



Water and Sewer
Budgets

2014



The City of Kenora, Ontario, Canada

Lake of the Woods
KENORA



Table of Contents

System Information

Water & Sewer Operations	3
Hiring and Certification of Employees	3
Safe Drinking Water Act - What Does it Mean to the City?	4
Existing Water & Sewer Infrastructure	6

Budget Overview

2014 Budget Highlights	8
Rate Structure	8
Actual and Projected System Funding Available	9

Discussion Items

Water Meter Program	10
Potential Risks	10

Detailed Budget Schedules

Analysis of System Funding Available – Actual and Projected	Appendix 1
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Operating Budget	Appendix 2
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- Water & Sewer Operating Budget
- Sanitary System Budget Request
- Sewer Lift Stations Budget Request
- Sewage Treatment Plant Budget Request
- Water & Sewer Vehicles Budget Request
- Waterworks Budget Request
- Water Standpipes / Booster Stations Budget Request
- Water Treatment Plant Budget Request

Capital Projections	Appendix 3
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- Five Year Capital Projections
- 2014 Capital Projections
- 2015 Capital Projections
- 2016 Capital Projections
- 2017 Capital Projections
- 2018 Capital Projections

Infrastructure Deficit	Appendix 4
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Water & Sewer Operations

The City's water & sewer operations through its water and sewer system provide clean drinking water and treatment of waste water to the City residents. Today, however, significant pockets of the City remain un-serviced by these operations. Extension of these services to the whole City is too costly with City's own resources due to the size of the community. Provision of servicing to these areas is possible only with funding through senior levels of government.

The City, once incorporated on 1 January 2000, has run its Water & Sanitary Sewer operations as a separate utility, funding operations fully through user fees. For 2013, the City's water operations treated and distributed about 2.57 million cubic meters of clean water with a sewage treatment volume of 2.75 million cubic meters for the same period.

The City's operations are staffed by a complement of 20 full time employees. The staffing complement is represented by:

- 4 water treatment plant operators;
- 3 sewage treatment plant operators;
- 10 water and sewer repairmen;
- 1 meter reader with extra role of water and sewer repairman; 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 MOE 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 fully certified, and require post-secondary education or 450 CEU's to obtain class 3 certification.



System Information

Water & Sewer Operations

Hiring and Certification of Employees



City of Kenora 2014 Water & Sewer Budgets

Current staffing Certifications are as follows:

Water Treatment Plant (WT Class 3)

- 1 – Class 4 Water Treatment
- 2 – Class 3 Water Treatment
- 1 – Class OIT Water Treatment

Wastewater Treatment Plant (WWT Class 2)

- 2– Class 2 Wastewater Treatment
- 1- Class OIT Wastewater Treatment

Water Distribution & Wastewater Collection (WD 2 and WWC 2)

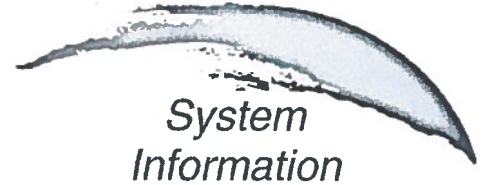
- 7 - Class 2 Water Distribution and Wastewater Collection
- 1- Class 1 Water Distribution and Wastewater Collection
- 2 – Class OIT Water Distribution and Wastewater Collection
- 1- Meter Reader with extra role of water and sewer repairman

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

The Municipal Drinking Water Licensing Program is the result of Ontario Regulation 188/07 made under the Safe Drinking Water Act (SDWA), 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 are required to have a Municipal Drinking Water License. This has replaced the previous system of Permits and Certificates of Approval (COA) issued by the Ministry of the Environment. There were two mandatory requirements for receiving a Drinking Water License. The first was 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 was to ensure that an accredited Operating Authority be 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 completed its Operating Plan. The City Council approved and endorsed the Operating Plan on January 18, 2010 for submission to the Ministry of Environment (MOE) for license purposes Pursuant to the SDWA, 2002 and the regulations made there under and subject to the limitations thereof, the MOE issued a municipal drinking water license (License Number: 228-101) to "The Corporation of the City of Kenora" on June 2, 2011. This license is in effect for a five year period.



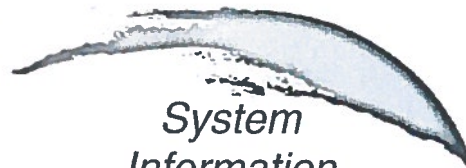
Hiring and Certification of Employees (Cont.)

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



At the same time, the Plan, along with supporting documentation, was submitted to the Canadian General Standards Board (CGSB) for accreditation. When the municipal drinking water licensing program was implemented, the MOE entered into an agreement with the CGSB to be the accreditation body for the operating authorities in the various municipalities in Ontario. The accreditation option chosen by the City is known as Limited Scope – Entire DWQMS. This means that all 21 elements of the DWQMS have been included in the City's Operational Plan. As of June 30, 2012 the agreement between the MOE and CGSB ended and the MOE then designated two new accreditation bodies under the SDWA; NSF International Strategic Registrations, and QMI-SAI Global. The City has contracted with QMI-SAI Global as the accreditation body for City auditing activities. The QMI-SAI Global conducted a document review and desk study in early 2013 to verify that the City has a functioning QMS in place. Upon successful completion of the document review the QMI-SAI Global made a systems audit and an on-site verification audit to confirm a full compliance of operational activities of the drinking water system with the approved operation plan in July 2013 to issue a Certificate of Accreditation (Full Scope – Entire DWQMS) to the City on August 7, 2013. This Accreditation Certificate is valid for a three year period with the expiry date as August 6, 2016. The QMI-SAI Global will now 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. In 2011, the City hired BMA Management Consulting Inc. (BMA) to develop a financial plan in accordance with the requirements of the Drinking Water Licensing Program. This plan was adopted by Council in November, 2011 and was submitted in accordance with legislative requirements.



System Information

Safe Drinking Water Act- What Does it Mean to the City? (Cont.)



Existing Water & Sewer Infrastructure

Infrastructure related to the City's Water & Sewer operations includes over 140 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 pumping stations, 62 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 4,908 water service and about 4,846 sewer service connections 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 water mains that is in excess of 100 years old. The expected lifespan of mains is only 50 years. This represents a significant area of risk for the City. The consequences of not repairing our municipal infrastructure will eventually only lead to a complete failure of it.

Appendix 4 contains charts showing current and projected infrastructure deficits for the combined water and sewer system, as well as broken out by the following four categories:

- Water System, which includes the main water distribution system, but does not include the water treatment plant, standpipes and booster stations
- Water Treatment Plant, Standpipes and Booster Stations
- Sanitary System, which includes the main sanitary collection system, but does not include the sewage treatment plant, pumping and lift stations
- Sewage Treatment Plant, Pumping and Lift Stations

These charts do not account for the vehicles and equipment also used to run the water and sewer systems. The charts also do not account for the significant portion of the City that remains un-serviced by the City's water & sewer operations.



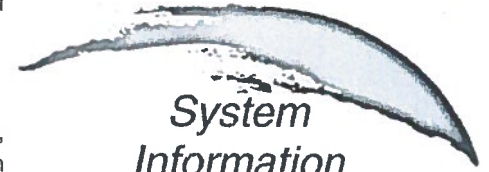
Existing Water & Sewer Infrastructure



The information and projections used to develop these charts is based on a number of assumptions.

These include:

- All values are shown based on estimated 2014 replacement values for assets, regardless of the year of replacement. The values are generated based on estimates from the City's asset inventory and valuation. Actual replacement values for any works performed may differ from these estimates.
- Available funding for capital programs is based on the following projections:
 - 10% increase in rates is continued for the years 2012 through 2017, in accordance with the recommendations under the Financial Plan as prepared by BMA Consulting
 - Over this same period, there will be offsetting moderate expenditure increases.
 - Beginning in 2018, the City will maintain increases to its water & sewer rates coincident with the consumer price index (CPI), comparable with the anticipated percentage increase in overall expenditures during this same period
 - Future annual capital spending on infrastructure will be approximately equal to the investment shown in the 2017 water and sewer capital plan, as stated in 2014 dollars
 - The useful life of the infrastructure has been determined based on estimated useful life for that type of asset. It is anticipated that once an asset has lived beyond its estimated useful life, it is in need of replacement. It is recognized that actual asset life may vary based on the condition of the individual assets, with some assets able to be used beyond their original estimated life expectancy, while others in need of replacement before they have met their life expectancy.



System Information

Existing Water & Sewer Infrastructure (Cont.)

2014 Budget Highlights

The 2014 operating budget projects total combined revenues of \$6.34 million and expenditures of \$5.08 million, resulting in a system operating surplus of approximately \$1.26 million before local improvement revenues and capital expenditures. Proposed capital expenditures for 2014 are \$3.75 million. Larger value projects included in the 2014 capital expenditures are as follows:

- Sanitary Sewer Program (\$.4 million)
- Water Main Program (\$.4 million)
- DTR Phase III (\$1.5 million)
- Cameron Bay Servicing (\$.4 million)

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 on water and sewer 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 noted previously, in 2011 BMA conducted a study and developed a long range financial plan and rate structure for the City to provide strategies, principles, and policies to guide financial decision-making. The plan links together short and long range decisions and provides an understanding of the implications on operating budget, capital budget, reserves/debts, and assets. The City's goal is to ensure they can provide water/wastewater services on a sustainable basis. The City has been experiencing challenges with an underfunded program for replacement of existing assets as they come due for replacement. The City has adopted a 10% increase in water and sewer rates starting January 1, 2012 over the next 6 years. The third increases, effective January 1, 2014, have already been approved by Council and is currently in effect.



2014 Budget Highlights

Rate Structure

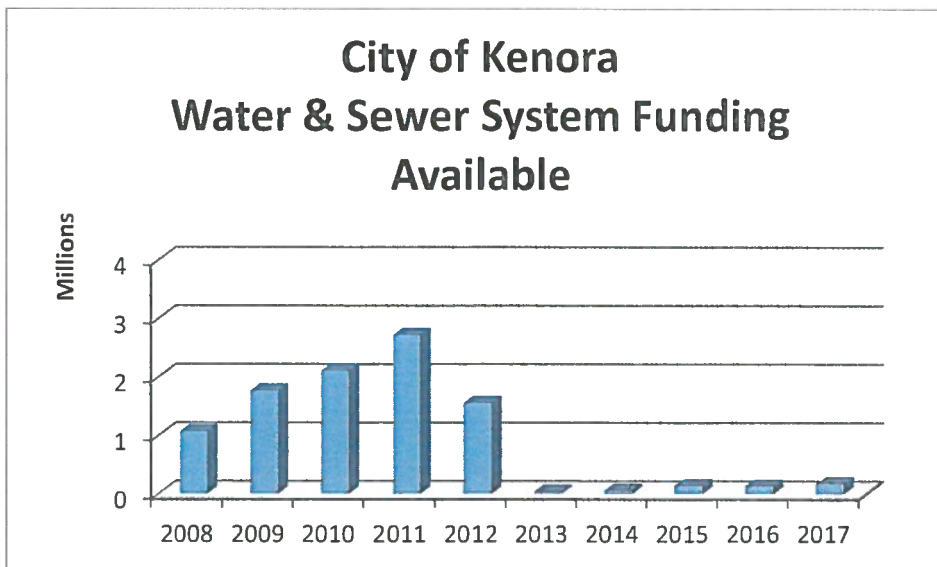
Actual and Projected System Funding Available

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 and sewage 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. Capital spend in the next five years is expected to keep pace with the revenues generated as the city continues to address the aging infrastructure.



Actual and Projected System Funding Available



Water Meter Program

In 2009, Kenora Hydro transitioned its metering system to smart meters as per its regulatory requirements. At that time, the City's water meters were read by Kenora Hydro. Kenora Hydro's meter reading staff has since retired and not been replaced. As a result, an additional position was created in the water and sewer department to perform the manual meter reading.

Other options available to the City to read the water meters include upgrading meters to radio frequency (licensed or unlicensed) so they can be read from a vehicle (eg. garbage truck), or upgrading to licensed frequency to allow meters to be compatible with the new smart electric meter system. Implementation of one of these types of systems would need to be justified through a business case scenario before an allocation of capital dollars would be approved.

Potential Risks

Treatment Plant Staffing

Both the water and sewer treatment plants operate 24 hours a day, 365 days a year. The staffing complement for these facilities is only scheduled for 8 hours a day, 7 days a week. These plants are not manned outside of this 8-hour period. To provide effective cover up within these plants for a 24/7/365 operation, the City would require an additional 7 staff per plant, representing a significant increase in cost for the City. This is currently not a recommended option, although it may become essential in future to comply with pending legislated developments. Staff members are always on call to handle emergency maintenance and repairs as required.

Water Shed Source Protection

The Ontario Government will be initiating a Source Protection Plan, making the City responsible to identify and control all potential hazards within an outlined area of the City's drinking water intake. Not limited to the following, some of the potential hazards are: The septic systems in Coney Island; Rat Portage sewage lagoons; Pesticides from Kenora Golf Club; and Contaminants from industrial locations upstream.



Discussion Items

Water Meter Program

Potential Risks



Identified Cross Connections

All the identified cross connections between water mains, including bleeder lines and sewer manholes have been eliminated.

Taste and Odor issues in Fall

In every summer mostly in August and September the City receives a number of consumer complaints regarding a musty and earthy odor in our drinking water system. The City believes this is just because of excessive algal blooms in our water source (Lake of the Woods) during this time and it has no health and safety issues. We however need to be proactive with some plans and work.

Aging pumps and accessories at the sewage pumping stations

Most of the major sewage pumping stations are struggling with the over aging pumps already crossing their life cycles. Once the pumps are broken we always have hard time or most of the time impossible to get all the spare parts on these obsolete pumps. There should be five to ten year planning to replace all these pumps with the new ones.

Replacement of the aging grinder pumps in phases

The water and sewer department has additional burden of maintaining about 350 grinder pumps. Some of the grinder pumps were installed 25-30 years ago and maintenance of these pumps including the replacement of parts is costing both time and money. There must be a phase wise plan to replace the entire worn out grinder pumps.

Pool of Seasonal Labourers

It is recommended to have a pool of 3 or 4 seasonal laborers under Operations to work for different departments as per the work load. For example, in case of water and sewer department these seasonal workers can work for snow removal around hydrants in winter, and landscaping and valve identification programs in summer. It's a complete waste of resources to use the certified water and wastewater operators with higher wage rates on these unskilled jobs.



Potential Risks (Cont.)

