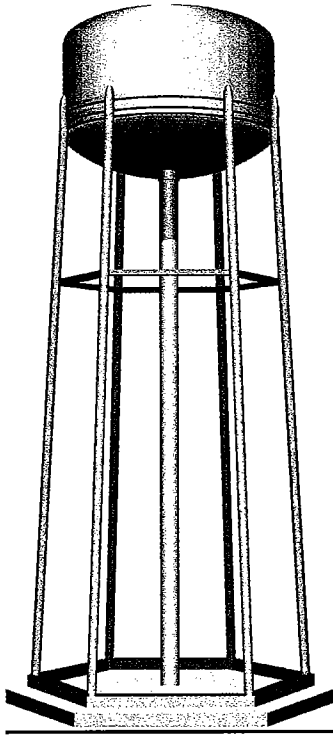


The Public Utilities Commission
for
The Municipality of Chatham-Kent



Water & Wastewater
Financial Plans

2009-2015

Executive Summary

The Chatham-Kent PUC has taken a flexible and gradual approach to achieving financially sustainable water and wastewater services. The PUC implemented the recommendations of a phased-in approach in 2002.

The approved water and wastewater rate structure allows for full cost recovery of all future projects and replacement of existing infrastructure while remaining competitive with other major urban centres.

C-K has completed a detailed review of the entire water distribution system including the age and materials to assist with developing a long term Lifecycle Replacement Program. It should be noted that approximately 50% of the water distribution system is less than ten (10) years old.

The Water Distribution Lifecycle Reserve is fully phased in at \$1.4M annually in 2009 and the Sanitary Sewer Lifecycle Reserve will be fully phased in at \$2.0M annually in 2009.

The uniform, declining block, rate structure has the advantage of providing an equitable charge across all users in Chatham-Kent and provides a common charge for a common service.

In addition, the rate structure is compatible with the Chatham-Kent Economic Development Strategy in attempting to make the area more competitive and attractive for development. The declining block rate provides a cost relief to the very high system users, such as food processors and other major industries.

1 INTRODUCTION

Rates Study Process:

The original Rates Study (Water & Wastewater) was completed by C.N. Watson Associates Ltd. in 2001. They also completed a Development Charges Report in 2003 which was implemented in 2004.

The Chatham-Kent PUC has expanded the original study and completed a long term financial plan for both water and wastewater rates. The study included the review of the following:

1. Identify all current and future water and wastewater system capital needs through discussions with staff, Todgham & Case Associates and Stantec Consulting Ltd.
2. Develop long term asset renewal and replacement programs in conjunction with the C-K Engineering Services Department, Public Works staff and Todgham & Case Associates, including lifecycle reserve fund calculations for:
 - Water treatment
 - Water distribution
 - Wastewater treatment
 - Wastewater collection
3. Identify operating costs by component and estimate future operating costs over the next twenty years including costs which may increase due to growth.
4. Implementation of appropriate rate structures and charges.

2 Regulatory Changes in Ontario

Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario over the past few years. These changes arise as a result of the Walkerton Commission and the 93 recommendations made by the Walkerton Inquiry Part II report.

Areas of recommendation include:

- watershed management and source protection;
- quality management;
- preventative maintenance;
- research and development;
- new performance standards;
- sustainable asset management; and
- lifecycle costing.

The legislation which will most impact on municipal water and wastewater rates is the *Sustainable Water and Sewage Systems Act (SWSSA)* which will require municipalities to implement full cost pricing. The Act was enacted in 2002, however, has not been implemented pending the approval of its regulations. It is not known when the Act will be fully implemented however 'interim' legislation was introduced on August 16, 2007 which requires similar principles be introduced. The following sections describe these changes.

Sustainable Water and Sewage Systems Act

As noted earlier, the *Sustainable Water and Sewage Systems Act (SWSSA)* was passed on December 13, 2002. The intent of the Act is to introduce the requirement for municipalities to undertake an assessment of the "full cost" of providing their water and the wastewater services. It is noted that, at the time of writing, the regulations, which accompany the Act, have not been issued. In total, there are 40 areas within the Act to which the Minister may make Regulations. As will be discussed in the next section, interim legislation was passed on August 16, 2007 which will implement many of the principles provided by SWSSA.

Full costs for water service is defined in subsection 3(7) of the Act and includes "source protection costs, operating costs, financing costs, renewal and replacement costs and improvement costs associated with extracting, treating or distributing water to the public and such other costs which may be specified by regulation." Similar provisions are made for wastewater services in subsection 4(7) respecting the "collecting, treating or discharging waste water."

The Act will require the preparation of two reports for submission to the Ministry of the Environment (or such other member of the Executive Council as may be assigned the administration of this Act under the Executive Council Act). The first report is on the "full cost of services" and the second is the "cost recovery plan." Once these reports have been reviewed and approved by the Ministry, the municipality will be required to implement the plans within a specified time period.

In regard to the "Full Cost of Services" report, the municipality (deemed a regulated entity under the Act) must prepare and approve a report concerning the provision of water and sewage services. This report must include an inventory of the infrastructure, a management plan providing for the long-term integrity of the systems and address the full cost of providing the services (other matters may be specified by the regulations) along with the revenue obtained to provide them. A professional engineer must certify the inventory and management plan portion of the report. The municipality's auditor will be required to provide a written opinion on the report. The report must be approved by the municipality and then be forwarded to the Ministry along with the engineer's certification and the auditor's opinion. The regulations will stipulate the timing for this report.

The second report is referred to as a "Cost Recovery Plan" and will address how the municipality intends to pay for the full costs of providing the service. The regulations may specify limitations on what sources of revenue the municipality may use. The regulations may also provide limits as to the level of increases any customer or class of customer may experience over any period of time. Provision is made for the municipality to implement increases above these limits however ministerial approval would be required first. Similar to the first report, the municipal auditor must provide a written opinion on the report prior to Council's adoption, and this opinion must accompany the report when submitted to the Province.

The Act provides the Minister the power to approve or not approve the plans. If the Minister is not satisfied with the report or if a municipality does not submit a plan, the Minister may have a plan prepared. The cost to the Crown for preparing the plan will be recovered from the municipality. As well, the Minister may direct two or more regulated municipalities to prepare a joint plan. This joint plan may be directed at the onset or be directed by the Minister after receiving the individual plans from the municipalities.

The Minister also has the power to order a municipality to generate revenue from a specific revenue source or in a specified manner. The Minister may also order a regulated entity to do or refrain from doing such things as the Minister considers advisable to ensure that the entity pays the full cost of providing the services to the public.

Once the plans are approved and in place, the municipality will be required to submit progress reports. The timing of these reports and the information to be contained therein will be established by the regulations. A municipal auditor's opinion must be provided with the progress report. Municipalities may also revise the plans if they deem the estimate does not reflect the full cost of providing the services, as a result of a change in circumstances, regulatory or other changes that affect their plan, etc. The municipality must then revise its prior plan, provide an auditor's opinion, and submit the plan to the Minister.

3 Financial Plan Regulation

On August 16, 2007, the MOE passed O.Reg. 453/07 which requires the preparation of financial plans for water (and wastewater) systems. The MOE has also provided a Financial Plan Guidance Document to assist in preparing the plans. A brief summary of the key elements of the regulations is provided below:

- The financial plan will represent one of the key elements for the Municipality to obtain its Drinking Water Licence .
- The plan is to be completed by July 1, 2010 (may be later if Drinking Water License is to be obtained later than this).
- The financial plans shall be for a period of at least six years but longer planning horizons are encouraged.
- As the regulation is under the *Safe Drinking Water Act*, the preparation of the plan is mandatory for water and encouraged for wastewater.
- The plan is considered a living document (Le. will be updated as annual budgets are prepared) but will need to be undertaken at a minimum every five years.
- The plans generally require the forecasting of capital, operating and reserve fund positions, providing detailed inventories, forecasting future users and volume usage and corresponding calculation of rates. In addition, PSAB information on the system must be provided for each year of the forecast (Le. total non-financial assets, tangible capital asset acquisitions, tangible capital asset construction, betterments, write-downs, disposals, total liabilities and net debt).
- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's web site. The availability of this information must also be advertised.
- The financial plans are to be approved by Resolution of the Council or governing body indicating that the drinking water system's financially viable.

In general, the financial principles of the draft regulations follow the intent of SWSSA to move municipalities towards financial sustainability. However, many of the prescriptive requirements have been removed (e.g. preparation of two separate documents for Provincial approval, auditor opinions, engineer certifications, etc.).

A Guideline ("Towards Financially Sustainable Drinking-Water and Wastewater Systems") has been developed to assist municipalities in understanding the Province's direction and provides a detailed discussion on possible approaches to sustainability. The Province's Principles of Financially Sustainable Water and Wastewater Services are provided below:

Principle #1 :

Ongoing public engagement and transparency can build support for, and confidence in, financial plans and the system(s) to which they relate.

Principle #2:

An integrated approach to planning among water, wastewater, and storm water systems is desirable given the inherent relationship among these services.

Principle #3

Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.

Principle #4:

Life-cycle planning with mid-course corrections is preferable to planning over the short-term, or not planning at all.

Principle #5:

An asset management plan is a key input to the development of a financial plan.

Principle #6:

A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.

Principle #7:

Ensuring users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.

Principle #8:

Financial Plans are "living" documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future

Principle #9:

Financial plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal council

4 Chatham-Kent Background

The 23 former municipalities and 13 public utilities within the former Kent County were ordered to amalgamate by a Commissioner appointed by the Minister of Municipal Affairs and Housing in 1998.

A long term strategic infrastructure plan was required to respond to the changes occurring in many areas including demand, finances and legislation.

The Municipality of Chatham-Kent Water and Wastewater Master Plans Study was initiated by the PUC to address issues related to drinking water treatment and distribution and wastewater collection and treatment over a 20 year period. R.V. Anderson Associates Limited completed the study in accordance with the Municipal Engineers Association Class Environmental Assessment for Municipal Water and Wastewater Projects.

As a continuation of this process the Chatham-Kent PUC retained C.N. Watson Associates to undertake a water and wastewater rate study in 2001 to review the multiple water/wastewater rate structures from the former utilities and municipalities and provide a forecast of rates for water and wastewater services for the future.

The review included the following areas:

- Equity for all consumers in Chatham-Kent.
- Standardized rate structure.
- Minimum billing requirements.
- Full recovery of Operating /Maintenance costs.
- Funding the capital costs as outlined in the Water/Wastewater Master Plan.
- Allocation of costs associated with the growth/expansion into the rural areas.
- Implement Life Cycle Replacement Funding for the costs associated with the water and wastewater treatment, collection/distribution systems

As well, a Development Charges Study was completed in 2004 and charges were implemented for all new users on the water and wastewater systems.

5 Existing Systems/Facilities

The existing water and wastewater systems are summarized as follows:

Water:

- 6 water supply systems
 - 4 surface water supply
(Dresden & Thamesville are supplied from Chatham WTP)
 - 2 ground water supply (Ridgetown & Highgate)
(Water is purchased from West Elgin for Bothwell)
- 9 water distribution systems
 - approx. 1600 km of water lines

Wastewater:

- 10 wastewater treatment facilities
 - approx. 475 km of sanitary/combined sewers
 - 27,163 connections
- 13 wastewater collection systems
 - Charing Cross pumps to Blenheim
 - Paincourt pumps to Chatham
 - 401 Ind. Park pumps to Chatham

6 Treatment System Capacities

Water Supply/Treatment Systems			
	Water	Source Water Supply	Rated Capacity m³/day
1	South C-K	Lake Erie	22,800
2	Bothwell	West Lorne WTP-Lake Erie	863
3	Chatham	Lake Erie	68,000
4	Ridgetown	Well Supply	2,778
5	Wheatley/Tilbury	Lake Erie	25,640
6	Wallaceburg	Chenal Ecarte (St Clair River)	13,600
6	Highgate	Well Supply	523
TOTAL			134,204
Wastewater Treatment Systems			
	Sewage	Treatment Type:	Rated Capacity m³/day
1	Blenheim WPCP	New Hamburg Process	4,045
2	Chatham WPCP	Conventional Activated Sludge	36,000
3	Dresden WPCP	Extended Aeration	4,546
4	Merlin Lagoons	Lagoons	464
5	Mitchell's Bay	Lagoons	509
6	Ridgetown WPCP *	New Hamburg Process*	1,537
7	Thamesville WPCP	Extended Aeration	818
8	Tilbury WPCP	Extended Aeration (Orbal)	5,200
9	Wallaceburg WPCP	Conventional Activated Sludge	10,800
10	Wheatley WPCP	Extended Aeration	2752
TOTAL			66,671
<i>*A full Mechanical plant (2,347 m3/D) is under construction to be completed in 2009</i>			

7 Capital Works Projects (completed)

Chatham-Kent has been very aggressive in upgrading and expanding the treatment systems and capacities for the supply of potable water and collection and treatment of wastewater. The major projects completed since 2001 are summarized in the following table:

Chatham-Kent PUC Facility Related Upgrades Major Capital Capital Projects		
Type of Project:	Location:	Total Project Cost:
Ridgetown Lagoon Upgrades (2001)	Ridgetown	\$2,884,000.00
Sanitary Sewers & PS to Chatham	Paincourt	\$5,217,815.95
Upgrade & expansion of treatment plant	Chatham WPCP	\$17,177,094.90
Upgrade & expansion of treatment plant	Tilbury WPCP	\$13,136,443.56
Sanitary Sewers & PS to Chatham	N.E. Chatham	\$1,679,633.24
Sanitary Sewers & PS to Chatham	South Chatham	\$6,493,863.82
Mechanical Sewage Treatment Plant	Ridgetown	\$16,000,000.00
Expansion of WTP & Trunk Watermain	Wheatley/Tilbury	\$21,273,800.84
Replacement Elevated Water Tank	Tilbury	\$4,400,000.00
Replacement Water Treatment Plant (Membrane Technology)	Blenheim, Erieau, Erie Beach	\$14,019,381.09
WTP Upgrades & Expansion	Chatham WTP	\$24,777,293.36
Pumping, wells equipment	Ridgetown Wells	\$721,865.24
Upgrade wells & new distribution	Highgate Wells	\$1,264,672.19
Replace High Lift pumps & metering	Wallaceburg WTP	\$281,911.64
Process Waste Facility and related works	Wallaceburg WTP	\$2,750,000.00
Replace wells with trunk from Dresden	Thamesville	\$2,081,087.46
Construction of new Reservoir and Controls	Ridgetown	\$1,600,000.00
Control/Monitoring System Upgrades (W)	Bothwell	\$13,453.00
Area Servicing @401/40	401/Hwy 40	\$1,830,690.73
Area servicing @ 401 -Water	401/Bloomfield	\$3,147,687.61
Interconnect Chatham & South Sys. (W)	Interconnect	\$212,399.41
Total		\$140,963,094.04

8 Water & Wastewater Asset Values

Chatham-Kent has completed detailed reviews of the existing assets. The replacement values used in the calculations are based on local replacement contracts that have recently been completed in Chatham-Kent.

The following tables summarize the estimated replacement values for the water and wastewater assets:

Water (including distribution system)

Water Asset Valuation	
Water distribution (Appendix "C")	\$207,550,800.00
Elevated storage (Appendix "D")	\$ 30,000,000.00
Treatment facilities (Appendix "E")	\$109,500,000.00
TOTAL	\$347,050,800.00

Wastewater (including sewers)

Wastewater Asset Valuation	
Sanitary sewers (Appendix "F")	\$164,535,600.00
Combined sewers (Appendix "G")	\$ 26,995,950.00
Pumping stations (Appendix "H")	\$ 18,500,000.00
Treatment facilities (Appendix "I")	\$118,500,000.00
TOTAL	\$328,531,550.00