The City of Kenora, Ontario, Canada

Water & Sewer Budgets 2010

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Water & Sewer Operations

The City's water & sewer operations provide clean drinking water, and treatment of waste water, to the majority of the City's residents. Today, however, significant pockets of the City remain un-serviced by these operations. Provision of servicing to these areas has been too costly to implement without funding through senior levels of government.

The City, since its inception on 1 January 2000, has run its Water & Sanitary Sewer operations as a separate utility, funding operations fully through user fees. For 2009, the City's water operations treated and distributed about 2.69 million cubic meters of clean water with a sewage treatment volume of 3.19 million cubic meters for the same period.

The City's operations are staffed by a complement of 19 full time employees. The staffing complement is represented by:

- 4 water treatment plant operators;
- 3 sewage treatment plant operators;
- 10 water and sewer repairmen; and
- 2 supervisors.

In addition, the City uses staff from its roads department to supplement water & sewer staffing as required for all excavations and water tank truck delivery.

Hiring and Certification of Employees

At the present time employees are replaced as required. With the regulations presently in place it takes a minimum of three (3) years to fully certify an employee to the same classification as the system on which he/she is working in. Water Treatment staff require four (4) years to become certified, and require post secondary education or 450 CEU's to obtain class 3 certification.

Current staffing Certifications are as follows:

Water Treatment Plant
2 – Class 3 Water Treatment
2 – Class 1 Water Treatment

Wastewater Treatment Plant
3 – Wastewater Treatment

Water Distribution & Wastewater Collection
8 – Class 2 Distribution and Collection
2 – Class 1 Distribution and Collection
2 – OIT Distribution and Collection

Safe Drinking Water Act - What Does it Mean to the City?

The Municipal Drinking Water Licensing Program is the result of Regulation 188/07 made under the Safe Drinking Water Act, 2002. This regulation was made in response to recommendations from Justice O'Connor's Part II Report of the Walkerton Inquiry.

Under this regulation, all municipalities that own municipal residential drinking water systems will be required to have a Municipal Drinking Water License. This will replace the current system that relies on Permits and Certificates of Approval issued by the Ministry of the Environment. There are two mandatory requirements for receiving a Drinking Water License. The first is the preparation of an Operational Plan for the drinking water system developed in accordance with the guidelines provided within the Drinking Water Quality Management Standard (DWQMS). The second is ensuring that an accredited Operating Authority is responsible for system operations. In order to become accredited an Operating Authority must establish and maintain a Quality Management System (QMS).

As both the Owner and the Operating Authority of our municipal drinking water system, the City of Kenora is required to complete an approved Operating Plan which is to include an approved Quality Management Standard. The City of Kenora Operational Plan was approved and endorsed by Resolution of Council on January 18, 2010. The Plan, along with supporting documentation, has been submitted to the Ministry of Environment as application for our first license.

At the same time, the Plan, along with supporting documentation, has been submitted to the Canadian General Standards Board (CGSB) for accreditation. The CGSB has been contracted by the Ministry of Environment to serve as the third party accreditation body for the Drinking Water Licensing Program. The accreditation option chosen by the City is known as Limited Scope – Entire DWQMS. This means that all 20 elements of the DWQMS have been included in the City's Operational Plan. The CGSB will conduct a document review or desk audit to verify that the Operational Plan shows evidence that the City has a functioning QMS in place. Upon successful completion of the document review the CGSB will issue a Certificate of Accreditation (Limited Scope – Entire) to the City. Within twelve months the City must make application for Full Scope. To grant Full Scope accreditation the CGSB must complete a systems audit and an on-site verification audit to confirm that what is documented in the Operational Plan is actually what is being done in the day-to-day operation of the drinking water system. Upon successful completion of this audit, a Certificate of Accreditation (Full Scope – Entire) will be issued. Once a Certificate of Accreditation (Full Scope – Entire DWQMS) has been issued, the CGSB will monitor ongoing conformity of the operating authority's QMS to the requirements of the Standard on a three-year cycle. This will be accomplished through annual surveillance audits in years 1 and 2 and a re-accreditation consisting of a complete systems audit and on-site verification audit in year 3.

In addition to having an accredited QMS in place, the Drinking Water Licensing Program also requires that municipalities complete and submit a Financial Plan for the Drinking Water System in accordance with Regulation 453/07.

Existing Water & Sewer Infrastructure

Infrastructure related to the City's Water & Sewer operations includes over 143 km of water mains and services and 136 km of sanitary sewer mains, as well as both water and sewage treatment plants. Unique to Kenora from many other Northern municipalities, the City's topological layout requires 5 water booster stations, 60 sewage pumping stations and maintenance of over 400 grinder pumps, adding both to the complexity and costs related to maintaining the Kenora distribution systems. In addition, the City is also responsible for the ongoing repair and maintenance, as well as eventual replacement, of about 6,400 water meters within its water system.

The replacement of utility mains infrastructure is based on deteriorated piping, requiring replacement due to both age and capacity. Sanitary mains can be televised to determine remaining useful life. At present, the City has televised approximately 80% of these mains. Unfortunately, the City is unable to televise water mains, the replacement of which must be based on the age of the infrastructure and the number of repairs required.

The City currently has some mains infrastructure that is in excess of 100 years old. The estimated current expected lifespan of mains infrastructure is only 50 years. This represents a significant area of risk for the City. The consequence of not repairing our municipal infrastructure will only lead to a complete failure of it.

A detailed analysis related to the existing City water & sewer infrastructure, excluding vehicles and equipment, as well as expected useful life and ongoing capital requirements to maintain the system has been included on the following page. This analysis does not account for the significant portion of the City that remains un-serviced by the City's water & sewer operations. Nor does it account for the significant infrastructure deficit currently in place related to the water and sewer operations. Based on the analysis, it is evident that increased funding will be required to maintain the City infrastructure to a safe standard.

City of Kenora
Water & Sewer Operations
Estimated Future Annualized Capital Needs
(in thousands of dollars)

	Km / Quantity		Replacement Cost	Useful Life	Annualized Cost
Major Capital Assets - Water System					
Water Treatment Plant		$	20,000	50	**$ 400**
Water Booster Stations	5		3,000	50	**60**
Water Storage Tanks	3		3,000	50	**60**
Water Mains - Includes:	131	km	52,400	50	**1,048**
Water Services	12.4	km	4,960	50	**99**
Water Valves	1,510				
Fire Hydrants	550				
Water Meters	6,400		1,920	25	**77**
			85,280		**1,744**
Major Capital Assets - Sewer System					
Sewage Treatment Plant		$	15,000	50	**$ 300**
Sewage Pumping Stations	60		9,000	50	**180**
Sewage Grinder Pumps	411		1,233	12	**103**
Sewer Mains - Includes:	136.5	km	40,950	50	**819**
Gravity Main				50	-
Force Main					
Low Pressure Main					
Services					
Sanitary Manholes	1,650				
			66,183		**1,402**
Combined System Requirements		$	151,463		**$ 3,146**

Kenora's Water & Sewer System – How Does it Compare?

In 2000, Ontario municipalities began participating in a new program of performance measurement – the Municipal Performance Measurement Program (MPMP). Specifically, municipalities provided the Ministry of Municipal Affairs and Housing with performance measurement information. In 2001, the first results were published.

Kenora's ranking in the area of water and sewer provides some insight as to the efficiency of Kenora's system in comparison to other northern municipalities as follows:

	2008	2007	2006	2007 MPMP * Reporting
Sewage				
Operating costs for the collection of wastewater per kilometre of wastewater main	$ 9,830.34	$ 10,197.09	$ 8,351.11	Range = 1,002 - 10,948 Median = 3,093 Higher costs
Operating costs for the collection, treatment and disposal of wastewater / megalitre	$ 709.81	$ 686.34	$ 747.25	Range = 203 - 938 Median = 588 Higher costs
Number of wastewater main backups per 100 kilometers of wastewater main	40.00	61.31	24.82	Range = 0 - 68.3 Median = 8.2
Water				
Operating costs for the distribution of drinking water per kilometer of water distribution pipe	$ 8,432.79	$ 8,204.50	$ 8,756.77	Range = 1,457 - 16,688 Median = 7365 Moderately higher costs
Operating costs for the treatment and distribution of drinking quality water / megalitre	$ 681.16	$ 653.66	$ 702.17	Range = 414 - 6,458 Median = 761 Lower costs
Weighted number of days boil water advisory issued	6.3655	11.1800	20.6500	Range = 0.00 - 11.1811 Median = 0.00
Number of Breaks in Water Mains per 100 kilometers of water main pipe	16.79	12.21	9.92	Range = 3.7 - 58.0 Median = 12.2

* 2007 MPMP information is the most recent information available at time of printing this budget document.

2010 Budget Highlights

The 2010 operating budget projects total combined revenues of $4.75 million and expenditures of $4.16 million, resulting in a system operating surplus of approximately $0.59 million before local improvement revenues and capital expenditures. Proposed capital expenditures for 2010 are $2.3 million, with significant reductions in the proposed capital expenditures for the following four years. Larger value projects included in the 2010 capital expenditures are as follows:

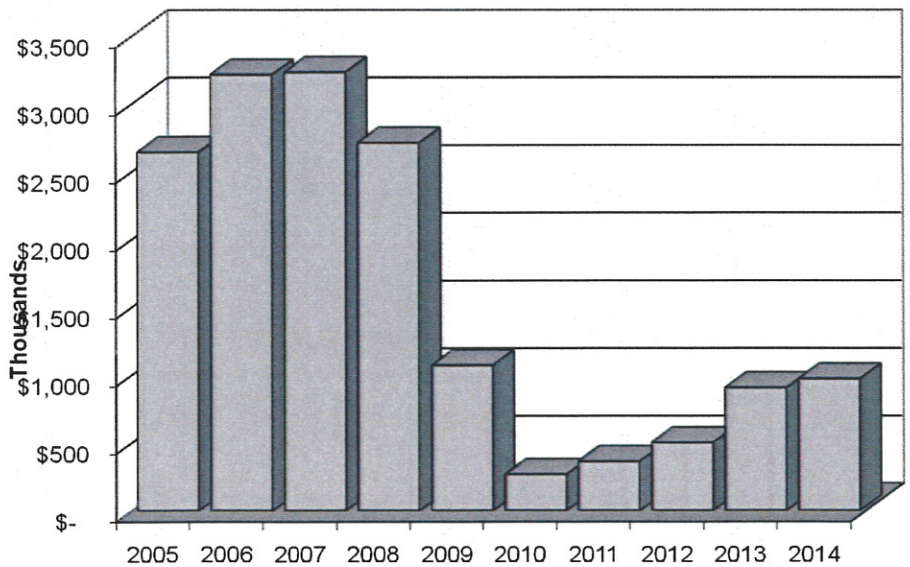
- Sanitary Sewer and Water Main rehabilitation at the Kenora Recreation Centre parking lot ($.7 million combined)
- Lift Station #913 ($.5 million)
- Lift Station #905 Pump ($.1 million)
- Coney Island Water Main ($0.4 million)
- Keewatin Standpipe ($.5 million)
- Filter Console Upgrade at the Water Treatment Plant ($.1 million)

A chart outlining proposed system capital expenditures over the next five years is shown to the right.

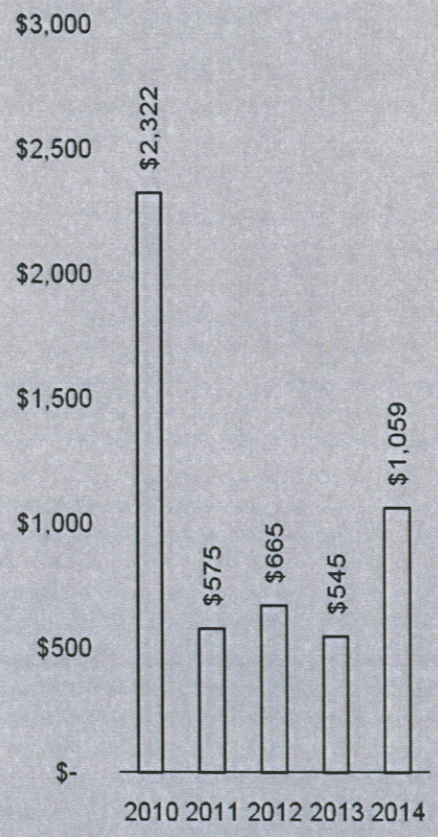
Actual and Projected System Funding Available

The accumulated water & sewer system surpluses have come under increased pressures during the post-amalgamation period. Historically, while the water and sewer utility were run on a user pay basis, the ongoing revenues generated from these operations have never been fully adjusted to reflect the actual infrastructure costs of maintaining the system. In addition, increased regulation and requirements related to water treatment in the Province have had a significant impact in the costs of running the water and sewer operations.

The following table outlines the actual water & sewer accumulated system funding available, for the past five years, as well as projected over the next five-year period. Available system funding has been dropping off significantly and is expected to bottom out in 2010 at $.3 million. The projected balance reflects an annual increase of 5% in water and sewer rates every year for the next five years. This will need to be re-evaluated in future years. At the same time, planned capital program continues to not adequately address the City's annual capital spending requirement for water & sewer, currently estimated at about $3.15 million annually as outlined previously.



Projected Capital Water & Sanitary Sewer Expenditures
(in thousands of dollars)



Budget Overview

2010 Budget Highlights

Actual and Projected System Funding Available

Proposed Rate Structure

There continues to be a shortfall in ongoing water & sewer system operations as a means of sufficiently funding ongoing system capital requirements. Options open to the city for this are few – reduce service levels and / or expenditures, or increase revenues.

A review of the City's existing infrastructure indicates a serious under spending with regards to the replacement of our aging water & sewer systems. To compound this problem, new legislated requirements dictate increased service requirements for the City. Based on current operations, the City cannot cut expenditures without compromising the safety and integrity of the water & sewer operations, or the quality of the water produced. As such, service level reductions or decreased water & sewer related expenditures are not viable options for the City.

As part of the 2010 water and sewer budget deliberations, it was recognized that the City requires a plan for the long term sustainability of this system. This plan will be developed as part of the new requirements under the Safe Drinking Water Act. As an interim measure, it was recognized that the City could not wait for the completion of this detailed plan to address the projected system deficits at the current rate structure. As a result, in conjunction with the 2010 water and sewer budget, City Council has approved a 5% rate increase on the combined water and sewer monthly and volumetric rate structure. This rate increase will take effect on July 1, 2010.

In addition, it was recognized by Council that a 5% increase effective July 1, 2010 would not be sufficient to adequately address the ongoing system infrastructure requirements. As such, Council directed City administration to include a projected 5% increase on water and sewer rates every July 1, starting in 2010 and continuing on for 2014. At the same time, it was recognized that setting these rates would be subject to annual review, and should be reviewed by the new Council prior to passing rate increases from 2011 forward. In 2010, the only approved rate increase through by-law will be the one effective July 1, 2010.

Water Meter Program

In 2009, Kenora Hydro transitioned its metering system to smart meters as per its regulatory requirements. Currently water meters are read by Kenora Hydro. While they have indicated a willingness to continue to provide this service over the next few years, the water & sewer department will be faced with the reading of water meters by January 2011, and possibly earlier, depending on billing system capabilities. The Department has basically 3 options, specifically hiring of meter reading staff, upgrading meters to radio frequency (licensed or unlicensed) so they can be read from a vehicle, (eg. garbage truck), or upgrade to licensed frequency to allow meters to be compatible with the new smart electric meter system. To date there has been no allocation of funds to the Capital Program for this project.

Potential Risks

The water and sewer treatment plants operate 24 hours per day, 365 days per year. The staffing complement for these facilities is only scheduled for 8 hours per day, 7 days a week. These plants are not manned outside of this 8-hour period. To provide effective cover off within these plants for a 24/7 operation would require an additional 7 staff per plant, representing a significant incremental cost for the City. This is not currently a recommended option, although it may become required pending legislated developments.

The water and sanitary sewer distribution systems operate 24 hours per day. These systems are only manned 8 hours per day. Staff members are on call to handle emergency calls and repairs as required.

Other potential risks related to the City's water & sewer systems include:

- Water Shed Source Protection – the Ontario Government will be initiating the Source Protection Plan which will make the City responsible to identify and resolve any potential hazards within an outlined area of the City's drinking water intake. Some of the potential hazards will be the septic systems on Coney Island, Rat Portage sewage lagoons, Kenora Golf Club (pesticides), or any of the industrial locations located upstream.
- Reduction of Ammonia and Chlorine Residuals for Sewage Treatment Plant Effluent Outflows – the Federal Government will be requiring that the effluent discharge concentration amounts be significantly reduced from current levels (from .5 to .05 parts per million).

Discussion Items

Water Meter Program

Potential Risks