The Corporation of the County of Prince Edward

Asset Management Plan

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Prepared for:

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The Corporation of the County of Prince Edward
Asset Management Plan

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EXECUTIVE SUMMARY

The development of an asset management plan has been identified as a pre-requisite for the receipt of funding from the Province of Ontario (the "Province") under the Municipal Infrastructure Investment Initiative ("MIII"). As such it represents an important first step in obtaining financing for necessary infrastructure investments. That said, planning for capital reinvestment is essential with or without the incentive provided under MIII, particularly given that a number of municipalities are now approaching "end of useful life" for significant components of their infrastructure.

Current State of Infrastructure

Infrastructure represents a major investment on the part of The Corporation of the County of Prince Edward (the "County"), with the estimated replacement cost of its assets – roads and bridges infrastructure, water and wastewater facilities and infrastructure amounting to approximately $678 million. In addition to the cost of replacing its assets, the County is also required to repair and rehabilitate its infrastructure over its entire useful life or face reductions in service levels.

Prepared in conjunction with senior staff and having reviewed the 2013 road condition assessment, the 2010 water/wastewater rate study and the bridge condition report, the financial plan for roads, water and wastewater and bridge and large culvert infrastructure is intended to address a growing infrastructure shortfall, one that manifests itself through increasing deterioration of the infrastructure. In 2014, the County budgeted to spend approximately $13.4 million on capital expenditures, with $7.7 million earmarked for roads, bridges and large culverts and water and wastewater and $3.5 million for life cycle road costs of roadside and surface maintenance $0.6 million the life cycle costs for water/wastewater infrastructure and facilities totaling $11.8 million compared to the estimated average annual amount of $38 million that it is required to invest in order to maintain these assets at the recommended standard. The gap between actual and required spending has resulted in an immediate capital infrastructure deficit.

This asset management plan does not address any other assets being vehicles, equipment and buildings, as Council strives to meet the needs on an annual basis and provides for future needs by building up reserves to offset future costs. The asset management plan recognizes that the magnitude of the capital infrastructure deficit cannot be addressed in a short timeframe rather, the financial plan should considers a ten year phase-in period during which the County will increase funding for capital purposes each year to deal with the infrastructure shortfall. While the County intends to continue its efforts to secure support from senior levels of government for reinvestment in its capital assets, the financial plan anticipates that, in the absence of senior government assistance, the County would be required to increase the municipal levy and water/wastewater rates each year to fund its capital requirements.

Asset Management Strategies

As required under MIII, this report identifies asset management strategies for the County based on the types of infrastructure maintained as well as its current condition. As noted on page 20, the County would be required to spend an average of $20 million per year over the next ten years in order to address the current issues identified with its infrastructure. While this would allow the County to meet its immediate infrastructure investment needs, it does not allow for ongoing maintenance, rehabilitation and replacement of its infrastructure, the cost of which amounts to an additional $18 million, bringing the County's total infrastructure financing requirement to $38 million per year. In comparison, the County is budgeted to make $11.8 million in capital, and life cycle expenditures during 2014. Clearly, it is unable to address the full spectrum of its infrastructure needs, resulting in ongoing annual infrastructure deficits.

Financing Strategy

While the County is unable to unilaterally address its infrastructure-related financial requirement, it recognizes the need to begin to address the challenge. As part of its financing strategy, the County is proposing the following measures intended to increase funding for capital requirements:

- permanently protecting the current level of capital funding so as to provide a consistent stream of funding into the future;

- considering a five year capital levy that would see the total overall municipal levy increase by 2% each year, with the new revenue allocated to capital purposes (i.e. not for operations). The capital levy would add approximately $500,000 per year to existing capital funding ($2.5 million in total over the next five years), representing a 73% increase in capital spending. See page 40 regarding the impact chart;

- continuing with the use of external debt as a means of funding infrastructure requirements, including the adoption of a program whereby a fixed percentage of capital expenditures are financed through debt; and

- continuing to pursue grant programs provided by senior levels of government.

Based upon the growing revenue/expenditure gap found in current water/wastewater rates per previous rate study compared to actual receipts and expenses, it is imperative that there is a review completed to determine an appropriate strategy to fund current costs and related debt interest and principal payments and future capital requirements, considering the limited growth in water/wastewater consumers and consumption.

The Issue of Affordability

When considering the County's ability to fund its capital requirements and its entitlement for grants, there needs to be recognition of the limited ability of the County to finance its capital needs due to issues surrounding affordability. In addition to the affordability considerations

developed by the Province under the revised Ontario Municipal Partnership Fund ("OMPF") model, it is also important to remember that:

- The County's population has not grown at the same rate as other communities and the Province as a whole. While the Province's total population increased by 19.5% between 1996 and 2011, the County's population decreased by 0.8% over the same period. In the absence of major population growth, fewer people are required to fund the infrastructure requirement, increasing the overall cost to the individual taxpayer. (See charts on page 41)
- The County's residents have a higher degree of reliance on pension income (i.e. fixed income) as compared to other communities. Overall, 29% of total reported personal income in the County is derived from pensions, as opposed to the Provincial average of 14%. The greater reliance on fixed-income pension reduces the ability of the County to raise funds through taxation and user fees due to concerns over affordability. (See charts on page 42)

About this Plan

The County's asset management plan has been developed based on the guidance provided by the Province in *Building Together – Guide for Municipal Asset Management Plans,* which has been tailored to reflect the small size of the County and the nature of its operations and infrastructure.

- Accepted industry best practices were used for the development of the plan components, including the condition assessments, identification of life cycle requirements and estimated costs;
- The asset management plan was reviewed by Council prior to adoption;
- The asset management plan was compared to the requirements under MIII to ensure compliance; and
- Expressions of interest submitted to date have been based on the priorities identified in the asset management plan.

The development of the asset management plan involved input from the following parties:

- Chief Administrative Officer, Commissioners, Director of Finance and other Senior Staff
- KPMG LLP, financial advisors to the County

ARTICLE I
INTRODUCTION

Overview of the Asset Management Plan

Asset Management Planning Defined

Asset management planning is the process of making the best possible decisions regarding the acquisition, operating, maintaining, renewing, replacing and disposing of infrastructure assets. The objective of an asset management plan is to maximize benefits, manage risk and provide satisfactory levels of service to the public in a sustainable manner. In order to be effective, an asset management plan needs to be based on a thorough understanding of the characteristics and condition of infrastructure assets, as well as the service levels expected from them. Recognizing that funding for infrastructure acquisition and maintenance is often limited, a key element of an asset management plan is the setting of strategic priorities to optimize decision-making as to when and how to proceed with investments. The ultimate success or failure of an asset management plan is dependent on the associated financing strategy, which will identify and secure the funds necessary for asset management activities and allow the County to move from planning to execution.

The Purpose of the Asset Management

The asset management plan outlines the County's planned approach for the acquisition and maintenance of its infrastructure, which in turn allows the County to meet its stated mission and mandate by supporting the delivery of services to its residents. In achieving this objective, the asset management plan:

- provides Council, staff, funding agencies, community stakeholders and residents with an indication of the County's investment in infrastructure and its current condition;
- outlines the total financial requirement associated with the management of this infrastructure investment, based on recommended asset management practices that encompass the total life cycle of the assets;
- prioritizes the County's infrastructure needs, recognizing that the scope of the financial requirement is beyond the capabilities of the County and that some form of prioritization is required; and
- presents a financial strategy that outlines how the County intends to meet its infrastructure requirements.

It is important to recognize that the asset management plan is just that – a plan. The asset management plan (which has been prepared for the purposes of meeting the requirements of the MIII) does not represent a formal, multi-year budget for the County. The approval of operating and capital budgets is undertaken as part of the County's overall annual budget process. Accordingly, the financial performance and priorities outlined in the asset management plan are subject to change, based on future decisions of Council, with respect to

operating and capital costs, taxation levels and changes to regulatory requirements or the condition of the County's infrastructure.

KPMG discussed with senior staff the amounts that they have projected for capital spending with those assets identified in the accounting data with the "end of their useful life" as a priority for replacement. From these discussions, it was determined to use the priority projects identified by condition reports acquired by senior staff. KPMG incorporated data into worksheets and discussed the priority needs with senior staff.

Scope of the Asset Management Plan

The asset management plan encompasses the following components of the County's infrastructure:

Transportation Infrastructure	Water and Wastewater Infrastructure
• Roads, including storm sewers, sidewalks, streetlights • Bridges and large culverts	• Treatment facilities • Water distribution system • Wastewater collection system • Supply wells

For the purposes of developing the asset management plan, the analysis includes a discussion of required activities over the entire life cycle of the County's infrastructure. It is expected that the County will update its asset management plan every four years (to coincide with Council elections) or earlier in the event of a major change in circumstances, which could include:

- New funding programs for infrastructure
- Unforeseen failure of a significant infrastructure component
- Regulatory changes that have a significant impact on infrastructure requirements
- Changes to the County's economic or demographic profile (positive or negative), which would impact on the nature and service level of its infrastructure

At this time this asset management plan has not considered the additional annual capital cost and life cycle costs associated with the asset categories of buildings, vehicles, equipment and land improvements. It is advised that management would review the impact of all future capital costs as the expectation is that the use of the asset management plan will be integrated with the budget and other future documents such as water/wastewater rate studies, development charges by-law, long-term financial plans and master servicing plans.

Cost estimates for roads reflect management's estimates based on costing of recent projects and cost estimates from neighbouring municipalities rather than inflated historic costs. Senior staff is currently undertaking a review to find suitable asset management software that will allow for tracking and projections for life cycle costing and well as recording betterments that have occurred to enable more accurate data for calculation in future revised asset management plans.

Methodology

	Workstep	Report Section
1.	Information concerning the County's tangible capital assets was reviewed and summarized to provide a preliminary inventory of assets, acquisition year, remaining useful life and historical cost.	Article II
2.	A condition assessment of the County's infrastructure was developed based on a review of previously commissioned assessments, the age and estimated remaining useful life of the infrastructure and engineering inspections of certain components.	Article II
3.	Asset management strategies for each component of the County's infrastructure were developed to provide an indication as to the recommended course of action for infrastructure procurement, maintenance and replacement/ rehabilitation over the estimated useful life of the infrastructure component. As part of the development of the asset management strategies, cost estimates were prepared for the recommended activities.	Article IV
4.	Based on the asset management strategies (which provide an indication as to the cost of the recommended activities) and the road condition assessment of 2013 (which provides an indication as to the timing of the recommended activities), an unencumbered financial projection was developed that outlined the overall cost of recommended asset management strategies assuming that the County was to undertake all of the recommended activities when required (i.e. assuming sufficient funds were available for all required infrastructure maintenance and replacement). Consistent with the provisions of MIII, no grants were considered in the preparation of the unencumbered financial projection.	Article IV
5.	Recognizing that the overall financial requirement associated with the recommended asset management strategies is unaffordable for the County, the required asset management activities were prioritized based on the potential risk of failure, the potential impact on residents and other stakeholders and other considerations.	Article V
6.	A second set of financial projections was developed based on the resources available to the County to support its asset management activities, including funding from taxation, availability of reserve/reserve funds and user fees. Consistent with the provisions of MIII, no grants were considered in the preparation of the financial projections.	Article V

Evaluating and Improving the Asset Management Plan

The asset management plan outlined in this report represents a forecast of the County's infrastructure-related activities under a series of assumptions that are documented within the plan. The asset management plan does not represent a formal, multi-year budget for infrastructure acquisition and maintenance activities but rather a long-term strategy intended to guide future decisions of the County, its Council and senior staff, recognizing that the approval of operating and capital budgets is undertaken as part of the County's overall annual budgeting process.

In order to evaluate and improve the asset management plan, the County plans to undertake the following actions:

Action Item	Frequency
1. Updating of infrastructure priorities based on: • Ongoing condition assessments (e.g. bi-annual bridge inspections) • Visual inspection by municipal personnel • Failures or unanticipated deterioration of infrastructure components • Analysis of performance indicators	Annually
2. Adjustment of asset management plan for changes in financial resources, including new or discontinued grant programs, changes to capital component of municipal levy, etc.	Every four years
3. Comparison of actual service level indicators to planned service level indicators and identification of significant variances (positive or negative)	Annually
4. Updating of infrastructure data maintained in Great Plains software with the intention of transferring data to a suitable asset management software when purchased.	Annually upon completion of the County's financial statement audit

Restrictions

This report is based on information and documentation that was made available to KPMG at the date of this report. KPMG has not audited nor otherwise attempted to independently verify the information provided unless otherwise indicated. Should additional information be provided to KPMG after the issuance of this report, KPMG reserves the right (but will be under no obligation) to review this information and adjust its comments accordingly.

Pursuant to the terms of our engagement, it is understood and agreed that all decisions in connection with the implementation of advice and recommendations as provided by KPMG during the course of this engagement shall be the responsibility of and made by the County.

KPMG has not and will not perform management functions or make management decisions for the County.

This report includes or makes reference to future oriented financial information. Readers are cautioned that since these financial projections are based on assumptions regarding future events, actual results will vary from the information presented even if the hypotheses occur, and the variations may be material.

Comments in this report are not intended, nor should they be interpreted to be, legal advice or opinion.

KPMG has no present or contemplated interest in the County nor are we an insider or associate of the County or its management team. KPMG does currently provide external audit services to the County. Our fees for this engagement are not contingent upon our findings or any other event. Accordingly, we believe we are independent of the County of Prince Edward and are acting objectively.

ARTICLE II
STATE OF LOCAL INFRASTRUCTURE

Overview of the County's Infrastructure

At December 31, 2013, the County reported a total investment of $342.5 million in tangible capital assets ('TCA') at historical cost. This equates to an average investment of $26,131 per household, or $13,559 per resident.

With a historical cost of $166.4 million, roads represent the single largest type of infrastructure and account for 48% of the County's total infrastructure (at historical cost).

From a use perspective, the County's road network represent the largest components of its infrastructure ($185.5 million), accounting for a combined total of 54% of the overall historical cost of the County's infrastructure.

Figure 1 - Tangible Capital Assets by type total $342.48 (historical cost, in millions)

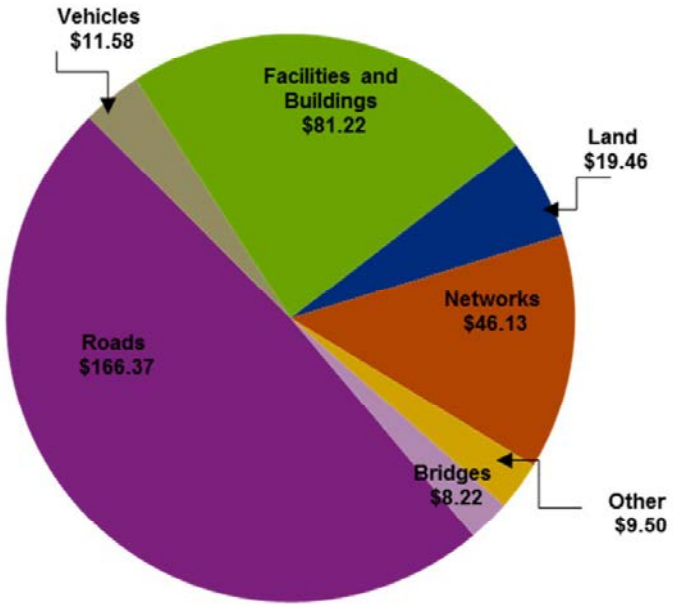
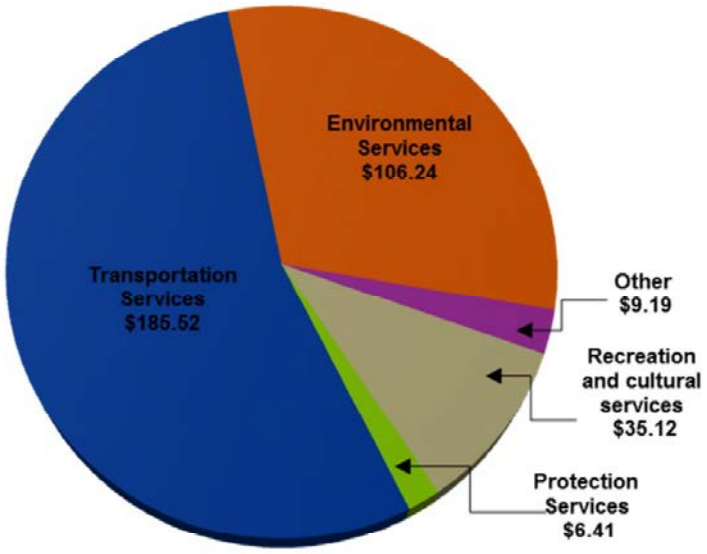
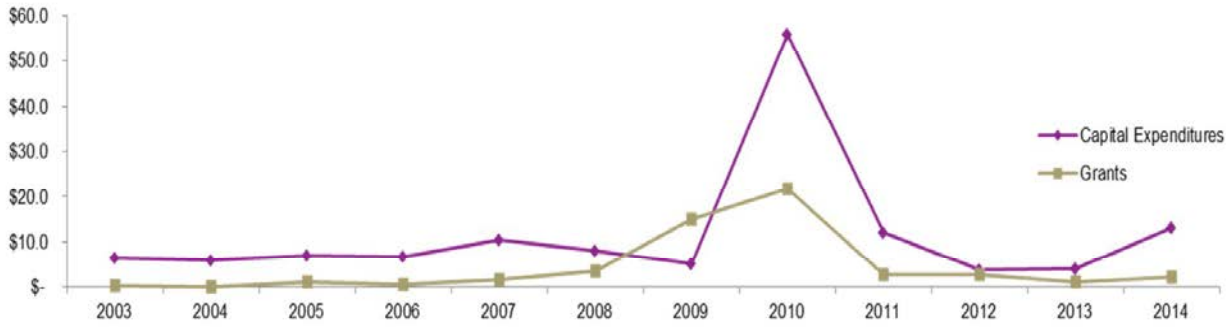


Figure 2 - Tangible capital assets by use (historical cost, in millions)



Over the last 12 years, the County's investment in its infrastructure has totaled just under $139 million, with Federal and Provincial capital grants amounting to approximately $44 million over the same period. As noted below, the County's investment in infrastructure has traditionally been closely tied to grant revenues, recognizing that in recent years investments have tended to be higher than grants as a result of the County's investment in road infrastructure and wastewater treatment plants (financed primarily through loans). In 2014, Council began increasing the transfers to reserve/reserve funds to have the resources to meet current and future capital needs.

Figure 3 - Capital expenditures and grants (in millions)



Since 2003, environmental infrastructure has represented the largest area of investment for the County, amounting to $55 million or 39% of total capital spending from 2003-2014.

Figure 4 - Capital expenditures by program ($ Thousands)

(in thousands of dollars)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 (budget)	Total
General government	230	229	74	644	83	436	364	347	235	157	135	459	3,393
Protection Services	171	334	164	250	237	354	254	120	149	768	364	4,230	7,394
Transportation Services	4,378	3,357	3,460	3,731	6,024	4,322	3,281	9,340	1,015	1,359	1,794	4,623	46,685
Environmental Services	882	953	2,398	1,126	3,428	1,546	593	30,486	7,424	1,218	1,419	3,048	54,521
Health Services	26	3	107	117	0	41	11	129	318	0	0	130	882
Social and Family Services	23	563	596	222	390	97	0	223	20	69	154	146	2,503
Recreation	705	456	234	526	428	1,062	685	15,221	2,936	312	234	523	23,322
Planning and Development	1	2	0	0	0	152	3	2	0	0	0	0	160
Total	6,416	5,897	7,033	6,616	10,590	8,010	5,191	55,868	12,097	3,883	4,100	13,159	138,860

In order to fund its capital investments, the County has relied on a combination of grants, long-term debt, contributions from reserves and reserve funds and taxation and user fee revenues. The use of debt financing in recent years has increased as a result of the County's investment in road infrastructure, and wastewater treatment facilities.

Figure 5 - Capital expenditures and funding ($ Thousands)

(in thousands of dollars)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 Budget	Total
Total capital expenditures	6,416	5,897	7,033	6,616	10,590	8,010	5,191	55,868	12,097	3,883	4,100	13,159	138,860
Grants received	247	0	587	60	1,022	3,282	13,534	20,759	2,005	2,166	224	190	44,076
Gas Tax Utilized	0	0	486	486	647	157	1,619	895	729	523	927	1,888	8,357
Local financing requirement	6,169	5,897	5,960	6,070	8,921	4,571	-9,962	34,214	9,363	1,194	2,949	11,081	86,427
Long-term debt issued	549	7,724	3,669	1,577	2,910	3,202	771	16,690	6,880	725	958	7,011	52,666
Taxation, user fee and reserve funding	5,620	-1,827	2,291	4,493	6,011	1,369	-10,733	17,524	2,483	469	1,991	4,070	33,761

The total amount of long-term debt outstanding at December 31, 2013 amounted to $38.9 million, the majority of which was incurred since 2012.

Figure 6 - Long-term debt outstanding by function (in millions)

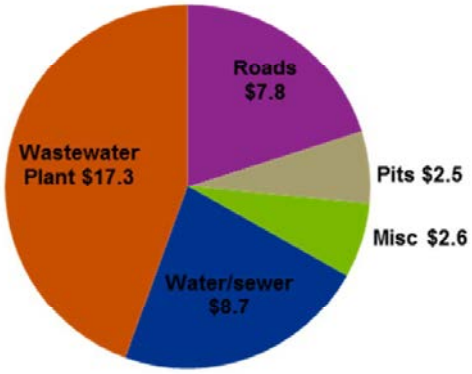
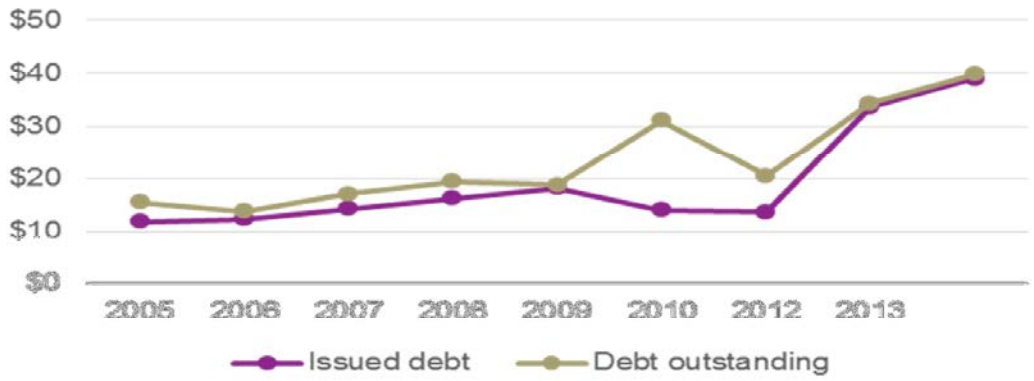


Figure 7 - Long-term debt issued and year-end outstanding debt (in millions)



Inventory of Assets included in Asset Management Plan

Asset Class	Type of Assets Included	Inventory*
Bridges and culverts	Bridges and culverts with a span over 0.0025 km	• 25 Bridges • 24 Culverts
Water Facilities	Facilities that treat, pump or store water	• 4 plants • 3 pumping stations • 4 storage
Wastewater Facilities	Facilities that treat, pump or store wastewater	• 2 plants • 7 pumping stations
Water Infrastructure	Water mains, hydrants and valves	• 104 km of water mains • 472 hydrants • 968 valves • 4,203 water meters
Wastewater Infrastructure	Sanitary sewers and manholes	• 41 km of sanitary sewers • 602 manholes • 2,936 services
Roads	Roads, sidewalks, streetlights and storm sewers	• 59 km HCB-Urban • 16 km HCB-semi-urban • 268 km HCB-rural • 5 km LCB-Semi-Urban • 493 km LCB-rural • 159 km gravel • 18 km concrete

Historical, Replacement and Life Cycle Cost

For asset management purposes, the historical cost of the County's infrastructure is arguably of limited value in that it reflects the cost at the date that the infrastructure investment was incurred, as opposed to what it would cost the County to replace the infrastructure at the present time. While the use of replacement value is a more meaningful measure of the financial requirement associated with the County's infrastructure (and is a required component for asset management plans under MIII), it is also of limited value in that it only considers the replacement cost at the end of the infrastructure's useful life and does not contemplate:

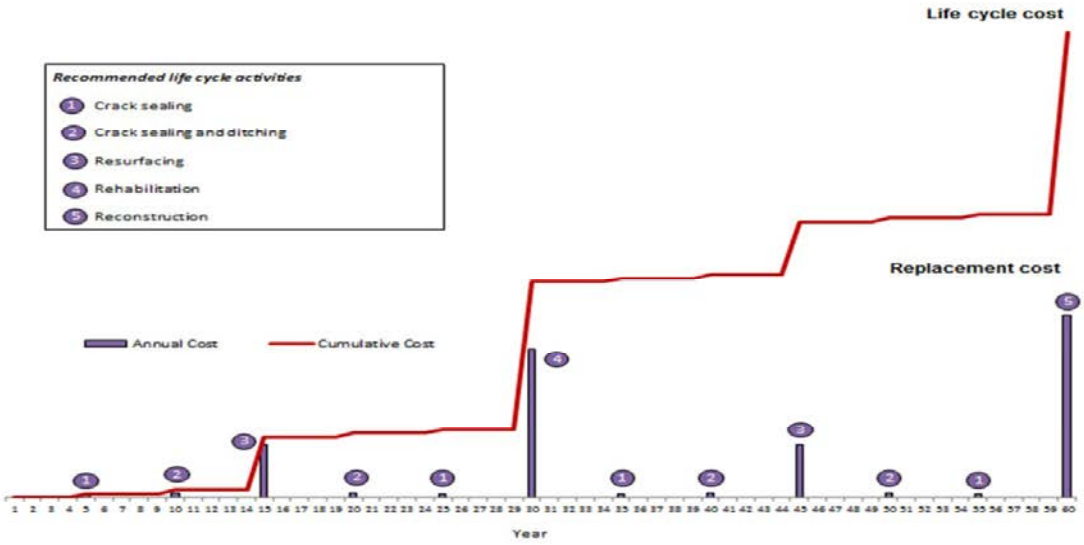
- The fact that certain components of the County's infrastructure, such as roads, will not be fully replaced at the end of useful life but rather will be reconstructed; and
- Asset management activities that are required (by best practice) to be incurred prior to the end of the useful life of the County's infrastructure.

Accordingly, for the purposes of the County's asset management plan, we have provided the following for each component of the County's infrastructure:

- Historical cost based on the County's TCA data as reported in its 2013 financial statements;
- Replacement cost based on cost estimates prepared by the County's engineering advisors. For the purposes of the asset management plan, replacement cost is defined as follows:
  - Roads – road reconstruction costs at the end of useful life, including necessary curbs, sidewalks, streetlights and storm sewer;
  - Bridges and large culverts – estimated reconstruction or replacement cost;
  - Water and wastewater pipes – replacement costs at the end of useful life, including hydrants, valves, manholes, road reinstatement and service to the property line;
- Life cycle costs based on cost estimates prepared by County's senior staff. Life cycle costs encompass the cost of all recommended maintenance activities associated with a component of the County's infrastructure prior to the end of useful life. The nature of life cycle costs will vary depending on the type of infrastructure in question, with certain assets requiring little life cycle activities prior to the end of useful life while others require regularly scheduled maintenance activities. For the purpose of the County's asset management plan, life cycle costs have been provided for linear infrastructure (roads, water and wastewater pipes).

We have included on the following page an example of the life cycle requirements associated with one type of road including the difference between replacement cost and life cycle cost.

Figure 8 - Example of a Life cycle costing profile – paved rural collector road (7.0m lane) (in thousands)



The current replacement value of the County's infrastructure (expressed in 2013 funds) is estimated to be in the order of $679 million, 71% of which relates to the County road network. Overall, the replacement value of the County's infrastructure amounts to approximately $51,807 per household or 2.53 times the historical cost of infrastructure.

The total life cycle costs associated with the County's linear infrastructure, bridges and culverts, water and waste infrastructure and facilities is just under $18 million.

Figure 9 – Life Cycle Costs

Asset Component	Historical Cost (in thousands)	Replacement Costs (in thousands)	Average Annual Life Cycle Cost (in thousands)	Estimated Useful Life
Roads – paved and gravel	$163,968	$479,954	$13,871	7 to 50 years
Water distribution network	$35,879	$69,777	$872	80 years
Wastewater collection network	$8,912	$22,679	$284	80 years
Bridges and culverts	$8,228	$28,688	$499	40 to 75 years
Water/Wastewater facilities	$51,245	$77,876	$2,225	20 to 50 years
Total	$268,233	$678,979	$17,751	

Additional information concerning the County's infrastructure can be found in the following appendices:

Appendix A – Infrastructure Profile – Roads

Appendix B – Infrastructure profile – Bridges and Culverts

Appendix C – Infrastructure profile – Water and Wastewater

Condition Assessment

In order to assess the condition of the County's infrastructure, which in turn determines the timing for asset management activities, different approaches were adopted depending on the type of infrastructure:

- **Roads** – condition assessments for roads (paved, surface treated and gravel) were determined based on a *Condition Rating* that ranked the County's road network on a scale of 0.00 to 10.00 based on factors such as structural cracking, non-structural cracking, rutting and roughness from a 2013 roads study.

- **Bridges and large culverts** – condition assessments were based on the *Bridge Condition Index* as determined by the most recent bridge inspections conducted in accordance with the Ontario Structure Inspection Manual.

- **Water and wastewater pipes** – given the inability to directly observe underground infrastructure, condition assessments for water and wastewater mains were determined based on the estimated remaining useful life.

In order to determine the allocation of the County's infrastructure by condition category (good, fair, poor), the following benchmarks were utilized.

Figure 10 - *Condition assessment benchmarks*

Infrastructure components	Basis of Assessment	Good	Fair	Poor
Roads	Condition rating	Greater than 6.00	4.00 to 6.00	Less than 4.00
Bridges and large culverts	Bridge condition index	Greater than 70	60 to 70	Less than 60
Water and wastewater mains	Remaining useful life	Greater than 50%	10% to 50%	Less than 10%

Key Assumptions

The asset management plan for the County's road network establishes as its starting point the County's 2014 budget (capital). Recognizing the significance of future infrastructure investment requirements, the financial plan considers this scenario:

- Assumes that the County will adopt a sustainable capital asset management plan for roads whereby capital contributions will increase over a 10-year period until such time as the level of capital funding is sufficient to provide for sustainable reinvestment in road infrastructure.

The following assumptions have been considered:

- No changes in the method of allocating administrative costs or internal recoveries have been considered in the financial plan.

Data Verification and Condition Assessment Policies

On a go-forward basis, the following policies will govern the updating and verification of the condition assessment:

- Roads condition assessment every two years in accordance with MTO standards for assessment;

- Condition assessments for bridges will be conducted every two years in accordance with Provincial regulations, with the asset management plan updated accordingly;

- Condition assessments for facilities should be assessed through an engineering/architectural inspection of the facilities immediately with a period review every five to ten years, at this time no facilities owned by the County other than water and wastewater have been taken into consideration in this asset management plan;

- Condition assessments for other assets will be based on the percentage of remaining useful life in the absence of a third-party assessment of the assets. On a regular basis,

the County will review the useful lives and condition assessment criteria (good, fair, poor based on percentage of remaining life) and will adjust the asset management plan accordingly; and

- Any changes to anticipated future costs as a result of updated water/sewer rates will be incorporated and update the asset management plan accordingly.

Poor Condition Assessment for Roads, Bridges and Large Culverts, Water and Wastewater Infrastructure

County staff completed a roads needs study in 2013 and 2014 and categorized road infrastructure by rating road conditions from poor to good whereas poor was 1 and good was 10. Details can be found in Appendix A.

Determination of the bridges value comes from the last Bridge Condition Report.

Water and Wastewater Mains were reviewed by the County staff considering asset age then categorized as Good (Remaining Useful Life >50%); Fair (Remaining Useful Life <50% & >10%) and Poor (Remaining Useful Life <10%). Details can be found in Appendix C.

Summary of identified assets in poor condition requiring immediate repair/replacement and/or estimate for replacement within a 10 year window, including an estimate for water/wastewater facilities

Figure 11 – Immediate Infrastructure Investment Needs

Asset	Replacement Cost (in thousands)	Average Annual Cost over 10 years (in thousands)
Roads includes rating <4	$165,150	$16,515
Bridges and Culverts	$ 4,722	$ 472
Water infrastructure includes useful life <10%	$ 5,977	$ 597
Wastewater infrastructure includes useful life <10%	$ 6,010	$ 601
Water/Wastewater facilities	$ 19,785	$ 1,979
Total average annual cost over 10 years	**$201,644**	**$20,164**

ARTICLE III
DESIRED LEVELS OF SERVICE

Performance Measures

The County's asset management plan is intended to maintain its infrastructure at a certain capacity and in doing so allow it to meet its overall objectives with respect to service levels for its residents. Highlighted below are the key performance measures and service targets for the road, water and wastewater and bridges and large culverts components of the County's infrastructure, as well as an assessment of its current performance and the anticipated date for achieving the target. The County recognizes the need for relevant performance measures and will continue to work to develop appropriate targets that meet Provincial standards.

Infrastructure Component	Performance Measure	Targeted Performance	Current Performance	Achievement Date
Roads	Compliance with Ontario Regulation 239/02 – Minimum Maintenance Standards for Municipal Highways	Full compliance	Fully compliant	2014
Water	Days under non-scheduled boil water advisory	None	0	2014
	Number of water main breaks per 100 km	2.0	6.5	2014
Wastewater	Infiltration rate	20%	57%	2017
	By-pass occurrences - % of wastewater treated	0%	0.70%	2014
	Number of wastewater main backups per 100 km	2.0	2.0	2014

It is anticipated that the County will improve monitoring the above targeted performance measures.

It is also important to recognize that in certain instances, a deviation from the County's targeted service level may be the result of uncontrollable and unforeseen factors and any evaluation of the County's performance should differentiate between controllable and uncontrollable events. For example, the availability of facilities (as a percentage of planned operating hours) could be impacted by weather conditions or power disruptions that may result in the closure of facilities but which are not caused by the County or otherwise controllable. Absent some form of compensating strategy (such as standby power generators), these events may cause the County to deviate from its targeted service levels.

The Impact of New Legislation and Regulation

From time to time, new legislation or regulations will be enacted that change minimum performance requirements for municipal infrastructure and by extension the performance

measures outlined in the County's asset management plan. At the present time, three major items of legislation and regulation have been identified as having the potential to impact on the County's desired service levels and asset management plan:

- The *Accessibility for Ontarians with Disability Act* and the accompanying *Integration Accessibility Standards* may require the County to alter components of its infrastructure to ensure accessibility for individuals with disabilities. The timeframe for compliance with the Act depends on both the nature of the requirement and the size of the County, with smaller communities generally provided with an extended period for compliance as compared to the Province or larger counties.

- The Province of Ontario has recently enacted revisions to *Ontario Regulation 239/02 – Minimum Maintenance Standards for Municipal Highways*. While the majority of these changes deal with winter maintenance activities (which are not included in the scope of the asset management plan), revisions have been made to inspection requirements for certain components of a municipal road network, which will impact on the County's asset management activities in the future.

- It is anticipated that the Province of Ontario will introduce new legislation relating to wastewater treatment activities that are expected to increase the minimum performance standards, which may in turn require the County to amend existing performance measure targets and introduce new targets.

On an annual basis, the County will evaluate the impact of enacted legislation or regulation on its desired levels of service and will adjust its performance measures accordingly.

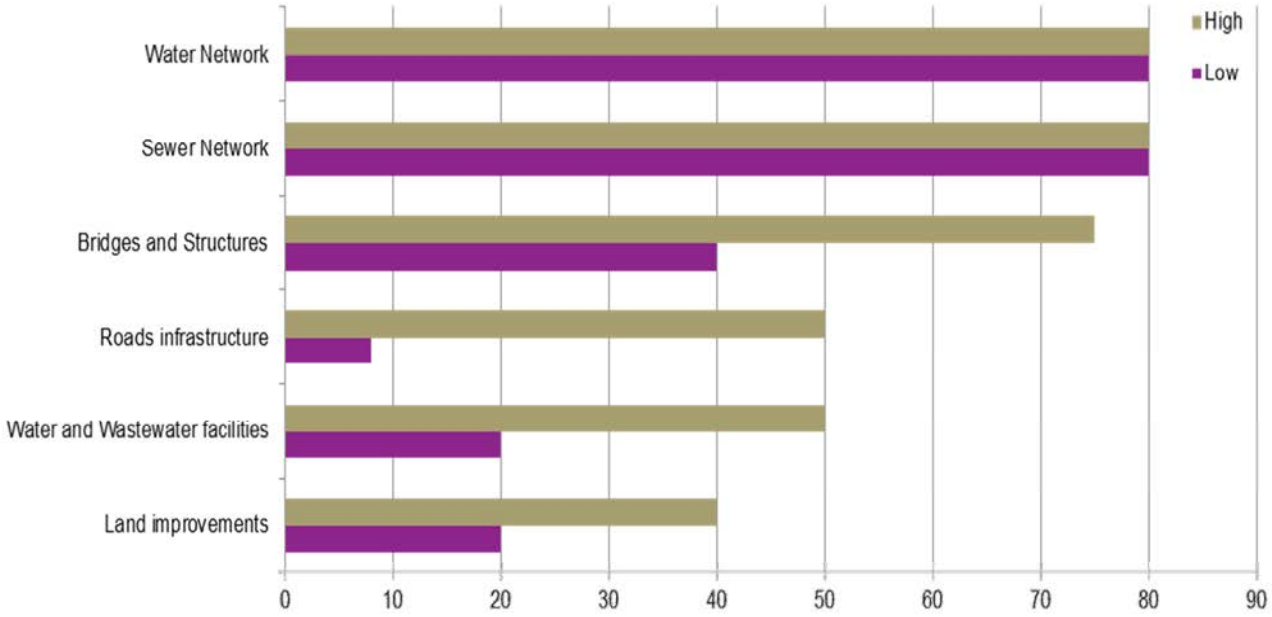
ARTICLE IV
ASSET MANAGEMENT STRATEGY

Overview

For each significant component of the County's infrastructure, asset management strategies have been developed that outline:

1. The expected life cycle period for each asset, which defines the period that the County will be required to maintain its infrastructure and secure the necessary financing for maintenance and replacement activities. As noted below, there is considerable variability in the estimated life cycle periods of the County's infrastructure.

Figure 12 - Life cycles for municipal infrastructure (in years)



2. The extent to which asset management activities can be integrated with other assets, most commonly the integration of above ground and below ground infrastructure (roads and storm sewer). The integration of different infrastructure components is a critical element of the County's asset management plan given the staggering of the end of useful life for major assets.

3. Criteria and strategies for the replacement and rehabilitation of the assets.

4. Consequences of not undertaking the necessary asset management activities, particularly the impact on useful life cycle and overall costs.

5. The determination of priorities when considering integrated assets (e.g. roads and pipes).

Existing Service Levels in the County

Department	Levels of Service
Water Infrastructure and Water Facilities	1. Provide services to accommodate growth. 2. Water system design provides water service lines suitable for anticipated demand based on dynamic models. 3. Provide reliable water service and safe drinking water. 4. Meet all regulated drinking water quality goals (i.e. MOE Drinking Water Systems O. Reg 170/03 and Certificate of Approval). 5. Repair any critical sections identified by leak detection or visual inspection. 6. Minimize the number of breaks.
Wastewater Infrastructure and Wastewater Facilities	1. Provide services to accommodate growth. 2. Wastewater design system provides wastewater collection lines suitable for anticipated demand based on dynamic models. 3. Repair any critical sections of infrastructure identified in CCTV assessments. 4. Meet all regulated wastewater quality goals. 5. Minimize the number of sewer backups that occur due to infrastructure failure. 6. Minimize the number of emergency sewer bypass events that occur.
Roads, Bridges and Large Culverts Infrastructure	1. Provide maintenance standards in accordance with O. Reg 239/02. 2. Provide structurally sound roads, bridges and large culverts to carry their intended loads. 3. Provide services to accommodate growth. 4. Minimize the number of areas where road, bridges, large culverts use is restricted by deterioration.

Asset management strategies for each component are presented on the following pages.

Municipal Paved Road Systems

Anticipated asset life cycle	The life cycle of newly constructed pavement systems are dependent on several factors including the pavement design, material and construction quality, traffic volume, traffic loading, and environmental conditions. The service life can be approximated by the category of road: e.g. 50 years for concrete and pavement with double layers of asphalt and curbs, and 5-7 years for surface treatments.
Integration opportunities	Various other elements may be considered as integrated with paved roads. These include buried assets in the corridor: storm sewers, watermain, sewers, utilities as well as surface elements such as traffic signals, street lighting, and sidewalks, ditches and barriers.
Rehabilitation and replacement criteria	To assess paved roads a Roads Needs Study has been partially 2013 and 2014 completed. The conditions of roads are visually evaluated based on a variety of criteria outlined in MTO Manuals. Different evaluation manuals exist for all surface types including; flexible pavement (HCB) and surface treated (LCB). Each road (or section of) is assigned a *Condition Rating* on a scale of 1 to 10 based on factors such as cracking, rutting, distortion, potholes, loss of cover aggregate and roughness. The rating will also be determined based on the condition of ditching and shoulders, as these systems play a vital role in the lifespan of the paved surface. The County has adopted the following assessment ratings, a condition rating greater than 6 represent roads in good condition, a rating from 4 to 6 represent roads in fair condition, while ratings less than 4 represent roads in poor condition. If the condition rating ranks at 5, resurfacing should be considered, if the rating ranges from 3 to 5, rehabilitation should be considered. Once the rating is below 3, reconstruction is the most effective option. Failure to fund timely pavement repairs will result in a reduction of the condition rating. As ratings fall from the resurfacing range to full reconstruction due to lack of maintenance, the associated repair costs increase exponentially.
Rehabilitation and replacement strategies	Several different repair strategies can be implemented. The selection of the strategy is dependent on the following criteria: condition Rating, road classification (arterial, collector, local), urban or rural, ditched or curbed, benefit/cost ratio. These strategies include: • Total reconstruction of pavement • Mill and resurface pavement • Strip and resurface pavement • Pulverize with underlying granular and surface • Mill and resurface patches of pavement • Routing and crack sealing pavements • Patch pavement with asphalt pods (not milled)
Life cycle consequences	Failure to fund timely pavement repairs will result in a reduction in pavement condition. Condition ratings below 5 result in exponential increases in pavement repairs costs. It also significantly increases annual road maintenance costs. Pavements with a condition rating below 3 typically reflect decreases in level of service and increasing associated degrees of risk and liability.

Integrated asset priorities	The schedule of pavement repair is due to it's deteriorating condition or approaching its useful service life and the ability for the network to provide alternate travel routes (system redundancy). The incorporation of other infrastructure rehabilitation may be done alongside the road repair.

Municipal Gravel Road Systems

Anticipated asset life cycle	The life cycle of newly placed gravel road systems are dependent on several factors including the material and construction quality, design, traffic volume, traffic loading, and environmental conditions. The service life can be approximated by the category of road: e.g. 60 years for earth with open ditch and 50 years for gravel with open ditch. Sufficient maintenance provided during the service life will help preserve conditions using such strategies as machine grading, ditching and brushing, and granular top up.
Integration opportunities	Various other elements may be considered as integrated with gravel roads. These include above ground or buried assets in the utility corridor: hydro and telephone.
Rehabilitation and replacement criteria	To assess gravel roads a Roads Needs Study has been partially completed. The conditions of roads are visually evaluated based on a variety of criteria outlined in MTO Manuals. Each road (or section of) is assigned a Condition Rating on a scale of 1 to 10 based on factors such as cracking, rutting, distortion, potholes, loss of cover aggregate and roughness. The rating will also be determined based on the condition of ditching and shoulders, as these systems play a vital role in the lifespan of the road surface. A condition rating greater than 6 represent roads in good condition, a rating from 4 to 6 represent roads in fair condition, while ratings less than 4 represent roads in poor condition.. If the Road Condition ranges from 3 to 5, rehabilitation should be considered. In the case that the Road Condition falls below 3, reconstruction is a more effective option.
Rehabilitation and replacement strategies	Several different repair strategies can be implemented. The selection of the strategy is dependent on the following criteria: condition rating index, benefit/cost ratio. In a repair scenario, the top 100 to 150 mm of gravel type “A” would be replaced.
Life cycle consequences	Failure to fund timely gravel repairs will result in a reduction in gravel condition. Condition ratings below 5 result in exponential increases in gravel repairs costs. It also significantly increases annual road maintenance costs. Gravel with a condition rating below 3 typically reflect decreases in level of service and increasing associated degrees of risk and liability.
Integrated asset priorities	Limited opportunities for integration.

Bridges and Large Culverts

Anticipated asset life cycle	The life cycle of bridges and culverts is considerably variable and dependent on construction methodology and materials, traffic loading, traffic volume, and environmental exposure conditions (temperatures, chloride concentrations, etc). Bridges and concrete culverts constructed after 2000 have an expected life cycle of 75 years, whereas those constructed pre 2000 have an expected life of 50 years. The approximated service life of steel corrugated culverts is 25-30 years.
Integration opportunities	Typically it is not integrated with the other work other than potential road widening or resurfacing projects. In some circumstances, utilities may be buried adjacent to, or affixed to, bridges and culverts.
Rehabilitation and replacement criteria	The ranking of bridge and culvert work is based on several select criteria: safety, level of service, traffic volume and loading, and preservation of infrastructure. To assess the condition of the structures bi-annual visual inspections are conducted and if deemed necessary detailed bridge condition surveys are completed to better evaluate present conditions. In the inspections, bridge components are assessed individually recording the severity and degree of deterioration and the overall condition. Each bridge is assigned a Bridge Condition Index value between 0 and 100 where a value of 100 indicates excellent conditions and a value of 0 indicates poor deteriorating conditions.
Rehabilitation and replacement strategies	The specification of the bridge or culvert rehabilitation strategy is reliant on the structure's age, data and observations acquired through inspections and condition surveys, and the estimated remaining service life. The following strategies should be implemented at the specified age: at 15 years the asphalt deck should be resurfaced and at 30 years the concrete deck barriers and abutments should be patched, waterproofed and the joints replaced; at 50 years replace entire concrete deck.
Life cycle consequences	The reduction of bridge and culvert service life endangers user safety and results in a decrease of level of service.
Integrated asset priorities	Typically it is not integrated with the other work other than adjacent road work, potential road widening or resurfacing projects.

Water Distribution Systems

Anticipated asset life cycle	The life cycle of water distribution piped infrastructure averages 80 years, with the expected service life of a water plant, production wells or pump station being 50 years. Similarly, the hydrant life cycle is predicted as an average of 50 years These values hold true under the assumption that the elements are properly maintained throughout their service lives.
Integration opportunities	The replacement of these components may either be implemented as part of other construction work or may be conducted as a standalone project. Pipes, services and hydrant replacement may be incorporated into resurfacing and road reconstruction work which could include the integration of other utilities (wastewater, telephone, hydro, cable, natural gas, etc.) In the case that full road replacement is not intended, standalone replacement of watermains and appurtenances can be carried out using trench cut and repair.
Rehabilitation and replacement criteria	Several criteria used to evaluate and prioritize the watermain replacement schedules include: age, break history of the pipe, material type, size, surrounding soil conditions, growth needs or pressure related issues. In addition to these criteria other factors, such as the intent of future road work, will modify the priority of the replacement schedule accordingly. Available historical data, which includes but is not limited to pipe failures and pipe break history, is used to aid in the replacement criteria. When a continued increase in maintenance costs reaches an uneconomical value, the replacement of the pipe is justified.
Rehabilitation and replacement strategies	The rehabilitation strategy is dependent on the current state of the pipe. It is difficult to assess the state of deterioration in buried services, as such, high pressure cleaning and videotaping of watermains may be instituted. Several different rehabilitation approaches can be taken and include full replacement, cleaning and relining, and potential pipe bursting and relining. Cathodic protection, when used in conjunction with these strategies, can prolong the service life. The strategy is chosen based primarily on the available data including the age, size, material type, break history, and hydraulic requirements.
Life cycle consequences	The repercussions of unexpected failure could be disastrous (ie illness or death (Walkerton) but at the very least inconvenient to users. Failures result in boil water advisories, which is a key performance indicator. Failures can also result as secondary impacts such as road washouts and cross-contamination. It is possible that some pipe materials with an expected service life of 80 years will require replacement earlier than expected. In contrast, pipe materials with an expected life of 80 years may have the service life extended with timely maintenance and rehabilitation.
Integrated asset priorities	Replacement of deteriorating watermains is carried out based on the associated level of risk and system redundancy. The sequence in which rehabilitation or replacement is carried out is reliant on the priority of the watermain and the impact of disruption to service. High priority watermains include those where fire protection, water quality, and service disruption will result in water loss and collateral damage. Typically the integration of road rehabilitation with watermain replacement will increase the priority of the project. The project may also incorporate utilities such as wastewater, hydro, telephone, cable and gas.

Wastewater Systems

Anticipated asset life cycle	The life cycle of wastewater collection infrastructure is about 80 years, with wastewater plants and sewage pump stations and stormwater and treatment ponds averaging 50 years. Examining individual elements, the expected life cycle of wastewater plants equipment, pumps, blowers, and SCADA systems can range from 15 to 50 years. These values hold true under the assumption that the elements are properly maintained throughout their service lives.
Integration opportunities	The replacement of these components may either be implemented as part of other construction work or may be conducted as a standalone project. Pipes, services and manhole replacement may be incorporated into resurfacing and road reconstruction work which could include the integration of other utilities (water, telephone, hydro, cable, natural gas, etc). In the case that full road replacement is not intended, standalone replacement of sewer pipes and appurtenances can be carried out using trench cut and repair.
Rehabilitation and replacement criteria	The assessment of the replacement schedule is determined primarily through conducting a CCTV inspection, failure history or backup frequency. The results of the inspection will be evaluated to estimate the degree of deterioration of the infrastructure. Included in the assessment are other criteria such as the material type, visible local collapses, upsizing requirements, and synchronization with road rehabilitation programs.
Rehabilitation and replacement strategies	The rehabilitation strategy is dependent on the assessed condition rating of the infrastructure. The optimal rehabilitation method is determined by assessing and examining the condition of the pipe. Most commonly the selected strategy is replacement of the pipe, pipe bursting and re-lining and CIPP. For localized damage, other practices may be instituted which include: spot repair, joint sealing.
Life cycle consequences	The process of degradation in sanitary sewers is similar to that of storm sewers. The repercussions of failure in sanitary sewers are considerable more substantial. Structural deterioration may lead to infiltration of ground water into the system which results in an increased volume of water directed to waste water treatment plants. These plants may not be designed to meet the increased flow and as a result bypasses occur. This is a key performance indicator, an environmental impact and a legislation compliance violation. Infiltration of ground water can also result in the deposition of sediment and debris, significantly reducing the flow capacity for waste water or the undermining of the adjacent road substructure (sinkholes). Continued maintenance and rehabilitation is essential for the performance and reliability of any type of buried infrastructure***.***
Integrated asset priorities	Replacement of deteriorating sewers is carried out based on the assessed condition. In the event that replacement is selected as the rehabilitation strategy, the project may expand to include other assets such as sidewalks or full pavement. Other utilities may also become included in the scope of the work: hydro, telephone, cable, and natural gas. Typically the integration of road rehabilitation will increase the priority of the project.

ARTICLE V
FINANCING STRATEGY

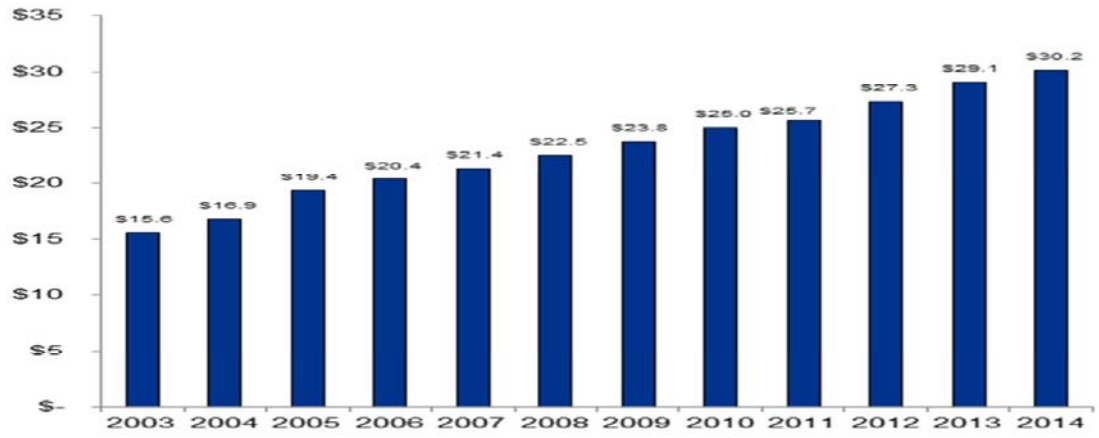
Overview of the County's Financial Performance

The County's 2014 budget reflects a total municipal levy of $30.2 million which, when combined with $21.1 million in other revenues, will fund a total of $46.9 million in expenditures and contributions to reserves for capital renewal of $4.4 million.

Since 2003, the County's municipal levy has increased by an average of $1.2 million, or 6.2% per year. While the Consumer Price Index increased on average 1.9% annually since 2002.

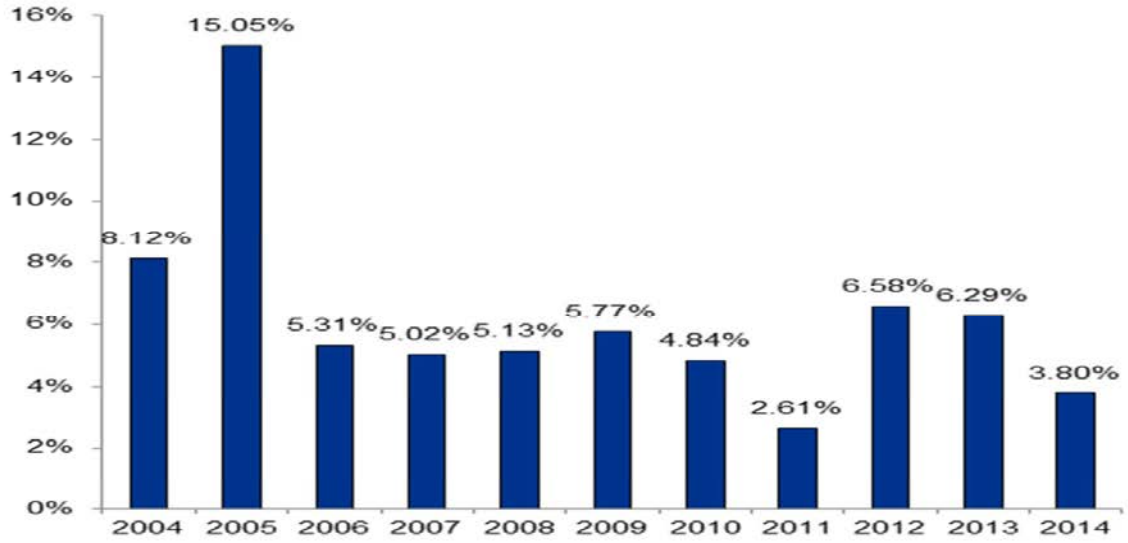
It is important to note, however, that the annual increases in the County's municipal levy have fluctuated significantly from year to year, with several large annual increases experienced during 2004(8.12%) and 2005(15.05%). The leading practice for tax policy is levy increases that are steady and predictable over a five to ten year period – a policy that the County has not been able to achieve.

Figure 13 - Total municipal levy[1] – 2003 to 2014 (millions of dollars) [2]



1. For the purposes of our report, municipal levy includes payments-in-lieu but excludes supplementary taxes, write-offs and rebates.
2. Source –Municipal Financial Information Returns (Schedule 10), County of Prince Edward 2014 Budget and internal financial information provided by Senior Staff.

Figure 14 - Annual change in municipal levy[1] – 2003 to 2014[2]



1. For the purposes of our report, municipal levy includes payments-in-lieu but excludes supplementary taxes, write-offs and rebates.
2. Source –Municipal Financial Information Returns (Schedule 10), County of Prince Edward 2014 Budget and internal financial information provided by Senior Staff.

Water Revenue and Expense

The County completed a water/wastewater study to provide for rates starting in 2010. The tables below indicate the need for an updated study. It appears expectations for growth and consumption have not been realized resulting in a growing shortfall of revenue required to meet current and future water and wastewater infrastructure and facility operating and capital demands. As indicated in the graphs below, the water has underperformed by approximately $5.5 million as of 2013.

The need for an updated study based on current trends should be considered.

The graphs represent data for revenue and expenses projected in the previous rate study vs incurred in 2010, 2011, 2012 and 2013.

Figure 15 - Water Expense Actual vs. Proposed in Rate Study (in thousands)

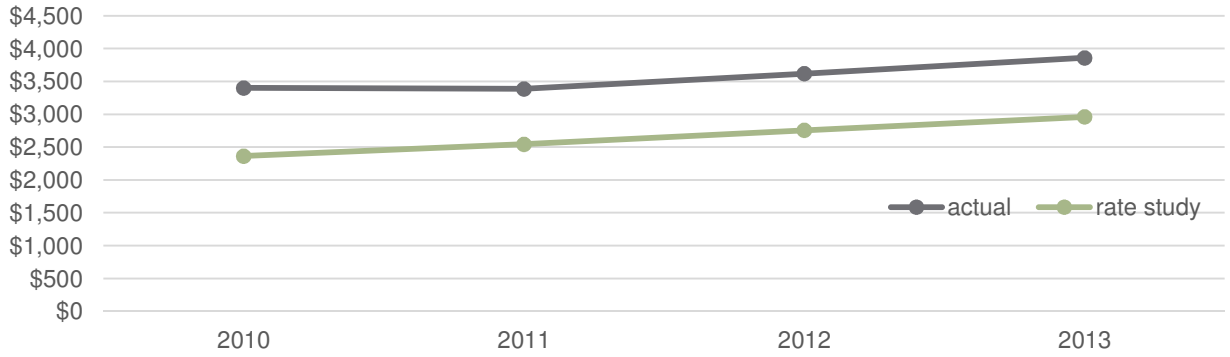
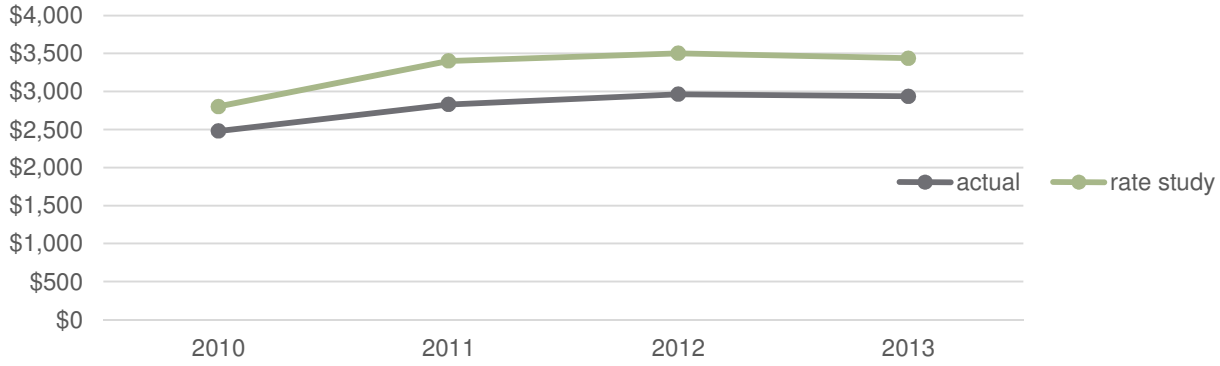


Figure 16 – Water Revenue Actual vs. Proposed in Rate Study (in thousands)



Wastewater Revenue and Expense

The graphs demonstrate the increasing gap between the actual revenue and expense recognized compared to that estimated in the rate study for wastewater infrastructure and facilities.

Figure 17 - Wastewater revenue actual vs proposed in rate study (in thousands)

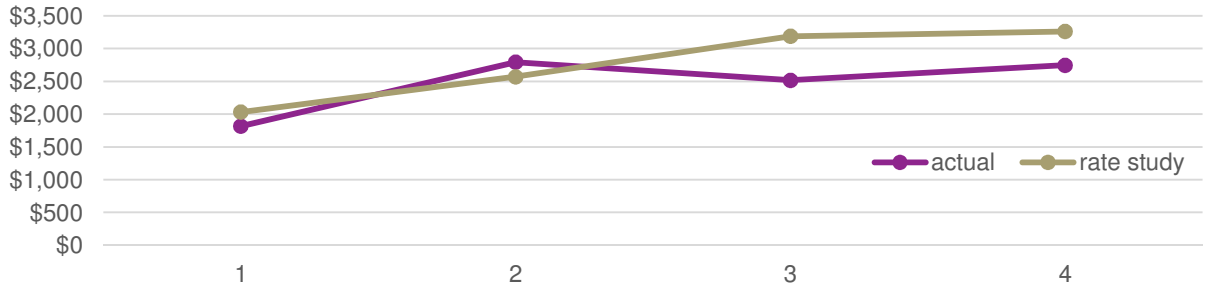
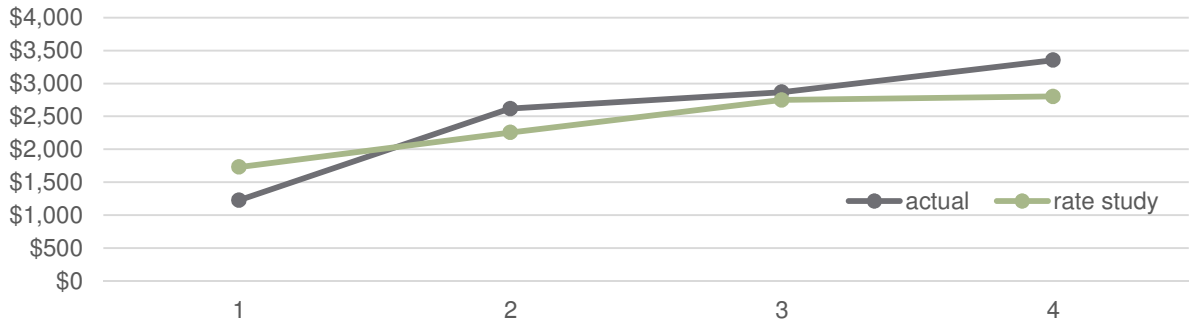


Figure 18 - Wastewater expense actual vs proposed in rate study (in thousands)



As indicated in the graphs above, the wastewater has underperformed by approximately $1.7 million as of 2013.

These costs are funded by 4,538 water residential customers, 612 water general customers, and 3,303 wastewater residential customers and 470 wastewater general customers.

As at December 31, 2013, water service is indicating an accumulated gap in actual vs projections of $5.5 million.

Reserves and Reserve Fund Balances

As at December 31, 2013, the County had a balance of $6.3 million in Obligatory Reserve Funds, $3.7 million in Discretionary Reserve Funds and $9.1 million in Reserves for total reserves of $19.1 million.

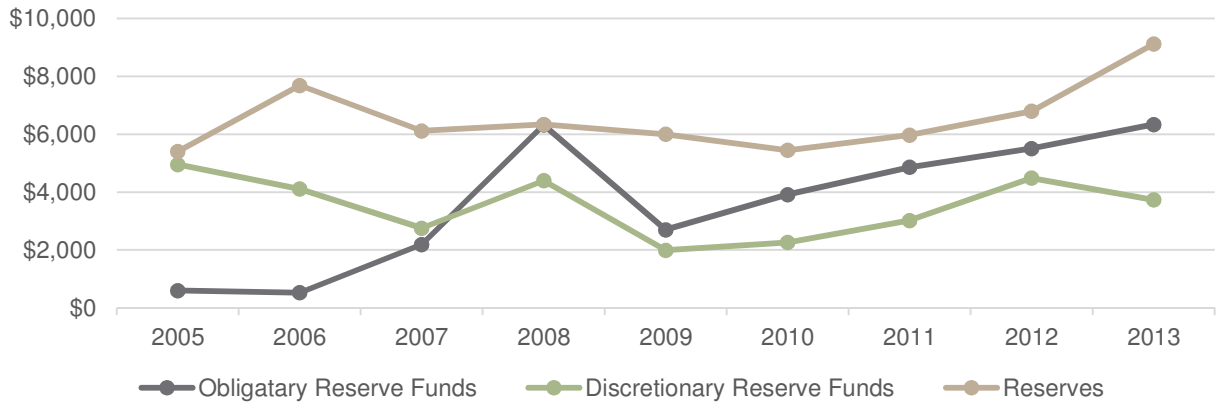
Reserves/Household: $9,116,572/13,106=$696/Household

Reserve Funds/Household: $3,731,307/13,106=$285/Household

Reserves & Reserve Funds/Household: $12,847,879/13,106=$980/Household

The chart below indicates the growth or use of reserves/reserve funds since 2005. Obligatory Reserve Funds have increased $5.7 million, Discretionary Reserve Funds have decreased $1.2 million and Reserves have increased $3.7 million over this time period. Council has made progress increasing reserves for future operating and capital needs.

Figure 19 – County Reserve Balances (in thousands)



Asset Management Strategy

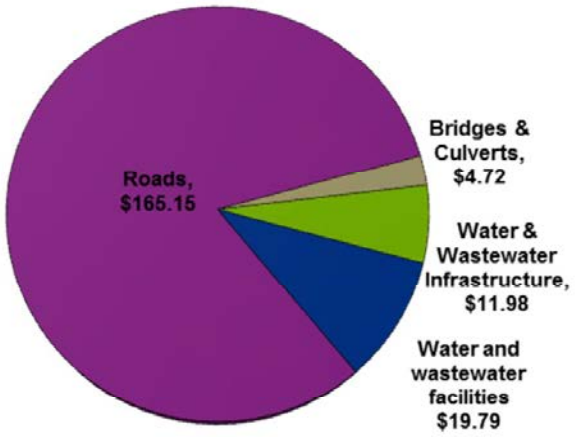
Financial Requirements

For asset management planning purposes, the financial requirement associated with the County's infrastructure requirements can be divided into two categories:

1. Immediate infrastructure investment needs. Based on staff's updated estimate of the condition assessment, an indication as to the types of asset management activities required over the next ten years, and their associated costs, has been developed. Overall, it is estimated that the County would need to invest $201.6 million in its infrastructure, the majority of which ($165 million or 81%) relates to roads.

   On average, the County's immediate infrastructure investment needs amount to approximately $20 million per year over a ten year period.

Figure 20 - Immediate infrastructure needs are $201.6 (in millions)



2. Sustainable life cycle requirements. In addition to its immediate infrastructure investment needs, the County will also be required to fund the ongoing cost associated with all of the life cycle activities over the useful life of the infrastructure. As the County has traditionally relied on grants and long term debt to fund a major portion of its infrastructure, its historical levels of capital investment have fluctuated significantly as illustrated on pages 13 and 14. However, if the County chose to fund its life cycle requirements evenly over the life of its assets, it would establish a regular and sustainable stream of funding for ongoing capital asset management that would be equal to:

    - The total estimated annual life cycle cost of the asset, and
    - The total replacement cost of the asset divided by its useful life, which is appropriate for assets with fewer life cycle requirements and where straight replacement of the asset is the more likely scenario.

Based on this approach, we have calculated the average annual contribution required to ensure a sustainable stream of funding for life cycle costs for the County's assets to be in the order of $18 million.

Figure 21 - Estimated sustainable life cycle requirement

Asset Component	Basis of Determination	Total Life Cycle Costs (in thousands)	Estimated Maximum Useful Life
Roads	Life Cycle	$13,871	50 years
Bridges and large culverts	Life Cycle	$499	50 years
Water distribution network	Life Cycle	$872	80 years
Wastewater collection network	Life Cycle	$284	80 years
Water facilities	Life Cycle	$1,108	50 years
Wastewater facilities	Life Cycle	$1,117	50 years
		$17,751	

Prioritizing Infrastructure Requirements

Given the large magnitude of the estimated infrastructure financing requirement, it is evident that the County is unable to fully meet its ongoing infrastructure requirements without significant levels of support from senior levels of government on an ongoing (i.e. annual) basis. As such, the County will be required to prioritize its capital investments and the application of its available funds.

The overall infrastructure financing requirement for the County is calculated to be, as follows:

- Immediate infrastructure investment needs (Figure 11) $20 million
- Sustainable life cycle requirements (Figure 21) $18 million

In comparison, the County's 2014 capital budget reflects a total of $7.7 million in capital expenditures for roads, bridges and large culverts, water/wastewater infrastructure and facilities and the operating budget provides $3.5 million for life cycle road costs of roadside and surface maintenance and $0.6 million for life cycle costs for water/wastewater infrastructure and facilities, totaling $11.8 million. For asset management purposes, the investment requirements associated with the County's infrastructure are divided into three main categories, as follows:

Category	Description
Priority 1	• Assets with an investment requirement within the next five years, based on condition or useful life and no redundancy • Co-located assets that may not require investment within the next five years but should be replaced as part of a Priority 1 integrated project. For example, sewer and water pipes underneath a road may not be at the end of their useful life but could be replaced as part of a road reconstruction project if they are approaching the end of their useful life before the next road reconstruction. • Assets that may qualify for specific grants, even if an immediate investment requirement has not been identified within the next five years • Infrastructure investments required as a result of changing legislation, public health growth needs or safety concerns or strategic purposes (e.g. economic development)
Priority 2	• Assets with an investment requirement within the next six to ten years • Assets that would otherwise be classed as Priority 1 but are considered to have reduced urgency due to low utilization by the community (e.g. roads with low traffic volumes), compensating strategies in the event of failure (e.g. redundancy, detours, reduced speed limits or load limits or limited impacts on public health or safety in the event of a failure)
Priority 3	• Assets with no investment requirements identified within the next ten years • Assets to be discontinued or abandoned • Assets that would otherwise be classified as Priority 1 or 2 but are considered to have reduced importance or urgency

As part of its ongoing asset management activities, the County will review its methods for determining the prioritization criteria and asset rankings and, if considered necessary, make appropriate revisions.

Basis of Analysis

The development of the County's financing strategy for its asset management plan reflects the guidance outlined by the Province of Ontario in Building Together – Guide for Municipal Asset Management Plans. Specifically, the development of the financing strategy (and in particular the extent of the County's financing shortfall) is based on the following parameters:

- Presents annual revenues and expenditures for the planning period (10 years), as well as comparative information;

- Does not consider grants from senior governments to be a confirmed source of revenue unless an agreement has been executed. Accordingly, only Federal Gas Tax and the County's allocation for capacity funding under the Municipal Infrastructure Investment Initiative have been included in the projections; and

- Identifies the potential funding shortfall and how it will be managed.

In developing the financial strategy, three alternative scenarios were considered:

- **Scenario 1** – Representing the base case scenario, this scenario reflects the assumption that all identified asset management requirements (immediate and long-term contributions) will be incurred by the County. This represents the worst case scenario as it involves the highest level of capital financing requirement and ultimately is not practical due to the increase in municipal revenues necessary to support the required level of capital investment.

- **Scenario 2** - Under this scenario, the County's capital expenditures are projected to be as follows:

    - During the first 10 years of the projection period, the County will make capital investments based on the identified priority infrastructure investment requirements.

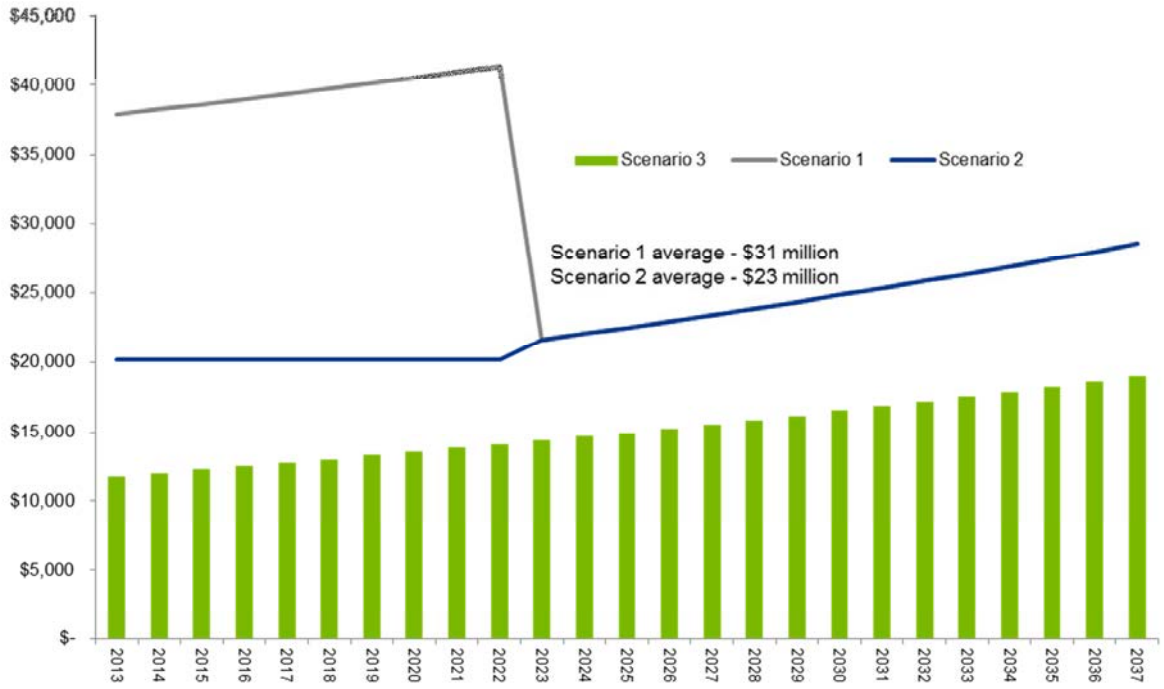
    - During the remainder of the projection period, the County will make capital investments equal to the amount of the sustainable life cycle contribution requirements.

- **Scenario 3** – Under this scenario, it is assumed that the County will continue to make capital investments based on the amount of funding budgeted in 2014 for capital expenditures with an annual inflation factor of 2%.

Projected Financial Performance

Financial projections developed in support of the asset management plan demonstrate both the magnitude and immediacy of the County's identified capital requirements, with the required level of capital expenditures under Scenarios 1 and 2 significantly higher than the current level gap in funding being shown. At the same time, the average residential taxes per household for roads, bridges and large culverts and water and wastewater rates are expected to increase accordingly if taxpayers/water/wastewater customers are solely responsible for funding the capital requirements.

Figure 22 - Projected capital expenditures (in thousands)



Financing Strategies

In order to address the current and future shortfalls in capital funding, the County has identified the following potential courses of action:

1. **Five year capital levy**. In order to address the immediate and short-term infrastructure requirements, the County could contemplate the introduction of a four year capital levy that would see the total municipal levy increase by 2% per year in order to fund capital expenditures. The proceeds from this capital levy would either be expended during the year, used to finance debt servicing costs for infrastructure related borrowings or placed in a reserve fund until such time as the funds are required (the County adopts a similar approach for Federal Gas Tax, which is sometimes 'banked' until sufficient funds are accumulated to finance capital projects). As noted below, the introduction of a five year capital levy is expected to provide an additional $2,845,624 for capital purposes, representing a 73% increase in capital expenditures over the next five years.

Figure 23 - Impact of five year, 2% capital levy on taxation and capital spending

Year	Municipal Levy			Capital Expenditures		
	Prior Year's Levy (in thousands)	Capital Levy Increase (in thousands)	Current Year's Levy (in thousands)	Expenditures (in thousands)	New Funding (in thousands)	Current Year's Expenditures (in thousands)
2013	$27,340	$546	$27,887	$3,883	$546	$4,430
2014	$27,887	$557	$28,445	$4,430	$557	$4,987
2015	$28,445	$568	$29,013	$4,987	$568	$5,556
2016	$29,013	$580	$29,594	$5,556	$580	$6,137
2017	$29,594	$591	$30,186	$6,137	$591	$6,728
Average annual increase in municipal levy			2.0%	Increase in capital expenditures		73.3%

The adoption and annual renewal of a capital levy is subject to the County's annual budget process.

2. **Use of borrowing for infrastructure investments**. Historically, the County has relied on borrowings as a means of funding infrastructure investments, with the County currently having outstanding long-term debt in respect of road infrastructure, Community Centre project, water/wastewater infrastructure, wastewater facilities and purchase of pits and quarries. On an ongoing basis, the County should continue to consider the use of debt for infrastructure investments, conditionally upon the following:

   - The infrastructure investment will provide a stream of non-taxation revenues that can be used to fund some or all of the associated debt servicing costs;
   - The County requires debt financing to fund its portion of infrastructure projects that are cost shared with senior government;
   - The infrastructure investment is unavoidable as a result of regulatory changes or concerns over public health and safety and cannot be funded through other means;
   - The associated debt servicing costs would not jeopardize the County's financial sustainability or result in the County exceeding its annual debt repayment limit;
   - In addition to the issuance of new debt, the County can also redirect funds currently used to service existing debt towards capital expenditures once the debt is repaid. Currently, the County has outstanding loans with annual repayment requirements of approximately $1.3 million for interest and $2.4 million for principal repayments annually totally $3.7 million, with the loans substantially to be fully repaid by 2033. By reinvesting these funds in capital or using them to pay for new infrastructure loans (as opposed to reducing the municipal levy upon the repayment of the existing loans), the County can further increase its funding for capital purposes.

3. **Sustainable levels of funding for current and future capital requirements for water and wastewater infrastructure and facilities.** Based on information and assumptions submitted for growth projections to calculate water and wastewater rates for consumers, it is now apparent that the current level of revenue is underperforming in comparison to those projections and combined with higher expenses, an increase in water/wastewater rates will be required immediately following an updated report to incorporate the change in projections.

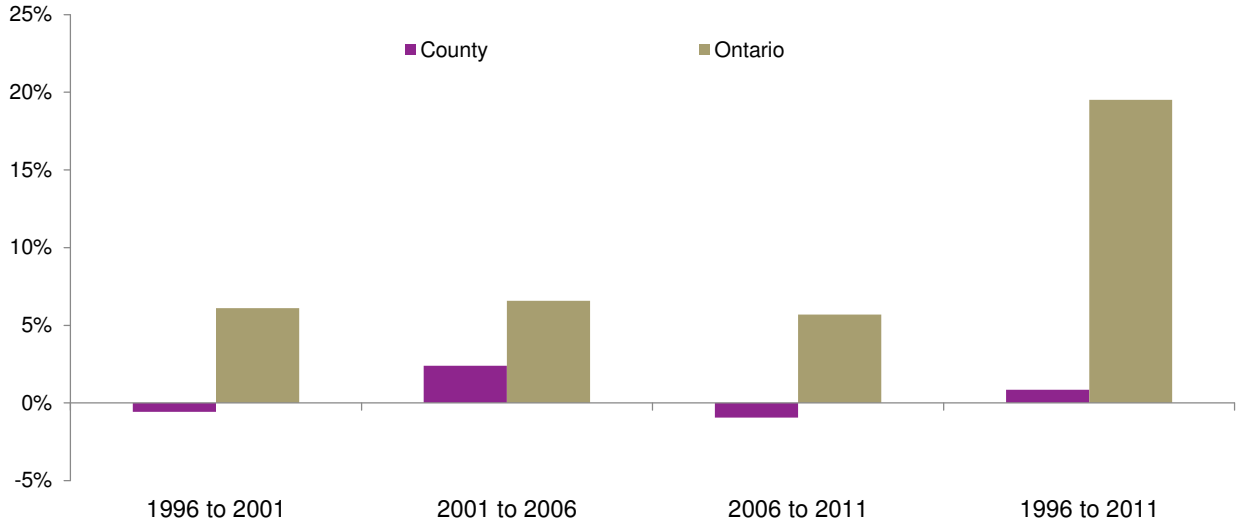
Affordability and the Need for Grants

Despite the ability of the County to increase the level of financing for infrastructure investments and other asset management activities, the magnitude of the financial requirement associated with its infrastructure precludes the County from addressing its needs without some form of grants. In the absence of capital grants, the County will be required to defer capital expenditures until such time as sufficient funding is available.

While it is expected that most, if not all, Ontario municipalities will be challenged to meet their financial requirements associated with infrastructure, the Province should give particular attention to the County's limited ability to fund capital investments in comparison to other municipalities, based on the following:

- From 1996 to 2011, the County's total population has increased by 0.8%, compared to a 19.5% increase in the Province's population over the same period.

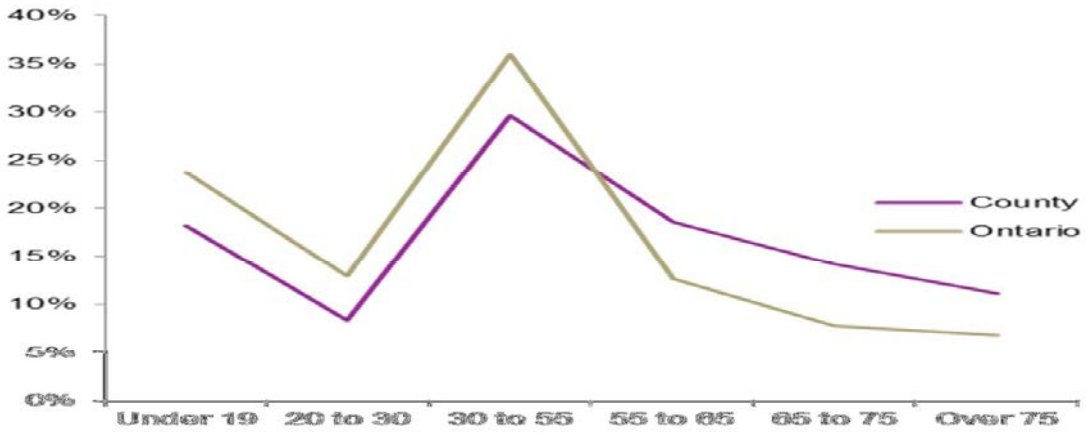
Figure 24 - Population changes – 1996 to 2011 (source: Statistics Canada)



- At the same time, the County's population has aged faster than the Provincial average, with the median age of the County's residents amounting to 46.75 years compared to the

Provincial median age of 42.5 years.

Figure 25 - Population distribution by age group (2011) (source: Statistics Canada)



- Residents of the County are more reliant on pension incomes than the remainder of the Province, limiting their ability to afford ongoing property tax increases. Additionally, the percentage of personal income generated from employment has decreased from 54% in 2002 to 51% in 2009, while pension incomes have risen from 24% of total incomes to 29%.

Figure 26 - Reported personal income by source – County residents (2009) from CRA Locality Statistics

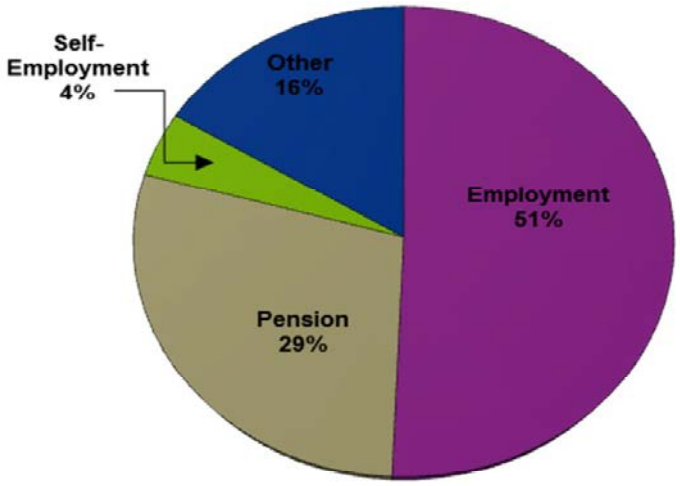


Figure 27 - Reported personal income by source – Provincial residents (2009)

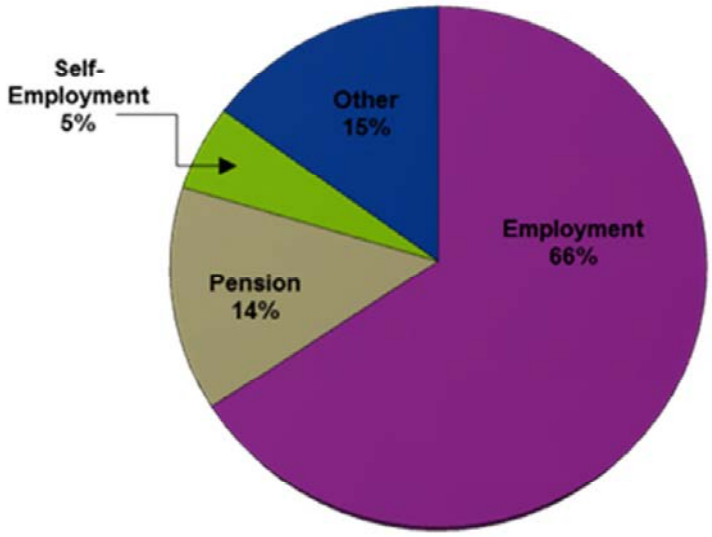
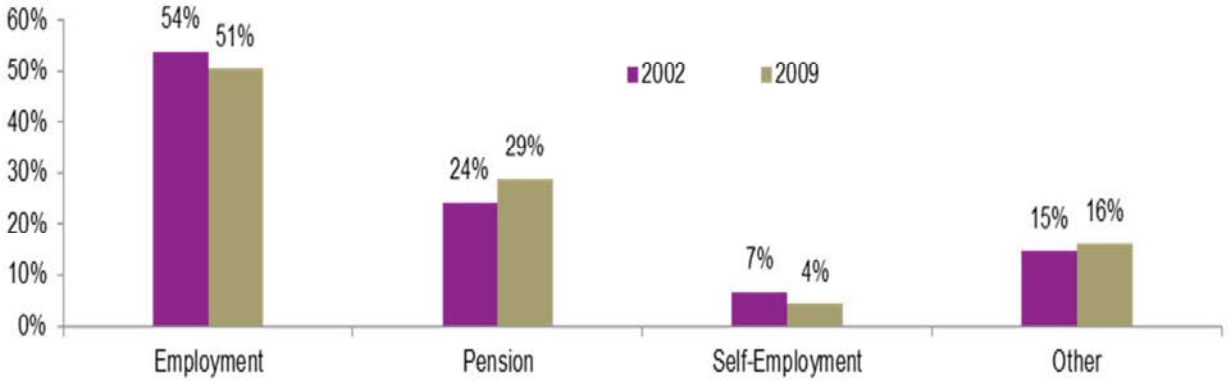


Figure 28 - Reported personal income by source – County residents (2002 vs. 2009) from CRA Locality Statistics



In addition to the challenges posed by the changing nature of its demographics, the County is facing additional financial pressures from an operational perspective, including:

- The continuing impacts of inflation, including wage settlements and higher benefit costs, which increase the County's operating expenditures;
- Increased policing costs and inadequate payment in lieu of taxes for Provincial and Federal properties;
- Announced reductions in government funding programs, including planned reductions in OMPF funding and decreases in Federal Gas Tax funding.

In light of its affordability constraints, the County recognizes and appreciates the importance of programs such as the MIII. That said the current approach to allocating funding to municipalities is extremely problematic from a planning perspective:

- Unlike Federal Gas Tax, which is provided to municipalities as a recurring stream of known funding, the current Provincial infrastructure programs are based on applications with no guarantee of funding success. Accordingly, municipalities are unable to 'bank' Provincial infrastructure funding to finance larger capital projects, use proceeds as a source of funding for borrowing costs incurred in connection with infrastructure investments, or plan beyond the current funding submissions;

- The requirement for municipalities to apply for funding through the completion of expressions of interest can be a challenge, particularly for smaller municipalities with limited resources. In a number of instances, smaller municipalities are required to divert staff from other priorities or incur costs for outside consultants in order to complete the required expressions of interest, with no certainty that they will actually obtain funding;

- The use of the Provincial fiscal year end (March 31st) for grant programs creates project application and completion challenges.

As a means of maximizing the effectiveness of its capital financing programs, the County requests that the Province consider the following:

- Replacing the current competitive, application based funding process with a committed stream of funding to eligible municipalities, thereby supporting long-term planning for infrastructure needs;

- Review the basis for allocating funding to communities, with increased emphasis placed on smaller communities that are challenged to meet their infrastructure needs due to limited assessment growth, higher than average population decreases and lower than average non-residential assessment, all of which pose challenges from an affordability perspective;

- Reinstating Connecting Link funding, the elimination of which has increased the financial pressures faced on municipalities from an infrastructure perspective;

- Review the current compensation from the Province and Federal government for Crown lands or other lands with assessment constraints that do not provide payment-in-lieu at market value assessment rates.

ARTICLE VI
ASSET MANAGEMENT PLAN CROSS REFERENCE

Congruence with Provincial Requirements

In this section of the report, the County's asset management plan has been cross-referenced to the requirements outlined in *Building Together – Guide for Municipal Asset Management Plans* as a means of demonstrating that the County has met the Province's expectations for asset management plans submitted under the MIII.

Required Section	Content	Location in Asset Management Plan
Executive summary		Pages 4 to 6
Introduction	• explains how the goals of the County are dependent on Infrastructure • clarifies the relationship of the asset management plan to municipal planning and financial documents • describes to the public the purpose of the asset management plan • states which infrastructure assets are included in the plan. Best practice is to develop a plan that covers all infrastructure assets for which the County is responsible. At a minimum, plans should cover roads, bridges, and social housing • identifies how many years the asset management plan covers and when it will be updated. At a minimum, plans must cover 10 years and be updated regularly. Best practice is for plans to cover the entire lifecycle of assets • describes how the asset management plan was developed — who was involved, what resources were used, any limitations, etc. • identifies how the plan will be evaluated and improved through clearly defined actions. Best practice is for actions to be short-term (less than three years) and include a timetable for implementation	Article I

State of local infrastructure	• asset types (e.g. urban arterial road and rural arterial road) and quantity/extent (e.g. length in kilometres for linear assets). • financial accounting valuation and replacement cost valuation. • asset age distribution and asset age as a proportion of expected useful life. • asset condition (e.g. proportion of assets in "good," "fair" and "poor" condition). Asset condition must be assessed according to standard engineering practices. For bridge structures, condition is based on an analysis of bridge inspection reports. • discusses how and when information regarding the characteristics, value, and condition of assets will be updated.	Article II Appendices A to C
Desired level of service	• defines levels of service through performance measures, targets and timeframes to achieve the targets if they are not already being achieved. • discusses any external trends or issues that may affect expected levels of service or the County's ability to meet them • shows current performance relative to the targets set out	Article III
Asset management strategy	• non-infrastructure solutions – actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc.) • maintenance activities – including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events • renewal/rehabilitation activities – significant repairs designed to extend the life of the asset • replacement activities – activities that are expected to occur once an asset has reached the end of its useful life and renewal/ rehabilitation is no longer an option • disposal activities – the activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed by the County • expansion activities (if necessary) – planned activities required to extend services to previously unserviced areas - or expand services to meet growth demands • discusses procurement methods	Article IV

	• includes an overview of the risks associated with the strategy and any actions that will be taken in response.	

Financial strategy	• shows yearly expenditure forecasts broken down by:
	  • non-infrastructure solutions
	  • maintenance activities
	  • renewal/rehabilitation activities
	  • replacement activities
	  • expansion activities (if necessary)
	• provides actual expenditures for these categories for comparison purposes.
	• gives a breakdown of yearly revenues by confirmed source
	• discusses key assumptions and alternative scenarios where appropriate.
	• identifies any funding shortfall relative to financial requirements that cannot be eliminated and discuss the impact of the shortfall and how the impact will be managed.
		Article V
		Appendix D

ARTICLE VII
APPENDICES

Appendix A – Infrastructure Profile – Roads

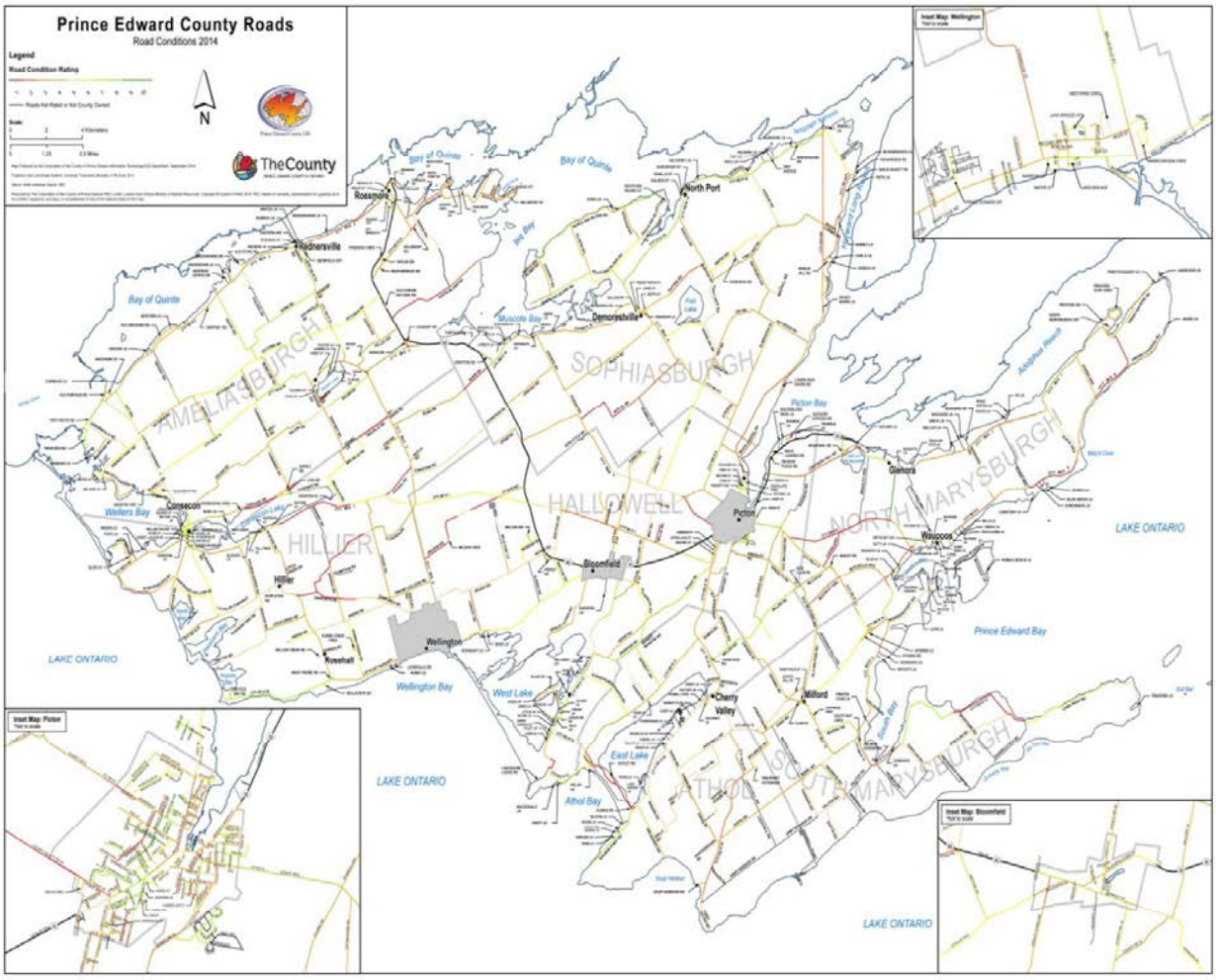
Appendix B – Infrastructure Profile – Bridges and Culverts

Appendix C – Infrastructure Profile – Water and Wastewater

- Appendix I – Water Utility Network – Picton
- Appendix II – Water Utility Network – Bloomfield to Picton
- Appendix III – Water Utility Network – Bloomfield
- Appendix IV – Water Utility Network – Ameliasburg
- Appendix V – Water Utility Network – Wellington
- Appendix VI – Water Utility Network – Rossmore/Fenwood and Peats Point
- Appendix VII – Water Utility Network – Carrying Place Consecon
- Appendix VIII – Waste Water Utility Network – Picton
- Appendix IX – Waste Water Utility Network – Wellington

Appendix D – Projections for Capital Spending

Appendix A - Roads Needs Study Map



Appendix A
Roads Life Cycle and Reconstruction Costs

Life Cycle Costs

Year	Total $	HCB-Urban	HCB-Semi-Urban	HCB-Rural	LCB-Semi-Urban	LCB-Rural	Gravel	Concrete
2014	12,453,088	1,476,277	160,260	5,204,630	37,406	4,814,419	760,096	-
2015	12,453,088	1,476,277	160,260	5,204,630	37,406	4,814,419	760,096	-
2016	12,453,088	1,476,277	160,260	5,204,630	37,406	4,814,419	760,096	-
2017	12,453,088	1,476,277	160,260	5,204,630	37,406	4,814,419	760,096	-
2018	12,453,088	1,476,277	160,260	5,204,630	37,406	4,814,419	760,096	-
2019	15,290,805	2,341,985	96,412	5,317,558	40,345	4,726,775	701,022	2,066,706
2020	15,290,805	2,341,985	96,412	5,317,558	40,345	4,726,775	701,022	2,066,706
2021	15,290,805	2,341,985	96,412	5,317,558	40,345	4,726,775	701,022	2,066,706
2022	15,290,805	2,341,985	96,412	5,317,558	40,345	4,726,775	701,022	2,066,706
2023	15,290,805	2,341,985	96,412	5,317,558	40,345	4,726,775	701,022	2,066,706
2024-2033	243,611,528	52,073,971	12,803,228	72,574,124	1,565,135	83,938,001	16,034,083	4,622,985
2034-2043	182,797,839	43,605,618	5,150,600	50,714,939	411,998	66,619,560	15,493,368	801,757
2044-2053	154,654,108	33,685,025	15,014,005	52,602,210	349,150	41,702,794	6,891,235	4,409,688
2054-2063	91,739,736	11,331,741	855,785	43,798,355	272,090	24,637,200	6,891,235	3,953,331
Total 50 Years	811,522,674	159,787,664	35,106,980	272,300,571	2,987,129	264,603,528	52,615,512	24,121,290
Annual Average Cost (2014 to 2013)	13,871,946	1,909,131	128,336	5,261,094	38,876	4,770,597	730,559	1,033,353
Annual Average Cost (50 Years)	16,230,453	3,195,753	702,140	5,446,011	59,743	5,292,071	1,052,310	482,426
Life Cycle Cost per metre	$ 798	$ 2,712	$ 2,259	$ 1,015	$ 577	$ 537	$ 332	$ 1,379

Reconstruction Cost

Year	Total $	HCB-Urban	HCB-Semi-Urban	HCB-Rural	LCB-Semi-Urban	LCB-Rural	Gravel	Concrete
Length (m)	1,016,794	58,910	15,542	268,406	5,177	492,744	158,522	17,493
$ per KM	$ 472,032	$ 2,200,000	$ 1,850,000	$ 440,000	$ 315,000	$ 315,000	$ 200,000	$ 855,000
TOTAL	$ 479,959,346	$129,602,000	$ 28,752,700	$ 118,098,640	$ 1,630,755	$ 155,214,360	$ 31,704,376	$ 14,956,515

Appendix A
Roads Life Cycle and Replacement Costs

For the purposes of managing its road network, the County has categorized municipal roads into three groups - rural, semi-urban and urban – based on traffic volumes, terrain, physical conditions and adjacent land, with rural roads representing the majority of all roads in the County. In addition, the County's road network is also classified by type of construction, with asphalt roads representing 33%, surface treated roads representing 48% of all roads infrastructure in the County (based on metres[1])

Road Types and Condition Summary (w 2014 Condition Updates)

Condition Rating	Total Length (m)	HCB-Urban (m)	HCB-Semi-Urban (m)	HCB-Rural (m)	LCB-Semi-Urban (m)	LCB-Rural (m)	Gravel (m)	Concrete (m)
1	63,944	1,362	-	20,367	-	40,193	2,022	-
2	79,178	3,117	-	23,312	138	40,186	339	12,086
3	217,135	7,952	3,684	77,359	2,692	105,094	14,947	5,407
4	202,401	13,002	2,017	46,881	1,823	101,529	37,149	-
5	168,828	13,925	446	29,430	524	77,974	46,529	-
6	109,526	4,715	1,916	32,103	-	68,306	2,486	-
7	91,666	11,463	6,457	14,284	-	59,462	-	-
8	25,258	1,956	1,022	22,280	-	-	-	-
9	3,808	1,418	-	2,390	-	-	-	-
10	-	-	-	-	-	-	-	-
NOT RATED	55,050	-	-	-		-	55,050	-
Totals	1,016,794	58,910	15,542	268,406	5,177	492,744	158,522	17,493

NOTES:
1. All measurements in metres
2. HCB = High Class Bituminous (Asphalt)
3. LCB = Low Class Bituminous (Surface Treated)

Appendix A
Priority Roads Reconstruction Cost Summary

Condition Rating	Length (Kilometers)	Reconstruction Cost
1	64	$ 25,020,000
2	79	$ 40,220,000
3	217	$ 99,910,000
Total	**360**	**$ 165,150,000**

Appendix A
Priority Roads Reconstruction Cost Summary – By Road Environment

Environment	Length (Kilometers)	Reconstruction Cost
Rural	341	$130,020,000
Semi-Urban	7	$7,710,000
Urban	13	$27,420,000
Total	**360**	**$165,150,000**

Appendix A
Priority Roads Listing

Priority 1 Roads Listing

Road Name	Evaluation ID	Environment	Surface Type	Condition Rating	Section Length (m)	Reconstruction Cost
BARKER STREET	EVAL-409	Urban	HCB	1	833	1,832,600
HEAD STREET	EVAL-473	Urban	HCB	1	117	257,400
BETHEL ROAD	EVAL-17	Rural	LCB	1	3,146	990,990
ONTARIO STREET	EVAL-499	Urban	HCB	1	412	906,400
BURR ROAD	EVAL-14	Rural	LCB	1	1,722	542,430
CLOSSON ROAD	EVAL-236	Rural	LCB	1	4,256	1,340,640
COUNTY ROAD 1	EVAL-9	Rural	HCB	1	4,300	1,892,000
COUNTY ROAD 12	EVAL-78	Rural	LCB	1	954	300,510
COUNTY ROAD 13	EVAL-50	Rural	LCB	1	4,595	1,447,425
COUNTY ROAD 14	EVAL-108	Rural	HCB	1	1,469	646,360
COUNTY ROAD 18	EVAL-68	Rural	HCB	1	3,948	1,737,120
COUNTY ROAD 4	EVAL-96	Rural	HCB	1	2,192	964,480
COUNTY ROAD 7	EVAL-23	Rural	HCB	1	679	298,760
COUNTY ROAD 8	EVAL-31	Rural	HCB	1	196	86,240
COUNTY ROAD 8	EVAL-36	Rural	LCB	1	3,130	985,950
COUNTY ROAD 8	EVAL-38	Rural	LCB	1	3,744	1,179,360
COUNTY ROAD 8	EVAL-29	Rural	HCB	1	5,805	2,554,200
CROWES ROAD	EVAL-585	Rural	LCB	1	138	43,470
DANFORTH ROAD	EVAL-228	Rural	LCB	1	3,355	1,056,825
GIBSON ROAD	EVAL-600	Rural	Gravel	1	562	112,400
HUFFS ISLAND ROAD	EVAL-263	Rural	LCB	1	3,625	1,141,875
JOHNSON STREET	EVAL-580	Rural	HCB	1	268	117,920
LAKESIDE DRIVE	EVAL-251	Rural	LCB	1	1,094	344,610
LUCKS CROSS ROAD	EVAL-166	Rural	LCB	1	1,810	570,150
MCFAUL ROAD	EVAL-237	Rural	LCB	1	1,968	619,920
MELVILLE ROAD	EVAL-248	Rural	LCB	1	1,880	592,200
OUTLET ROAD	EVAL-363	Rural	HCB	1	216	95,040
OUTLET ROAD	EVAL-365	Rural	HCB	1	276	121,440
SALISBURY ROAD	EVAL-267	Rural	HCB	1	452	198,880
UNION ROAD	EVAL-258	Rural	HCB	1	566	249,040
WILLIS ROAD	EVAL-601	Rural	Gravel	1	858	171,600
WILSON ROAD	EVAL-206	Rural	LCB	1	1,650	519,750
WILSON ROAD	EVAL-208	Rural	LCB	1	3,126	984,690
ZUFELT ROAD	EVAL-653	Rural	Gravel	1	602	120,400
TOTAL					**63,944**	**$ 25,023,075**

Appendix A
Priority Roads Listing

Priority 2 Roads Listing

Road Name	Evaluation ID	Environment	Surface Type	Condition Rating	Section Length (m)	Reconstruction Cost
BECKWITH STREET	EVAL-331	Semi-Urban	LCB	2	138	$ 43,470
BELLEVILLE STREET	EVAL-343	Urban	HCB	2	326	$ 717,200
BOCKUS STREET	EVAL-441	Urban	HCB	2	93	$ 204,600
BOWERY STREET	EVAL-422	Urban	HCB	2	119	$ 261,800
COLD STORAGE ROAD	EVAL-510	Urban	HCB	2	81	$ 178,200
CUMBERLAND STREET	EVAL-478	Urban	HCB	2	185	$ 407,000
DISRAELI STREET	EVAL-416	Urban	HCB	2	197	$ 433,400
ELKS STREET	EVAL-471	Urban	HCB	2	204	$ 448,800
ENA STREET	EVAL-485	Urban	HCB	2	96	$ 211,200
LALOR STREET	EVAL-602	Urban	Gravel	2	339	$ 67,800
PICTON MAIN STREET	EVAL-396	Urban	HCB	2	916	$ 2,015,200
ROGER STREET	EVAL-437	Urban	HCB	2	257	$ 565,400
TALBOT STREET	EVAL-426	Urban	HCB	2	505	$ 1,111,000
BETHEL ROAD	EVAL-16	Rural	LCB	2	3,800	$ 1,197,000
CHUCKERY HILL ROAD	EVAL-145	Rural	LCB	2	3,210	$ 1,011,150
CHUCKERY HILL ROAD	EVAL-146	Rural	LCB	2	1,022	$ 321,930
CONLEY ROAD	EVAL-222	Rural	LCB	2	1,948	$ 613,620
CONSECON STREET	EVAL-358	Rural	HCB	2	1,434	$ 630,960
COUNTY ROAD 1	EVAL-5	Rural	HCB	2	3,182	$ 1,400,080
COUNTY ROAD 13	EVAL-45	Rural	LCB	2	2,501	$ 787,815
COUNTY ROAD 13	EVAL-48	Rural	LCB	2	2,805	$ 883,575
COUNTY ROAD 22	EVAL-83	Rural	HCB	2	342	$ 150,480
COUNTY ROAD 24	EVAL-54	Rural	LCB	2	6,834	$ 2,152,710
COUNTY ROAD 3	EVAL-139	Rural	HCB	2	5,271	$ 2,319,240
COUNTY ROAD 35	EVAL-101	Rural	HCB	2	4,710	$ 2,072,400
COUNTY ROAD 5	EVAL-86	Rural	HCB	2	192	$ 84,480
COUNTY ROAD 7	EVAL-26	Rural	LCB	2	4,130	$ 1,300,950
COUNTY ROAD 8	EVAL-33	Rural	HCB	2	729	$ 320,760
COUNTY ROAD 8	EVAL-34	Rural	HCB	2	3,671	$ 1,615,240
DOXSEE ROAD	EVAL-211	Rural	LCB	2	240	$ 75,600
FOSTER ROAD	EVAL-592	Rural	LCB	2	170	$ 53,550
HIGHWAY 49	EVAL-157	Rural	Concrete	2	5,910	$ 5,053,050
HIGHWAY 49	EVAL-159	Rural	Concrete	2	6,176	$ 5,280,480
HOWARD CRESCENT	EVAL-315	Rural	LCB	2	501	$ 157,815
HUFFS ISLAND ROAD	EVAL-264	Rural	LCB	2	979	$ 308,385
HUFFS ISLAND ROAD	EVAL-265	Rural	LCB	2	1,033	$ 325,395
KINGSLEY ROAD	EVAL-155	Rural	HCB	2	980	$ 431,200
MASSASSAUGA ROAD	EVAL-269	Rural	LCB	2	544	$ 171,360
MASSASSAUGA ROAD	EVAL-271	Rural	LCB	2	1,354	$ 426,510
MCKINLEY CROSS ROAD	EVAL-164	Rural	LCB	2	2,079	$ 654,885
PIERCE ROAD	EVAL-223	Rural	HCB	2	720	$ 316,800
POTTER ROAD	EVAL-199	Rural	LCB	2	2,409	$ 758,835
STATION ROAD	EVAL-13	Rural	LCB	2	1,374	$ 432,810
STINSON BLOCK ROAD	EVAL-244	Rural	LCB	2	950	$ 299,250
SUNRISE DRIVE	EVAL-316	Rural	LCB	2	2,303	$ 725,445
WESLEY ACRES ROAD	EVAL-187	Rural	HCB	2	532	$ 234,080
WHITE CHAPEL ROAD	EVAL-221	Rural	HCB	2	1,549	$ 681,560
THOMAS STREET	EVAL-479	Urban	HCB	2	138	$ 303,600
TOTAL					**79,178**	**$ 40,218,070**

Appendix A
Priority Roads Listing

Priority 3 Roads Listing

Road Name	Evaluation ID	Environment	Surface Type	Condition Rating	Section Length (m)	Reconstruction Cost
BAY BREEZE STREET	EVAL-307	Semi-Urban	HCB	3	83	$ 153,550
CLAPP STREET	EVAL-333	Semi-Urban	LCB	3	177	$ 55,755
COUNTY ROAD 10	EVAL-63	Semi-Urban	HCB	3	691	$ 1,278,350
COUNTY ROAD 10	EVAL-56	Semi-Urban	HCB	3	1,120	$ 2,072,000
COUNTY ROAD 10	EVAL-60	Semi-Urban	HCB	3	1,290	$ 2,386,500
BADGLEY ROAD	EVAL-21	Rural	LCB	3	1,620	$ 510,300
BETHESDA ROAD	EVAL-201	Rural	LCB	3	2,860	$ 900,900
BETHESDA ROAD	EVAL-202	Rural	LCB	3	3,209	$ 1,010,835
BOND ROAD	EVAL-167	Rural	LCB	3	3,005	$ 946,575
BONGARDS CROSS ROAD	EVAL-582	Rural	LCB	3	493	$ 155,295
BURR ROAD	EVAL-15	Rural	LCB	3	4,208	$ 1,325,520
CHASE ROAD	EVAL-540	Rural	Gravel	3	5,127	$ 1,025,400
CHUCKERY HILL ROAD	EVAL-144	Rural	LCB	3	495	$ 155,925
CLARKE ROAD	EVAL-147	Rural	LCB	3	3,678	$ 1,158,570
CLOSSON ROAD	EVAL-234	Rural	LCB	3	3,136	$ 987,840
COLD CREEK ROAD	EVAL-229	Rural	LCB	3	2,374	$ 747,810
COUNTY ROAD 1	EVAL-4	Rural	HCB	3	2,400	$ 1,056,000
COUNTY ROAD 1	EVAL-11	Rural	HCB	3	2,668	$ 1,173,920
COUNTY ROAD 10	EVAL-62	Rural	HCB	3	763	$ 335,720
COUNTY ROAD 10	EVAL-65	Rural	HCB	3	2,815	$ 1,238,600
COUNTY ROAD 10	EVAL-57	Rural	HCB	3	1,127	$ 495,880
COUNTY ROAD 10	EVAL-59	Rural	HCB	3	831	$ 365,640
COUNTY ROAD 11	EVAL-71	Rural	HCB	3	3,555	$ 1,564,200
COUNTY ROAD 12	EVAL-74	Rural	HCB	3	1,106	$ 486,640
COUNTY ROAD 13	EVAL-47	Rural	HCB	3	6,720	$ 2,956,800
COUNTY ROAD 14	EVAL-109	Rural	HCB	3	6,120	$ 2,692,800
COUNTY ROAD 16	EVAL-51	Rural	HCB	3	1,279	$ 562,760
AGNES STREET	EVAL-450	Urban	HCB	3	103	$ 226,600
AMELIA STREET	EVAL-451	Urban	HCB	3	74	$ 162,800
BAY STREET	EVAL-444	Urban	HCB	3	48	$ 105,600
COUNTY ROAD 17	EVAL-41	Rural	HCB	3	3,005	$ 1,322,200
BEACH STREET	EVAL-611	Urban	HCB	3	275	$ 605,000
COUNTY ROAD 19	EVAL-126	Rural	HCB	3	1,560	$ 686,400
BOWERY STREET	EVAL-492	Urban	HCB	3	91	$ 200,200
BRICK STREET	EVAL-388	Urban	HCB	3	241	$ 530,200
COUNTY ROAD 19	EVAL-127	Rural	HCB	3	1,313	$ 577,720
BROAD STREET	EVAL-447	Urban	HCB	3	358	$ 787,600
CHURCH STREET	EVAL-466	Urban	HCB	3	319	$ 701,800
COUNTY ROAD 2	EVAL-112	Rural	HCB	3	3,059	$ 1,345,960
COUNTY ROAD 2	EVAL-113	Rural	HCB	3	1,931	$ 849,640
COUNTY ROAD 2	EVAL-115	Rural	HCB	3	6,133	$ 2,698,520
COUNTY ROAD 2	EVAL-117	Rural	HCB	3	960	$ 422,400
COUNTY ROAD 22	EVAL-84	Rural	HCB	3	1,960	$ 862,400
COUNTY ROAD 23	EVAL-132	Rural	HCB	3	1,950	$ 858,000
COUNTY ROAD 23	EVAL-134	Rural	HCB	3	901	$ 396,440
CONSECON STREET	EVAL-357	Urban	HCB	3	550	$ 1,210,000
COREY STREET	EVAL-390	Urban	HCB	3	221	$ 486,200

Appendix A
Priority Roads Listing

Priority 3 Roads Listing

Road Name	Evaluation ID	Environment	Surface Type	Condition Rating	Section Length (m)	Reconstruction Cost
COUNTY ROAD 23	EVAL-135	Rural	HCB	3	494	$ 217,360
COUNTY ROAD 24	EVAL-53	Rural	LCB	3	1,490	$ 469,350
COUNTY ROAD 24	EVAL-55	Rural	LCB	3	480	$ 151,200
COUNTY ROAD 27	EVAL-121	Rural	HCB	3	2,183	$ 960,520
COUNTY ROAD 28	EVAL-136	Rural	HCB	3	4,684	$ 2,060,960
COUNTY ROAD 28	EVAL-137	Rural	HCB	3	580	$ 255,200
COUNTY ROAD 3	EVAL-140	Rural	HCB	3	3,830	$ 1,685,200
COUNTY ROAD 3	EVAL-142	Rural	HCB	3	1,743	$ 766,920
DEMILLE STREET	EVAL-294	Urban	HCB	3	202	$ 444,400
DIVISION STREET	EVAL-445	Urban	HCB	3	70	$ 154,000
COUNTY ROAD 32	EVAL-81	Rural	HCB	3	1,251	$ 550,440
COUNTY ROAD 34	EVAL-94	Rural	HCB	3	1,193	$ 524,920
COUNTY ROAD 38	EVAL-118	Rural	LCB	3	419	$ 131,985
COUNTY ROAD 39	EVAL-660	Rural	LCB	3	3,181	$ 1,002,015
COUNTY ROAD 4	EVAL-98	Rural	LCB	3	2,261	$ 712,215
DUNCAN STREET	EVAL-393	Urban	HCB	3	170	$ 374,000
ELM STREET	EVAL-410	Urban	HCB	3	204	$ 448,800
COUNTY ROAD 5	EVAL-93	Rural	HCB	3	1,564	$ 688,160
COUNTY ROAD 5	EVAL-87	Rural	HCB	3	1,054	$ 463,760
COUNTY ROAD 5	EVAL-89	Rural	HCB	3	2,055	$ 904,200
COUNTY ROAD 6	EVAL-95	Rural	HCB	3	926	$ 407,440
COUNTY ROAD 7	EVAL-25	Rural	LCB	3	4,405	$ 1,387,575
COUNTY ROAD 7	EVAL-27	Rural	LCB	3	6,725	$ 2,118,375
COUNTY ROAD 8	EVAL-35	Rural	LCB	3	2,013	$ 634,095
COUNTY ROAD 8	EVAL-37	Rural	LCB	3	3,182	$ 1,002,330
CRESSY LAKESIDE ROAD	EVAL-153	Rural	LCB	3	818	$ 257,670
EYRE STREET	EVAL-463	Urban	HCB	3	91	$ 200,200
CROFTON ROAD	EVAL-275	Rural	LCB	3	893	$ 281,295
EATONVILLE ROAD	EVAL-554	Rural	Gravel	3	421	$ 84,200
HENRY STREET	EVAL-438	Urban	HCB	3	126	$ 277,200
JAMES STREET	EVAL-290	Urban	HCB	3	359	$ 789,800
JOHNSON STREET	EVAL-432	Urban	HCB	3	309	$ 679,800
ELMBROOK ROAD	EVAL-195	Rural	LCB	3	2,596	$ 817,740
FISH LAKE ROAD	EVAL-20	Rural	LCB	3	7,199	$ 2,267,685
OLD PORTAGE ROAD	EVAL-535	Semi-Urban	HCB	3	500	$ 925,000
LAKEVIEW AVENUE	EVAL-378	Urban	HCB	3	103	$ 226,600
FRY ROAD	EVAL-194	Rural	LCB	3	5,166	$ 1,627,290
GLENORA ESTATES ROAD	EVAL-603	Rural	LCB	3	169	$ 53,235
GOMMORAH ROAD	EVAL-292	Rural	LCB	3	1,563	$ 492,345
HARBARD LANE	EVAL-285	Rural	LCB	3	1,026	$ 323,190
MILL STREET	EVAL-389	Urban	HCB	3	349	$ 767,800
NILES STREET	EVAL-348	Urban	HCB	3	961	$ 2,114,200
NORTH AVENUE	EVAL-506	Urban	HCB	3	106	$ 233,200
HIGHWAY 49	EVAL-158	Rural	Concrete	3	5,407	$ 4,622,985
HUYCKS BAY ROAD	EVAL-240	Rural	LCB	3	714	$ 224,910
NORTHPORT STREET	EVAL-293	Urban	HCB	3	188	$ 413,600

Appendix A
Priority Roads Listing

Priority 3 Roads Listing

Road Name	Evaluation ID	Environment	Surface Type	Condition Rating	Section Length (m)	Reconstruction Cost
REDDICK STREET	EVAL-309	Semi-Urban	LCB	3	239	$ 75,285
PHILIP STREET	EVAL-461	Urban	HCB	3	249	$ 547,800
RIDLEY STREET	EVAL-308	Semi-Urban	LCB	3	1,089	$ 343,035
PICTON MAIN STREET	EVAL-395	Urban	HCB	3	520	$ 1,144,000
KINGS ROAD	EVAL-524	Rural	Gravel	3	3,182	$ 636,400
KINGSLEY ROAD	EVAL-156	Rural	LCB	3	2,020	$ 636,300
LIPSON AVENUE	EVAL-626	Rural	Gravel	3	300	$ 60,000
LOWER HIGH SHORE ROAD	EVAL-369	Rural	HCB	3	773	$ 340,120
MASSASSAUGA ROAD	EVAL-272	Rural	LCB	3	2,342	$ 737,730
MILLER ROAD	EVAL-150	Rural	LCB	3	1,910	$ 601,650
MITCHELLS CROSS ROAD	EVAL-165	Rural	LCB	3	2,865	$ 902,475
NORTON ROAD	EVAL-521	Rural	Gravel	3	2,584	$ 516,800
OLD MILFORD ROAD	EVAL-162	Rural	LCB	3	2,018	$ 635,670
PALMER-BURRIS ROAD	EVAL-12	Rural	HCB	3	2,588	$ 1,138,720
PEATS POINT ROAD	EVAL-314	Rural	LCB	3	684	$ 215,460
ROYAL ROAD	EVAL-173	Rural	LCB	3	2,475	$ 779,625
SALEM ROAD	EVAL-278	Rural	LCB	3	974	$ 306,810
SALEM ROAD	EVAL-280	Rural	LCB	3	3,208	$ 1,010,520
SANDY COVE DRIVE	EVAL-319	Rural	LCB	3	495	$ 155,925
SHANNON ROAD	EVAL-182	Rural	HCB	3	285	$ 125,400
SMITHS BAY AVENUE	EVAL-338	Rural	LCB	3	412	$ 129,780
PRESBYTERIAN STREET	EVAL-291	Urban	HCB	3	122	$ 268,400
SOUTH BAY CRESCENT	EVAL-642	Rural	Gravel	3	248	$ 49,600
RICHMOND STREET	EVAL-476	Urban	HCB	3	168	$ 369,600
SOUTH BIG ISLAND ROAD	EVAL-512	Rural	LCB	3	1,256	$ 395,640
UPPER LAKE STREET	EVAL-507	Semi-Urban	LCB	3	1,187	$ 373,905
SPRAGUE ROAD	EVAL-203	Rural	LCB	3	1,767	$ 556,605
STINSON BLOCK ROAD	EVAL-242	Rural	LCB	3	1,448	$ 456,120
STINSON BLOCK ROAD	EVAL-245	Rural	LCB	3	2,046	$ 644,490
WELLINGTON STREET	EVAL-403	Urban	HCB	3	706	$ 1,553,200
SUNRISE COURT	EVAL-318	Rural	LCB	3	122	$ 38,430
SWAMP COLLEGE ROAD	EVAL-233	Rural	LCB	3	3,072	$ 967,680
THE ALLEY	EVAL-312	Rural	LCB	3	157	$ 49,455
VALLEY ROAD	EVAL-259	Rural	LCB	3	3,158	$ 994,770
WALLBRIDGE CIRCLE	EVAL-317	Rural	LCB	3	274	$ 86,310
WIGHTS STREET	EVAL-394	Urban	HCB	3	244	$ 536,800
WEESE ROAD	EVAL-552	Rural	Gravel	3	185	$ 37,000
WESLEY ACRES ROAD	EVAL-189	Rural	LCB	3	1,611	$ 507,465
WHITNEY ROAD	EVAL-529	Rural	Gravel	3	2,900	$ 580,000
YORK STREET	EVAL-469	Urban	HCB	3	425	$ 935,000
WHITNEY ROAD	EVAL-530	Rural	LCB	3	1,402	$ 441,630
TOTAL					**217,135**	**$ 99,912,735**

Appendix B – Infrastructure Profile – Bridges and Culverts

Infrastructure Profile - Bridges and Large Culverts

Structure Name	Main Hwy/Road #	Structure Type	Span Lengths (meters)	Est. Age	Bridge Condition Index (BCI)	Historical Cost	CPI ADJUSTMED REPLACEMENT NUMBER	Life Cycle Costs - Next 10 Years	Priority Ranking
CPE-001	Burr Road	Culvert	3.0	63	65	$8,894	$157,884	$35,000	2012-14
CPE-002	Consecon Main St	Bridge	21.0	4	96	$918,364	$1,111,627		
CPE-003	County Road 28	Culvert	3.7	73	22	$6,819	$210,512	$494,000	2012-07
CPE-004	County Road 28	Bridge	6.2	0	100	$698,495	$698,495	$0	2012-01
CPE-005	Pleasant Bay Road	Bridge	3.2	73	64	$5,114	$157,884	$40,000	2012-09
CPE-006	Zufelt Road	Bridge	4.2	73	40	$6,819	$210,512	$100,000	2013-02
CPE-007	County Road 14	Bridge	3.0	73	18	$17,047	$526,279	$512,000	2012-03
CPE-008	County Road 21	Culvert	2.5	28	91	$59,013	$157,884		
CPE-009	County Road 4	Bridge	9.9	45	67	$59,074	$526,279	$204,000	2013-06
CPE-010	Crofton Road	Culvert	2.4	53	28	$8,672	$105,256	$215,000	2012-08
CPE-011	Gilead Road	Culvert	2.6	53	80	$13,008	$157,884		
CPE-012	Gommorah Road	Bridge	7.9	4	93	$426,257	$515,959		
CPE-013	Niles Street	Culvert	varies 2.8 to 4	73	61	$6,819	$210,512	$40,000	2012-13
CPE-014	Pierce Road	Culvert	3.0	89	22	$13,008	$157,884	$468,000	2013-01
CPE-015	Bloomfield Main St	Culvert	2.9	48	78	$20,042	$210,512		
CPE-016	County Road 12 (Vestervelt)	Bridge	6.9	64	76	$28,239	$526,279		
CPE-017	County Road 17 (Milford)	Culvert	3.0	83	25	$10,806	$315,768	$463,000	2012-04
CPE-018	Crowes Road (Scott's Mill)	Bridge	5.0	2	93	$442,507	$444,154		
CPE-019	County Road 29 (Consecon)	Bridge	12,12	28	67	$472,108	$1,263,071	$150,000	2013-05
CPE-020	Bridge St	Culvert	2,2	28	81	$472,108	$1,263,071		
CPE-021	York Street	Culvert	3.0,3.0	18	85	$277,083	$526,279	$2,500	2012-12
CPE-022	County Road 13 (Black River)	Bridge	9.4,12.3,9.4	43	65	$245,487	$1,894,606	$308,000	2012-02
CPE-023	County Road 18 (Outlet)	Bridge	8.9,8.4,8.9	53	78	$130,081	$1,578,838	$30,000	2012-11
CPE-024	Christian Road	Bridge	12.8	42	69	$118,592	$842,047	$135,000	2013-09
CPE-025	Gore Road	Bridge	3.8	73	75	$5,114	$157,884	$37,000	2013-08
CPE-026	Hubbs Creek Crescent	Culvert	3.0	93	27	$4,314	$105,256	$421,000	2012-06
CPE-027	Hubbs Creek Road	Culvert	3.7	73	73	$5,114	$157,884		
CPE-028	Lakeside Drive West	Culvert	6.4	73	77	$6,819	$210,512		
CPE-029	Lakeside Drive East	Culvert	5.3	73	79	$6,819	$210,512		
CPE-030	Loyalist Parkway	Culvert	5.0	43	69	$34,095	$263,140	$30,000	2013-11
CPE-031	Loyalist Parkway (Consecon)	Bridge	18.1	50	78	$137,197	$1,578,838	$6,600	2013-12
CPE-032	Loyalist Parkway	Culvert	3.6	73	58	$17,047	$526,279	$82,000	2013-13
CPE-033	Melville Road	Bridge	12.4	47	83	$84,675	$842,047	$95,000	2013-10
CPE-034	Black Road	Bridge	6.0	20	86	$314,162	$631,535	$20,000	2013-07
CPE-035	County Road 2 (Allison)	Bridge	10.0	38	55	$71,155	$1,263,071	$1,343,000	2013-03
CPE-036	County Road 5	Bridge	7.5	10	95	$996,814	$1,049,206		
CPE-037	County Road 5	Culvert	5.5	20	81	$261,802	$526,279		
CPE-038	Fry Road	Culvert	3.6	23	75	$82,000	$157,884	$3,500	2013-14
CPE-039	Loyalist Parkway	Bridge	9.5	73	69	$34,095	$1,052,559	$110,000	2012-05
CPE-040	Robinson Road	Bridge	3.5	83	30	$1,801	$52,628	$40,000	2012-15
CPE-041	County Road 10	Culvert	2.0	43	58	$10,228	$78,942		
CPE-042	Kings Road (Snider)	Bridge	3.7	48	75	$10,021	$105,256		
CPE-043	Wesley Acres Road	Bridge	11.8	9	88	$321,647	$338,553		
CPE-044	Fry Road	Culvert	2,2	23	75	$54,667	$105,256		
CPE-045	Crowes Road (Scott's Falls)	Bridge	7.4	7	73	$622,627	$655,352	$1,000	2012-10
CPE-046	County Road 17	Bridge	13-18-13	63	78	$177,889	$3,157,676		
CPE-047	Wellington Main St	Culvert	3.6		10		$1,170,000	$145,000	2013-04
CPE-048	Blfd Main St Culvert	Culvert		2	95	$252,426	$240,761		
CPE-049	Cressy Creek Culvert	Culvert		0	100	$251,268	$281,267		
						$ 8,228,251	$ 28,688,049	$ 5,530,600	

Replacement Values - Based on Condition Rating		
Good	100 - 70	$ 17,597,683
Fair	70 - 60	$ 6,367,981
Poor	< 60	$ 4,722,386
Total		$ 28,688,049

Appendix C – Infrastructure Profile – Water and Wastewater

Replacement Value (2013 Dollars)

Water	Picton	Wellington	Ameliasburgh	Peats Point	Fenwood/ Rossmore	Carrying Place/ Consecon	TOTAL
Facilities:							
Treatment Plant	$22,510,000	$8,313,00	$963,000	$493,000	$-	$ -	$32,279,000
Pumping Station	284,000	158,000	-	-	105,000	1,092,000	1,639,000
Storage	3,089,000	789,000	-	-	-	984,000	4,862,000
	25,883,000	9,260,000	963,000	493,000	105,000	2,076,000	38,780,000
Linear:							
Mains	44,680,000	7,583,000	1,616,000	293,000	2,398,000	8,267,000	64,837,000
Hydrants	1,599,000	676,000	27,000	-	436,000	455,000	3,193,000
Valves	670,000	-	-	13,000	-	-	683,000
Services	296,000	81,000	7,000	2,000	48,000	34,000	468,000
Meters	352,000	140,000	9,000	2,000	57,000	38,000	598,000
	47,597,000	8,480,000	1,659,000	310,000	2,939,000	8,794,000	69,779,000
Wastewater							
Facilities:							
Treatment Plant	29,918,000	7,643,000	-	-	-	-	37,561,000
Pumping Stations	1,055,000	480,000	-	-	-	-	1,535,000
	30,973,000	8,123,000	-	-	-	-	39,096,000
Linear:							
Mains	17,057,000	5,623,000	-	-	-	-	22,680,000
Maintenance Manholes	-	-	-	-	-	-	-
	17,057,000	5,623,000	-	-	-	-	22,680,000
	$121,510,000	$31,486,000	$2,622,000	$803,000	$3,044,000	$10,870,000	$170,335,000

Appendix C
State of Local Infrastructure
Condition Assessment – Water and Wastewater

The following table provides the percentage of mains (based on length) by condition:

	Good (Remaining Useful Life >50%)	Fair (Remaining Useful Life <50% & >10%)	Poor (Remaining Useful Life <10%)
Water Mains			
Picton	56%	24%	19%
Wellington	32%	68%	0%
Ameliasburgh	100%	0%	0%
Peats Point	1%	99%	0%
Rossmore/Fenwood	87%	13%	0%
Carrying Place/ Consecon	100%	0%	0%
All Water Mains	**66%**	**24%**	**11%**
Wastewater Mains			
Picton	63%	8%	29%
Wellington	100%	0%	0%
All Wastewater Mains	**72%**	**6%**	**22%**

The estimated cost to replace 11,969 metres of watermains in poor condition is $5.97 million.

The estimated cost to replace 9,970 metres of wastewater mains in poor condition is $6.01 million.

Water – 10 Year Capital Plan

WATER CAPITAL NEEDS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Picton											
Facilities											
Treatment Plant	1,403,314	30,000	235,000	20,000	260,000	250,000	80,000	100,000	100,000	-	**2,478,314**
Pumping Stations	2,962,185	-	100,000	-	-	-	-	-	-	-	**3,062,185**
Storage	250,000	-	325,000	-	-	-	-	20,000	-	-	**595,000**
Linear											
Mains	278,000	1,694,842	45,000	15,000	2,010,000	175,000	165,000	165,000	165,000	165,000	**4,877,842**
Hydrants, Valves, Services	-	-	-	-	-	-	-	-	-	-	**-**
Meters	-	-	-	-	-	250,000	-	-	-	-	**250,000**
Picton Water Services - Total	**4,893,499**	**1,724,842**	**705,000**	**35,000**	**2,270,000**	**675,000**	**245,000**	**285,000**	**265,000**	**165,000**	**11,263,341**
Wellington											
Facilities											
Treatment Plant	450,000	240,000	80,000	185,000	20,000	275,000	15,000	250,000	10,000	-	**1,525,000**
Pumping Stations	-	-	-	-	-	-	-	-	-	-	**-**
Storage	75,000	-	-	-	-	-	-	1,600,000	-	-	**1,675,000**
Linear											
Mains	-	-	-	-	-	-	-	-	-	-	**-**
Hydrants, Valves, Services	-	-	15,000	15,000	15,000	15,000	15,000	-	-	-	**75,000**
Meters	-	-	175,000	-	-	-	-	-	-	-	**175,000**
Wellington Water Services - Total	**525,000**	**240,000**	**270,000**	**200,000**	**35,000**	**290,000**	**30,000**	**1,850,000**	**10,000**	**-**	**3,450,000**
Ameliasburgh											**-**
Facilities											**-**
Treatment Plant	227,000	10,000	-	50,000	85,000	-	37,000	600,000	70,000	-	**1,079,000**
Linear											
Mains	-	-	-	-	-	-	-	-	-	-	**-**
Hydrants, Valves, Services	-	-	-	-	-	-	-	-	-	-	**-**
Meters	-	-	-	-	-	28,000	-	-	-	-	**28,000**
Ameliasburgh Water Services - Total	**227,000**	**10,000**	**-**	**50,000**	**85,000**	**28,000**	**37,000**	**600,000**	**70,000**	**-**	**1,107,000**
Peats Point											
Facilities											
Treatment Plant	35,000	10,000	20,000	-	95,000	-	-	35,000	20,000	15,000	**230,000**
Storage	-	-	-	-	-	250,000	-	-	-	-	**250,000**
Linear											**-**
Mains	-	-	-	-	-	-	-	-	-	-	**-**
Hydrants, Valves, Services	-	-	-	-	-	-	-	-	-	-	**-**
Meters	-	-	-	-	-	-	-	6,000	-	-	**6,000**
Peats Point Water Services - Total	**35,000**	**10,000**	**20,000**	**-**	**95,000**	**250,000**	**-**	**41,000**	**20,000**	**15,000**	**486,000**
Rossmore/Fenwood											**-**
Facilities											**-**
Pumping Stations	260,000	-	-	-	-	20,000	-	60,000	-	-	**340,000**
Linear											
Mains	-	-	-	-	-	-	-	-	-	-	**-**
Hydrants, Valves, Services	-	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	**270,000**
Meters	30,000	-	120,000	40,000	-	-	-	-	-	-	**190,000**
Rossmore/Fenwood Distribution - Total	**290,000**	**30,000**	**150,000**	**70,000**	**30,000**	**50,000**	**30,000**	**90,000**	**30,000**	**30,000**	**800,000**
Consecon/Carrying Place Distribution											**-**
Facilities											**-**
Pumping Stations	85,000	60,000	-	75,000	-	60,000	-	20,000	-	-	**300,000**
Storage	-	-	350,000	-	-	-	-	-	-	-	**350,000**
Linear											**-**
Mains	-	-	-	-	-	-	-	-	-	-	**-**
Hydrants, Valves, Services	-	-	-	-	-	-	-	-	-	-	**-**
Meters	-	-	100,000	-	-	-	-	-	-	-	**100,000**
Consecon/Carrying Place Distribution - T	**85,000**	**60,000**	**450,000**	**75,000**	**-**	**60,000**	**-**	**20,000**	**-**	**-**	**750,000**
TOTAL WATER CAPITAL NEEDS	**6,055,499**	**2,074,842**	**1,595,000**	**430,000**	**2,515,000**	**1,353,000**	**342,000**	**2,886,000**	**395,000**	**210,000**	**17,856,341**

Picton Water Services – Capital Needs 2014 – 2023

Picton Water-Facilities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Treatment Plant											-
Replace Picton WTP in 2029											-
Study's and Engineering	60,000				20,000						80,000
Hydro Transformer Station											-
Intake Pipes	383,314										383,314
Raw Water Pumps	20,000						40,000				60,000
Valve/ valve actuator systems							40,000				40,000
Filters	260,000					250,000					510,000
Filters	330,000										330,000
Chlorination System	150,000										150,000
Chemical Pumps				20,000							20,000
Coagulant Metering Systems											-
Flow Metering					40,000						40,000
Highlift Pumping			75,000					75,000			150,000
Trac Vac/sludge pumping system											-
Sludge Transfer Line	100,000										100,000
(Turbidimeters, Chlorine Analyzers)		30,000						25,000			55,000
Communications, PLC/SCADA and Alarm Systems					200,000						200,000
Back-up Power											-
Heating and Ventilation											-
Electrical, Mechanical and Plumbing			60,000						100,000		160,000
Building	100,000		100,000								200,000
Sub-total	**1,403,314**	**30,000**	**235,000**	**20,000**	**260,000**	**250,000**	**80,000**	**100,000**	**100,000**	**-**	**2,478,314**
Pumping Stations											-
HL Reservoirs/Macaulay Booster Station	2,962,185										2,962,185
Booster Pump Station			100,000								100,000
Sub-total	**2,962,185**	**-**	**100,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3,062,185**
Storage											-
Bloomfield Tower			325,000								325,000
Bulk Loading Station	250,000							20,000			270,000
Sub-total	**250,000**	**-**	**325,000**	**-**	**-**	**-**	**-**	**20,000**	**-**	**-**	**595,000**
Picton Water-Linear											
Mains											
Study's and Engineering			30,000								30,000
Union St Watermain Extension					510,000						510,000
Picton Broad-Roger-Harvey Sts Upgrade Design		925,000									925,000
New water line from reservoir to Pitt St or Old Church Street					1,500,000						1,500,000
Bridge St - (Union to East Limit)											-
Bridge St - Water Main Repairs near Picton Bay Bridge	263,000										263,000
Macaulay Village System Repairs	15,000	15,000	15,000	15,000							60,000
Picton Main St (Talbot to west limit)											-
Picton Main St (Chapel-Bridge)		754,842									754,842
Priority Projects						175,000	165,000	165,000	165,000	165,000	835,000
Sub-total	**278,000**	**1,694,842**	**45,000**	**15,000**	**2,010,000**	**175,000**	**165,000**	**165,000**	**165,000**	**165,000**	**4,042,842**
Hydrants, Valves, Services											
Hydrants											-
Sub-total	-	-	-	-	-	-	-	-	-	-	-
Meters											
Meters installed 2003-2004						250,000					250,000
Sub-total	**-**	**-**	**-**	**-**	**-**	**250,000**	**-**	**-**	**-**	**-**	**250,000**
Picton Total	**4,893,499**	**1,724,842**	**705,000**	**35,000**	**2,270,000**	**675,000**	**245,000**	**285,000**	**265,000**	**165,000**	**10,428,341**

Wellington Water Services – Capital Needs 2014 – 2023

Wellington Water-Facilities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Treatment Plant											
Study's and Engineering	75,000			150,000							225,000
Hydro Transformer Station											-
Intake Pipes	25,000										25,000
Low Lift Pumps			10,000						10,000		20,000
Valve/ valve actuator systems						60,000					60,000
Filters	250,000										250,000
Chlorination System	85,000		35,000								120,000
Coagulant Metering Systems			15,000								15,000
Flow Metering		40,000									40,000
Highlift Pumping		150,000									150,000
Highlift Pumping - NEW for 2015 budget		20,000	20,000	20,000	20,000						80,000
Instrumentation	15,000					15,000					30,000
(Turbidimeters, Chlorine Analyzers)				15,000			15,000				30,000
Communications, PLC/SCADA and Alarm Systems						200,000					200,000
Back-up Power											-
Heating and Ventilation											-
Electrical, Mechanical and Plumbing								250,000			250,000
Building		30,000									30,000
Sub-total	**450,000**	**240,000**	**80,000**	**185,000**	**20,000**	**275,000**	**15,000**	**250,000**	**10,000**	**-**	**1,525,000**
Pumping Stations											
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Storage											
Water Tower repainted 2006								1,600,000			1,600,000
Bulk Station	75,000										75,000
Sub-total	**75,000**	**-**	**-**	**-**	**-**	**-**	**-**	**1,600,000**	**-**	**-**	**1,675,000**
Wellington Water-Linear											
Mains											
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Hydrants, Valves, Services											
Valve Replacement			15,000	15,000	15,000	15,000	15,000				75,000
Sub-total	**-**	**-**	**15,000**	**15,000**	**15,000**	**15,000**	**15,000**	**-**	**-**	**-**	**75,000**
Meters											
Metering originally installed - 1980's			175,000								175,000
Sub-total	**-**	**-**	**175000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**175000**
Wellington Total	**525,000**	**240,000**	**270,000**	**200,000**	**35,000**	**290,000**	**30,000**	**1,850,000**	**10,000**	**-**	**3,450,000**

Ameliasburgh Water Services – Capital Needs 2014 – 2023

Ameliasburgh-Facilities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Treatment Plant											
Pumping/piping Systems	150,000			50,000							200,000
Filtration								300,000			300,000
Chemical System	22,000						22,000				44,000
Building					10,000			300,000			310,000
Building	20,000								50,000		70,000
Instrumentation (Turbidimeter and Chlorine Analyzers)					15,000				20,000		35,000
Communications, Security, SCADA and Alarms					60,000						60,000
Back-up Power new in 2005											0
Heating and Ventilation							15,000				15,000
Electrical, Mechanical and Plumbing (Tanks)	35,000	10,000									45,000
Sub-total	**227,000**	**10,000**	**-**	**50,000**	**85,000**	**-**	**37,000**	**600,000**	**70,000**	**-**	**1,079,000**
Ameliasburgh-Linear											
Mains											
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Hydrants, Valves, Services											
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Meters											
Metering originally installed 2002						28,000					28,000
Sub-total	**-**	**-**	**-**	**-**	**-**	**28,000**	**-**	**-**	**-**	**-**	**28,000**
Ameliasburgh Total	**227,000**	**10,000**	**-**	**50,000**	**85,000**	**28,000**	**37,000**	**600,000**	**70,000**	**-**	**1,107,000**

Peats Point Water Services – Capital Needs 2014 – 2023

Peats Point-Facilities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Treatment Plant											
Well Rehabilitation and Recirculation System					15,000						15,000
Filters							15,000				15,000
UV System	15,000								15,000		30,000
Chemical System							20,000				20,000
Instrumentation (Turbidimeter, Chlorine Analyzer's, Flow meter's)	10,000		20,000					20,000			50,000
Communications, Security, SCADA and Alarms					60,000						60,000
System Piping	10,000										10,000
Building					20,000						20,000
Heating and Ventilation											0
Electrical, Mechanical and Plumbing (Tanks)		10,000									10,000
Back-up Power											0
Sub-total	**35,000**	**10,000**	**20,000**	**-**	**95,000**	**-**	**35,000**	**20,000**	**15,000**	**-**	**230,000**
Storage											
Storage Facility						250,000					250,000
Sub-total	**-**	**-**	**-**	**-**	**-**	**250,000**	**-**	**-**	**-**	**-**	**250,000**
Peats Point-Linear											
Mains											
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Hydrants, Valves, Services											
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Meters											
Metering installed 2002-2003							6,000				6,000
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**6,000**	**-**	**-**	**-**	**6,000**
Peats Point Total	**35,000**	**10,000**	**20,000**	**-**	**95,000**	**250,000**	**41,000**	**20,000**	**15,000**	**-**	**486,000**

Rossmore/Fenwood Water Services – Capital Needs 2014 – 2023

Rossmore/Fenwood Distribution-Facilities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Pumping Stations											
Piping under the Bay of Quinte and transition chamber	260,000										260,000
Commmunications (Radio upgrades, SCADA)								20,000			20,000
Instrumentation (Flow meter, Chlorine analyzer)						20,000		40,000			60,000
Sub-total	**260,000**	**-**	**-**	**-**	**-**	**20,000**	**-**	**60,000**	**-**	**-**	**340,000**
Rossmore/Fenwood Distribution-Linear											
Mains											
											-
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Hydrants, Valves, Services											
Rossmore/Fenwood Distribution - service replacements	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	300,000
Sub-total	**30,000**	**30,000**	**30,000**	**30,000**	**30,000**	**30,000**	**30,000**	**30,000**	**30,000**	**30,000**	**300,000**
Meters											
Meters			120,000	40,000							160,000
Sub-total	**-**	**-**	**120,000**	**40,000**	**-**	**-**	**-**	**-**	**-**	**-**	**160,000**
Rossmore/Fenwood Distribution Total	**290,000**	**30,000**	**150,000**	**70,000**	**30,000**	**50,000**	**30,000**	**90,000**	**30,000**	**30,000**	**800,000**

Consecon/Carrying Place Water Services – Capital Needs 2014 – 2023

Consecon/Carrying Place-Facilities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Pumping Stations											
HL Pumping systems		50,000									50,000
Disinfection systems								20,000			20,000
Instrumentation (Turbidimeter,Chlorine Analyzers,Flow Meters)	10,000										10,000
Instrumentation (Turbidimeter,Chlorine Analyzers,Flow Meters)	30,000										30,000
Communications, Security, SCADA and Alarms	30,000			60,000							90,000
Heating and Ventilation				15,000							15,000
Electrical, Mechanical and Plumbing (Tanks)	15,000					35,000					50,000
Building						25,000					25,000
Back-up Power new in 1995		10,000									10,000
Sub-total	**85,000**	**60,000**	**-**	**75,000**	**-**	**60,000**	**-**	**20,000**	**-**	**-**	**300,000**
Storage											-
Consecon Water Tower			350,000								350,000
Sub-total	**-**	**-**	**350,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**350,000**
Consecon/Carrying Place-Linear											
Mains											
System piping new in 1996 (PVC), total length -16204.1m											-
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	-
Hydrants, Valves, Services											
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Meters											
Metering Installed - 1996			100,000								100,000
Sub-total	**-**	**-**	**100,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**100,000**
Consecon/Carrying Place Distribution Total	**85,000**	**60,000**	**450,000**	**75,000**	**-**	**60,000**	**-**	**20,000**	**-**	**-**	**750,000**

Wastewater – 10 Year Capital Plan

WASTEWATER CAPITAL NEEDS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Picton											
Facilities											
Treatment Plant	-	-	-	-	-	280,000	100,000	220,000	120,000	-	**720,000**
Pumping Stations	61,000	-	2,120,000	56,000	50,000	20,000	205,000	195,000	-	-	**2,707,000**
Linear											
Mains	10,000	1,689,042	530,000	10,000	530,000	530,000	530,000	530,000	780,000	530,000	**5,669,042**
Maintenance Manholes	80,000	40,000	40,000	40,000	-	-	-	-	-	-	**200,000**
Picton Wastewater Services - Total	**151,000**	**1,729,042**	**2,690,000**	**106,000**	**580,000**	**830,000**	**835,000**	**945,000**	**900,000**	**530,000**	**9,296,042**
Wellington											
Facilities											
Treatment Plant	510,000	530,000	175,000	250,000	-	80,000	130,000	120,000	-	400,000	**2,195,000**
Pumping Stations	-	90,000	60,000	25,000	107,000	180,000	40,000	25,000	-	82,000	**609,000**
Linear											
Mains	-	-	-	-	-	-	-	-	-	-	**-**
Maintenance Manholes	60,000	30,000	30,000	30,000	-	-	-	-	-	-	**150,000**
Wellington Wastewater Services - Total	**570,000**	**650,000**	**265,000**	**305,000**	**107,000**	**260,000**	**170,000**	**145,000**	**-**	**482,000**	**2,954,000**
											-
TOTAL WASTEWATER CAPITAL NEEDS	**721,000**	**2,379,042**	**2,955,000**	**411,000**	**687,000**	**1,090,000**	**1,005,000**	**1,090,000**	**900,000**	**1,012,000**	**12,250,042**

Picton Wastewater Services – Capital Needs 2014-2023

Picton Wastewater-Facilities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Treatment Plant											
Treatment Plant											-
Study's and Engineering									20,000		20,000
Grit Removal and Grinding Unit											-
Aeration System including Diffusers/Lines									50,000		50,000
Plant Digesters						50,000					50,000
UV System						80,000					80,000
Final Clarifiers						50,000		45,000			95,000
Chemical Systems								25,000			25,000
Plant flow metering											-
Instrumentation (Chlorine Analyzers, Data Rec Equip)											-
Communications, Security, SCADA and Alarms								150,000	50,000		200,000
Back-up Power – WWTP											-
Heating and Ventilation							100,000				100,000
Electrical, Mechanical and Plumbing											-
Biosolids Dewatering Equipment											-
Biosolids Storage											-
Septage receiving station											-
Building						100,000					100,000
Sub-total	**-**	**-**	**-**	**-**	**-**	**280,000**	**100,000**	**220,000**	**120,000**	**-**	**720,000**

Picton Wastewater Services – Capital Needs 2014-2023

Pumping Stations											
Lalor Street											-
Pipe and valving											-
Forcemain											-
Electrical, Mechanical and Plumbing											-
Back-up Power											-
Building and tank structure											-
Instrumentation and control systems								25,000			25,000
Grinder								80,000			80,000
Communications, Security, SCADA and Alarms								60,000			60,000
Sewage pumps								30,000			30,000
Bridge Street East (Rickarton)											-
Pipe and valving											-
Forcemain											-
Electrical, Mechanical and Plumbing											-
Back-up Power							100,000				100,000
Building and tank structure						20,000					20,000
Instrumentation and control systems											-
Sewage pumps				8,000							8,000
Bridge Street											-
Pipe and valving											-
Forcemain											-
Electrical, Mechanical and Plumbing											-
Back-up Power			100,000								100,000
Building and tank structure				20,000							20,000
Instrumentation and control systems							20,000				20,000
Sewage pumps				8,000							8,000
Paul Street											-
Pipe and valving											-
Forcemain											-
Electrical, Mechanical and Plumbing											-
Back-up Power											-
Building and tank structure											-
Instrumentation and control systems							20,000				20,000
Sewage pumps											-
Hill Street											-
Pipe and valving											-
Forcemain											-
Electrical, Mechanical and Plumbing											-
Back-up Power											-
Pumping Stations - Backup Power											-
Building and tank structure				20,000							20,000
Instrumentation and control systems					50,000		20,000				70,000
Sewage pumps							25,000				25,000
Main Street East											-
Pipe and valving											-
Forcemain											-
Electrical, Mechanical and Plumbing											-
Back-up Power					-						-
Building and tank structure											-
Instrumentation and control systems							20,000				20,000
Sewage pumps	61,000										61,000
Picton East - Nautical Group/McFarland Lands Servicing			2,020,000								2,020,000
Sub-total	**61,000**	**-**	**2,120,000**	**56,000**	**50,000**	**20,000**	**205,000**	**195,000**	**-**	**-**	**2,707,000**

Picton Wastewater Services – Capital Needs 2014-2023

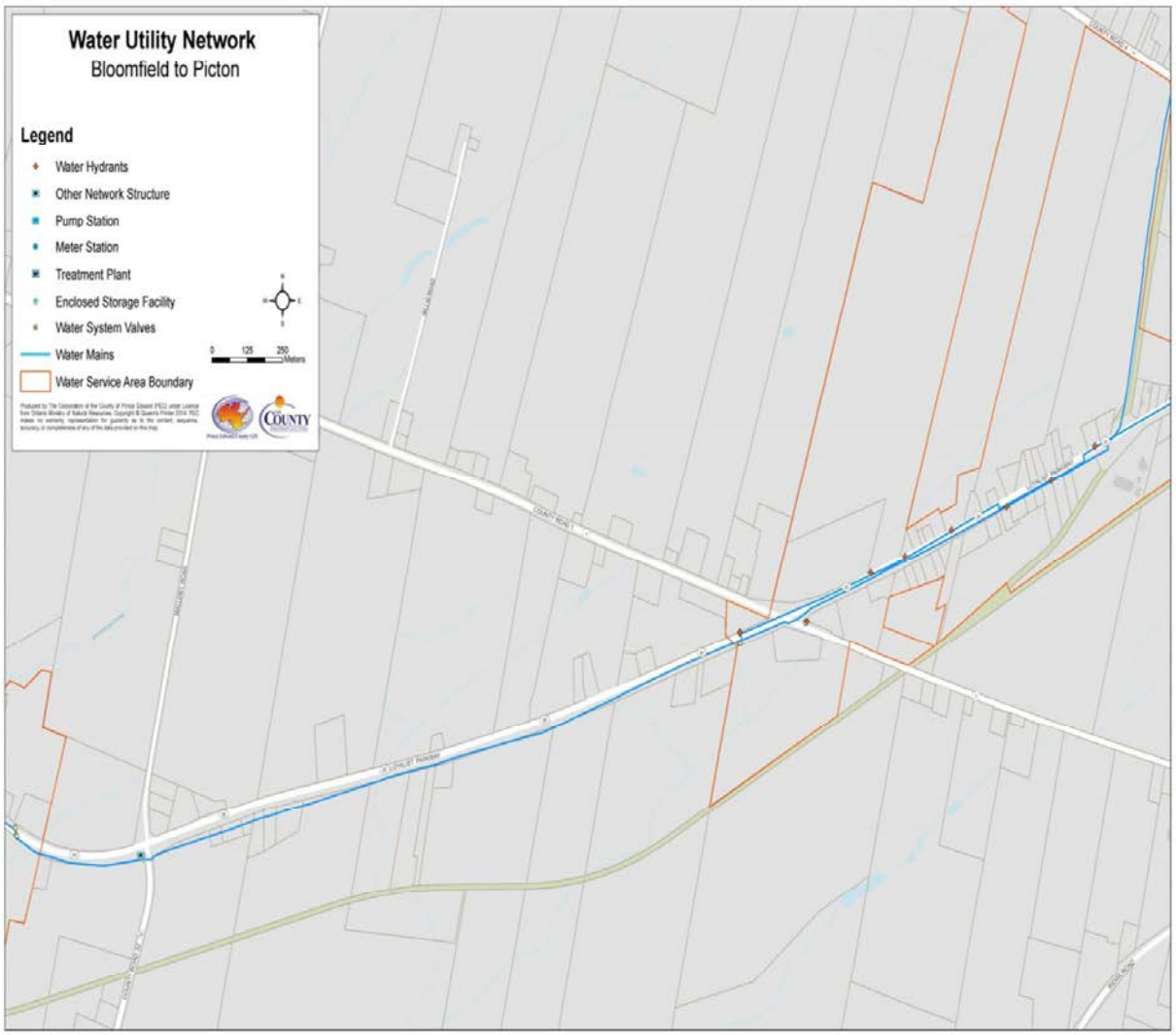
Picton Wastewater-Linear											
Mains											
Study's			20,000								20,000
Piping and valving											-
Forcemains			500,000								500,000
Picton Broad-Roger-Harvey Sts Upgrade Design		925,000									925,000
Washburn St											-
Macaulay Village System Repairs	10,000	10,000	10,000	10,000							40,000
Picton Main St (Chapel-Bridge)		754,042									754,042
Picton Main St (Talbot to west limit)											-
Bridge St - (Union to East Limit)											-
CCTV Inspections									250,000		250,000
System Flushing											-
Priority Projects					530,000	530,000	530,000	530,000	530,000	530,000	3,180,000
Sub-total	**10,000**	**1,689,042**	**530,000**	**10,000**	**530,000**	**530,000**	**530,000**	**530,000**	**780,000**	**530,000**	**5,669,042**
Maintenance Manholes											
Minor rehab work (grout sealing, lining, manhold repairs etc.	80,000	40,000	40,000	40,000							200,000
Sub-total	**80,000**	**40,000**	**40,000**	**40,000**	**-**	**-**	**-**	**-**	**-**	**-**	**200,000**
Picton WastewaterTotal	**151,000**	**1,729,042**	**2,690,000**	**106,000**	**580,000**	**830,000**	**835,000**	**945,000**	**900,000**	**530,000**	**9,296,042**

Wellington Wastewater Services – Capital Needs 2014-2023

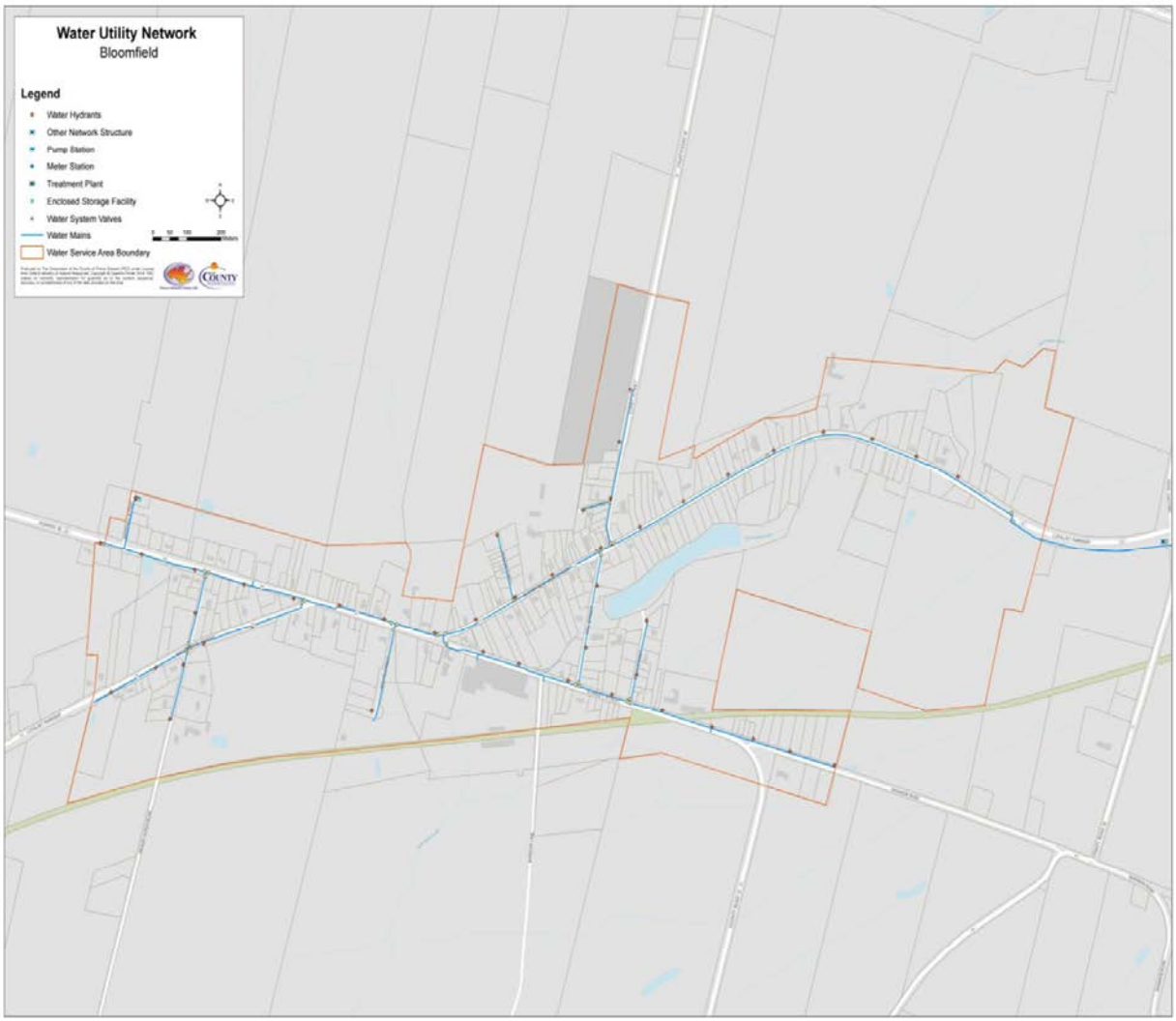
Wellington Wastewater-Facilities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Treatment Plant											-
Study's and Engineering				250,000							250,000
Building	50,000					80,000					130,000
Return/scum/transfer pumping systems	30,000						30,000				60,000
Grit Removal and Grinding Unit	250,000									400,000	650,000
Aeration System including Diffusers/Lines		150,000									150,000
Final Clarifiers	60,000							100,000			160,000
Chemical Systems			25,000								25,000
Plant flow metering	30,000										30,000
Instrumentation (Chlorine Analyzers, Data Recording Equipment)	20,000							20,000			40,000
Communications, Security, SCADA and Alarms											-
Back-up Power – WWTP		300,000									300,000
Heating and Ventilation	20,000										20,000
Electrical, Mechanical and Plumbing		80,000									80,000
Biosolids Storage							100,000				100,000
Odour Control Upgrades			150,000								150,000
Plant Effluent Dechlorination	50,000										50,000
Septage receiving station											-
Sub-total	**510,000**	**530,000**	**175,000**	**250,000**	**-**	**80,000**	**130,000**	**120,000**	**-**	**400,000**	**2,195,000**
Pumping Stations											-
Station #1											-
Pipe and valving			60,000								60,000
Electrical, Mechanical and Plumbing					40,000						40,000
Back-up Power											-
Building and tank structure							20,000	25,000			45,000
Instrumentation and control systems		90,000									90,000
Sewage pumps					14,000					14,000	28,000
Station #2											-
Pipe and valving											-
Electrical, Mechanical and Plumbing						40,000					40,000
Back-up Power						100,000					100,000
Building and tank structure				25,000			20,000				45,000
Instrumentation and control systems											-
Sewage pumps					14,000					14,000	28,000
Station #3 Plant pumping Station											-
Pipe and valving										40,000	40,000
Electrical, Mechanical and Plumbing						40,000					40,000
Tank structure					25,000						25,000
Instrumentation and control systems											-
Sewage pumps					14,000					14,000	28,000
Sub-total	**-**	**90,000**	**60,000**	**25,000**	**107,000**	**180,000**	**40,000**	**25,000**	**-**	**82,000**	**609,000**
Wellington Wastewater-Linear											
Mains											
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Maintenance Manholes											
Minor rehab work (grout sealing, lining, manhold repairs etc.)	60,000	30,000	30,000	30,000							150,000
Sub-total	**60,000**	**30,000**	**30,000**	**30,000**	**-**	**-**	**-**	**-**	**-**	**-**	**150,000**
Wellington Wastewater Total	**570,000**	**650,000**	**265,000**	**305,000**	**107,000**	**260,000**	**170,000**	**145,000**	**-**	**482,000**	**2,954,000**

Appendix I – Water Utility Network – Picton

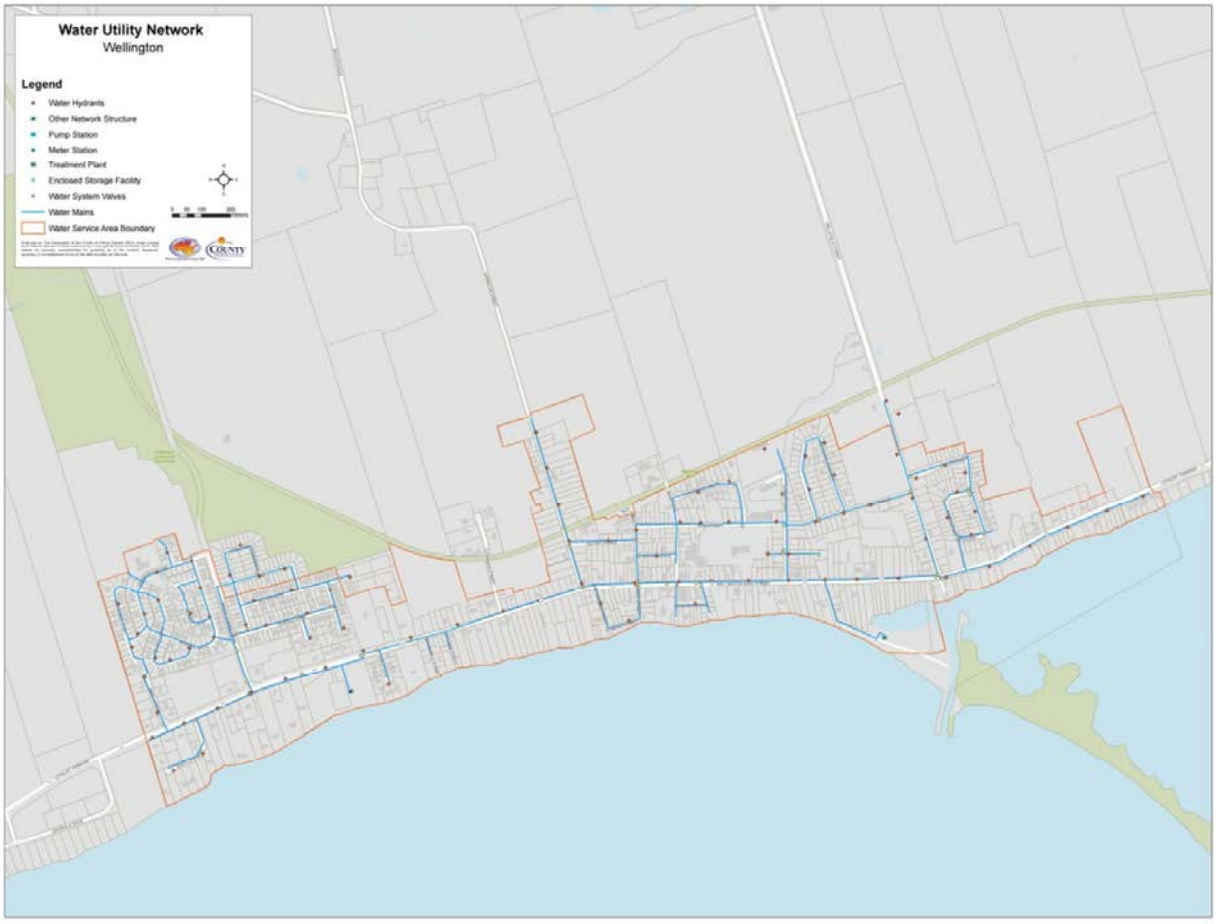
Appendix II – Water Utility Network – Bloomfield to Picton



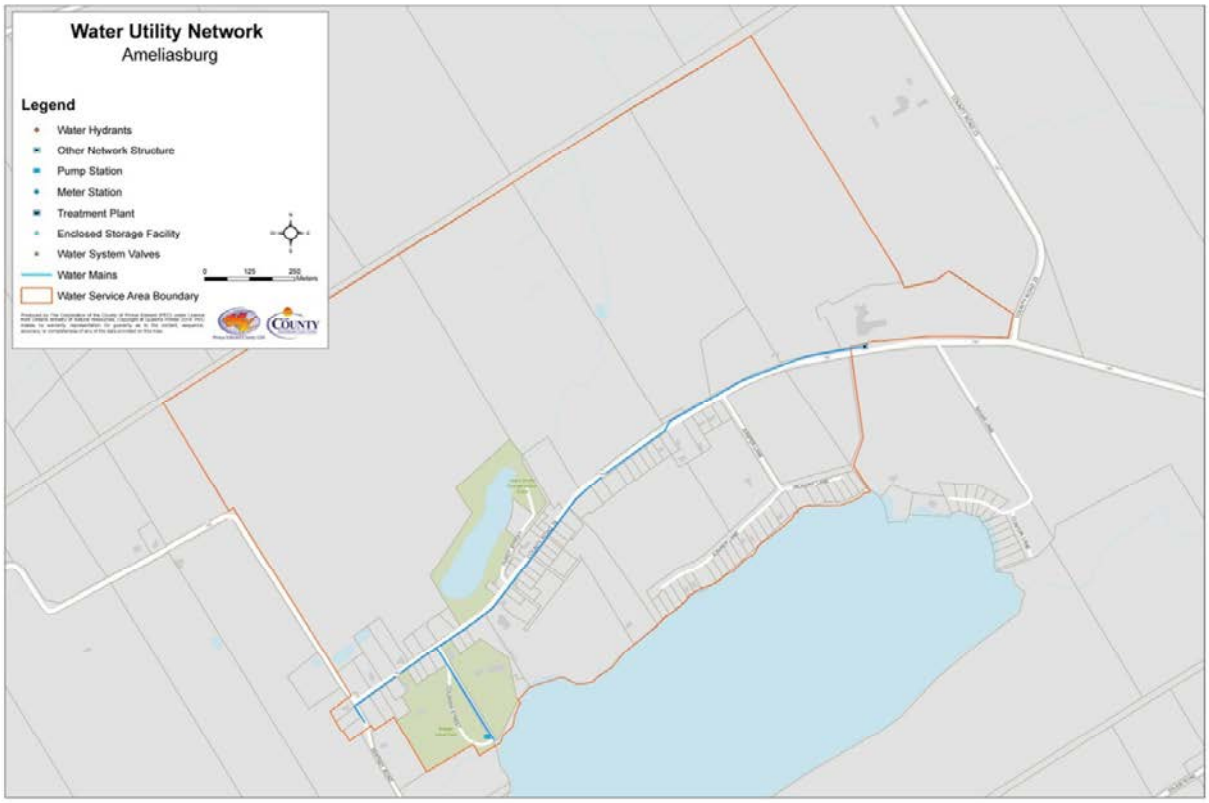
Appendix III – Water Utility Network – Bloomfield



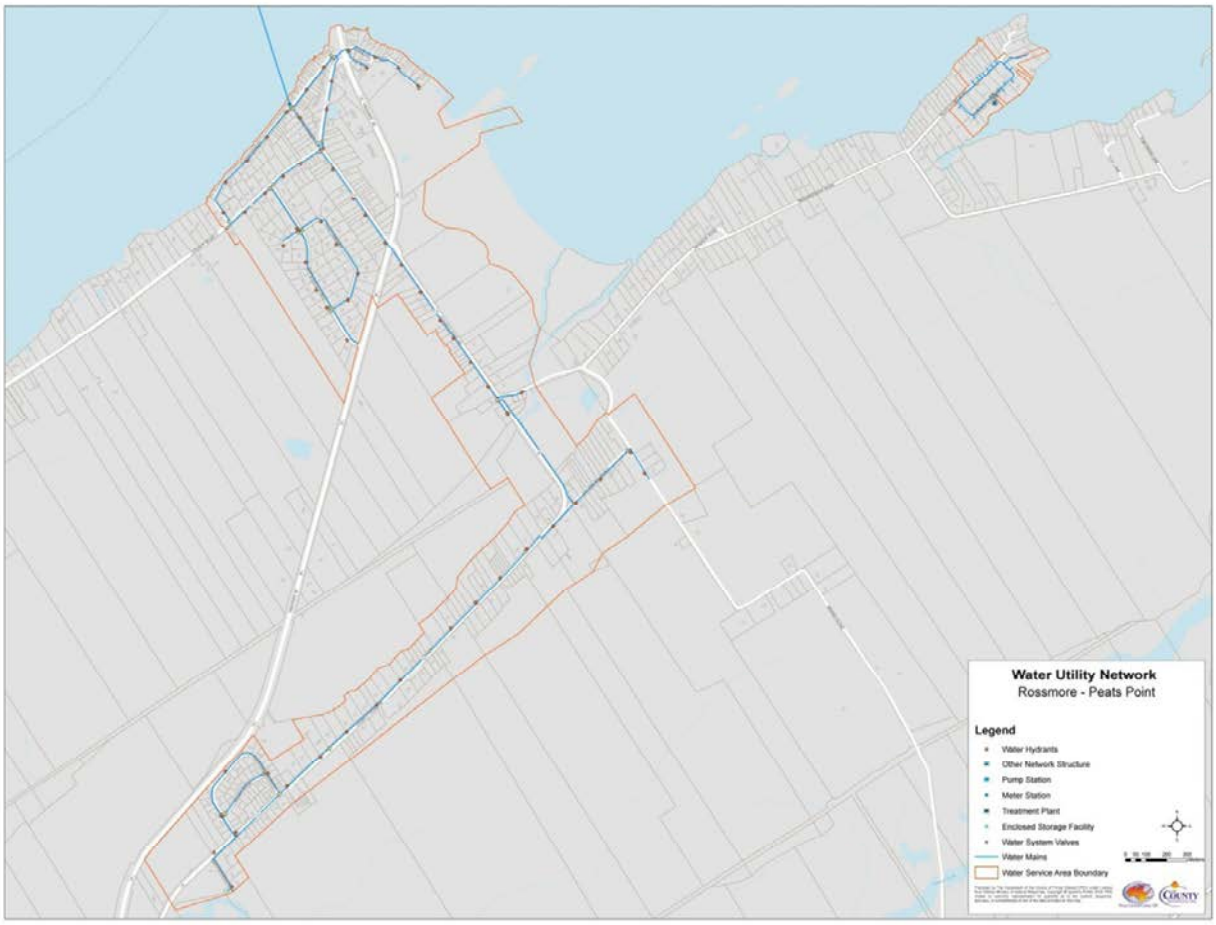
Appendix IV – Water Utility Network – Wellington



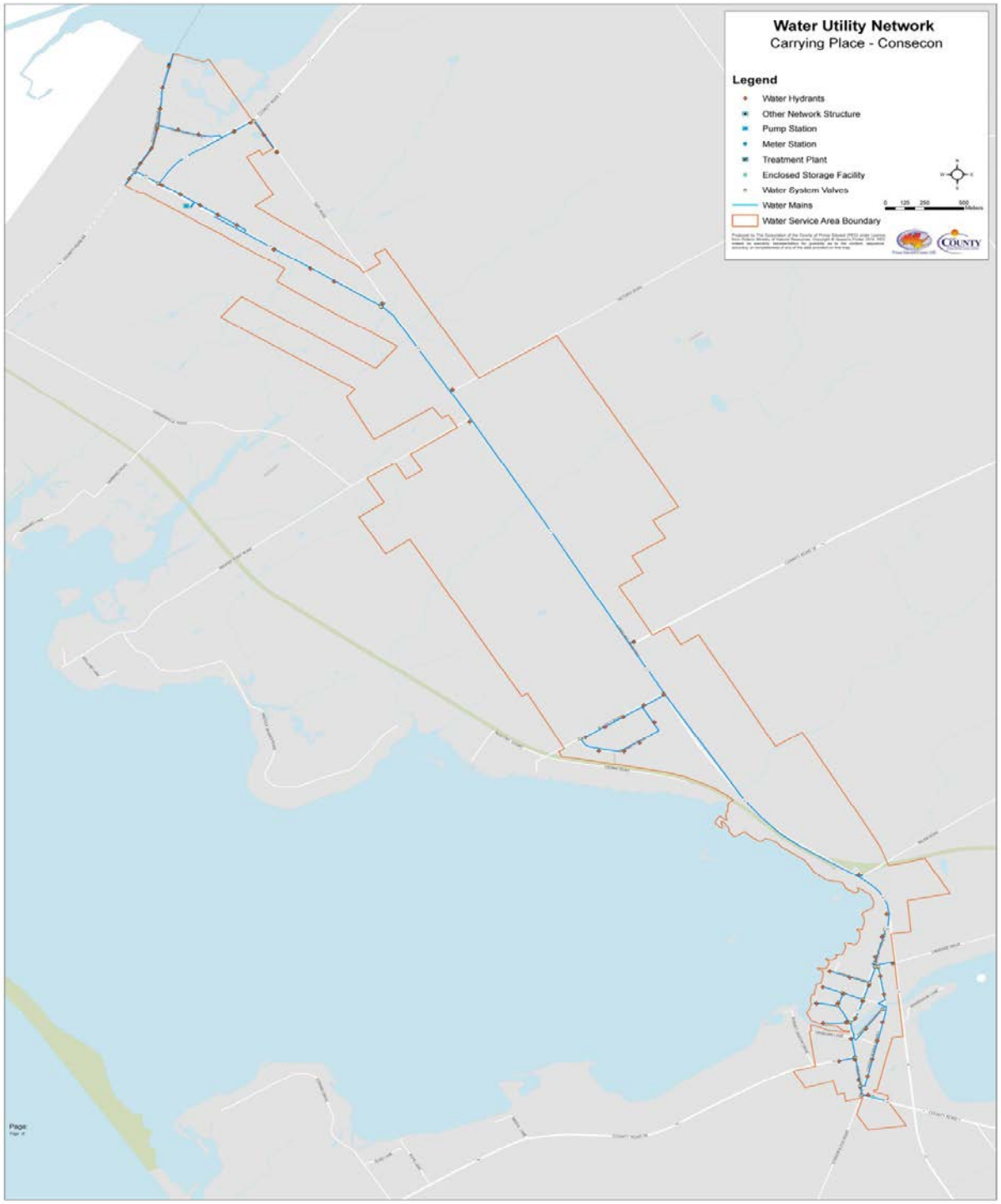
Appendix V – Water Utility Network – Ameliasburgh



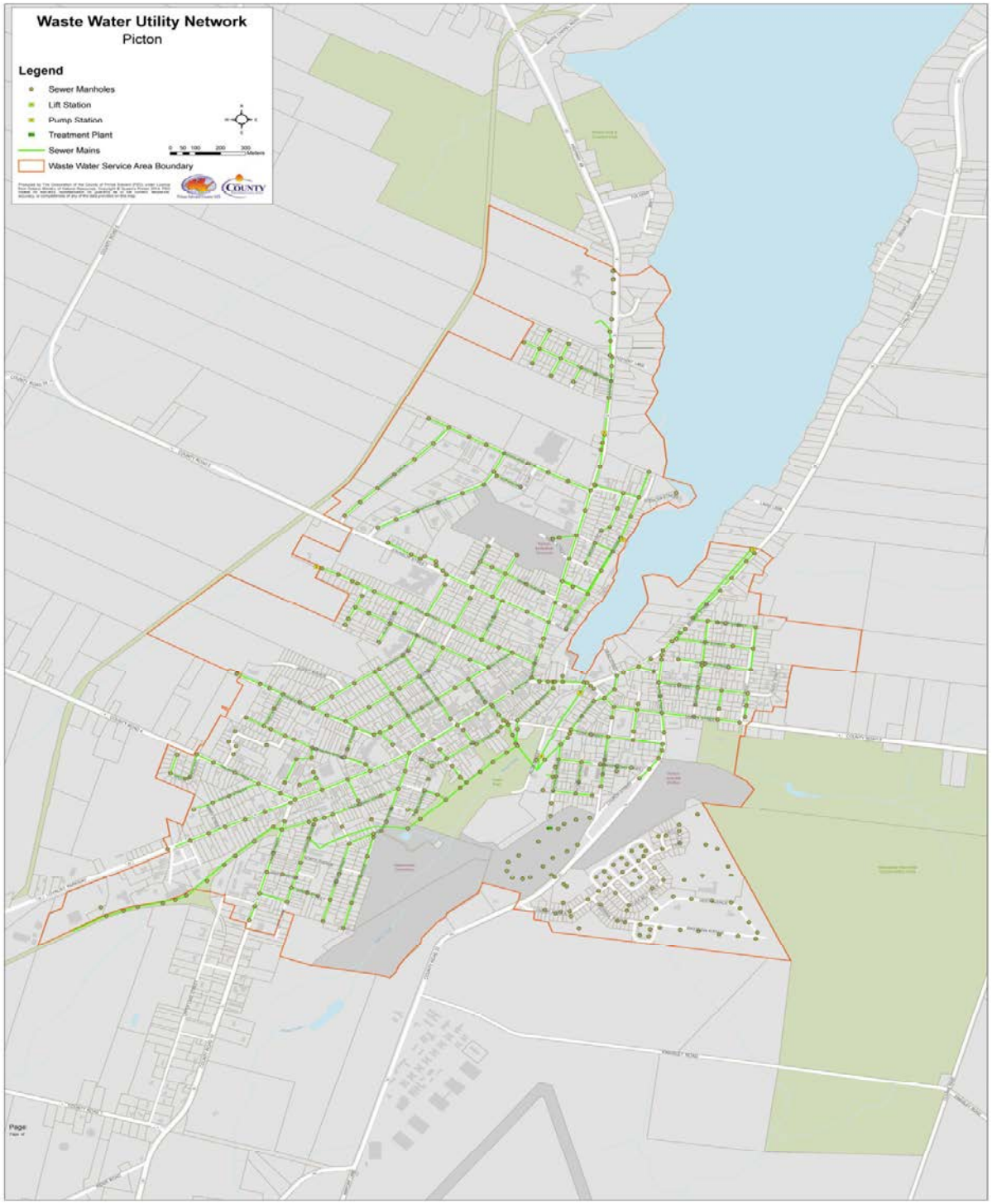
Appendix VI – Water Utility Network – Rossmore/Fenwood and Peats Point



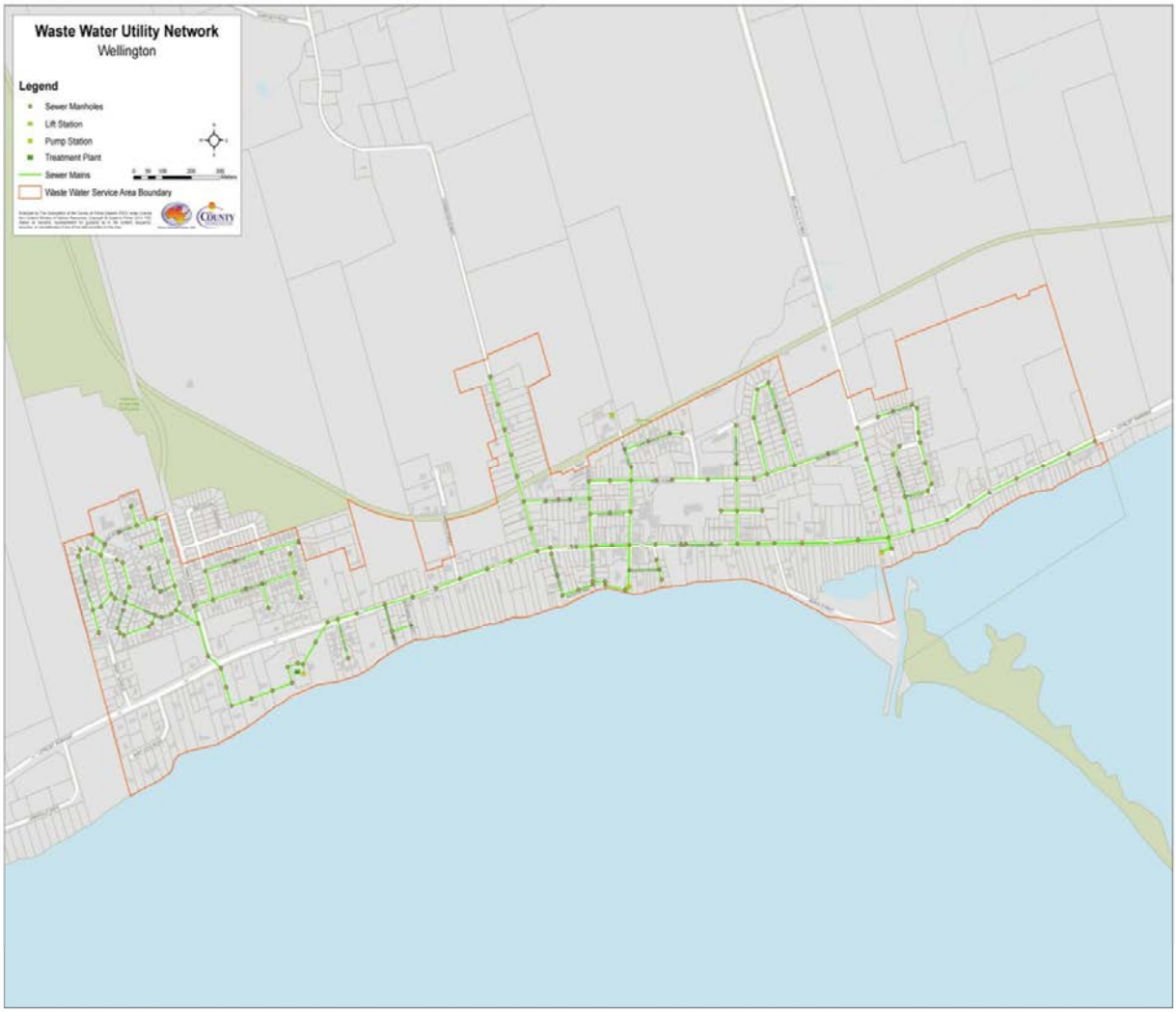
Appendix VII – Water Utility Network – Carrying Place Consecon



Appendix VIII – Waste Water Utility Network – Picton



Appendix IX – Waste Water Utility Network – Wellington



Appendix D – Projections for Capital Spending

			Scenario 1	Scenario 2	Scenario 3
	Immediate Infrastructure Needs	Sustainable Life Cycle	Immediate Infrastructure Needs plus Sustainable Life Cycle	Immediate Infrastructure Needs first, then Sustainable Life Cycle	2014 Capital Spending Budget
2013	$20,164	$17,751	$37,915	$20,164	$11,800
2014	$20,164	$18,106	$38,270	$20,164	$12,036
2015	$20,164	$18,468	$38,632	$20,164	$12,277
2016	$20,164	$18,838	$39,002	$20,164	$12,522
2017	$20,164	$19,214	$39,378	$20,164	$12,773
2018	$20,164	$19,599	$39,763	$20,164	$13,028
2019	$20,164	$19,991	$40,155	$20,164	$13,289
2020	$20,164	$20,390	$40,554	$20,164	$13,554
2021	$20,164	$20,798	$40,962	$20,164	$13,826
2022	$20,164	$21,214	$41,378	$20,164	$14,102
2023		$21,638	$21,638	$21,638	$14,384
2024		$22,071	$22,071	$22,071	$14,672
2025		$22,513	$22,513	$22,513	$14,965
2026		$22,963	$22,963	$22,963	$15,265
2027		$23,422	$23,422	$23,422	$15,570
2028		$23,891	$23,891	$23,891	$15,881
2029		$24,368	$24,368	$24,368	$16,199
2030		$24,856	$24,856	$24,856	$16,523
2031		$25,353	$25,353	$25,353	$16,853
2032		$25,860	$25,860	$25,860	$17,190
2033		$26,377	$26,377	$26,377	$17,534
2034		$26,905	$26,905	$26,905	$17,885
2035		$27,443	$27,443	$27,443	$18,243
2036		$27,992	$27,992	$27,992	$18,607
2037		$28,551	$28,551	$28,551	$18,980

Note: 2% inflation assumed for sustainable and budgeted capital spending