates set out above shall be deemed to have become effective on all accounts with Billing periods ending on or after **April 1 ,2011**.

\* NOTE: Where consumption is calculated in cubic feet the consumption may be converted to gallons using the following formula:

$$\text{Cubic Feet} \times 6.23 = \text{Gallons}$$

Where consumption is calculated in litres the consumption may be converted to gallons using the following formula:

$$\text{Litres} \times .22 = \text{Gallons}$$

**\*bolded script = proposed changes for 2011**

CITY OF ST. CATHARINES - WATER/WASTEWATER BUDGET  
ESTIMATE 2011

EXPENDITURE ACCOUNT	2011 BUDGET
310.112 <u>WATER/WASTEWATER EQUIPMENT RESERVE:</u>	
OPENING BALANCE	\$899,953
ANNUAL RESERVE PROVISION	130,000
EXPENDITURES,2011	-318,000
CLOSING BALANCE	<u>\$711,953</u>
 <u>EXPENDITURE DETAILS</u>	
ONE (1) HYDRANT TRUCK (R#99)	90,000
ONE (1) BACKHOE (REPLACE #61)	110,000
ONE (1) MID SIZE CAR (R#318)	38,000
ONE (1) ONE TON VAN (REPLACE #44)	39,000
ONE (1) SEWER CAMERA (NEW)	28,000
TWO (2) TRACE MACHINES	<u>13,000</u>
	<u>318,000</u>