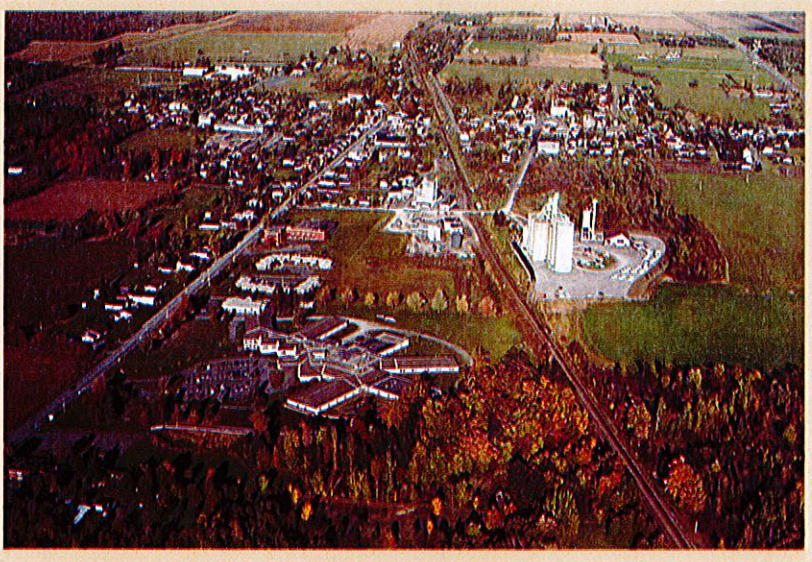
Business Case for the North Glengarry and South Glengarry Regional Water Supply Project

Submitted by

The Township of North Glengarry

January 2010



Prepared by

The Thompson Rosemount Group Inc.

1345 Rosemount Ave., Cornwall, ON K6J 3E5

Tel: 613 933-5602 Fax: 613 936-0335

www.trg.ca

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1.0 Problem Statement

Community of Maxville

The community of Maxville, home of the Glengarry Highland games for over 60 years, was established in the 1800's. Today, with a population of over 850, the community is a centre for commerce and social activities for the immediate area. In 1979, an investigation by the Ontario Ministry of the Environment determined that many of the private individual wells in the community were contaminated principally from ineffective private individual sewage (septic) systems. In 1989, a communal sewage collection system and facultative seasonal discharge lagoon treatment system were installed and commissioned. The expectation was that the source of contamination would be eliminated and the individual wells would again provide safe potable water for the residents.

Unfortunately, the groundwater supply in the community continues to be problematic.

The problems with the existing private individual groundwater wells are summarized as follows:

- sewage contamination exists in many private wells (chemical and bacteriological indicators);
- taste and odour problems persist in the groundwater supply;
- there is high turbidity associated with groundwater;
- there are periodic shortages of water in many wells;
- community health and safety is at risk;
- some residents, businesses and facilities including the Maxville Manor (a 122 bed long term health care facility) must regularly import potable water by truck to sustain operations; and
- community growth and economic development are seriously affected.

Maxville is located on a topographic high which forms a surface water divide between the St.Lawrence River to the south and the Ottawa River to the north. The Village is underlain by Champlain Sea Deposits, Glacial Deposits and Glaciolacustrine deposists which are further underlain by bedrock of the Billings and Ottawa Formations. This type of bedrock is characterised by shale and thinly bedded limestone with shale partings, respectively; the predominate rock type observed in Maxville is shale.

It is noted that there are two types of wells in the Village, dug wells extracting water from the surficial deposits and drilled wells extracting water from the bedrock system. The surficial deposits are subject of surface processes (fluctuating water table, potential contamination) where as the bedrock aquifer is of poor quality containing high organic content, minerals and sulphur.

Recent hydrogeological investigations concluded that,

> *The geological formations that exist in the Maxville area are not favourable to support an adequate supply of high quality groundwater to meet the needs of residents in the*

Village. The quality of water is affected by the high vulnerability of the sand and gravel aquifers. An alternative solution is required.

Community of Alexandria

Alexandria was first incorporated as a Village in 1883 and as a Town in 1903. The community of Alexandria is the centre of commerce for North Glengarry. The current population is 3,300 persons with an equivalent population of approximately 4,500. The industrial, commercial and institutional (ICI) component of the community is significant. Alexandria is not only the commercial centre for North Glengarry Township, but also provides the home base for the regional Ontario Provincial Police detachment, the regional recycling facility, the fire services for North Glengarry and the principle recreational facilities (Glengarry Sports Palace, new indoor soccer facility, curling club) for the Township. There also 2 high schools in the community; Le Relais and Glengarry District.

A report *(The Alexandria Water Supply Preliminary Engineering Report June 2003, The Thompson Rosemount Group)* documents the problems associated with the water supply for the town and recommended a long-term solution being a pipeline to the St. Lawrence River. Since 1954, the Town of Alexandria has obtained its water supply from the Garry River System. The Garry River system drains approximately 34 km^2 of land into the Delisle River just east of Alexandria. The lakes are relatively shallow (i.e. less than 3 m maximum depth) with the water entering the lakes being a combination of runoff and groundwater discharge (spring). The raw water quality at the water treatment plant has proven at times to be of poor quality and has resulted in significant quantities of suspended solids and bacteria. Annually, bacterial contamination has been sufficient to require beach closings on the Mill Pond Reservoir. Furthermore, growth in the Town, both residential and ICI, is diminished by the variable treated water quality.

The Alexandria Water Treatment Plant

The Alexandria Water Treatment Plant is a conventional filtration facility that obtains raw water from Mill Pond which is fed by the Garry River system. The plant has a rated capacity of 92.75 L/s (8,014 m^3/d). The plant currently operates below its rated capacity, however, the raw water quality is extremely difficult to treat consistently and cost effectively.

The treatment process consists of powdered activated carbon added to the raw water year round for taste and odour control. Potassium permanganate is added seasonally to oxidize manganese. Liquid coagulant is added to the water which is then conveyed to two flocculation chambers connected in series where an anionic polymer is introduced to aid coagulation. The raw water/chemical mix is then conveyed to four sedimentation basins equipped with tube settlers and sludge hoppers. Supernatant is then filtered through four dual media sedimentation basins which operate in parallel which discharge to two clearwells where the clear water is chlorinated.

The XCG 2006 evaluation indicated that the performance potential of the prefiltration processes (flocculation and sedimentation) is less than the current rated capacity of the plant. Operational challenges include the removal of total organic carbon (TOC) and the control of

disinfection by-products, and very high coagulant dosages. **Th[illegible] of the source water which cannot be dealt with by any others [illegible] waters.**

Source Water – Garry River System

The Town of Alexandria has derived its source of water [illegible] system from Alexandria Lake (Mill Pond) and the upper Garry R[illegible] to that (and since the early 1900's), the Town water supply was deriv[illegible] River. Various dams have been constructed on the upper Garry River System, thus [illegible] creating three lakes. The Middle Lake dam (Kenyon Dam), originally constructed in 1869 a[illegible] the Alexandria dam (Mill Pond Dam), constructed in circa 1840 regulated water supply to the grist mill in Alexandria.

The water supply capability of Middle Lake is finite and is a function of meteorological conditions and water demand. As the water demand of the Town of Alexandria increases and particularly in years of low precipitation, the sustainability of the water supply will be at risk. Increased water demand and climatological (annual precipitation) conditions have contributed to near critical source water shortages for the Town of Alexandria in the recent past. In addition, development around Loch Garry and, to a lesser extent, Middle Lake has constrained the operational practices of the Raisin Region Conservation Authority with respect to controlling lake water levels for reservoir storage.

From the data, it is clear that during the spring runoff and high rainfall periods throughout each year, there is an abundance of water - unfortunately, there is not an abundance of available storage and hence the surplus water is released from the Lakes to the Garry River, eventually discharging to the Delisle River during spring freshets and major rain events.

The raw water quality at the water treatment plant has proven at times to be of poor quality and has resulted in significant quantities of suspended solids and bacteria. Regularly, bacterial contamination is sufficient to require beach closings on the Mill Pond Reservoir. Furthermore, growth in the Town, both residential and industrial, has increased water demand to the point where it exceeded the limits of the existing Permit to Take Water on several occasions in the period 1995 to 2002. While this condition has been mitigated, it will reoccur in the future as the community continues to grow.

According to the comprehensive 2003 Water Supply report prepared by TRG, the Garry River system exhibits the following issues (with regards to its capacity to provide a long term, sustainable, source of potable water):

- The supply is inconsistent, and has had problems sustaining municipal needs for both drinking water and dilution water for sewage treatment.
- Water supply problem was a contributing factor to the current development freeze in Alexandria.
- Recreational demands on the Garry River system, particularly Loch Garry have resulted in demands for consistent water level control in the upper lakes.

- The minimum storage that is required above current storage to permit water levels to remain within their current operating limits for all three lakes is 1.32 million m^3.
- Due to the shallow nature of the lakes, freezing of the intermediate channel and the intake pipe have occurred on separate occasions in the past.
- Meteorological variations (periods of low precipitation, drought, evaporation) present a high risk unsustainable source water for Alexandria.

Summary for Alexandria

In summary, the water supply in Alexandria has been a problem for the past two decades due to:

- Consumer demand exceeding the water taking permit (65 L/sec) from 1995 to 2002;
- Lack of sufficient water supply from the Garry River system during peak demand periods;
- Low water levels and thick ice in Mill Pond resulting in high raw water turbidity;
- Source water blockages due to low water levels and freezing at the water treatment plant intake and in the channels between the lakes;
- Poor and variable raw water quality which presents considerable challenges associated with providing an acceptable treated water;
- Taste and odour issues that persist in the treated water thereby reducing the acceptability of the water by the consumers;
- The very high cost of treating the raw water estimated at $1.22 per m^3 (2008);
- The high risk of bacterial pathogens associated with migratory birds (geese and blackbirds) in the source water which is a persistent problem in Mill Pond;
- Growth and economic development are diminished by the high cost of producing unappealing treated water,
- Meteorological variations (periods of low precipitation, drought, evaporation) present a high risk unsustainable source water for Alexandria.

Community of Apple Hill

Apple Hill water supply has a long history that can be traced to 1989 when the Ministry of the Environment (MOE) initiated a survey of wells in the community and identified widespread contamination. The MOE study's main conclusion was that the majority (55%) of the wells in the community were classified as "unsafe". For this study a well was deemed "unsafe" for drinking if the total coliform count was greater than 10 per 100 mL, or when the fecal coliforms were present. Other ODWS parameters not met are nitrate, iron, chlorides, total dissolved solids and hardness. Groundwater flow varies by property with some properties reporting dry conditions.

The Thompson Rosemount Group updated the water supply study in 1999 and documented similar results. The problems with the existing private individual groundwater wells are summarized as follows:

- sewage contamination exists in many private wells (chemical and bacteriological indicators);

- taste and odour problems persist in the groundwater supply;
- there is high turbidity associated with groundwater;
- there are periodic shortages of water in many wells;
- community health and safety is at risk;
- community growth and economic development are seriously affected.

Other Communities in North Glengarry

During the 2009 Environmental Assessment update (of the 2007 EA), the Township of North Glengarry identified other communities that could potentially benefit from a regional water supply. They include Dominionville and Greenfield.

Other Communities in South Glengarry

During the 2009 Environmental Assessment update (of the 2007 EA), the Township of South Glengarry identified other communities that could potentially benefit from a regional water supply depending on the alignment. They include Martintown, Williamstown, St. Raphaels West, and Green Valley.

The Council of North Glengarry recognizes that municipalities need to be a responsible and accountable form of government. We believe that by undertaking a project to rectify the problems defined above, we are doing our part in a responsible manner. However, we need financial assistance from the federal and provincial levels of government to help us address the significant infrastructure shortfalls that we face.

2.0 Project Objective

The objective of this project is to provide a regional water supply system that will be capable of delivering a safe sufficient sustainable supply of water for the residents, businesses, industries, institutions and recreational/community facilities in specific communities in the Townships of North Glengarry and South Glengarry.

3.0 Background and Overview of Various Environmental Assessments

The 2002 Environmental Assessment

In 2002, an Environmental Assessment (EA) under the provisions of the Ontario Class EA process was completed *(Maxville Water Supply Environmental Assessment Phase 1 & 2 Report – February 2002 The Thompson Rosemount Group)*. Through the process, six (6) alternatives were evaluated including:

- Alternative A: Do Nothing
- Alternative B: Individual Well Correction and Treatment System Program
- Alternative C: Maxville Communal Groundwater Supply System
- Alternative D: Maxville and Area Communal Water System

- Alternative E: North Glengarry Regional Water System
- Alternative F: Connection to Adjacent Municipal Water Supply (Hawkesbury).

After a comprehensive hydrogeological investigation, it was determined that a suitable groundwater supply was not available in the immediate area.

The study also included a comprehensive investigation into potential sources of contamination. Portions of the sanitary sewage collection system were inspected using CCTV, household connections were inspected, proper abandonment of septic systems was confirmed and surface drainage systems were inspected. Because of the nature of the geology in the area, it was confirmed that the private wells are under the direct influence of surface water (GUDI) and will continue to be impacted by contamination. Finally, the study concluded that the other alternatives were either not effective solutions or were not affordable at the time.

The 2007 Environmental Assessment Update

In 2007, the EA process was reactivated by the Council of North Glengarry. The addendum to the 2002 EA evaluated three (3) alternatives:

- Alternative A – Connect to the Alexandria (North Glengarry Township) Water Supply System (this alternative was initially evaluated in 2002),
- Alternative B – Connect to the Alfred-Plantagenet-Nation Water Supply System in St-Isidore (this alternative was not available in 2002),
- Alternative C – Expanded Hydrogeological Investigation for a Groundwater Supply (this alternative was initially evaluated in 2002).

After an expanded hydrogeological investigation, which included a geophysical survey by the Geological Survey of Canada, and drilling and sampling of 30 groundwater wells, it was determined that a suitable groundwater supply was not available in the area consequently this alternative was abandonned.

Through the EA process which included extensive public consultation, the Council of the Township of North Glengarry concluded that the preferred alternative was Alternative B – Connect to the Alfred-Plantagenet-Nation Water Supply System in St-Isidore. Alfred-Plantagenet-Nation Water Supply System is a regional water supply which is operated under the authority of a municipal water supply agreement between The Nation Township and Alfred-Planatgenet Township. The Ontario Clean Water Agency (OCWA) operates the system.

Connecting to the Alfred-Plantagenet-Nation Water Supply System in St-Isidore would require a Municipal Water Supply Agreement between the Township of North Glengarry and the Townships of Nation and Alfred-Plantagenet. As a result of several meetings and negotiations, Nation and Alfred-Plantagenet have agreed in principle to supply water to meet the Maxville water demand forecast.

The St-Isidore Water Supply System would require upgrades to be able to support the Maxville Water Supply. The cost of the upgrades would be borne by North Glengarry. The total project capital cost was estimated at $27,000,000. This project was the subject of an application for funding assistance under the BCF-CC Funding Program Intake 1 which was not approved.

This alternative would provide a communal water supply for the community of Maxville for the 20 year planning period only and without any capacity for supplying water to other communities in North Glengarry.

The 2009 Environmental Assessment Update

In 2009, an Environmental Assessment (EA) update under the provisions of the Ontario Class EA process was initiated jointly by the Townships of North Glengarry and South Glengarry *(North Glengarry and South Glengarry Regional Water Supply Environmental Study Report, January 2010, The Thompson Rosemount Group)*. The purpose of the EA update was to examine the feasibility of implementing a regional water supply system that would be capable of providing water to designated communities in North Glengarry and South Glengarry. Through the process, three (3) alternatives were evaluated including:

- Alternative A – A Regional Water Supply that would Connect Maxville, Alexandria and Potentially Other Communities to a New Water Treatment Plant in the Lancaster Area;
- Alternative B – A Regional Water Supply that would Connect Maxville, Alexandria and Potentially Other Communities to the Existing Cornwall Water Supply System;
- Alternative C – A Regional Water Supply that would Connect Maxville, Alexandria and Potentially Other Communities to a New Water Treatment Plant in the Summerstown Area.

The North Glengarry and South Glengarry Regional Water Supply Environmental Study Report, January 2010 is in final draft form. The Notice of Completion will be issued at the end of January for final public and agency consultation. Numerous other public meetings and public information centres were held during the EA process.

Preferred Alternative

Through the EA process, the Townships of North Glengarry and South Glengarry have determined that the preferred alternative is Alternative B – A Regional Water Supply that would Connect Maxville, Alexandria and Potentially Other Communities to the Existing Cornwall Water Supply System. The communities to be connected to the system initially are Maxville and Alexandria and the communities to be connected to the system in the future (subject to further Environmental Assessments) are Apple Hill, Dominionville, and Martintown. A Memorandum of Understanding which establishes the conditions for a water supply agreement has been executed between the City of Cornwall and the Townships of North Glengarry and South Glengarry. The initial purchase price for water has been set at $0.385 per m^3 (2009). The capital cost of the project is estimated at $52,196,085 (2010). (See SK.2 Alternative B Plan in Appendix D)

4.0 Proposed Activities and Project Components

The preferred alternative solution, A Regional Water Supply that would Connect Maxville, Alexandria and Potentially Other Communities to the Existing Cornwall Water Supply System, requires the following infrastructure.

4.1 Infrastructure in Cornwall

The following infrastructure is required in the City of Cornwall Water Supply System to be able to meet the design water demand for the Regional System in the year 2059 (12,305 m^3/d maximum day which includes 1% per annum growth for 50 years):

- A new watermain on McConnell Ave. from Tollgate Road to South Branch Road,
- A new watermain on South Branch Road from Pitt St. to McConnell Ave.,
- A new watermain on South Branch Road from McConnell Ave. to Boundary Road,
- A metering chamber at the South Branch Road/Boundary Road intersection (South Glengarry boundary).

4.2 Infrastructure in South Glengarry

The following infrastructure is required in the Township of South Glengarry:

- A transmission watermain from Cornwall to the North Glengarry boundary,
- A booster station near Martintown,
- Provision for a future water distribution system in Martintown.

4.3 Infrastructure in North Glengarry

The following infrastructure is required in North Glengarry to provide a communal water supply system for Maxville (and in the future Dominionville and Apple Hill) that meets the design water demand:

- A transmission watermain from the South Glengarry boundary to the intersection of County Roads 20/43,
- A transmission watermain from the intersection of County Roads 20/43 to Maxville,
- A water storage reservoir and chemical disinfection system (chloramine) in Maxville,
- A booster station and I/C equipment (to support peak hour water demand and fire flow consistent with MOE criteria) in Maxville,
- A distribution system in the community of Maxville consisting of 10.1 km of 150 mm and 200 mm dia. watermains, service connections to property line, water meters, fire hydrants, valves, other appurtenances.

The following infrastructure is required in North Glengarry to provide a new treated water supply for Alexandria that meets the design water demand:

- A transmission watermain from the intersection of County Roads 20/43 to Alexandria,

- A connection to the existing water distribution system in Alexandria at the water treatment plant,
- Upgrades to the existing high lift pumping station in Alexandria,
- Decommissioning of the existing water treatment plant.

5.0 Project Rationale

5.1 Project Rationale or Maxville

Without the implementation of this project, the residents and businesses of Maxville will not have a safe sufficient sustainable water supply. The project rationale is presented below.

- Many of the private wells in Maxville are contaminated. There is a consequential high risk to human health which will continue until a communal water supply is provided. Even with individual water treatment systems, there is a continuing health risk. Private systems do not respond well to wide variations in raw water quality. Private systems typically do not have any redundancy and require diligent maintenance by the owner to be effective in providing pathogen-free safe potable water.

- Taste and odour problems persist in the groundwater supply. Even for those wells that are producing sufficient quantities of water, the water quality is poor. Taste and odour parameters are often related to a GUDI condition which is not correctable in a village setting.

- There is high turbidity associated with groundwater. Individual water treatment systems are typically ineffective when turbidity levels are high in the raw water.

- There are periodic shortages of water in many wells. Some residents, businesses and facilities including the Maxville Manor must regularly import potable water by truck to sustain operations. During the public consultation associated with the EA process, many residents reported that they continually purchase bottled water for drinking and cooking. Others import water by tanker truck to replenish their water wells.

- With a population of over 850, Maxville is a centre for commerce and social activities for the immediate area. Maxville is strategically located 50 km from the City of Ottawa boundary. It is located on the Montreal-Ottawa VAI Rail mainline and just a few minutes from Highway 417. During public consultation, it was stated emphatically by representatives of the Chamber of Commerce that community growth and economic development are seriously affected by the lack of a suitable water supply. Some residents reported that property values are suppressed and the ability to sell property is diminished due to the widely known problems with the water supply.

- The Maxville Chamber of Commerce Strategic Plan for Economic Development (2007-2010) identifies a communal water supply as the highest priority initiative. The Plan notes that "tourists get discouraged by signs in washrooms advising them not to drink

the water" and "many wells in Maxville have become problematic including most businesses". The Plan further notes that the lack of a communal water supply is a serious limitation to growth and economic development.

- The Township and the Maxville Chamber of Commerce have been working on an initiative to secure a commuter rail service and a commuter bus service between Maxville (potentially Alexandria) and Ottawa. Discussions have been held with VIA Rail and Delaney Bus Lines Ltd. This initiative is part of the Strategic Plan to support Maxville as a sustainable community.

- Maxville Manor is a non-profit community based charitable corporation providing services to seniors. There is a 122-bed home fully approved as a long term care facility by the Ontario Ministry of Community and Social Services, a garden village which provides apartments for seniors and an outreach program that supports seniors in their homes. The Manor has incurred considerable expenses drilling water wells in search of a suitable supply. They continue to import water by tanker truck to sustain operations. Planned expansions of the facility are precluded until a suitable water supply is secured.

- Property insurance premiums are higher due to the lack of a communal water supply system with fire protection.

- Maxville has been the host community for the Maxville Highland Games for over 60 years. It attracts 40,000 people annually. A safe sufficient water supply is a critical element to ensuring the ongoing success of the Games.

- The Maxville Curling Centre and Maxville Arena and Community Centre are dependent on a safe sufficient water supply to sustain operations. The Maxville Community Centre is an important facility in the Township's Emergency Measures Plan.

- MacEwen Petroleum Inc. has a major commercial operation and is a significant employer in Maxville. A proposed expansion of their operation in Maxville is prevented from proceeding due to lack of a suitable sufficient water supply.

5.2 Project Rationale for Alexandria

Without the implementation of this project, the residents and businesses of Alexandria will not have a safe sufficient sustainable water supply into the future. The project rationale is presented below.

- Consumer demand exceeded the MOE Permit to Take Water (65 L/sec) from 1995 to 2002;

- During peak demand periods, there is insufficient source water available from the Garry River system which has resulted in water rationing;

- Low water levels and thick ice in Mill Pond result in high raw water turbidity which makes the water difficult and costly to treat;
- Source water blockages due to low water levels and freezing at the water treatment plant intake and in the channels between the lakes has put the source water supply at risk;
- Poor and variable raw water quality presents considerable challenges associated with providing an acceptable treated water resulting a high cost for treating the water estimated at $1.22 per m^3 (2008);
- Taste and odour issues that persist in the treated water thereby reducing the acceptability of the water by the consumers;
- The high risk of bacterial pathogens associated with migratory birds (geese and blackbirds) in the source water which is a persistent problem in Mill Pond has resulted in costs associated with bird control;
- Growth and economic development are diminished by the high cost of producing unappealing treated water.

5.3 Project Rationale for Other Communities

Without the implementation of this project, the opportunity for providing communal water supplies in Apple Hill, Dominionville and Martintown through a regional system in the future will not be available.

6.0 Expected Benefits

6.1 Project Benefits for Maxville

By implementing the recommended project, the community will achieve the following:

- The community of Maxville will have a safe sufficient sustainable water supply that meets the drinking water regulations and standards of the Province of Ontario. Approximately 850 residents, 3 industrial operations, 20 commercial operations and 3 institutions will benefit from the proposed project.
- The community of Maxville will have a water supply system that is capable of providing fire protection consistent with the Ontario Ministry of the Environment standards.
- The Maxville Water Supply System will be part of a regional system (North Glengarry and South Glengarry Regional Water Supply System) which derives its source water

Activity	Completion Date
Final Water Supply Agreement with Cornwall	April 2010
Preliminary Engineering	July 2010
Complete Detailed Design	December 2010
Regulatory Approvals (3 months)	March 2011
Tendering and Award (6 weeks)	May 2011
Construction (18 months)	October 2012
Testing & Commissioning (1 month)	November 2012
Maintenance/Warranty Period	November 2013

8.0 Performance and Progress Measures

The Township will retain the services of a qualified project manager to ensure that engineering services and construction services are effectively coordinated, managed and held to a strict schedule and budget. High quality contract documents, plans and specifications are important to ensure an effective and efficient project implementation.

In coordination with the Township, the Design Engineers, and the Project Manager, the following systems will be implemented to monitor performance and progress measures.

8.1 Project Implementation Plan

The Project Implementation Plan (PIP) will be the guide for the completion of the detailed design. The components of the PIP will include the following elements:

Definition or Scope of Work – The project objectives, scope, and work breakdown structure (WBS) are addressed and broken down into logical work units.

Schedule – The project tasks are organized and scheduled, to effectively complete the work and meet key project milestones and deliverables. A detailed project schedule will be developed and maintained throughout the life of the project.

Project Instructions – A communications management system—including documentation requirements, meeting minutes, progress reports and communication routings, will be developed to satisfy Township and project records management requirements.

Risk Management – Project-specific risk factors will be identified and quantified and response strategies developed.

Health & Safety Plan – Procedures will be developed for the project's construction stage to meet the specific Township requirements and all legislative requirements.

Closure Plan – The requirements for ending the project will be defined, including records management, financial reconciliation and closeout, and project success review with all Team members to identify lessons learned.

8.2 Contracting Strategy

The North Glengarry and South Glengarry Regional Water Supply project can be delivered on schedule and on budget with the right delivery strategy. Contracting strategies will be evaluated during the preliminary design stage. There are several different components to the project including linear infrastructure (inground piping), buildings, and mechanical and electrical systems each requiring expert designs and a variety of speciality subcontractors.

Separating the project into multiple contracts will be examined as a means of involving local contractors and accelerating the project delivery. Timely staging will also minimize disruption to existing infrastructure and synchronize with area construction capacity. Contractor pre-qualification will be used to alert and entice qualified contractors to bid the project.

The pre-selection or direct purchase of key process equipment can also provide significant advantages, because it supports the overall project schedule by removing key components from the critical path. Pre-selection of equipment also facilitates a more efficient design since building space allocation can be optimized for the equipment. Finally, by procuring key equipment in advance, the Township will realize cost savings by eliminating the contractor's markup while securing equipment pricing.

8.3 Schedule Control

During the project's design phase, and in concert with design development, our project team will develop a project control schedule (PCS) to reflect critical design, construction, commissioning, and handover activities – the critical path. Once approved by the project steering committee, the PCS will be "frozen" and used as a baseline schedule for progress measurement purposes.

Monitoring of the PCS will be performed on an on-going basis and regularly reported in a monthly progress status report. Trends will be analyzed and the impact, if any, evaluated. Schedule slippage will be identified, through regular reviews and monitoring, and action/recovery plans will be formulated to rectify any problem areas.

8.4 Communications Plan

The project steering committee will attend monthly progress meetings, as a minimum. Agendas, minutes, and progress reports will be maintained along with updates to the Project Implementation Schedule for each meeting.

8.5 Commissioning and Acceptance Plan

The start-up, commissioning, and acceptance testing plan for each project component (linear infrastructure, booster pumping stations, storage facilities, disinfection facilities) will be designed specifically to meet the unique requirements of the project component and the overall system. The plan will include the following major components:

- Operator Training Workshops & Preparation of Reference Material;
- Process Operations Manuals;
- Process Control & SCADA Training & Documentation;
- Commissioning Plan, Start-Up Plan and Pre-Start Health and Safety Plans;
- Record Drawings;
- Equipment Supplier Training & Warranty; and
- Project Summary Document.

8.6 Process Evaluation

Upon completion of the project's construction phase, a process evaluation will be conducted to confirm that each process is performing as designed. The process evaluation will examine all processes including manufacturer's guarantees for air and energy requirements and other items.

9.0 Project Risks

9.1 Environmental Assessment (Ontario Class EA Process)

North Glengarry has virtually completed the final draft of the The North Glengarry and South Glengarry Regional Water Supply Environmental Study Report, January 2010. The ESR as described herein updated the earlier work and examined the regional alternative. Extensive public consultation has been included. While there is some risk that there may be an objection to the project at the Notice of Completion stage, we do not anticipate a legitimate basis for an objection. There are Council resolutions from The Township of North Glengarry and The Township of South Glengarry supporting the project. Additionally, the infrastructure expansion and upgrades proposed in the City of Cornwall water supply system were determined by the City of Cornwall and are documented in the Memorandum of Understanding.

The infrastructure is expected to be constructed on existing road allowances, easements, and municipally owned property. Crossings of water courses, Highway 401 and the CNR mainline will be completed by horizontal directional drilling (HDD) or jack-and-bore casement methods.

9.2 Cost of the Project

The largest risk to the project is the cost to the end users and the acknowledgement that the project cannot proceed without government funding assistance.

Experience has shown that the quality of the design, plans and specifications can have a major impact on the attractiveness of the project to qualified contractors and cost control during the contract implementation.

The contracting strategy can have a major effect on the ability to meet cost and schedule objectives. The current construction environment presents a significant risk to both the cost and schedule objectives for this project that will need to be managed. Recent experience in Eastern Ontario with projects using a traditional tendering process has seen a sufficient number of bids that are on budget which is encouraging. Alternative contracting strategies will also be discussed by the project steering committee during the design stage to mitigate tendering risks.

9.3 Schedule

Another risk related to construction projects is schedule. The project team is committed to establishing a schedule that is achievable for both the design phase and the construction phase. It will be important to complete the design stage on schedule, as the non-residential construction cost index show historic increase trends in the cost of construction. Therefore, the Township will be retaining a project administrator who will oversee the project, and ensure that the engineering team and contractors are held to the schedule. To facilitate maintaining the construction schedule, it is important to establish a practical achievable construction schedule and then set liquidated damages provisions in the contract documents to ensure that the contractor works towards the scheduled completion date.

9.4 Miscellaneous Risks

The following risks and strategies to eliminate or mitigate the risks are also present:

- The probability of soil conditions impacting the construction of the infrastructure will be examined in detail during the detailed design stage of the project by completing a comprehensive geotechnical investigation at the various sites of the works to verify soil bearing capacities, depth to bedrock, rock quality, etc. Generally, infrastructure has been constructed in all locations of the project's proposed works and therefore there is a good understanding of existing conditions.

- A Stage I Archaeological study will be conducted at new sites to ensure that the project does not impact any items of historical or archaeological significance.

- A Phase I Environmental Site Assessment will be conducted at new sites to ensure that impacts to the natural environment from past and proposed construction are minimized and/or mitigated.

- The Environmental Assessments completed to date have not identified any significant impacts to the natural environment that cannot be mitigated during construction.

10.0 Project Budget

The following table provides the capital cost estimate summary for the project. A more detailed estimate is provided in Appendix B.

Table A –Project Cost Estimate (2010 – 2013))

	North Glengarry	South Glengarry	TOTAL (2010)	TOTAL (2013)
PHASE 1				
Phase 1 - Engineering Design and Approvals	**$3,119,941**	**$57,212**	**$3,177,153**	**$3,177,153**
PHASE 2				
Construction	**$44,570,586**	**$817,314**	**$45,387,900**	**$50,471,344**
Construction Administration, Inspection, Tendering, Testing, Commissioning	**$3,565,647**	**$65,385**	**$3,631,032**	**$3,631,032**
TOTAL (before Funding Assistance)	**$51,256,174**	**$939,911**	**$52,196,085**	**$57,280,000**

Table Notes: The 2013 Forecast accounts for inflation over the life of the project (3 years) prorated to reflect work schedule. The non-residential construction price index in the Ottawa Eastern Ontario region has been approximately 5.8% annually. The projected increase is 11.2% from 2009 to 2013.

The cash flow projection for the project is presented in the table below.

Table B – Cash Flow Projection

Year	Q1 April - June	Q2 July - September	Q3 October - December	Q4 January - March
2010-11		$600,000	$900,000	$500,000
2011-12	$2,000,000	$10,000,000	$10,000,000	$5,000,000
2012-13	$10,000,000	$10,000,000	$5,000,000	$100,000
2013-14	$100,000	$100,000	$2,979,941	

11.0 Project Financing and Affordability

11.1 Unallocated Costs

As presented in Appendix B, unallocated capital costs are estimated at $1,303,015 for North Glengarry and $939,911 for South Glengarry. These costs are related to the over-sizing of infrastructure components to be able to accommodate future communities in North and South Glengarry including Apple Hill, Dominionville, and Martintown. The municipality has determined that these costs cannot be assessed against property owners in those communities since they would derive no immediate benefit from the project. These costs therefore would have to be carried by the respective municipalities until they can be recovered at some future date. This places an untenable burden on North and South Glengarry Townships.

11.2 Property Assessments in North Glengarry using CVA

Data provided by the Ontario Municipal Property Assessment Corporation (MPAC) illustrates that the assessed value for single family residential properties in North Glengarry Township using the full current value assessment (CVA) are the lowest in the United Counties of Stormont, Dundas and Glengarry (SD&G). The values are typically 5% to 22% lower for non-waterfront properties. Supporting documentation provided by MPAC is provided in Appendix C.

11.3 Water and Sewer Rate Increases in North Glengarry

Between 2006 and 2009, North Glengarry has had to increase the water and sewer rates for connected communities (Alexandria – water and sewer; Glen Robertson – water; and Maxville – sewer) by over 100% to recover the costs associated with operating the systems. Even with the increases, future project capital costs are not fully funded and hence full cost recovery has not yet been fully implemented. Supporting documentation provided by North Glengarry Township is provided in Appendix C.

11.4 Tax Rate Comparison in Stormont, Dundas and Glengarry

The tax rate comparison for municipalities in the United Counties of Stormont, Dundas and Glengarry (SD&G) is provided in Appendix C. Historically tax rates in North Glengarry have been among the highest in SD&G for all categories.

11.5 Debt Capacity in North Glengarry

The current Annual Repayment Limit under Ontario Regulation 403/02 for the Township of North Glengarry is $1,553,048. This does not include the municipal portion of 2009 Stimulus Funding Project which amounts to $1,140,000 which will reduce the repayment limit to approximately $1,464,461. Supporting documentation provided by North Glengarry Township is provided in Appendix E.

The Township is also faced with having to undertake a major sewage treatment facility upgrade project in Alexandria in the near future which is unfunded.

11.6 Community Economic Health

Currently, the median income in the Township is $23,497.00. This number reflects the actual citizens gainfully employed from the age of 15 years and up, but does not include individuals who are on some type of government assistance.

The present unemployment rate in the Township is 8.5%. What is disconcerting is that the unemployment rate has been increasing steadily.

Based on the last census in 2006, the median age in North Glengarry was 43.4 years old compared to the provincial average of 39 years old, increasing at a rate of 0.4% per census period.

11.7 Estimated Project Impact on Ratepayers

The following table summarizes the estimated project impact on ratepayers for various funding assistance percentages.

Capital Cost per Equivalent Household (2010)

	Gross Capital Cost		Net Cost (66.7% Funding)		Net Cost (90% Funding)	
	Maxville	Alexandria	Maxville	Alexandria	Maxville	Alexandria
2010 Capital Cost [1]	$16,173,450	$33,779,709	$5,391,150	$11,259,903	$1,617,345	$3,377,971
Equivalent Population	1,134	4,315	1,134	4,315	1,134	4,315
Equivalent Households [2]	417	1,586	417	1,586	417	1,586
Capital Cost per Equivalent Household	$38,793	$21,293	$12,931	$7,098	$3,879	$2,129
Capital Cost per Equivalent Household over 20 yea	$2,854	$1,567	$951	$522	$285	$157
2010 Operations and Maintenance Cost	$416,085	$1,372,835	$334,220	$1,258,410	$334,220	$1,258,410
Operating Cost per Equivalent Household [4]	$998	$865	$802	$793	$802	$793
Total Annual Cost per Equivalent Household	$3,853	$2,432	$1,753	$1,316	$1,087	$950

[1] Does not include unallocated costs of $1,303,015 for North Glengarry and $939,911 for South Glengarry

[2] Equivalent Household calculation is base on an inhabitant density of 2.72 persons/household based on the S,D&G Official Plan (2009, Ss.2.02.4)

[3] 20 year debenture at 4% per annum.

[4] North Glengarry has implemented a uniform rate structure for water supply and sewage collection. Therefore, the rates per equivalent household will be the same for Maxville and Alexandria.

[5] Individual building service connections are not included in this cost estimate.

[6] The current O&M costs are according to the 2008 water works revenues provided by North Glengarry staff.

Even at 90% funding assistance, the annual cost per equivalent household for the project is estimated at $1,087 for Maxville and $950 for Alexandria just for water supply (sewage charges are additional).

11.8 Affordability

The Council of the Township of North Glengarry has considered the existing economic conditions and the financial impacts that this project would have on the ratepayers and concluded that enhanced funding of 90% is essential to ensure that this project is sustainable and affordable.

12.0 Summary

The Township of North Glengarry, together with the assistance of the Government of Canada and the Province of Ontario, has made significant effort and investment over the years to find an affordable sustainable water supply for the community of Maxville and other communities in the Township. Through the most recent Environmental Assessment and with the assistance of the Township of South Glengarry the right solution has been determined – a regional water supply for designated communities in North Glengarry and South Glengarry purchasing water from the City of Cornwall.

The implementation of this vital project is contingent on enhanced funding assistance of 90% from the Government of Canada and the Province of Ontario.

13.0 Contact Information

The contact information for the Township of North Glengarry is:

Andre Bachand
Public Works Manager
Township of North Glengarry
90 Main St. South
Alexandria, Ontario K0C 1A0

Telephone: (613) 525-1110
Facsimile: (613) 525-1649
andre@northglengarry.ca

The contact information for the Township's Engineering Consultant is:

William Knight, P.Eng.
Vice President, Senior Engineer
The Thompson Rosemount Group Inc.
1345 Rosemount Avenue
Cornwall, Ontario K6J 3E5

Telephone: (613) 933-5602
Facsimile: (613) 936-0335
bknight@trg.ca

APPENDIX A

CORPORATION OF
THE
TOWNSHIP OF NORTH GLENGARRY

RESOLUTION # 6 **DATE:** November 23, 2009

MOVED BY: _____

SECONDED BY: _____

That the Council of the Township of North Glengarry agree to hereby select the preferred Servicing Option B1- 2 for the delivery of municipal water to Maxville/Alexandria.

Carried _____ **Defeated** _____ **Deferred** _____

_____
MAYOR

	YEA	NEA
Councillor: George Currier	____	____
Councillor: Jamie MacDonald	____	____
Councillor: Eric MacSweyn	____	____
Deputy Mayor: Chris McDonell	____	____
Councillor: Jim Picken	____	____
Councillor: Gary Shepherd	____	____
Mayor: Grant Crack	____	____

Section 5 Item a(ii)

CORPORATION OF
THE
TOWNSHIP OF NORTH GLENGARRY

RESOLUTION # 11 **DATE:** January 11, 2010

MOVED BY: [signature]

SECONDED BY: [signature]

Clerk Administrator's recommendation:

That the Council of the Township of North Glengarry receive the Senior Management Team Report re: **North & South Glengarry Regional Water Supply Environmental Study;** and

WHEREAS the residents of the community of Maxville rely on individual private wells for their potable water supply;

AND WHEREAS it has been confirmed through studies that many individual wells in Maxville are impacted by bacteriological contamination and experience water shortages;

AND WHEREAS community growth and economic development in Maxville are restricted by the lack of a sufficient safe sustainable water supply;

AND WHEREAS it has been concluded through studies that the community of Alexandria needs a new sustainable improved quality source water for its communal water supply;

AND WHEREAS there are other communities in North Glengarry and South Glengarry that will in the future need a communal water supply;

AND WHEREAS the municipality has completed jointly with South Glengarry an Environmental Study Report (ESR) under the provisions of the Ontario Class Environmental Assessment (EA) process for a regional water supply for communities in North and South Glengarry (*North Glengarry and South Glengarry Regional Water Supply Environmental Study Report, January 2010, The Thompson Rosemount Group*);

AND WHEREAS the Environmental Study Report (ESR) recommends Alternative B1-2 as the preferred alternative which is a Regional Water Supply for the communities of Maxville and Alexandria, and in the future other communities in North Glengarry namely Apple Hill and Dominionville and in South Glengarry namely Martintown;

AND WHEREAS the Alternative B1-2 – a Regional Water Supply includes purchasing treated water from Cornwall; watermains and a primary valve/metering chamber in Cornwall; a transmission watermain from Cornwall to Maxville; a booster station near Martintown; a distribution system, storage and pumping station in Maxville; a transmission watermain from County Road 43/20 intersection to Alexandria; and pumping upgrades at the Alexandria Water Treatment Plant;

AND WHEREAS the Township of North Glengarry has approved a Memorandum of Understanding with the Corporation of the City of Cornwall which confirms Cornwall's willingness to sell water to North Glengarry subject to certain terms and conditions;

NOW THEREFORE BE IT RESOLVED THAT the Council of The Corporation of the Township of North Glengarry hereby receives the Environmental Study Report (ESR) and adopts the recommended Alternative B1-2 being a Regional Water Supply Project for communities in North Glengarry and South Glengarry with water supplied from the City of Cornwall.

CARRIED

CERTIFICATION

Signature

I, Terry Hart, A.M.C.T., Clerk Administrator, do hereby certify the foregoing to be a true copy of Resolution Number 11 duly adopted by the Municipal Council of The Corporation of the Township of North Glengarry on the 11th day of January, 2010

_____
Date Certified

Carried	Defeated	Deferred
✓		

MAYOR

	YEA	NEA
Councillor: George Currier		
Councillor: Jamie MacDonald		
Councillor: Eric MacSweyn		
Deputy Mayor: Chris McDonell		
Councillor: Jim Picken		
Councillor: Gary Shepherd		
Mayor: Grant Crack		

Section 8 **Item** e

CORPORATION OF
THE
TOWNSHIP OF NORTH GLENGARRY

RESOLUTION # 12 **DATE:** January 11, 2010

MOVED BY: George Curran

SECONDED BY: Gary Guthrie

Clerk Administrator's recommendation:

That the Council of the Township of North Glengarry hereby receive the Senior Management Team Report re: **Memorandum of Understanding with the City of Cornwall;** and

WHEREAS the municipality has completed an Environmental Study Report (ESR) under the provisions of the Ontario Class Environmental Assessment (EA) process for a regional water supply for communities in North Glengarry (*North Glengarry and South Glengarry Regional Water Supply Environmental Study Report, January 2010, The Thompson Rosemount Group*);

AND WHEREAS the Environmental Study Report (ESR) recommends Alternative B1-2 as the preferred alternative which is a Regional Water Supply for the communities of Maxville and Alexandria, and in the future other communities in North Glengarry namely Apple Hill and Dominionville and in South Glengarry namely Martintown;

AND WHEREAS the Alternative B1-2 – a Regional Water Supply includes purchasing treated water from Cornwall; watermains and a primary valve/metering chamber in Cornwall; a transmission watermain from Cornwall to Maxville; a booster station near Martintown; a distribution system, storage and pumping station in Maxville; a transmission watermain from County Road 43/20 intersection to Alexandria; and pumping upgrades at the Alexandria Water Treatment Plant;

AND WHEREAS the Alternative B1-2 – a Regional Water Supply involves entering into an agreement with the Corporation of the City of Cornwall for the purchase of treated water;

AND WHEREAS the Corporation of the City of Cornwall has presented to the Corporation of the Township of North Glengarry a Memorandum of Understanding which sets out the terms and conditions of a potential water supply agreement between the municipalities respecting the sale and purchase of water;

NOW THEREFORE BE IT RESOLVED THAT the Council of The Corporation of the Township of North Glengarry hereby approves the Memorandum of Understanding and authorizes the Mayor and Clerk to sign the document on behalf of the Township.

CARRIED

CERTIFICATION

Signature

I, Terry Hart, A.M.C.T., Clerk Administrator, do hereby certify the foregoing to be a true copy of Resolution Number 12 duly adopted by the Municipal Council of The Corporation of the Township of North Glengarry on the 11th day of January, 2010

_____
Date Certified

Carried	Defeated	Deferred
✓		

MAYOR

	YEA	NEA
Councillor: George Currier		
Councillor: Jamie MacDonald		
Councillor: Eric MacSweyn		
Deputy Mayor: Chris McDonell		
Councillor: Jim Picken		
Councillor: Gary Shepherd		
Mayor: Grant Crack		

Section 8 Item f

APPENDIX B

PROJECT CAPITAL COST ESTIMATE (2010)

Alternative	Project Item	Total	North Glengarry			South Glengarry
			Maxville	Alexandria	Other	
B1-2 Cornwall Supply Alexandria Connected	Cornwall Connection/Upgrades	$2,800,000	$401,611	$2,106,895	$134,217	$157,277
	Pumping/Metering Station	$2,050,000	$294,036	$1,542,548	$98,266	$115,150
	Transmission Watermain - Cornwall to Martintown	$7,275,500	$1,043,542	$5,474,541	$348,749	$408,668
	Transmission Watermain - Martintown to CR 43 at CR 20	$4,747,750	$721,508	$3,785,116	$241,126	$0
	Transmission Watermain - CR 20 to Maxville	$2,735,000	$2,613,144	$0	$121,856	$0
	Transmission Watermain - CR 20 to Alexandria	$10,088,750	$0	$10,088,750	$0	$0
	Alexandria Dist./Upgrades and Booster Station	$1,480,200	$0	$1,480,200	$0	$0
	Maxville Pumping/Treatment/Storage/Distribution	$6,646,050	$6,646,050	$0	$0	$0
	Construction Contingency 20%	$7,564,650	$2,343,978	$4,895,610	$188,843	$136,219
	Construction Subtotal	$45,387,900	$14,063,869	$29,373,660	$1,133,057	$817,314
	Engineering, Approvals, Project Management 15%	$6,808,185	$2,109,580	$4,406,049	$169,959	$122,597
Alternative B1-2 Total Cost before Funding Assistance		$52,196,085	$16,173,450	$33,779,709	$1,303,015	$939,911

Notes:

1. North Glengarry Other is the capital cost associated with over-sizing the infrastructure to accommodate future communities in North Glengarry including Apple Hill and Dominionville.
2. South Glengarry is the capital cost associated with over-sizing the infrastructure to accommodate future communities in South Glengarry including Martintown.

APPENDIX C

Township of North Glengarry
Box 700, 90 Main Street South
Alexandria, Ontario
K0C 1A0

Phone 613-525-1110
Fax 613-525-1649

FAX

Date: December 22, 2009

To: The Thompson Rosemount Group

Attention: Bill Knight

From: Johanna Levac (Annie)
Treasurer

Fax#: 613-936-0335

# of pages including cover: 5

Re: Business Case for Regional Water Application

Dear Bill:

Enclosed please find the following reports:

1) Summary of Average House in SD&G using full CVA (1 page)
2) Water and Sewer Increases - From 2006 - 2009 (1 page)
3) Tax Rate Comparison within SD&G (1 page)
4) Annual Repayment Limit (1 page)

If we had to borrow the 18.2 million we would have little to no borrowing capacity for the Township. The additional debt resulting in an additional 1,326,369 per year for repayment of loan over a 20 year period (based on 4%) would have to be repaid by the users of the system. Currently we have 1,572 Water Users and 1,814 Sewer Users from Maxville, Alexandria and Glen Robertson.

Please do not hesitate to contact me if further information is required.

Copy to: Andre Bachand

Copy to: Council Members

Annie Levac

From: "RANDY MCDONALD" <MCDONARA@mpac.ca>
To: "Annie Levac" <annielevac@northglengarry.ca>
Sent: Tuesday, December 22, 2009 9:43 AM
Attach: MCP CVA Summary SD&G.docx
Subject: Re: North Glengarry Assessments

HI Annie,

I have attached a summary of SD&G for the average house using full CVA (not phased-in).

Randy McDonald
Municipal Relations Representative, MPAC
mcdonara@mpac.ca
613.933.7249 Ext. 321
Cell: 613.361.0389

From Presentation gi=ven to SD&G Council

Average Single Family Homes

Source Nov 2008 Roll Based MCP

Full CVA (not phased-in)

	Non-Waterfront		Waterfront	
Municipality	# Prop	2008 CVA	# Prop	2008 CVA
South Glengarry	3,533	176,063	370	387,651
North Glengarry	2,532	146,949	35	168,543
South Stormont	3,626	163,686	147	441687
North Stormont	1,642	154,089	n/a	n/a
South Dundas	2,846	162,430	128	419,805
North Dundas	2,886	186,404	n/a	n/a

Water & Sewer Rate Increases

Year	From Water & Sewer Flat Rate	To Flat Rate	Percentage	From Water & Sewer Consumption	To Water & Sewer Consumption	Percentage
Feb 1, 2006	34.10	46.00	134.90	0.70	0.96	137.14
Feb 1, 2007	46.00	61.00	132.61	0.96	1.55	161.46
July 15, 2009	61.00	75.00	122.95	1.55	2.21	142.58
From 2006 to 2009	**34.10**	**75.00**	**219.94**	**0.70**	**2.21**	**315.71**

Number of Water Users	Number of Sewer Users
1,572	1,814

RESULTS:

The monthly flat rate has more than doubled
The cost per cubic meter has trippled

United Counties of Stormont, Dundas and Glengarry

Tax Rate Comparison

Education, Upper & Lower Tier Rates (Exclusive of special area rates)

2005 Total Tax Rates	Residential %	Commercial %	Industrial %	Large Ind %
South Stormont	1.443781	3.929852	4.322584	8.679481
North Stormont	1.574450	4.130799	4.567835	9.171933
South Dundas	1.597855	4.166785	4.611764	9.260137
North Dundas	1.601222	4.171964	4.618084	9.272827
South Glengarry	1.621936	4.203819	4.656963	n/a
North Glengarry	1.641530	4.233999	4.693745	9.424783
City of Cornwall	2.002181	5.823496	7.436299	n/a

2006 Total Tax Rates	Residential %	Commercial %	Industrial %	Large Ind %
South Stormont	1.351606	3.703630	4.256550	8.547018
North Stormont	1.436740	3.834553	4.416345	8.867866
North Dundas	1.489341	3.915439	4.515065	9.066100
South Glengarry	1.508597	3.945051	4.551207	n/a
South Dundas	1.529625	3.977389	4.590675	9.217920
North Glengarry	1.562700	4.028323	4.652845	9.342576
City of Cornwall	1.952030	5.737962	7.388562	n/a

2007 Total Tax Rates	Residential %	Commercial %	Industrial %	Large Ind %
South Stormont	1.370075	3.732031	4.360763	8.756269
North Stormont	1.444910	3.847113	4.501214	9.038294
North Dundas	1.489341	3.915439	4.584614	9.205748
North Glengarry	1.500800	3.933123	4.606094	9.249024
South Glengarry	1.521019	3.964154	4.644071	n/a
South Dundas	1.529625	3.977389	4.660224	9.357568
City of Cornwall	1.956080	5.745921	7.389214	n/a

2008 Total Tax Rates	Residential %	Commercial %	Industrial %	Large Ind %
South Stormont	1.393480	3.759343	4.404594	8.844198
North Stormont	1.462020	3.864743	4.533234	9.102504
North Glengarry	1.513000	3.943103	4.628894	9.294624
North Dundas	1.514937	3.946120	4.632557	9.301934
South Glengarry	1.533219	3.974234	4.666871	9.370833
South Dundas	1.541813	3.987451	4.683001	9.403223
City of Cornwall	2.000288	5.816370	7.488500	n/a

2009 Total Tax Rates	Residential %	Commercial %	Industrial %	Large Ind %
South Stormont	1.331513	3.718546	4.414944	7.008482
North Stormont	1.400980	3.829771	4.553016	7.285730
North Glengarry	1.434100	3.882751	4.618816	7.417800
North Dundas	1.451571	3.910776	4.653580	7.487647
South Dundas	1.457236	3.919847	4.664841	7.510259
South Glengarry	1.465765	3.933503	4.681794	7.544299
City of Cornwall	1.959824	5.655875	7.191578	n/a

Ministry of Municipal Affairs and Housing
777 Bay Street,
Toronto, Ontario.
M5G 2E5

Ministère des affaires municipales et du logement
777 rue Bay
Toronto (Ontario)
M5G 2E5

ANNUAL REPAYMENT LIMIT
(UNDER ONTARIO REGULATION 403/02)

MMA CODE:	**71615**
MUNID:	**1047**
MUNICIPALITY:	**North Glengarry Tp**
UPPER TIER:	**Stormont,Dundas & Glengarry UCo**
REPAYMENT LIMIT:	~~C$1,553,648~~ 234,260

The repayment limit has been calculated based on data contained in the 2007 Financial Information Return, as submitted to the Ministry. This limit represents the maximum amount which the municipality had available as of December 31, 2007 to commit to payments relating to debt and financial obligations. Prior to the authorization by Council of a long term debt or financial obligation, this limit must be adjusted by the Treasurer in the prescribed manner. The limit is effective January 01, 2009.

FOR ILLUSTRATION PURPOSES ONLY,
the additional long-term borrowing which a municipality could undertake over a 5-year, a 10-year, a 15-year and a 20-year period is shown.

APPENDIX D