TOWNSHIP OF MAPLETON

ASSET MANAGEMENT PLAN

IN ASSOCIATION WITH:

BluePlan ENGINEERING CONSULTANTS LIMITED

DECEMBER 20, 2013

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Planning for growth

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report contains the Asset Management Plan for the Township of Mapleton (Township), and has been organized as follows:

Chapter 1: Introduction;
Chapter 2: State of Local Infrastructure;
Chapter 3: Expected Levels of Service;
Chapter 4: Asset Management Strategy;
Chapter 5: Financing Strategy; and
Chapter 6: Recommendations.

The "state of local infrastructure" chapter provides an overview of the capital assets owned by the Township. This includes detailed information on the Township's asset inventory, including asset attributes, accounting valuations, replacement costs, useful life, age and asset condition. This information provides the foundation for other sections of the asset management plan.

"Expected levels of service" compares the current level of service provided by the Township to the level of service determined to be expected in each area. This analysis combines both descriptions/comments as well as performance measures in establishing service levels.

The "asset management strategy" provides a long term operating and capital forecast for asset related costs, indicating the requirements for maintaining, rehabilitating, replacing/disposing and expanding the Township's assets, while moving towards the specified expected levels of service identified above. The goal of the asset management strategy is to have the Township in (or moving towards) a sustainable asset management position over the forecast period.

The "financing strategy" identifies a funding plan for the asset management strategy, including a review of historical results and recommendations with respect to the required amounts and types of funding (revenue) annually. Also, any infrastructure funding deficits/shortfalls are identified and recommendations are made regarding potential approaches to reduce and mitigate the shortfall over the forecast period.

Overall, this asset management plan is a tool to be used by Township staff for capital and financial decision making. It can be tied to various existing reports (such as the Township's budget, official plan and strategic planning reports) to ensure the asset management plan can be updated to reflect any changes in Township priorities.

1. INTRODUCTION

1. INTRODUCTION

1.1 Overview

The main objective of an asset management plan is to use a municipality's best available information to develop a comprehensive long term plan for capital assets. In addition, the AMP should provide sound methodologies and support in order to improve the accuracy of the plan on a go forward basis.

Watson & Associates Economists Ltd. (Watson) and BluePlan Engineering Consultants Limited (BluePlan) were retained by the Township to prepare an asset management plan. This plan is intended to be a tool for Township staff to use during various decision making processes, including the annual budgeting process and capital grant application processes. This plan will serve as a road map for sustainable infrastructure planning going forward.

Assets included in this asset management plan include the following:

- Roads related (street lights, bridges, culverts, roads, sidewalks);
- Facilities;
- Land Improvements;
- Vehicles;
- Machinery and Equipment;
- Stormwater related (mains, catch basins, man holes);
- Water related (mains, facilities, hydrants, valves, shutoffs); and
- Wastewater related (mains, facilities, manholes, valves).

The Township's goals and objectives with respect to their capital assets relate to the level of service being provided to Township residents. Services should be provided at expected levels, as defined within this asset management plan. Township infrastructure and other capital assets should be maintained at condition levels that provides a safe and functional environment for its residents. Therefore, the asset management plan and its implementation will be evaluated based on the Township's ability to meet these goals and objectives.

1.2 Plan Development

The asset management plan process developed a program the leverages the Township's asset database information, staff input and asset management principles.

The development of the Township's asset management plan was based on the steps summarized below:

1) Develop a complete listing of capital assets to be included in the plan, including attributes such as size/material type, useful life, age, accounting valuation and current valuation. Update current valuation to 2013 dollars, where required.
2) Assess current condition of the assets, based on a combination of existing Township reports and age analysis.
3) Assess the risk of asset failure for each asset, based on determining the probability of each asset failing, as well as the consequence of the asset failing. This risk analysis identifies priority projects for inclusion in the asset management plan, as well as asset risk levels that require mitigation.
4) Determine and document current levels of service, as well as expected levels of service, based on discussions with Township staff.
5) Prepare an asset management strategy (i.e. operating and capital forecast) based on the asset inventory, identified priorities, forecast scenarios, and level of service analysis discussed above.
6) Determine a financing strategy to support asset management strategy, thus determining how the operating and capital related expenditure forecast will be funded over the period.
7) Prepare a comprehensive Asset Management Plan final report.

1.3 Maintaining the Asset Management Plan

The asset management plan should be updated as the capital needs and priorities of the Township change. This can be accomplished in conjunction with the Township's budget process. Township staff will have the tools available to perform updates to the plan when needed.

When updating the asset management plan, note that the state of local infrastructure, expected levels of service, asset management strategy and financing strategy are integrated and impact each other. Looking at these components in reverse order, the financing strategy outlines how the asset management strategy will be funded. The asset management strategy illustrates the costs required to maintain expected levels of service at a sustainable level. The expected levels of service component summarizes and links each service area to specific assets contained in the state of local infrastructure section and thus determines how these assets will be used to provide expected service levels.

While this report covers a defined forecast period, the full lifecycle of the Township's assets was considered in the calculations. It is suggested that more focus and attention be put on the first 5 years of the asset management plan, to ensure accurate capital planning in the short term.

1.4 Plan Integration

The municipal environment is a continually changing and demanding environment when it comes to legislation and other responsibilities. Integrating the asset management plan with the Township's budget process as well as PSAB 3150 (tangible capital asset) requirements can make updates in all three areas more efficient.

With respect to integrating the Township's budget process with asset management planning, both require a projection of capital and operating costs of a future period. The budget outlines total operating and capital requirements of the Township, while the asset management plan focuses in on specific asset related requirements. With this link to the annual budget, the budget update process can become an asset management plan update process.

Both asset management and Public Standards Accounting Board Section 3150 (PSAB 3150) require a complete and accurate asset inventory. The significant difference between the two lies in valuation approaches (PSAB 3150 requires historical cost valuation, while asset management requires future replacement cost valuation). Using a single asset inventory containing both valuation methods is an effective approach to maintaining the Township's asset data.

Further integration into other Township financial/planning documents would assist in ensuring the ongoing accuracy of the asset management plan, as well as the integration financial/planning documents. The asset management plan has been developed to allow linkages in documents such as:

- Development Charge Background Study;
- Water and Wastewater Rate Studies;
- Official Plan;
- Strategic Planning Reports;
- Fiscal Impact/Operating Studies; and
- Insurance valuations and records.

2. STATE OF LOCAL INFRASTRUCTURE

2. STATE OF LOCAL INFRASTRUCTURE

2.1 Scope and Process

This section of the plan provides an opportunity to develop a greater understanding of the capital assets owned by the Township. The state of local infrastructure analysis includes:

- An asset database documenting asset types, sub-types including quantities, materials and other similar asset attributes;
- Financial accounting valuation;
- Replacement cost valuation;
- Asset age distribution analysis and asset age as a proportion of expected useful life;
- Asset condition information;
- Data Verification and Asset Condition policies; and
- Documentation of assumptions made in creating the asset inventory.

The first step in defining the state of local infrastructure was to identify a complete asset inventory and establish replacement costs for each asset. Utilizing the PSAB 3150 inventory as a starting point, a complete list of the Township's assets was accumulated and reviewed. Recognizing that this exercise needed to derive a detailed asset management plan, the approach was adjusted to suit the level of asset detail available. Asset inventories were reviewed and the replacement values were cross referenced to industry best practices at a high-level.

2.2 Capital Asset Overview

The Township presently owns capital assets with a 2013 replacement value of approximately $418.89 million (excluding land assets as they are not included in this plan). This total is split into $390.4 million of tax supported assets, $11.6 million of water assets and $16.8 million of wastewater assets. Tables 2-1 to 2-3 outline the breakdown of these totals and Figures 2-1 to 2-3 illustrate the breakdown.

Table 2-1
2013 Tax Supported Assets (Excluding Land)

Asset Type	Historical Cost 12/31/2012	Accumulated Amortization 12/31/2012	Net Book Value 12/31/2012	Replacement Cost 2013$
Catchbasins	21,682	16,260	5,422	191,443
Storm Manholes	781,123	302,566	478,557	2,774,084
Storm Sewers	1,438,388	472,372	966,016	6,470,565
Sidewalks	1,185,184	368,946	816,238	2,615,119
Bridges	7,659,886	3,955,454	3,704,432	11,384,000
Culverts	123,169	96,070	27,099	784,833
Buildings	6,604,907	1,475,535	5,129,372	13,053,410
Ponds	273,277	55,216	218,061	448,733
Roads	56,330,589	39,481,275	16,849,314	342,704,208
Vehicles	5,483,509	2,040,593	3,442,916	6,768,166
Traffic Signs	170,158	78,632	91,526	293,250
Recreational	474,320	144,577	329,743	707,945
Street Lights	621,628	307,308	314,320	1,009,032
Equipment	818,267	351,244	467,023	1,232,444
Total Tax Supported Capital Assets	**$ 81,986,088**	**$ 49,146,049**	**$ 32,840,039**	**$ 390,437,231**

Figure 2-1
2013 Tax Supported Assets Distribution

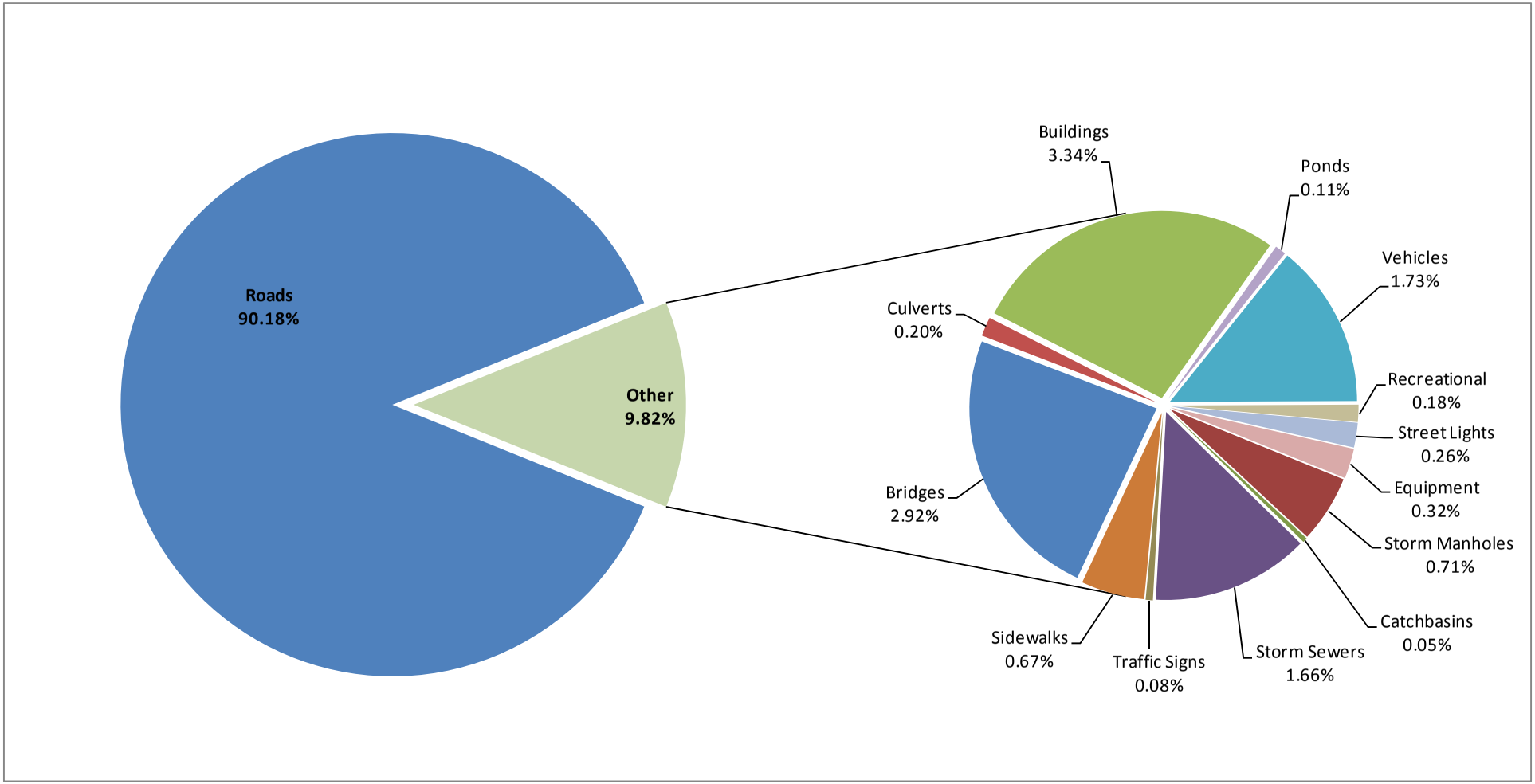


Table 2-2
2013 Water Assets

Asset Type	Historical Cost 12/31/2012	Accumulated Amortization 12/31/2012	Net Book Value 12/31/2012	Replacement Cost 2013$
Hydrants	154,010	52,573	101,437	349,112
Water Blow-offs	13,627	3,645	9,982	24,891
Water Valves	185,759	62,226	123,533	429,754
Watermains	1,209,657	325,672	883,985	8,358,118
Wells/Pumps	1,088,541	385,100	703,441	2,431,388
Stand Pipe/Water Reservoir	218,080	33,077	185,003	52,022
Total Water Capital Assets	**$ 2,869,674**	**$ 862,293**	**$ 2,007,381**	**$ 11,645,285**

Figure 2-2
2013 Water Assets Distribution

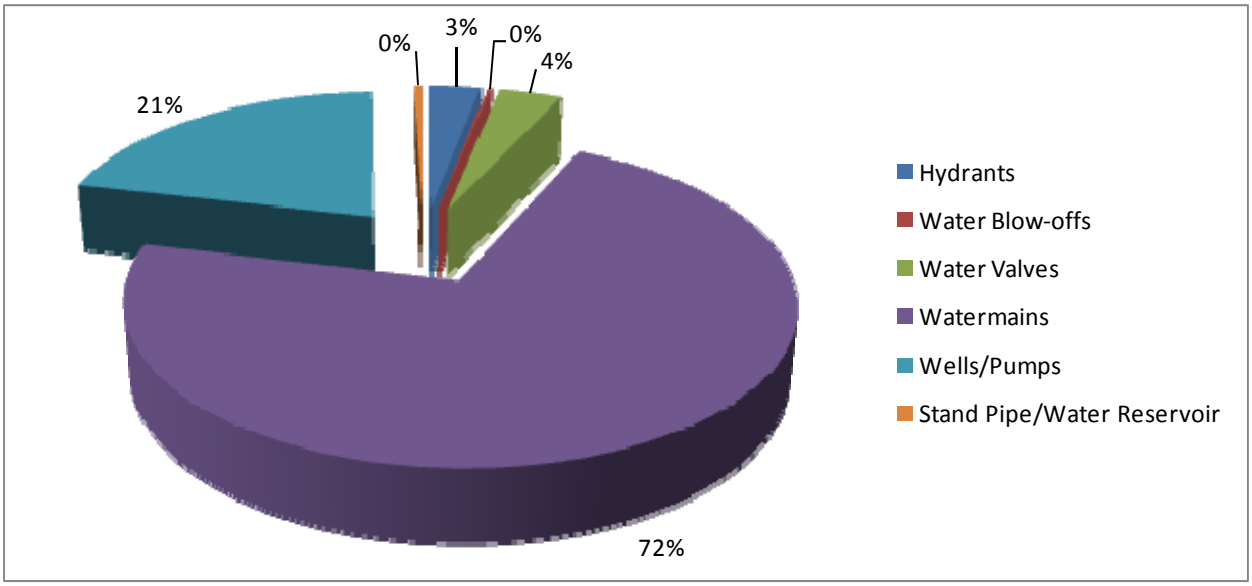
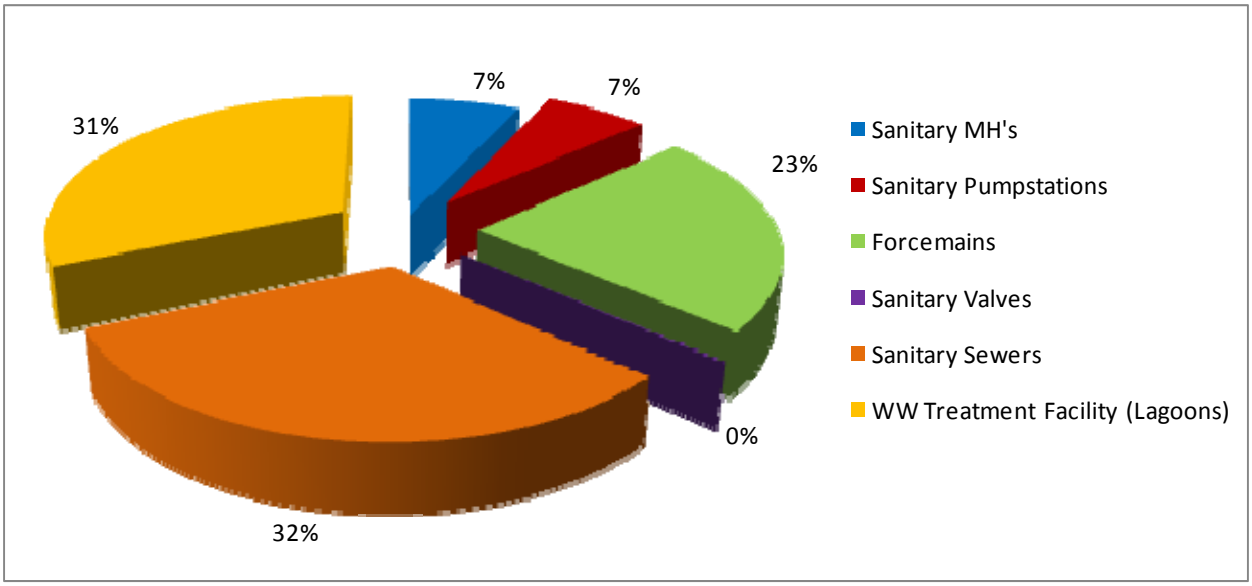


Table 2-3
2013 Wastewater Assets

Asset Type	Historical Cost 12/31/2012	Accumulated Amortization 12/31/2012	Net Book Value 12/31/2012	Replacement Cost 2013$
Sanitary MH's	497,397	166,774	330,623	1,158,471
Sanitary Pumpstations	488,195	175,768	312,427	1,100,435
Forcemains	287,778	56,542	231,236	3,856,060
Sanitary Valves	12,852	1,623	11,229	20,213
Sanitary Sewers	1,056,552	312,214	744,338	5,398,484
WW Treatment Facility (Lagoons)	3,893,480	485,968	3,407,512	5,270,592
Total Wastewater Capital Assets	**$ 6,236,254**	**$ 1,198,889**	**$ 5,037,365**	**$ 16,804,256**

Figure 2-3
2013 Wastewater Distribution



Tables 2-1 to 2-3 also show the Township's financial accounting valuation summary by asset type. Since 2009, the Township has been required under the Public Sector Accounting Board section 3150 (PSAB 3150) to maintain asset listings complete with historical cost (i.e. the original cost to purchase or construct an asset), accumulated amotization and net book value. These values are reported on the Township's audited financial statements each year.

The detailed capital asset inventory is contained in Technical Appendix A. Assumptions pertaining to the asset inventory were documented as part of the asset management process are shown in Appendix B.

2.3 Asset Age Analysis

Each asset is tracked based on estimated total useful life and remaining service life. Using this information, an age analysis of the Township's assets can assist in identifying potential areas of focus for the asset management plan.

Tables 2-4 to 2-6 provide a summary of the age analysis undertaken including the weighted (based on replacement cost) average useful life and weighted average remaining useful life of tax supported, water and wastewater assets respectively. This analysis can assist in identifying potential short-term priorities within specific asset areas.

Table 2-4
Asset Age Analysis (Tax Supported)

Asset Type	Weighted Average (rounded)		
	Useful Life	Remaining Useful Life	% Useful Life Remaining
Catchbasins	61	15	24.54%
Storm Manholes	60	27	44.65%
Storm Sewers	60	40	67.12%
Sidewalks	50	30	59.21%
Bridges	50	6	11.26%
Culverts	50	11	22.00%
Buildings	50	31	62.65%
Ponds	50	40	79.34%
Roads	20	6	31.59%
Vehicles	16	6	38.76%
Traffic Signs	20	10	50.53%
Recreational	25	16	62.93%
Street Lights	20	9	45.76%
Equipment	17	4	24.56%

Table 2-5
Asset Age Analysis (Water)

Asset Type	Weighted Average (rounded)		
	Useful Life	Remaining Useful Life	% Useful Life Remaining
Hydrants	60	38	63.57%
Water Blow-offs	60	40	66.20%
Water Valves	60	38	63.09%
Watermains	60	44	73.05%
Wells/Pumps	50	29	58.17%
Stand Pipe/Water Reservoir	50	42	84.00%

Table 2-6
Asset Age Analysis (Wastewater)

Asset Type	Weighted Average (rounded)		
	Useful Life	Remaining Useful Life	% Useful Life Remaining
Sanitary MH's	60	38	62.60%
Sanitary Pumpstations	50	29	57.61%
Forcemains	60	48	80.36%
Sanitary Valves	60	52	86.67%
Sanitary Sewers	60	42	70.29%
WW Treatment Facility (Lagoons)	50	40	80.08%

Total useful life and remaining service life for each capital asset is documented in Appendix A.

While this analysis can be useful in looking at the overall age characteristics of specific asset areas, asset condition (see below) will assist in providing a more accurate assessment of assets reaching the end of their useful life.

2.4 Asset Condition

Where available, actual asset condition was incorporated into the asset management plan, as it provides a more realistic measure of the remaining life of an asset. Where actual condition data was not available, estimated service life (ESL) and asset age were used to estimate condition. As an example, utilizing the remaining life strictly on installation date and ESL for roads identified a large number of road sections that had reached or exceeded their ESL. The Township performs asset inspections of all road sections and utilizing the Pavement Condition Index (PCI), the actual number of roads requiring rehabilitation or replacement was significantly smaller.

Further discussion of condition assessments will take place in Chapter 4 when assessing asset risk and identifying asset priorities. Furthermore, detailed asset conditions are documented in Appendix A (Technical Appendix) to this report. It is recommended that actual condition assessments be performed on various asset types in the future to further increase the accuracy of this analysis.

2.5 Data Accuracy and Completeness

An important element of this asset management plan is ensuring that tools and procedures are in place to maintain accuracy and completeness of the asset data and calculations moving forward. As time passes, assets are used, maintained, improved, disposed of, and replaced.

All of these lifecycle events can trigger changes to the asset database used within the asset management plan. Therefore, tools and procedures are essential to ensure the asset data remains accurate and complete. Please refer to Appendix C to this report for the "Data Verification and Condition Assessment Policy" for the Township. This policy illustrates how the asset data will be updated and verified going forward. This includes the timing of condition assessments for each asset area and what should be included within the condition assessment procedures.

3. EXPECTED LEVELS OF SERVICE

3. EXPECTED LEVELS OF SERVICE

3.1 Scope and Process

Level of service (LOS) is a measure used to determine the effectiveness of the services provided, in this case by the Township to its residents. A level of service analysis gives the Township an opportunity to document the level of service that is currently being provided and compare it to the level of service that is expected. This can be done through a review of current practices and procedures, an examination of trends or issues facing the Township and through an analysis of performance measures and targets that staff can use to measure performance.

Expected LOS can be impacted by a number of factors, including:

- Legislative requirements;
- Strategic planning goals and objectives;
- Resident expectations;
- Council or Township staff expectations; and
- Financial or resource constraints.

The previous task of determining the state of the Township's local infrastructure establishes the asset inventory and condition, as well as asset management policies and principles to guide the refinement and upkeep of asset infrastructure. The LOS analysis will utilize this information and factor in the impact of asset service level targets. It is important to document an expected LOS that is realistic to the Township.

While LOS strategies can ultimately involve very specific data regarding each asset, at a minimum LOS should consider two factors:

- Likelihood of Failure (LOF) - LOS is tied to the forecast of when the asset could fail and therefore impact service levels. While many municipalities rely on estimated service life to identity when an asset might fail, better practices tie the analysis to the condition assessment of each asset.
- Consequence of Failure (COF) - LOS is also tied to the impact of an asset failing. The higher the LOS impact of an asset, the greater the importance of managing that asset to improve overall levels of service.

Due to the nature of the systems in Mapleton, particularly the watermain, wastewater and stormwater mains, consequence of failure was only completed in detail for the road assets. The majority of water and wastewater infrastructure assets were installed at the same time and the majority of pipes are all same diameter, thus there was not enough variance in the information available to provide a meaningful consequence of failure analysis for those assets.

As we reviewed each asset class, we identified the minimum options that could be applied under this project with the information available. In addition, industry best practices were also reviewed and recommendations for improvement were made. Below is a hypothetical example for watermains:

Likelihood of Failure:

- Ideal: # breaks per pipe
- Available: estimated Service Life

Consequence of Failure:

- Ideal: number of users impacted, size area feeding
- Minimum: pipe diameter (larger pipes carry more water and impact more users)

This approach applies a combination of risk and LOS to each asset. Similar to a corporate risk approach (described later in this report), a 1 to 6 scoring system was applied to both LOF and COF. The scoring is specific to each asset. The combined score either increases or reduces the importance of the rehabilitation work for each specific asset. The scoring is presented in the adjacent chart. The scores were combined into ranges to provide a level of risk that complements a traffic light system of red, orange and green.

LOF				
	5-6	0%	-10%	-20%
	3-4	10%	0%	-10%
	1-2	10%	10%	0%
		1-2	3-4	5-6
		COF		

The critical assets in RED with a LOF=5-6 and COF=5-6 should be highest priority to support LOS. These are followed by the ORANGE, YELLOW and finally the low impact assets in GREEN.

The LOS scoring can be used in several ways:

1. Adjust Rehabilitation/Replacement Scheduling: Estimating service life is used to predict when an asset will fail, however the probability and timing of failure can vary by years. This approach allows us to accelerate the timing for assets that have a high impact on LOS to minimize their chance of failure. The percentage identified in the chart is applied to the remaining life of the asset, higher impact assets see their action year accelerated by 20% (RED -20%) while the low impact assets will see their action year postponed by 10% (GREEN +10%).
2. Prioritize Yearly Actions: Each year there are multiple line item capital projects identified and typically not everything can get covered under the yearly budget. The combined score and LOS prioritize the high impact assets that should be addressed first. For example, you would consider replacing a road that has a LOS score of 6 before you'd replace a watermain with LOS score of 2.

3. Measure LOS: If there is not a direct measure of LOS for an asset class, this can be used to derive a simple LOS measure. For example, some municipalities target for watermains is a LOS of 6 watermain breaks/km/year, which is their target service interruption for customers. In order to identify this, there has to be a tie to condition of the assets to be replaced to their likelihood of failing. As a detailed LOS strategy is not yet in place for the Township, their LOS target can be to ensure they are addressing all the RED assets in years 1 and 2, all the ORANGE assets in years 3-5, and so on.

3.2 Current Levels of Service versus Expected Levels of Service

Level of service was addressed for each asset group at the tactical level. The results were reviewed at a staff workshop and revised as requested by Township staff. Table 3-1 below summarizes the LOS Parameters defined.

In the Consequence of Failure (COF) column where "LOS Strategy" is identified, it is recommended that the Township considers how to prioritize the varying assets into categories to assist in the assessment of impacts. For example, the COF for buildings could be prioritized based on the types of buildings and the services offered in each.

For the water and wastewater facilities, currently there is no LOF assignment as the facilities are grouped as single assets. In the future, it is recommended that the Township divide these assets into key processes and components of the facility which could then be prioritized by COF.

Table 3-1
Level of Service Parameters

Strategic Asset	Tactical Asset	Likelihood of Failure		Consequence of Failure	
		Minimum	Future	Minimum	Future
Water	Water - Linear	Estimated Service Life	Breaks per Pipe	Diameter	Users, area impacted and/or flow
	Water - Storage	Estimated Service Life	Inspection	N/A	LOS Strategy
	Water - Pumping	Estimated Service Life	Inspection	N/A	LOS Strategy
Wastewater	Wastewater - Linear	Estimated Service Life	WRc Rating	Diameter	Users, area impacted and/or flow
	Wastewater - Pumping	Estimated Service Life	Inspection	N/A	LOS Strategy
	Wastewater - Treatment	Estimated Service Life	Inspection	N/A	LOS Strategy
Stormwater	Stormwater - Linear	Estimated Service Life	WRc Rating	Diameter	Users, area impacted and/or flow
	Stormwater - Storage	Estimated Service Life	Inspection	None	LOS Strategy
Transportation	Road ROW	Pavement Condition Inspection		Road Class	ADT count
	Sidewalk	Estimated Service Life	Inspection	None	LOS Strategy
	Pole	Estimated Service Life	Inspection	None	LOS Strategy
	Bridges	Bridge Condition Inspection		Road Class	ADT count
	Outside Road ROW	Estimated Service Life	Inspection	None	LOS Strategy
Fleet	Vehicles	Estimated Service Life		Operations defined	LOS Strategy
Parks and Recreation	Recreation Areas	Estimated Service Life	Inspection	None	LOS Strategy
Facilities	Building	Estimated Service Life	Building Inspection	Operations defined	LOS Strategy
Equipment	Equipment	Estimated Service Life		Operations defined	

In many cases, the ESL is the main driver for identification of the likelihood of asset failure. Using ESL is acceptable for less critical assets that are smaller in value, easy to replace or have a minimal impact on operations. However, for larger assets (i.e. facilities, wastewater, etc.), further condition information is recommended as condition data will enable a more accurate LOS rating and asset remaining service life assessment in the future. ESL utilized for analysis is presented in Table 3-2.

Table 3-2
Estimated Useful Life

Asset	Component	Estimated Service Life (years)
Bridges		50 (or otherwise by Inspection)
Culverts		50
Road Section		50 (or otherwise by PCI)
Sidewalks		50
Street Lights		20
Vehicles		7 - 20
Equipment		5 - 25
Facilities	Overall	25 - 50
	Building Components	25 - 50
Recreation Areas	Playground Structure	25
	Ball Diamond	25
	Fencing	25
Wastewater Pumping Stations	Overall	50
Wastewater Mains, Stormwater Mains	Polyvinyl Chloride	100
	Cast Iron	90
	Ductile Iron	85
	Concrete	60
	Asbestos Cement	75
	Copper	20
	Other	50
Detention Pond		50
Treatment Plant		50
Water Mains	Polyvinyl Chloride	100
	Cast Iron	90
	Ductile Iron	85
	Concrete	60
	Asbestos Cement	75

Currently, the asset classes with existing LOS that are measurable include roads (PCI), vehicles and bridges/culverts (inspections). For these assets an average condition across the system can be assessed and the Township can set targets and monitor LOS. The current LOS for each of these asset areas are as follows:

- Roads – average PCI: 74 over 438 lane kms;
- Bridges – average condition index: 65 for 61 ; and
- Vehicles – 50% average service life remaining.

For the remaining asset groups, LOS can only be measured by the ability to address the critical assets (RED) in the short term, all the moderately critical assets (ORANGE) thereafter in the forecast. Through the review of replacement requirements and development of the capital plans, in general the needs as identified in the asset inventories exceeded the budgeting abilities of the Township. The ability to address these asset requirements is summarized below:

- Where a large number of assets within a given asset class were identified as needing replacement in the same timeframe according to their ESL, the LOS/Risk Rating enabled prioritization of the asset replacement and/or rehabilitation.
- The "Red" or "LOS 6" rated assets were not all completely addressed/replaced for any particular asset type; however, these assets were given priority over others with lower risk ratings.
- The majority of the Township's "Red" assets were prioritized to schedule rehabilitation or replacement within the first five years of the asset management plan.
- Further detailed condition assessments of the assets will provide a more accurate Likelihood of Failure risk rating and subsequently, a more refined replacement prioritization.

The Township's current LOS has resulted in the current state of infrastructure as discussed in the previous section of the report. This current LOS also relates to the risk assessment discussed in later report sections. Regarding the cost of this current LOS, the Township has established an operating and capital budget for the current year that includes the cost of providing this LOS to Township residents. Therefore in moving from the current LOS to an expected LOS, consideration has to be made for the associated cost (or impact on the Township's current budget) in moving to an expected LOS. The table below outlines broad LOS descriptions (both current and expected LOS). This analysis was documented through discussions with Township staff.

Please refer to Appendix D of this report for a table summarizing the estimated budget impacts associated with implementing the expected LOS over the forecast period. This impact analysis will be factored into the asset management strategy discussed in chapter 4 of this report.

Table 3-3
Level of Service Analysis

Roads Related

Department	Level of Service Description	
	Current	Expected
Public Works	Meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02.	Meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02.
Public Works	Resurface every gravel road every 3 years.	Resurface every gravel road every 3 years.
Public Works	Maintain adequate road condition ratings.	Maintain adequate road condition ratings.
Public Works	Road Maintenance/Rehabilitation Program based on available funding.	Proactive Road Maintenance/Rehabilitation Program.

Bridges & Culverts

Department	Level of Service Description	
	Current	Expected
Public Works	Maintain adequate condition and load limits.	Maintain adequate condition and load limits.
Public Works	Proactive Bridge and Culvert maintenance and rehabilitation.	Proactive Bridge and Culvert maintenance and rehabilitation.
Public Works	Bridge inspections (i.e. using OSIM reports) required every 2 years.	Bridge inspections (i.e. using OSIM reports) required every 2 years.

Water & Wastewater

Department	Level of Service Description	
	Current	Expected
Water & Wastewater	Meet all legislative requirements.	Meet all legislative requirements.
Water & Wastewater	Proactive maintenance procedures.	Proactive maintenance procedures.
Water & Wastewater	Minimize unaccounted for water.	Minimize unaccounted for water.
Water & Wastewater	Minimize water main breaks & wastewater main backups.	Minimize water main breaks & wastewater main backups.

Buildings, Equipment & Vehicles

Department	Level of Service Description	
	Current	Expected
Various	Meet legislative requirement (Building Code, Fire Code, Accessibility, Health & Safety, etc.)	Meet legislative requirement (Building Code, Fire Code, Accessibility, Health & Safety, etc.)
Various	Condition assessments performed when needed.	Planned condition assessments, with results being incorporated into the asset management plan.
Various	Replace Equipment/Vehicles based on historical budget allotments.	Replace Equipment/Vehicles as required.
Various	Proactive facility maintenance.	Proactive facility maintenance.

3.3 Level of Service Performance Measures

As mentioned above, using performance measures in the LOS review can also be helpful in measuring the Township's goals and objectives when it comes to capital assets. The Township currently tracks specific performance measures as part of the Municipal Performance Measurement Program (MPMP) which the province has in place as part of the annual Financial Information Return (FIR) submission. The FIR provides the annual financial results of the Township, while the MPMP provides an evaluation of the Township's "performance". The following table provides a summary of the specific MPMPs relating to capital asset effectiveness.

Table 3-2
Performance Measures Analysis

Department	Assets	Performance Measure Description	Historical Performance			Goal
			2011	2012	2013	
Fire	Buildings, Equipment, Vehicles	Residential fire civilian injuries per 1,000 persons	-	-	Not yet available	Minimize
Fire	Buildings, Equipment, Vehicles	Residential fire civilian fatalities per 1,000 persons	-	-	Not yet available	Minimize
Fire	Buildings, Equipment, Vehicles	Number of residential structural fires per 1,000 households	6.6190	0.6470	Not yet available	Minimize
Transportation	Roads	Percentage of paved lane km where condition is rated as good to very good	74.90%	56.80%	Not yet available	Maximize
Transportation	Bridges & Culverts	Percentage of bridges & culverts where condition is rated as good to very good	56.30%	56.30%	Not yet available	Maximize
Wastewater	Wastewater Mains	Number of wastewater main backups per 100 km of mains	-	N/A	Not yet available	Minimize
Wastewater	Buildings	Percentage of wastewater estimated to have by-passed treatment	0.00%	0.00%	Not yet available	Minimize
Water	Water mains	Weighted # days when a boil water advisory was issued	-	-	Not yet available	Minimize
Water	Water mains	Number of water main breaks per 100 km of pipe	-	-	Not yet available	Minimize

The Township will continue to calculate and monitor these performance measures, both for MPMP and asset management purposes. As the Township's asset management plan evolves over time, new performance measures can be introduced to further measure the LOS being provided in each service area.

4. ASSET MANAGEMENT STRATEGY

4. ASSET MANAGEMENT STRATEGY

4.1 Scope and Process

The asset management strategy provides the recommended course of actions required to maintain (or move towards) a sustainable asset position while delivering the expected levels of service discussed in the previous chapter. The course of actions, when combined together, form a long-term operating and capital forecast that includes:

a) Non-infrastructure solutions: reduce costs and/or extend expected useful life estimates;
b) Maintenance activities: regularly scheduled activities to maintain existing useful life levels, or repairs needed due to unplanned events;
c) Renewal/Rehabilitation: significant repairs or maintenance planned to increase the useful life of assets;
d) Replacement/Disposal: complete disposal and replacement of assets, when renewal or rehabilitation is no longer an option; and
e) Expansion: given planned growth as outlined in the Township's Development Charge Background Study, other expansion or due to the introduction of new services.

Priority identification becomes a critical process during the asset management strategy development. Priorities have been determined based on assessment the overall risk of asset failure, which is determined by looking at both the probability of an asset failing, as well as the consequences of failure. The consequences of the Township not meeting desired levels of service must also be considered in determining risk. As discussed in chapter 3, moving to expected levels of service results in both operating and capital budget impacts over the forecast period. This has to be taken into consideration, with the overall objective of reaching sustainable levels while mitigating risk.

4.2 Risk Assessment

The corporate risk strategy defines a methodology under which the organization sets systematic processes to define, identify, assess and manage risk in a consistent fashion across the organization. To begin, to visualize and organize the potential risks that an organization can potentially face, it is necessary to develop a scoring system that will act as a broad net, capturing risk across the Township. At a high level, this risk scoring system identifies potential risk events to help guide the evaluation of outcomes that affect services. Corporate risk was assessed under 5 categories as follows:

- Strategic/Corporate Image: strategic considers the broad-reaching, far ranging and long-term impacts to the community and the organization while corporate image considers the organization's image from an external or public perspective.
- Environmental: the ability to minimize the impacts to the natural environment and meet environmental regulations (such as the MOE guidelines).

- Health and Safety: the ability to maintain a healthy and safe environment for customers/the public and Township staff.
- Operational: the operational impacts and the ability to maintain or resume services and reduce impacts to customers.
- Financial: the financial impacts that the organization is exposed to, both internal and external financial implications.

At a Strategic Level, each asset area was assessed under the five categories and rated. Each area was ranked a score from 1 to 3 as follows:

- 1: Insignificant / Minor
- 2: Significant
- 3: Major / Catastrophic

A total score consisting of the 5 individual scores was produced for each area, the higher the score the higher the risk. In order to simplify the corporate risk ranking, a low to high scoring range was applied to the total score as follows:

- Low: 5 - 8
- Medium: 9 - 11
- High: 12 - 15

The results are summarized in Table 4-1.

Table 4-1
Corporate Risk Strategy

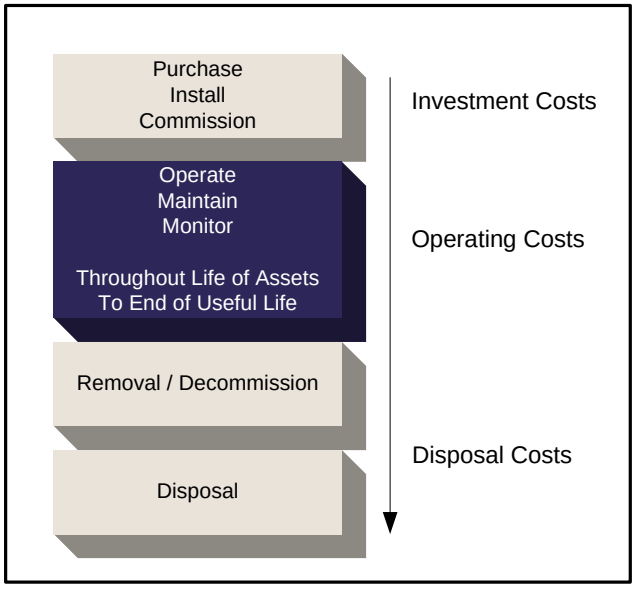
Strategic Asset Level	Strategic / Corporate	Environmental	Health & Safety	Operational	Financial	Total Score	Corporate Risk Rating
Water	3	3	2	2	2	12	High
Wastewater	2	3	2	2	2	11	Medium
Stormwater	2	2	2	2	2	10	Medium
Transportation	3	2	3	3	2	13	Medium
Facilities	3	1	2	2	2	10	Medium
Parks and Recreation	1	1	2	1	2	7	Low
Fleet	2	1	2	2	1	8	Low
Fire	3	1	3	2	3	12	High

The risk scoring system is transparent and can be adjusted as priorities and the Township evolve. The corporate risk strategy allows for the ranking of projects and comparison of asset related budgets. For example, two similar projects in a given year would be further ranked based on their overall risk ranking. The higher the risk, the greater the priority (need) to ensure funding and project completion.

4.3 Long-term Forecast

For many years, lifecycle costing has been used in the field of maintenance engineering and to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use recently in the management of capital assets. By definition, lifecycle costs are all the costs which are incurred during the lifecycle of a capital asset, from the time it is purchased or constructed, to the time it is taken out of service for disposal. The stages which an asset goes through in its lifecycle are as follows:

Figure 4-1
Asset Lifecycle Diagram



In defining the long-term forecast for the Township's asset management strategy, costs incurred through an asset's lifecycle were considered and documented.

Asset Replacement Analysis

In forecasting the Township's asset replacement needs, comparisons were made between the following scenarios:

- *Scenario 1: Replacement forecast based on "PSAB 3150 ESL Data, Replacement Only"*

  - Utilizing the PSAB 3150 inventory, year of installation and estimated service life, the replacement of each asset was projected. The replacement value and estimated service life in the PSAB 3150 inventory was reviewed and compared to best practice information. If it did not seem reasonable the best practice information was used.
- *Scenario 2: Replacement forecast based on "LOS Strategy, Replacement Only*";
  - In addition to using the installation date and ESL, the LOS and inspection condition information was used, where applicable, along with the LOS strategy information to better predict the timing of asset replacement.
- *Scenario 3: Replacement forecast based on an "LOS and Rehabilitation Strategy".*
  - While the first two scenarios recommended complete replacement only, this scenario considered replacement and major rehabilitation options, if available, that could offset the need to replace assets and offer reasonable life expectancy increases.

Scenario 1: Replacement forecast based on "PSAB 3150 ESL Data, Replacement Only"

Figures 4-2 to 4-4 show the 10-year replacement needs under this scenario, where approximately $168.2 million in tax supported capital assets, $0 in water and $0 in wastewater capital assets are showing as "immediate needs". For this scenario, this simply illustrates that these assets have reached the end of their useful lives as assigned by staff for accounting purposes. Please refer to Appendix E for charts and graphs depicting the entire forecast for this scenario.

Figure 4-2
Scenario 1 - Tax Supported Assets

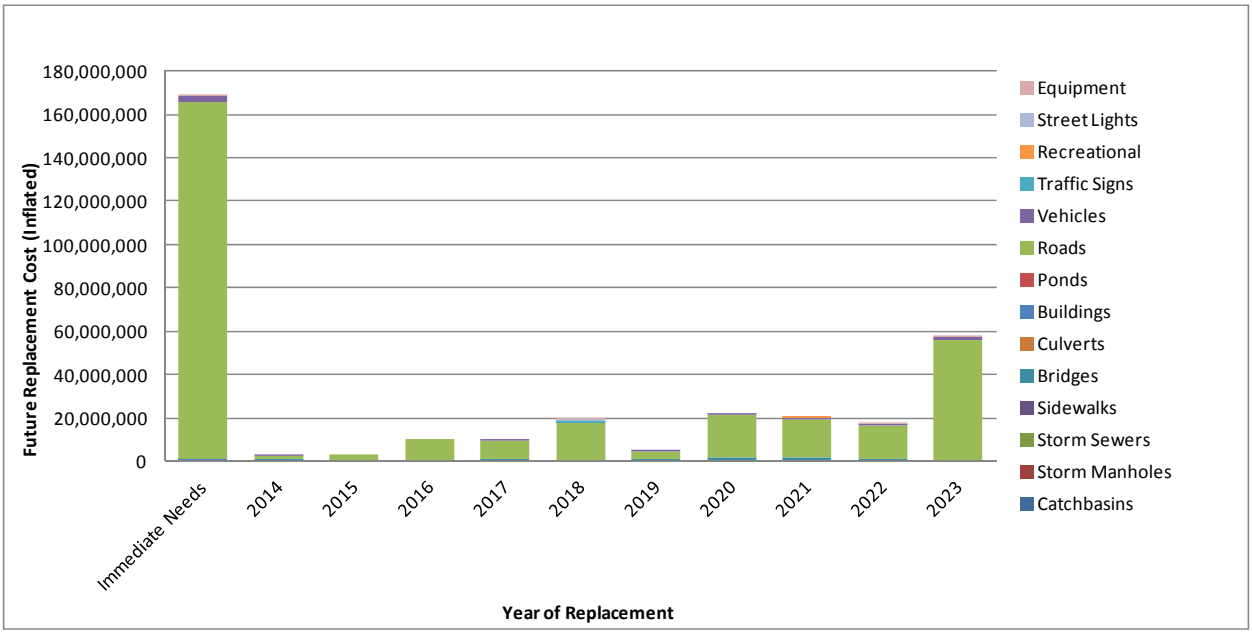


Figure 4-3
Scenario 1 – Water Assets

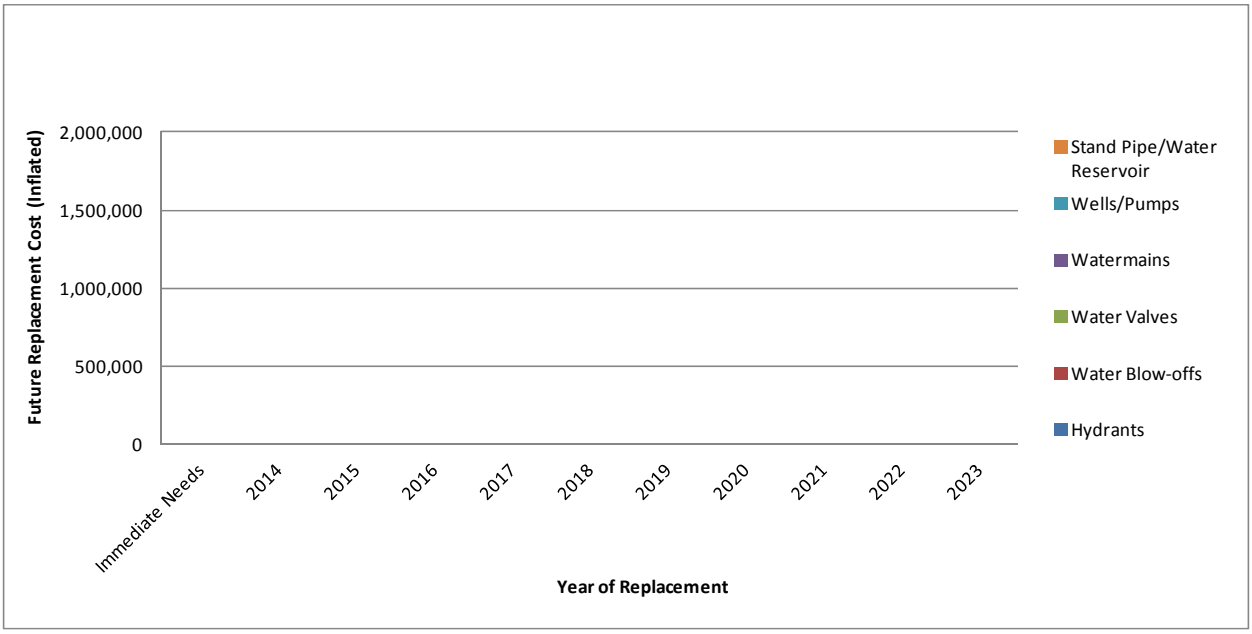
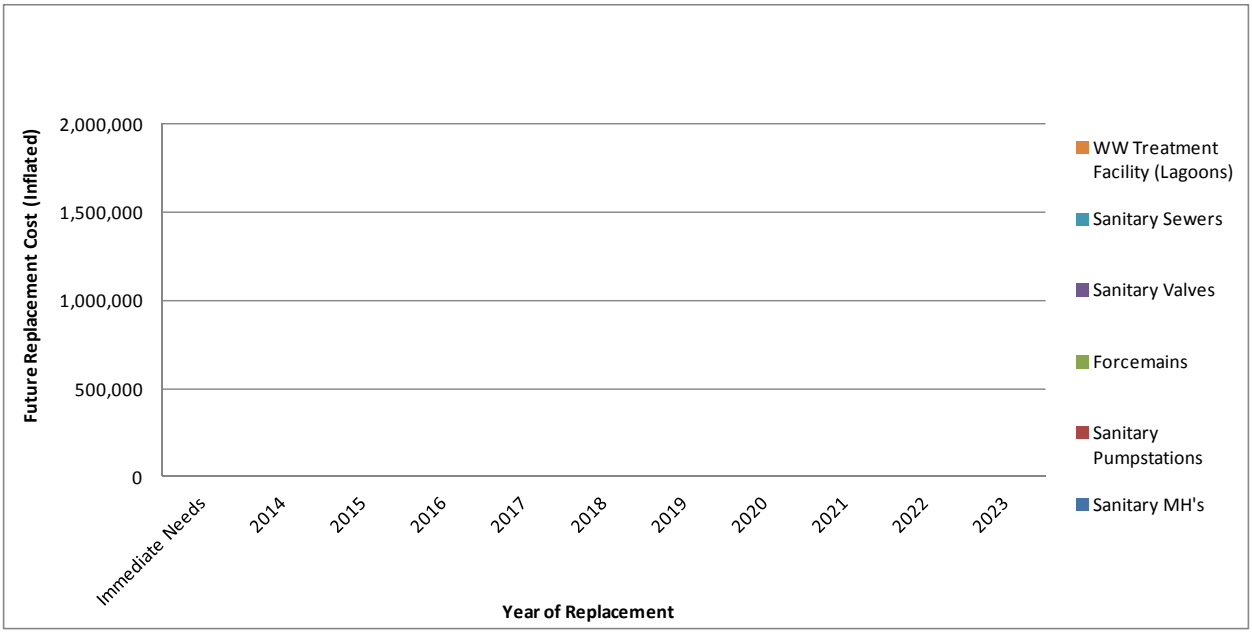


Figure 4-4
Scenario 1 – Wastewater Assets



The water and wastewater assets are all relatively new and thus do not require any replacement in the 10 year forecasts shown above.

Scenario 2: Replacement forecast based on "LOS Strategy, Replacement Only"

Figures 4-5 to 4-7 below show the asset replacement forecast developed using the LOS strategy discussed in Chapter 3, still assuming asset will only be replaced. Under this scenario, approximately $16.8 million in tax supported assets, $0 in water and $0 in wastewater capital assets are showing as immediate needs. Please refer to Appendix E for charts and graphs depicting the entire forecast for this scenario.

While the LOS strategy scenario below provides a more realistic view of replacement needs over the forecast period, it is not financially feasible or realistic, given the Township's current annual capital investment amounts. Significant grant funding would be required to assist in catching up on the short term tax supported capital requirements. What's more, rehabilitation programs have not been included in this scenario.

Figure 4-5
Scenario 2 – Tax Supported Assets

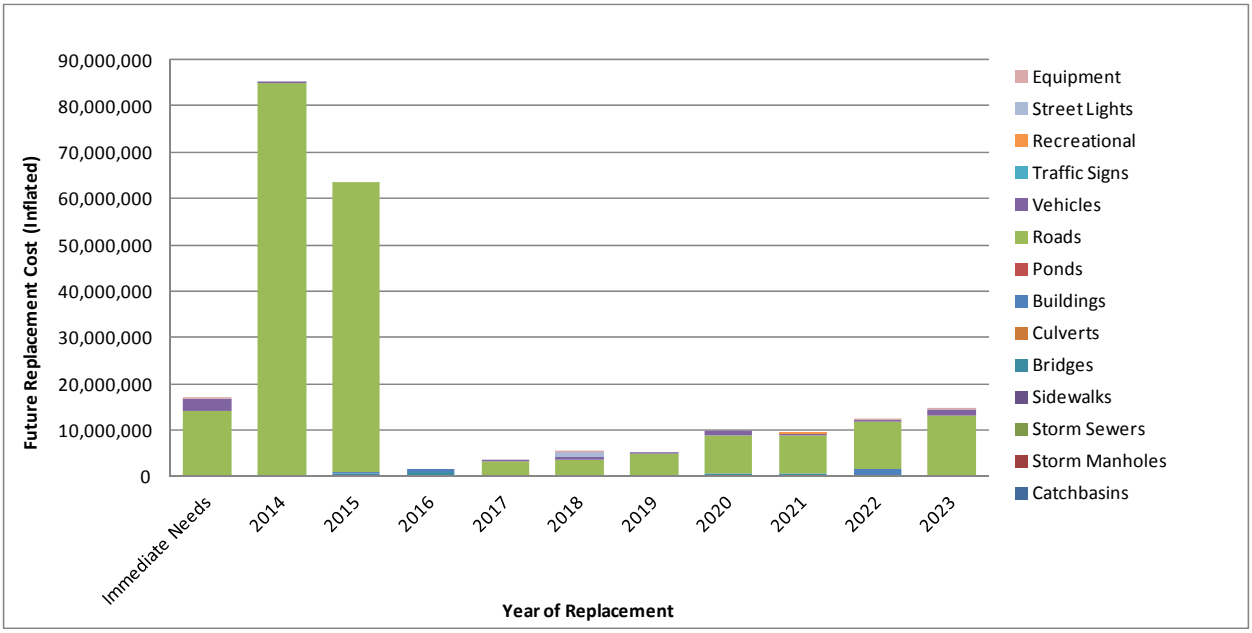


Figure 4-6
Scenario 2 – Water Assets

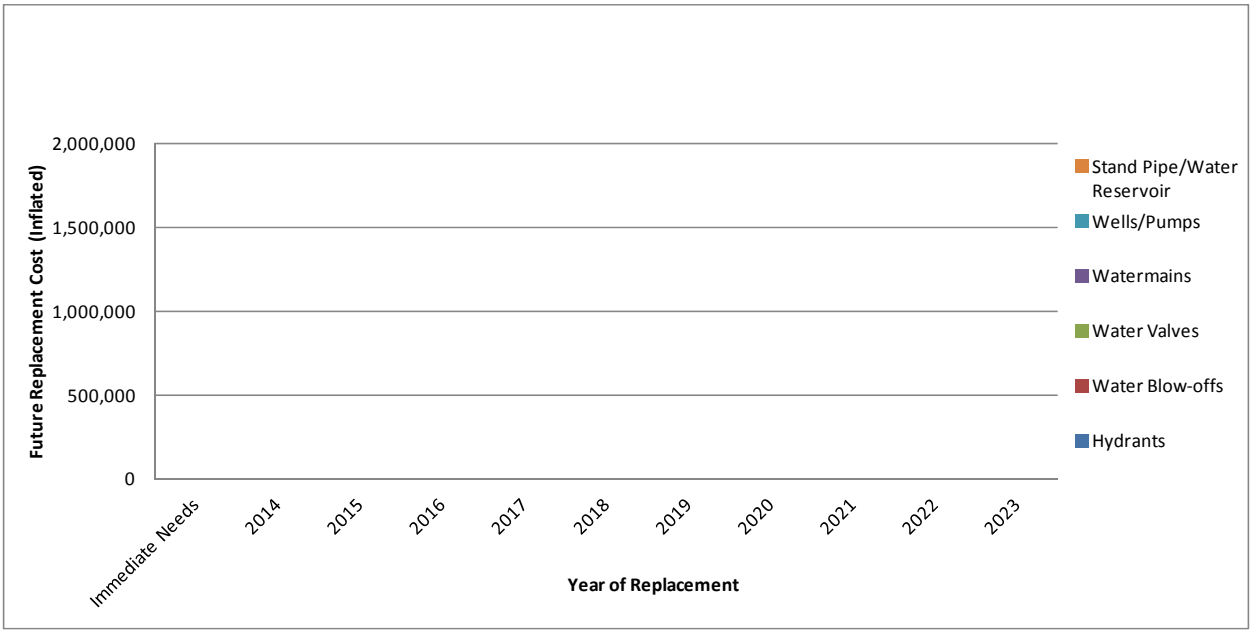
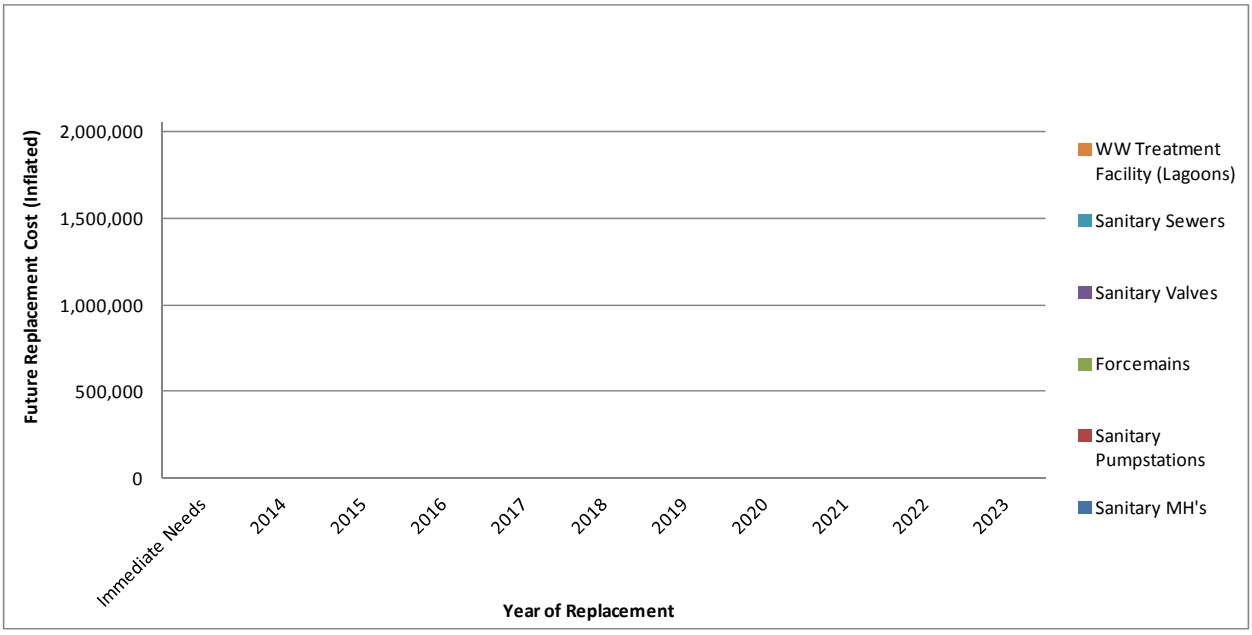


Figure 4-7
Scenario 2 – Wastewater Assets



The water and wastewater assets are all relatively new and thus do not require any replacement in the 10 year forecasts shown above.

Scenario 3: Replacement forecast based on an "LOS and Rehabilitation Strategy"

This scenario takes into account ideal rehabilitation and replacement strategies that were developed and included for each asset area. Table 4-2 presents these rehabilitation and replacement strategies. Please note that if these strategies are not applied, then the replacement forecast under this scenario would be similar to Scenario 2 above.

Table 4-2
Asset Rehabilitation and Replacement Cost Methodology

Asset	Rehabilitation	Replacement
Bridges	Inspection Reports	Inspection Reports
Buildings		Insurance Records
Culverts		PSAB
Detention Pond		PSAB
Equipment		PSAB
Street Lights		PSAB
Recreation Areas		PSAB
Road Section	$250,000/lane km	$1,000,000/lane km
Gravel Roads	$3,260	
Wastewater and Stormwater Mains	$150 /m - $800/m	$381 - $2,919/m
Sidewalks		$100 /$m^2$
Treatment Plant		PSAB
Vehicles		$25,000 - $325,000 based on Township Input
Watermains	$150 /m - $800/m	$523 - $1,490/m

Figures 4-8 to 4-10 show the capital needs forecast under this third scenario. Items that had been identified under the previous scenarios have been distributed within the forecast period. Based on these adjustments, $0 of tax supported, water and wastewater capital assets are identified as immediate needs. Figure 4-11 shows the impact of the replacement and rehabilitation for the tax supported assets under this scenario. This is the recommended scenario for the Township.

The financing strategy discussed in the next Chapter will incorporate the level of service adjustments, outlined in Appendix D, into the recommended financing analysis.

Maintenance, Non-Infrastructure Solutions, Renewal & Rehabilitation

For the recommended scenario to be feasible, the level of service adjustments discussed in Chapter 3 and Appendix D are required in conjunction with current level of service amounts in order to effectively maintain and rehabilitate the assets as needed.

Figure 4-8
Scenario 3 – Tax Supported Assets (Replacement Only)

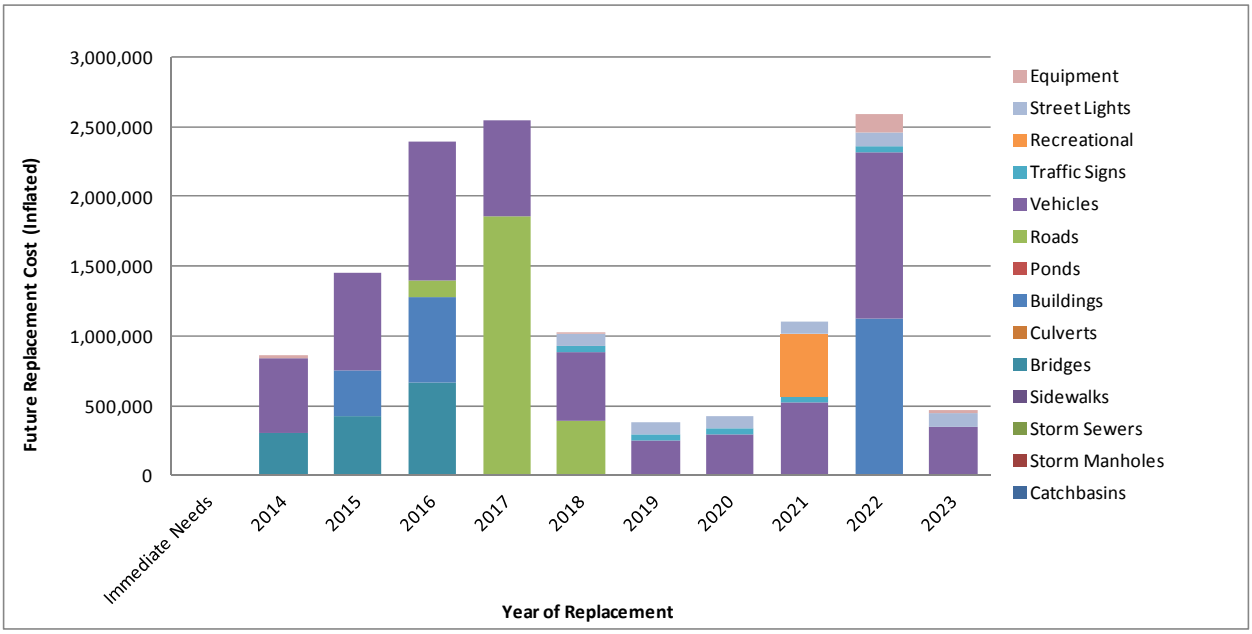


Figure 4-9
Scenario 3 – Water Assets (Replacement Only)

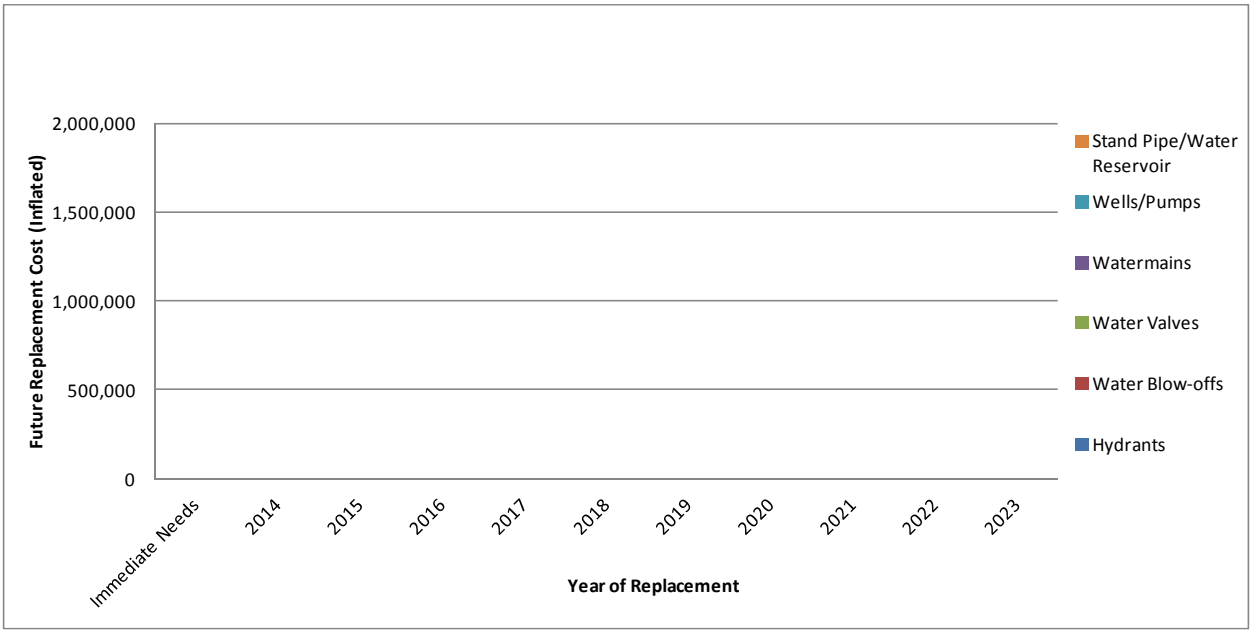


Figure 4-10
Scenario 3 – Wastewater Assets (Replacement Only)

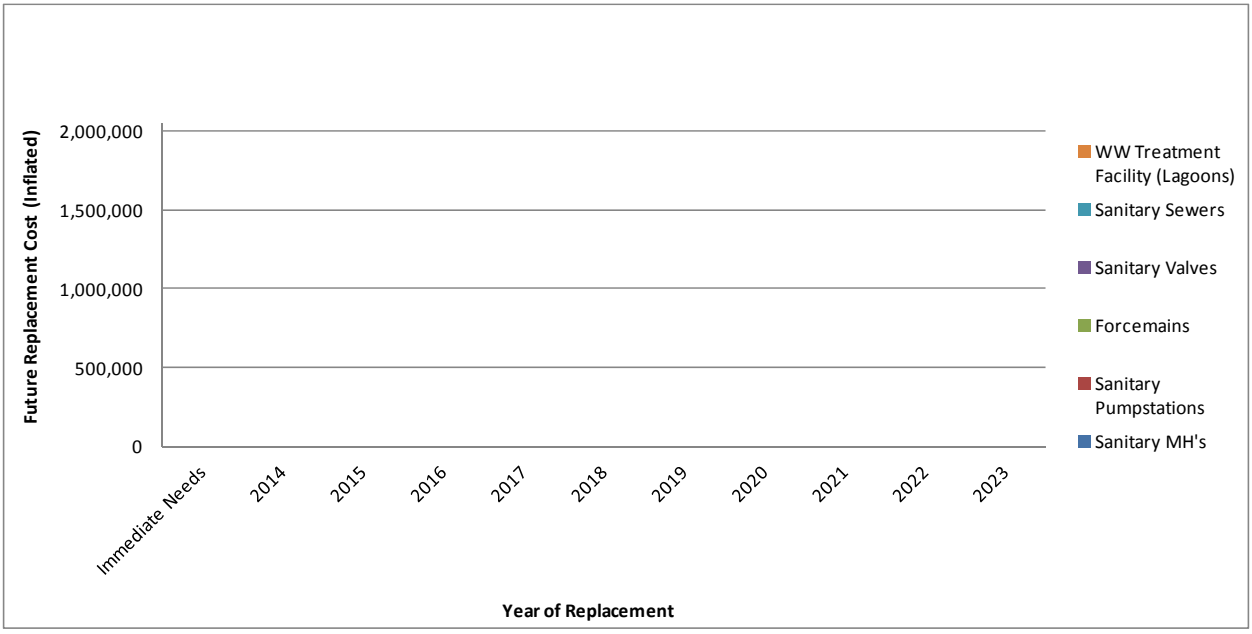
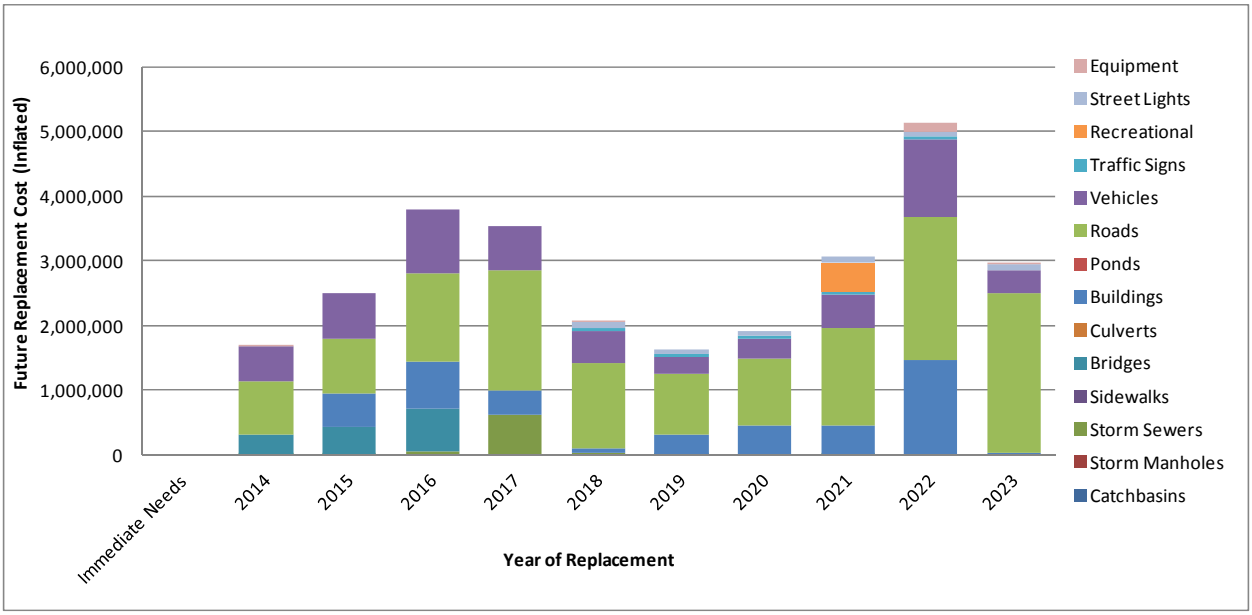


Figure 4-11
Scenario 3 – Tax Supported Assets (Replacement and Rehabilitation - Inflated)



Please refer to Appendix E for charts and graphs depicting the entire forecast for this scenario.

Growth Related Capital Needs

While no replacement needs were identified for water and wastewater over the forecast period, growth 9and other) related needs have been identified (please refer to Appendix G and H, tables G-1 and H-1 respectively). There are also, growth related needs for a tax supported perspective (see Appendix F, table F-1). These growth related needs will be funded partially through development charges and partially through other funding sources (reflecting the fact that these projects are not entirely growth related). Some of the more significant projects identified are as follows:

- Road Improvements (tax supported) $4,400,000
- Bridge Replacements (tax supported) $883,400
- Water Standpipe or Tower (water supported) $2,000,000

These projects have been included in the Township's asset management plan calculations as funding beyond development charges is required (i.e. grants, taxation revenue, water revenue) in order to move forward with each project.

4.5 Procurement Methods

Section 270(1) of the Municipal Act, S.O. 2001, provides that municipalities (and local boards) shall adopt and maintain policies with respect to its procurement of goods and services. Procurement policies are developed to provide a framework to support open, fair, transparent

and accountable purchasing processes, and to ensure procurement processes are consistently managed. Moreover, the establishment of a by-law adopting the procurement policy provides an opportunity for public debate and results in a document which has the approval of Council.

An effective procurement policy assists municipalities in identifying cost-effective options for providing services, while at the same time reducing risk. Innovative project management models, such as public-private partnerships (P3's) or co-operative purchasing can help bring together expertise, resources and funding opportunities. Where appropriate, bidders can be required to provide lifecycle costing for the products and/or services being tendered. Lifecycle costs can include initial construction/purchase price, plus operating costs for a contracted period of time. Incorporating a lifecycle perspective in the procurement process can encourage effective asset management in the time period following the initial capital investment.

In order to have an effective and efficient procurement program, especially related to the purchase/construction of large capital assets, the procurement policy can include clauses to protect the municipality as well as assist in receiving competitive responses. Examples include:

- Identification of the criteria used to determine the type of competitive process to be followed (i.e. tender, RFP, RFQ);
- Identification of circumstances when Sole Sourcing, Negotiation, and/or In-House Bids can be used;
- Description of the methods to be used for advertising a competitive process;
- Providing direction for purchasing in cases of emergency;
- Providing direction for purchasing as part of a co-operative purchasing group;
- Outlining any requirements related to bid deposits or other financial security;
- Inclusion of a non-discrimination clause highlighting positions such as having a 'no local preference' policy;
- Notification that any bid can be rejected by the municipality;
- Identification of reasons for terminating a contract with a supplier/contractor (i.e. poor performance, unethical behaviour);
- Identification of restrictions on the types and/or amounts of damages to which bidders may be entitled, arising from their responding to a competitive process; and
- Requirement for bidders to supply proof of insurance and WSIB.

As part of the continuous asset management update process, it is recommended that the Township's procurement policies and procedures be reviewed and compared against procurement best practices to ensure resources are being allocated in an efficient manner.

5. FINANCING STRATEGY

5. FINANCING STRATEGY

5.1 Scope and Process

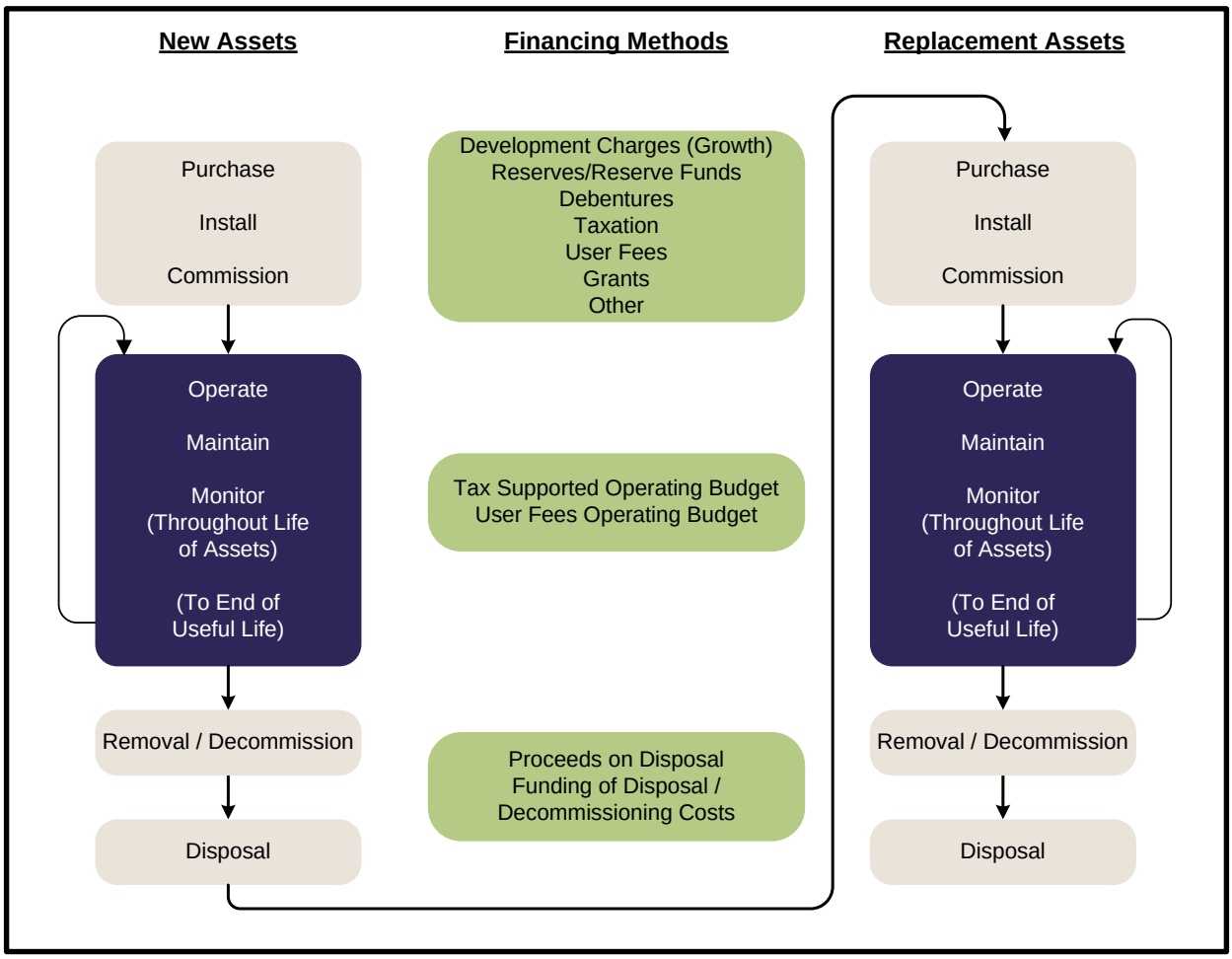
The financing strategy outlines the suggested financial approach to funding the recommended asset management strategy outlined in Chapter 4, while utilizing the Township's existing budget structure. This section of the asset management plan includes:

- Annual expenditure forecasts broken down by:
    - Maintenance/non-infrastructure solutions;
    - Renewal/rehabilitation activities;
    - Replacement/disposal activities; and
    - Expansion activities.
- Actual expenditures in the above named categories for 2011, 2012 and 2013 budgeted amounts;
- A breakdown of annual funding/revenue by source;
- Identification of the funding shortfall, including how the impact will be managed; and
- All key assumptions are documented within Appendix B.

The long-term financing strategy forecast (including both expenditure and revenue sources) was prepared, consistent with the Township's departmental budget structure, so that it can be used in conjunction with the annual budget process. Various financing options, including taxation, reserves, reserve funds, debt, user fees and grants were considered and discussed with Township staff during the process. Figure 5-1 provides a visual representation of how various financing methods can be used for both initial asset purchases as well as asset replacements.

For the recommended asset management strategy scenario, a detailed plan was generated. The plan identifies specific maintenance & non-infrastructure solutions, renewal & rehabilitation, replacement & disposal, and expansion activities required for the forecast period as described in Chapter 4.

Figure 5-1
Financing Methods of Lifecycle Costs



5.2 Historical Results

Table 5-1 outlines the historical maintenance/non-infrastructure costs for 2011 and 2012, as well as 2013 budgeted results. All maintenance for assets was funded through taxation revenue, water rates and wastewater rates, based on asset type.

Table 5-1
Historical Results
Maintenance & Non-Infrastructure Solutions

Tax Supported

Description	Actual 2011	Actual 2012	Budget 2013
Asset Maintenance	1,308,962	1,245,001	1,340,890
Taxation Funding	1,308,962	1,245,001	1,340,890
Net Unfunded	-	-	-

Water

Description	Actual 2011	Actual 2012	Budget 2013
Asset Maintenance	147,170	122,946	136,717
Water Rate Revenue	147,170	122,946	136,717
Net Unfunded	-	-	-

Wastewater

Description	Actual 2011	Actual 2012	Budget 2013
Asset Maintenance	114,561	88,113	114,049
Wastewater Rate Revenue	114,561	88,113	114,049
Net Unfunded	-	-	-

Tables 5-2 and 5-3 outline the historical capital results for 2011, 2012 and 2013 budgeted results for renewal/rehabilitation, replacement/disposal, and expansion. The capital funding includes the use: of grants, development charges for growth (expansion) related costs, reserve/reserve funds, debt, donations as well as contributions from the operating budget.

Table 5-2
Tax Supported Historical Results
Renewal/Rehabilitation, Replacement/Disposal & Expansion

Description	Actual 2011	Actual 2012	Budget 2013
Capital Expenses			
Recreation: Alma Community Centre	440,179	-	-
C&I Economic Development	208,037	16,018	28,000
Council	-	-	4,000
Administration	738,754	13,288	54,000
Bridges & Culverts	12,615	-	426,000
Building Department	24,046	-	-
Computer Hardware/Software	5,004	1,646	-
Fire Department	88,229	40,961	106,400
Mapleton Parks: Other	31,920	178,103	196,400
Mapleton Parks: Transfer to Reserves	-	12,450	-
PMD Arena	36,147	56,522	229,500
Drayton Cemetery	6,386	-	3,000
Roads: Other	1,033,742	787,339	1,632,000
Roads: Transfer to Reserves	-	144,115	-
Surplus/Deficit	269,693	345,664	-
Emergency Measures	-	22,939	5,000
Maryborough Community Centre	-	48,924	7,500
Fleet	-	-	350,000
Capital Expenses	**2,894,752**	**1,667,969**	**3,041,800**
Capital Financing			
Provincial/Federal Grants	383,531	16,968	-
Debentures	405,650	-	800,000
Reserve Fund: Development Charges	141,451	194,722	-
Reserve Funds	510,000	402,134	426,587
Reserves	539,971	240,618	1,029,800
Other (Donations)	80,533	150,941	79,500
Other (Penalties and Interest)	25,293	31,838	-
Other	174,000	5,500	35,000
Transfer from Operating	431,000	571,472	670,913
Total Capital Financing	**2,691,430**	**1,614,194**	**3,041,800**
Total Capital Expenses less Capital Financing	**203,322**	**53,775**	**-**

Table 5-3
Water and Wastewater Historical Results
Renewal/Rehabilitation, Replacement/Disposal & Expansion

Water

Description	Actual 2011	Actual 2012	Budget 2013
Capital Expenses			
Waterworks: Drayton	1,082	18,283	1,566,115
Waterworks: Moorefield			125,154
Capital Expenses	**1,082**	**18,283**	**1,691,268**
Capital Financing			
Provincial Grants: Drayton			333,743
Provincial Grants: Moorefield			83,436
Reserves	1,082	18,283	135,118
Reserve Funds			138,971
Debt			1,000,000
Developent Charges	42,528	42,145	-
Total Capital Financing	**43,610**	**60,428**	**1,691,268**
Total Capital Expenses less Capital Financing	**(42,528)**	**(42,145)**	**-**

Wastewater

Description	Actual 2011	Actual 2012	Budget 2013
Capital Expenses			
Wastewater: Lagoon Upgrade	1,966,509	678,332	-
Sanitary Sewer: Drayton	-	49,762	-
Capital Expenses	**1,966,509**	**728,094**	**-**
Capital Financing			
Debt	544,350	1,191,660	-
Provincial Grants	187,425	168,052	-
Federal Grants	187,425	168,052	-
Development Charges	56,160	57,481	-
Reserve Fund	-	49,762	-
Total Capital Financing	**975,361**	**1,635,007**	**-**
Total Capital Expenses less Capital Financing	**991,149**	**(906,913)**	**-**

5.3 Financing Strategy

Tax Supported Financing Strategy

Table 5-4 shows the tax supported expenditure forecast for maintenance, renewal/rehabilitation, replacement/disposal and expansion for the first 10 years of the forecast. While this summary

only shows high level cost classifications, further detail can be obtained from Appendix F and the asset management model provided to Township staff for future use.

Table 5-4
Tax Supported Expenditure Forecast Summary

Asset Lifecycle Costs	Forecast (Inflated)									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maintenance: Current Service Levels	1,367,708	1,395,062	1,422,963	1,451,422	1,480,451	1,510,060	1,540,261	1,571,066	1,602,488	1,634,537
Maintenance: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Asset Maintenance	1,367,708	1,395,062	1,422,963	1,451,422	1,480,451	1,510,060	1,540,261	1,571,066	1,602,488	1,634,537
Renewal/Rehabilitation	-	-	-	-	-	-	-	-	-	-
Renewal/Rehabilitation - LOS Adjustment	3,934	193,318	171,789	990,792	113,904	304,253	446,444	455,450	348,864	38,134
Total Renewal/Rehabilitation	3,934	193,318	171,789	990,792	113,904	304,253	446,444	455,450	348,864	38,134
Replacement/Disposal	866,452	1,454,522	2,396,814	2,551,245	1,016,956	375,621	424,698	1,099,865	2,593,160	464,802
Replacement/Disposal - LOS Adjustment	833,749	857,860	1,235,860	-	919,093	954,387	1,048,222	1,507,426	2,198,010	2,471,877
Total Replacement/Disposal	1,700,201	2,312,382	3,632,674	2,551,245	1,936,049	1,330,008	1,472,920	2,607,291	4,791,170	2,936,679
Expansion: DC Related	341,960	291,748	799,767	541,482	654,990	328,364	338,215	546,105	515,385	963,185
Expansion: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Expansion	341,960	291,748	799,767	541,482	654,990	328,364	338,215	546,105	515,385	963,185
Total	**3,413,803**	**4,192,509**	**6,027,193**	**5,534,942**	**4,185,394**	**3,472,685**	**3,797,841**	**5,179,912**	**7,257,907**	**5,572,535**

Items in Table 5-4 labelled as "LOS Adjustment" refer to the level of service analysis discussed in Chapter 2 and Appendix D. Expansion related costs labelled as "DC related" refer to projects identified in the Township's Development Charge Background Study (please refer to Appendix F).

Table 5-5 summarizes the recommended strategy to finance the asset related costs identified in Table 5-4.

Table 5-5
Breakdown of Annual Tax Supported Funding (Revenue) by Source

Funding (Revenue) by Source	Forecast									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Taxation	1,367,708	1,395,062	1,422,963	1,451,422	1,480,451	1,510,060	1,540,261	1,571,066	1,602,488	1,634,537
Grants	-	-	-	-	-	-	-	-	-	-
Other Contributions	-	-	-	-	-	-	-	-	-	-
Debentures	-	-	2,000,000	1,500,000	-	-	-	-	-	-
Development Charges Reserve Funds	75,916	37,349	108,142	246,098	132,986	42,037	43,298	213,647	179,804	123,311
Gas Tax Reserve Funds	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179
Capital Reserve Fund	1,667,999	2,457,919	2,193,908	2,035,242	2,269,778	1,618,409	1,912,103	3,093,019	5,173,435	3,512,507
Total	**3,413,803**	**4,192,509**	**6,027,193**	**5,534,942**	**4,185,394**	**3,472,685**	**3,797,841**	**5,179,912**	**7,257,907**	**5,572,535**

These lifecycle costs are being recovered through several methods.

- Taxation funding is suggested for all maintenance costs as well as level of service adjustment related costs, related to operations.
- The portion of newly acquired or constructed assets that are "growth (DC) related" are shown as financed by development charges.
- Debt financing is shown as required in years where significant capital needs are identified.

- Federal Gas Tax has been shown as a stable and long-term funding source for eligible capital projects.
- The Township will be dependent upon maintaining healthy capital reserves/reserve funds in order to provide the remainder of the required lifecycle funding over the forecast period. This will require the Township to proactively increase amounts being transferred to these capital reserves during the annual budget process.

While the annual funding requirement may fluctuate, it is important for the Township to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds.

In order to fund the recommended asset requirements over the forecast period using the Township's own available funding sources (i.e. using taxation, gas tax funding and debentures), an increase in the Township's taxation levy of 5.81% per year for the first 10 years, declining to 3.48% thereafter would be required. Please note that these percentages include a provision of 2.0% for annual increases in operating related budget accounts. However, if other funding sources become available (i.e. grant funding) or if maintenance and rehabilitation practices allow for the deferral of capital works, then the impact on the Township's taxation levy would decrease.

Please refer to further financing strategy details provided in Appendix F.

Water Financing Strategy

Table 5-6 shows the water expenditure forecast for maintenance, renewal/rehabilitation, replacement/disposal and expansion for the forecast period. While this summary only shows high level cost classifications, further detail can be obtained from Appendix G, the Township's Rate Study and the asset management model provided to Township staff for future use.

Table 5-6
Water Expenditure Forecast Summary

Asset Lifecycle Costs	Forecast (Inflated)									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maintenance: Current Service Levels	144,551	147,340	150,285	153,287	156,346	159,465	162,644	165,885	163,389	166,657
Maintenance: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Asset Maintenance	144,551	147,340	150,285	153,287	156,346	159,465	162,644	165,885	163,389	166,657
Renewal/Rehabilitation	-	-	-	-	-	-	-	-	-	-
Renewal/Rehabilitation - LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Renewal/Rehabilitation	-	-	-	-	-	-	-	-	-	-
Replacement/Disposal	37,400	17,300	17,700	-	-	-	-	-	-	-
Replacement/Disposal - LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Replacement/Disposal	37,400	17,300	17,700	-	-	-	-	-	-	-
Expansion: DC Related	-	-	-	-	-	-	-	-	-	-
Expansion: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Expansion	-	-	-	-	-	-	-	-	-	-
Total	**181,951**	**164,640**	**167,985**	**153,287**	**156,346**	**159,465**	**162,644**	**165,885**	**163,389**	**166,657**

Items in Table 5-6 labelled as "LOS Adjustment" refer to the level of service analysis discussed in Chapter 2. Expansion related costs labelled as "DC related" refer to projects identified in the Township's Development Charge Background Study (please refer to Appendix G).

Table 5-7 summarizes the recommended strategy to finance the asset related costs identified in Table 5-6.

Table 5-7
Breakdown of Annual Water Funding (Revenue) by Source

Funding (Revenue) by Source	Forecast									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Water Rate Revenue	139,451	142,140	144,985	147,887	150,846	153,865	156,944	165,885	163,389	166,657
Grants	-	-	-	-	-	-	-	-	-	-
Other Contributions	-	-	-	-	-	-	-	-	-	-
Debentures	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Funds	-	-	-	-	-	-	-	-	-	-
Gas Tax Reserve Funds	-	-	-	-	-	-	-	-	-	-
Capital Reserve Fund	42,500	22,500	23,000	5,400	5,500	5,600	5,700	-	-	-
Total	**181,951**	**164,640**	**167,985**	**153,287**	**156,346**	**159,465**	**162,644**	**165,885**	**163,389**	**166,657**

These lifecycle costs are being recovered through several methods.

- Water Rates are suggested for all maintenance costs as well as level of service adjustment related costs for operations.
- The Township will be dependent upon maintaining healthy capital reserves/reserve funds in order to provide the remainder of the required lifecycle funding over the forecast period. This will require the Township to proactively increase amounts being transferred to these capital reserves during the annual budget process.

While the annual funding requirement may fluctuate, it is important for the Township to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds. In order to fund the recommended asset requirements over the forecast period using the Township's own available funding sources (i.e. using water rate revenue and debentures), an increase in rate based revenue (i.e. combination of growth and rate increases) would be required for each year of the forecast period. These increases are published in the Township's Water & Wastewater Rate Study. However, if other funding sources become available (i.e. grant funding) or if maintenance and rehabilitation practices allow for the deferral of capital works, then the impact on Township water rate revenue would decrease.

Further details with respect to the financing strategy and water rate study recommendations are provided in Appendix G.

Wastewater Financing Strategy

Table 5-8 shows the water expenditure forecast for maintenance, renewal/rehabilitation, replacement/disposal and expansion for the forecast period. While this summary only shows

high level cost classifications, further detail can be obtained from Appendix H, the Township's Rate Study and the asset management model provided to Township staff for future use.

Table 5-8
Sanitary Sewer and Storm Sewer Expenditure Forecast Summary

Asset Lifecycle Costs	Forecast (Inflated)									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maintenance: Current Service Levels	116,330	118,656	121,029	123,450	125,919	128,437	131,006	133,626	136,299	139,025
Maintenance: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Asset Maintenance	116,330	118,656	121,029	123,450	125,919	128,437	131,006	133,626	136,299	139,025
Renewal/Rehabilitation	-	-	-	-	-	-	-	-	-	-
Renewal/Rehabilitation - LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Renewal/Rehabilitation	-	-	-	-	-	-	-	-	-	-
Replacement/Disposal	-	-	-	-	-	-	-	-	-	-
Replacement/Disposal - LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Replacement/Disposal	-	-	-	-	-	-	-	-	-	-
Expansion: DC Related	-	-	-	-	-	-	-	-	-	-
Expansion: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Expansion	-	-	-	-	-	-	-	-	-	-
Total	**116,330**	**118,656**	**121,029**	**123,450**	**125,919**	**128,437**	**131,006**	**133,626**	**136,299**	**139,025**

Items in Table 5-8 labelled as "LOS Adjustment" refer to the level of service analysis discussed in Chapter 2. Expansion related costs labelled as "DC related" refer to projects identified in the Township's Development Charge Background Study (please refer to Appendix H).

Table 5-9 summarizes the recommended strategy to finance the asset related costs identified in Table 5-8.

Table 5-9
Breakdown of Annual Sanitary Sewer and Storm Sewer Funding (Revenue) by Source

Funding (Revenue) by Source	Forecast									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Wastewater Rate Revenue	116,330	118,656	121,029	123,450	125,919	128,437	131,006	133,626	136,299	139,025
Grants	-	-	-	-	-	-	-	-	-	-
Other Contributions	-	-	-	-	-	-	-	-	-	-
Debentures	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Funds	-	-	-	-	-	-	-	-	-	-
Gas Tax Reserve Funds	-	-	-	-	-	-	-	-	-	-
Capital Reserve Fund	-	-	-	-	-	-	-	-	-	-
Total	**116,330**	**118,656**	**121,029**	**123,450**	**125,919**	**128,437**	**131,006**	**133,626**	**136,299**	**139,025**

These lifecycle costs are being recovered through several methods.

- Wastewater Rates are suggested for all maintenance costs as well as level of service adjustment related costs for operations.
- The Township will be dependent upon maintaining healthy capital reserves/reserve funds in order to provide the remainder of the required lifecycle funding over the forecast period. This will require the Township to proactively increase amounts being transferred to these capital reserves during the annual budget process.

While the annual funding requirement may fluctuate, it is important for the Township to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds.

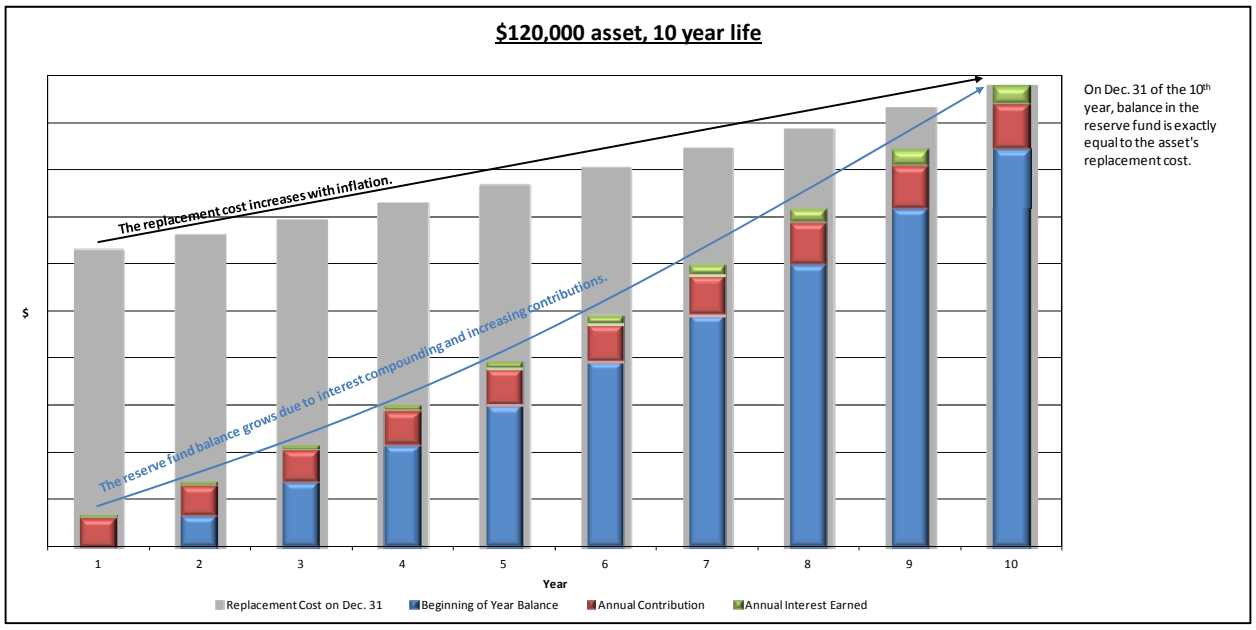
While the annual funding requirement may fluctuate, it is important for the Township to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds. In order to fund the recommended asset requirements over the forecast period using the Township's own available funding sources (i.e. using wastewater rate revenue and debentures), an increase in rate based revenue (i.e. combination of growth and rate increases) would be required for each year of the forecast period. These increases are published in the Township's Water & Wastewater Rate Study. However, if other funding sources become available (i.e. grant funding) or if maintenance and rehabilitation practices allow for the deferral of capital works, then the impact on Township water rate revenue would decrease.

5.4 Funding Shortfall

Assuming the Township maintains adequate capital reserve funds, the recommended asset management strategy discussed in Chapter 4 will be fully funded. It is believed this can be accomplished through each annual budget process. However, the recommended asset management strategy does defer significant capital replacements, in comparison to the LOS/condition based scenario (i.e. scenario 2). In the event that certain deferred replacements result in increased risks and/or projected asset failures, further funding may be required to address the costs associated with accelerating replacement timelines. In addition, in the event that the Township is not successful in recent grant applications, additional funding would be required in the short-term.

A fundamental approach to calculating the cost of using a capital asset and for the provision of the revenue required when the time comes to retire and replace it is the "sinking fund method". This method first estimates the future value of the asset at the time of replacement, by inflating the current value of the asset at an assumed annual capital inflation rate. A calculation is then performed to determine annual contributions which, when invested in a reserve fund, will grow with interest to a balance equal to the future replacement cost. The contributions are calculated such that they also increase annually with inflation. Under this approach, an annual capital investment amount is calculated where funds are available for short-term needs while establishing a funding plan for long-term needs. Annual contributions in excess of capital costs in a given year would be transferred to a "capital replacement reserve fund" for future capital replacement needs. This approach provides for a stable funding base, eliminating variances in annual funding requirements, particularly in years when capital replacement needs exceed typical capital levy funding. Please refer to Figure 5-2 for an illustration of this method.

Figure 5-2
Sinking Fund Method



Tax Supported

From a tax supported asset base perspective, the estimated annual sinking fund requirement, based on using the calculations discussed above, is approximately $4.2 million (in 2013 dollars). Based on the Township's 2013 budget, current annual capital investment is approximately $1,700,000. This would provide a high level estimate of the Township's annual tax supported infrastructure funding deficit at $2.5 million (in 2013 dollars).

Water (Drayton and Moorefield Combined)

From a water asset base perspective, the estimated annual sinking fund requirement, based on using the calculations discussed above, is approximately $141,500 (in 2013 dollars). Based on the Township's 2013 budget, current annual capital investment is approximately $51,400. This would provide a high level estimate of the Township's annual water infrastructure funding deficit at $90,100 (in 2013 dollars).

Wastewater (Drayton and Moorefield Combined)

From a wastewater asset base perspective, the estimated annual sinking fund requirement, based on using the calculations discussed above, is approximately $231,600 (in 2013 dollars). Based on the Township's 2013 budget, current annual capital investment is approximately $0. This would provide a high level estimate of the Township's annual wastewater infrastructure funding deficit at $231,600 (in 2013 dollars).

Under the recommended financing strategy, the Township would be making proactive attempts to mitigate these funding gaps over the forecast period. Please see Figures 5-3 to 5-5 below for a forecast of implementing this strategy for tax supported, water and wastewater assets

respectively. The blue portion of the graph outlines the current capital investment amounts, increasing at inflation. The red portion indicates the result of implementing recommended increases in available funding sources (resulting in increases in capital investment annually). The green represents optimal annual capital investment amounts (calculated as described above). Please note "optimal" capital investment funding can come from a number of additional sources, such as grants, donations, debt and other contributions.

Figure 5-3
Tax Supported Assets

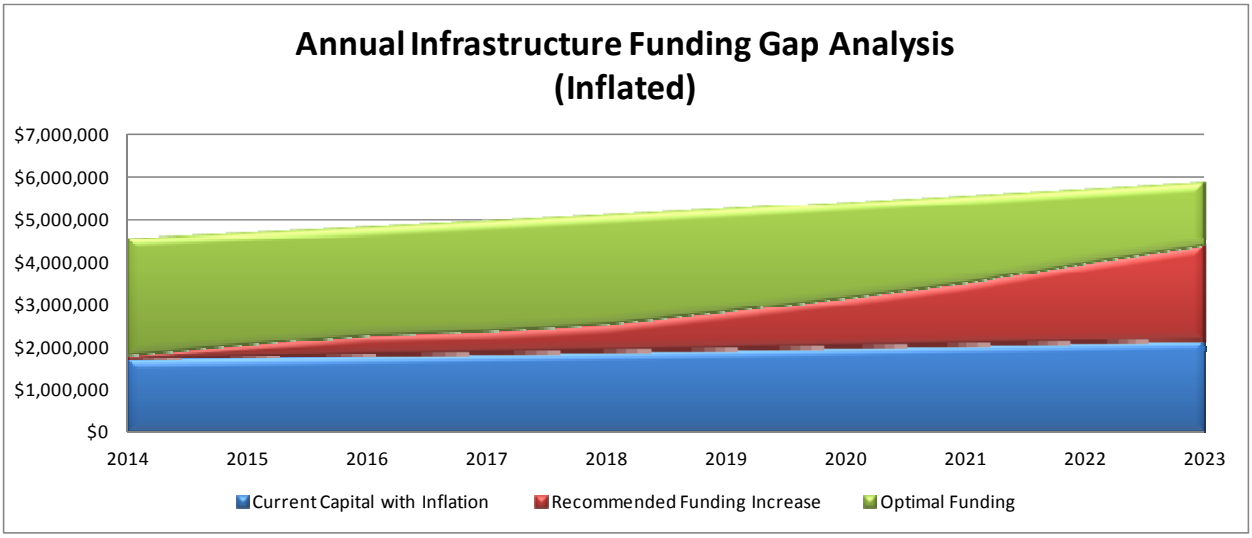


Figure 5-4
Water Assets

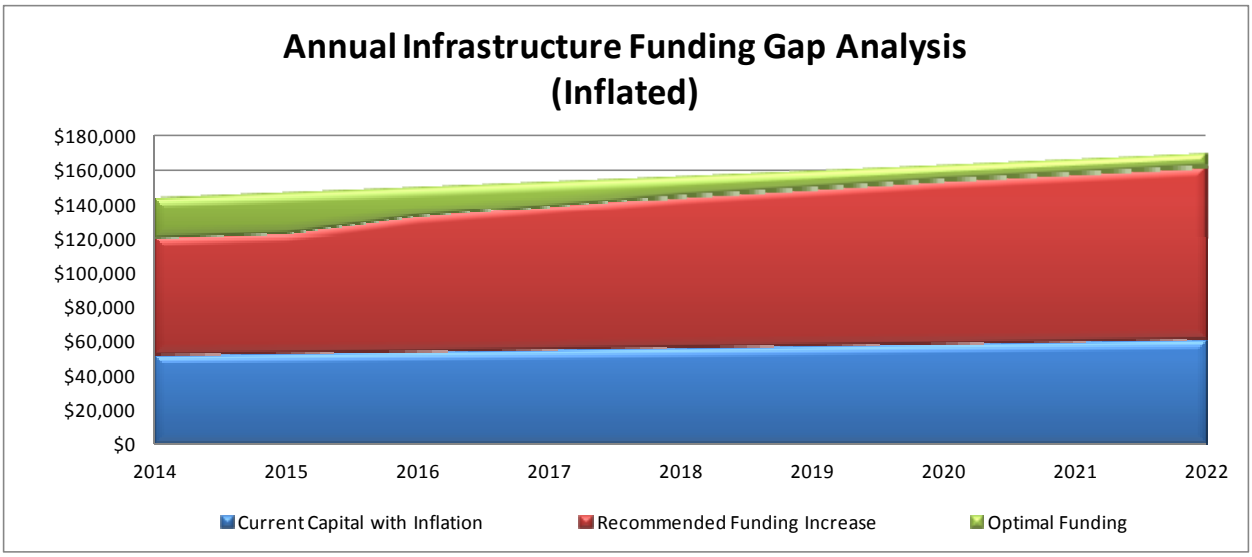
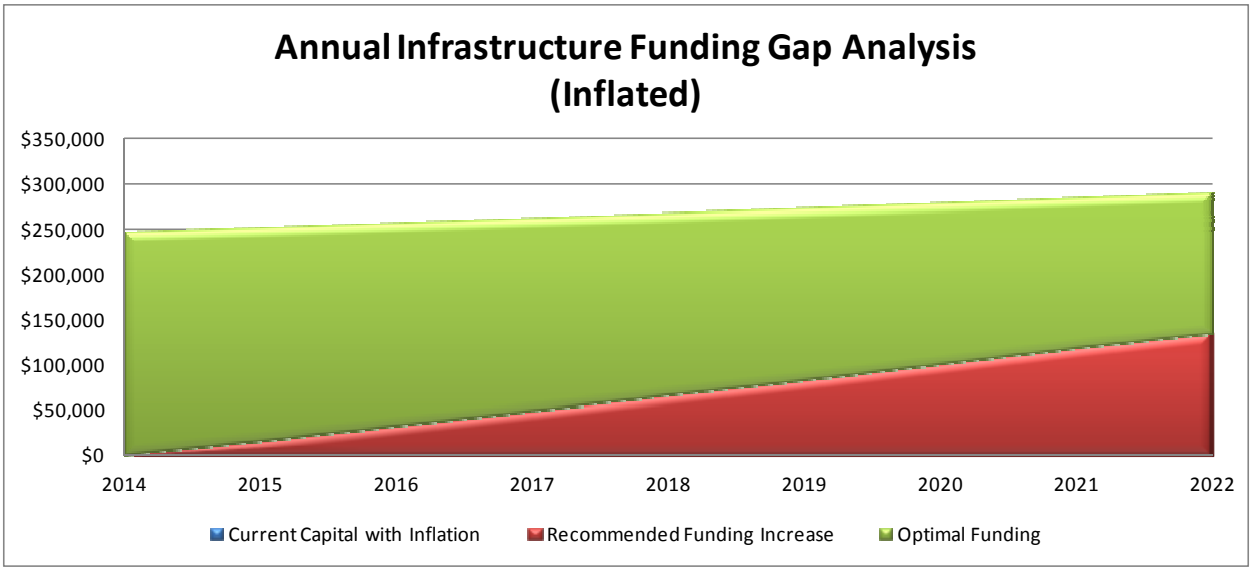


Figure 5-5
Wastewater Assets



To further mitigate the potential infrastructure funding deficit, the Township could consider:

- Decreasing expected levels of service to make available capital funding;
- Issuing debt for significant and/or unforeseen capital projects, in addition to the debt recommended within this report, while staying within the Township's debt capacity limits (this would have the impact of spreading out the capital repayment over a defined term);
- Actively seeking out and applying for grants;
- Consider approaching the development community for funding assistance with respect to growth/expansion related projects;
- Rate increases, where needed (i.e. taxation, user fees); or
- Implementing operating efficiencies (i.e. reduced operating costs to allow more capital investment).

6. RECOMMENDATIONS

6. RECOMMENDATIONS

The following recommendations have been provided for consideration:

- That the Township of Mapleton Asset Management Plan be received and approved by Council;
- That consideration of this Asset Management Plan be made as part of the annual budgeting process to ensure sufficient capital funds are available to fund capital requirements; and
- That this Asset Management plan be updated as needed over time to reflect the current priorities of the Township.

The current level of funding for asset replacement and renewal at the Township will not sufficiently fund capital needs or close the infrastructure funding gap. As such, it is recommended that the following additional recommendations be considered during the annual budget process:

- Initiation of "level of service" (LOS) strategies discussed in Chapters 3, 4 and Appendix D.
- Consider an increase in taxation as part of upcoming budget deliberations, dedicated to capital, to be transferred to capital reserve(s).
- Water and wastewater revenue increases consistent with the calculations in the Water and Wastewater Rate Study.

Substantial investment in capital needs will be required over the forecast period. Through the recommendations provided above, proactive steps would be taken to increase capital investment, as well as reduce the annual infrastructure funding gap for these assets. Enhanced level of service will assist in maintaining adequate asset conditions, mitigate asset risk, as well as potentially defer capital needs within the forecast period. In addition, the Township should pursue available capital grants, wherever possible, to further reduce the infrastructure funding gap.

Through the creation of this plan, Township staff have been provided with a model in which amendments and revisions can be made as needed. It is anticipated that the final plan adopted by Council will be monitored and updated frequently by Township staff as part of the budget process, with refinements and specific recommendations being provided with respect to the priority of each individual project.

APPENDIX A
DETAILED ASSET INVENTORY
(TECHNICAL APPENDIX)

PLEASE REFER TO TECHNICAL APPENDIX

APPENDIX B
ASSET MANAGEMENT ASSUMPTIONS

APPENDIX B: ASSET MANAGEMENT PLAN ASSUMPTIONS

The following assumptions were made during the creation of the Township's asset management plan.

1. STATE OF LOCAL INFRASTRUCTURE
   a) Indexing: When inflating an asset value to a 2013 replacement value, the Non-Residential Building Construction Price Index (NRBCPI) was used for Road, Bridge/Culvert, Water, Sanitary/Storm and Building related assets. Other assets (equipment, vehicles, and land improvements, etc.) were inflated using the Consumer Price Index (CPI). Two indexes were used to account for the difference between construction related assets and assets that are more consumer in nature.
   b) In order to establish an initial condition assessment for some assets, calculations were performed to link condition to asset age. This was done in order to establish condition ratings for this report and it is recommended that the Township follow the "Condition Assessment Policy" shown in Appendix C in the future.

2. ASSET MANAGEMENT STRATEGY
   a) Capital inflation rate will be assumed to be 3% annually.
   b) Operating budget inflation rate will be assumed to be 2% annually.
   c) Regarding operating expenses included in the Township's current budget, it is assumed that they will increase at an operating inflation rate annually.
   d) When any existing debenture payments are complete (if applicable), annual budget savings created through removing these payments have been dedicated to capital.

3. FINANCING STRATEGY
   a) Taxation assessment growth is assumed to be 1% annually.
   b) Development charges rates are assumed to increase at 2% annually.
   c) Gas tax revenue has been identified as a funding source for the purposes of this analysis (i.e. for asset replacement purposes), and has been assumed to continue throughout the forecast period.
   d) Interest rate earned on a Capital Replacement Reserve Fund will be 2% annually.
   e) In the case where debt financing is needed, the model assumed debt terms of 20 years at 5 % annual interest. For growth related debt, debt payments are shown as funded directly from the development charge reserve funds.

f) For water and wastewater financing strategies required increases in rates/revenues, these increases are assumed to come from both rate increases and customer/consumption growth as per the water and wastewater rate study.

APPENDIX C
DATA VERIFICATION AND CONDITION ASSESSMENT POLICY

APPENDIX C

Township of Mapleton
Data Verification and Condition Assessment Policy

Data Verification

1. The main source of asset data updating and editing will be though the Township's PSAB 3150 compliance procedures.
2. Asset additions, disposals, betterments, and write-offs will be recorded based on the Township's PSAB 3150 Compliance Policies.
3. Verification of the correct treatment of asset revisions will be completed through frequent annual reviews by the Township's Treasurer as well as an annual review by the Township's external auditor.
4. During years in which condition assessments are not being performed, asset replacement cost will be determined based on a combination of inflating previous current values or thorough the use of the current year's historical invoice data. Where indices are being used, the Non-Residential Building Construction Price Index (NRBCPI) shall be used for construction related assets (i.e. roads related, storm, water, and facilities) and the Consumer Price Index (CPI) shall be used for all other assets (i.e. machinery & equipment, vehicles and land improvements).

Condition Assessment

1. Condition assessments shall be performed as outlined in Table C-1 below. Condition assessments shall be performed by qualified individuals (or companies) and shall include a review of the following:
   - Current asset condition (consistent with the rating format use within this report, unless Township staff stipulate a new format);
     i. Identify any unusual wear from asset use that may hinder asset performance and eventually reduce useful life.
     ii. Assess asset performance and identify (if any) capital improvements that can be applied to extend the asset's useful life and/or bring the asset back to proper service levels.
   - Current asset replacement cost. This is to be based on replacing the asset under current legislation/requirements using the Township's specifications; and
   - Remaining service life, assuming current maintenance and usage levels.

Table C-1

Condition Assessment Time Table

Asset Type	Frequency of Condition Assessment
Roads Related	Every 5 years, based on Minimum Maintenance Standards
Bridges and Culverts (greater than 3m)	Every 2 years, based on applicable legislation
Facilities	Every 5 years
Land Improvements	Based on applicable legislation
Vehicles and Equipment	Annually, part of maintenance program
Water, Wastewater, Stormwater and Related	Every 5 years, based on applicable legislation

APPENDIX D
LEVEL OF SERVICE IMPACT ANALYSIS

Township of Mapleton
2013 Asset Management Plan
Asset Management Strategy - Change in Level of Service

Table D-1
Tax Supported Services

Departments	Description	Planned Actions	Impact (2013$)	Phase-in of Impact (in Current Year $)																		
				2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Expenditures																							
Capital Expenditures	Storm Sewers	Rehabilitation/Renewal	634,226	3,820	2,846	44,711	552,806	27,755	1,557	-	536	-	-	195	-	-	-	-	-	-	-	-	-
Capital Expenditures	Roads - Resurfacing Works	Replacement	27,151,290	809,464	808,615	1,130,986	-	792,818	799,284	852,301	1,189,976	1,684,591	1,839,309	1,097,396	-	1,329,866	1,427,583	1,804,373	2,170,680	2,749,439	3,013,960	473,471	3,177,176
Capital Expenditures	Facilities	Rehabilitation/Renewal	2,431,625	-	179,375	112,500	327,500	70,500	253,250	363,000	359,000	267,375	28,375	78,625	41,000	100,000	125,000	86,375	-	10,250	-	29,500	-
Capital Expenditures				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenditures (Uninflated)				**813,284**	**990,836**	**1,288,198**	**880,306**	**891,073**	**1,054,091**	**1,215,301**	**1,549,512**	**1,951,966**	**1,867,684**	**1,176,216**	**41,000**	**1,429,866**	**1,552,583**	**1,890,748**	**2,170,680**	**2,759,689**	**3,013,960**	**502,971**	**3,177,176**

Total Operating Expenditures (Uninflated)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures (Uninflated)	813,284	990,836	1,288,198	880,306	891,073	1,054,091	1,215,301	1,549,512	1,951,966	1,867,684	1,176,216	41,000	1,429,866	1,552,583	1,890,748	2,170,680	2,759,689	3,013,960	502,971	3,177,176
Total Operating Expenditures (Inflated)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures (Inflated)	837,683	1,051,178	1,407,648	990,792	1,032,998	1,258,639	1,494,667	1,962,876	2,546,873	2,510,011	1,628,158	58,456	2,099,807	2,348,422	2,945,724	3,483,304	4,561,346	5,131,066	881,963	5,738,334

Planned Actions Summary	Impact (Inflated)																			
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rehabilitation/Renewal	3,934	193,318	171,789	990,792	113,904	304,253	446,444	455,450	348,864	38,134	109,105	58,456	146,853	189,074	134,569	-	16,942	-	51,728	-
Replacement	833,748	857,860	1,235,859	-	919,093	954,387	1,048,222	1,507,426	2,198,009	2,471,878	1,519,053	-	1,952,953	2,159,348	2,811,154	3,483,304	4,544,404	5,131,066	830,235	5,738,334
Expansion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total (Inflated)	837,682	1,051,178	1,407,648	990,792	1,032,997	1,258,640	1,494,666	1,962,876	2,546,873	2,510,012	1,628,158	58,456	2,099,806	2,348,422	2,945,723	3,483,304	4,561,346	5,131,066	881,963	5,738,334

APPENDIX E
SCENARIO ANALYSIS – CAPITAL FORECASTS

Township of Mapleton
2013 Asset Management Plan
Scheduled Capital Replacement (Tax Supported Assets) - Inflated

Table E-1
Replacement Year Based on Scenario 1

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**168,224,168**	**2,872,967**	**2,898,673**	**10,088,438**	**9,421,520**	**19,328,071**	**4,630,177**	**22,412,831**	**20,258,219**	**17,343,156**	**57,408,362**	**24,308,048**	**27,244,420**	**18,310,409**	**7,875,038**	**4,923,602**	**7,104,284**	**52,582,697**	**15,410,858**	**6,260,100**	**50,489,614**	**549,395,653**
Catchbasins	-	-	-	-	-	-	-	-	-	-	-	-	-	146,256	-	-	-	151,814	-	-	-	298,070
Storm Manholes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,801,584	-	-	-	-	2,801,584
Storm Sewers	-	-	-	-	-	-	-	-	-	-	-	-	-	654	7,226	283,935	1,870,298	144,773	11,886	3,747	-	2,322,519
Sidewalks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,492,952	1,492,952
Bridges	55,000	1,349,815	761,196	491,727	1,474,417	326,915	1,209,575	1,785,777	1,819,082	1,395,455	152,535	435,342	233,825	587,413	756,295	538,278	-	67,767	-	206,914	-	13,647,326
Culverts	-	-	-	-	-	-	-	-	-	-	-	1,086,392	-	-	-	-	-	-	-	-	-	1,086,392
Buildings	985,667	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	985,667
Ponds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roads	164,455,803	1,255,506	2,137,478	9,596,711	7,930,382	17,486,156	3,161,980	19,462,027	17,703,189	15,451,688	56,066,828	22,765,749	25,573,730	17,376,300	5,016,350	3,612,183	1,890,259	51,464,594	14,064,097	5,262,272	46,514,322	508,247,602
Vehicles	2,702,803	267,646	-	-	16,722	498,059	258,622	1,165,028	294,524	358,214	1,133,796	20,565	1,436,865	199,786	2,095,167	489,206	542,143	753,749	779,739	420,668	2,429,390	15,862,694
Traffic Signs	-	-	-	-	-	212,796	-	-	-	-	-	-	-	-	-	-	-	-	65,034	125,358	-	403,188
Recreational	-	-	-	-	-	-	-	-	441,424	-	-	-	-	-	-	-	-	-	-	-	-	441,424
Street Lights	-	-	-	-	-	799,018	-	-	-	-	-	-	-	-	-	-	-	-	490,102	55,951	-	1,345,072
Equipment	24,894	-	-	-	-	5,127	-	-	-	137,800	55,203	-	-	-	-	-	-	-	-	185,191	52,950	461,165
																						-

Table E-2
Replacement Year Based on Scenario 2

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**16,776,646**	**85,206,266**	**63,369,127**	**1,405,943**	**3,229,112**	**5,142,356**	**5,107,537**	**9,878,229**	**9,452,550**	**12,288,151**	**14,322,805**	**19,839,862**	**26,283,060**	**21,563,179**	**15,405,271**	**13,571,234**	**11,864,398**	**52,367,125**	**15,721,865**	**14,783,473**	**26,605,550**	**444,183,739**
Catchbasins	-	-	-	-	-	-	-	-	-	-	-	-	-	146,256	-	-	-	151,814	-	-	-	298,070
Storm Manholes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,801,584	-	-	-	-	2,801,584
Storm Sewers	-	-	-	-	-	-	-	-	-	-	-	-	-	654	7,226	283,935	1,870,298	144,773	11,886	3,747	-	2,322,519
Sidewalks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,492,952	1,492,952
Bridges	-	309,000	614,659	790,042	368,604	81,729	302,394	446,444	454,770	348,864	38,134	108,835	58,456	146,853	189,074	134,569	-	16,942	-	51,728	-	4,461,098
Culverts	-	-	-	-	-	-	-	-	-	-	-	1,086,392	-	-	-	-	-	-	-	-	-	1,086,392
Buildings	-	-	328,871	615,901	-	-	-	-	-	1,122,081	-	-	-	-	-	-	-	-	-	-	53,640	2,120,494
Ponds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roads	14,048,949	84,629,619	62,425,597	-	2,843,786	3,545,628	4,546,521	8,266,757	8,261,832	10,321,192	13,095,671	18,624,069	24,787,739	21,069,630	13,113,804	12,663,523	6,650,373	51,299,847	14,375,104	13,940,830	22,576,618	411,087,089
Vehicles	2,702,803	267,646	-	-	16,722	498,059	258,622	1,165,028	294,524	358,214	1,133,796	20,565	1,436,865	199,786	2,095,167	489,206	542,143	753,749	779,739	420,668	2,429,390	15,862,694
Traffic Signs	-	-	-	-	-	212,796	-	-	-	-	-	-	-	-	-	-	-	-	65,034	125,358	-	403,188
Recreational	-	-	-	-	-	-	-	-	441,424	-	-	-	-	-	-	-	-	-	-	-	-	441,424
Street Lights	-	-	-	-	-	799,018	-	-	-	-	-	-	-	-	-	-	-	-	490,102	55,951	-	1,345,072
Equipment	24,894	-	-	-	-	5,127	-	-	-	137,800	55,203	-	-	-	-	-	-	-	-	185,191	52,950	461,165
																						-

Table E-3
Replacement Year Based on Scenario 3

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**-**	**866,452**	**1,454,522**	**2,396,814**	**2,551,245**	**1,016,956**	**375,621**	**424,698**	**1,099,865**	**2,593,160**	**464,802**	**1,237,265**	**4,151,410**	**498,412**	**673,297**	**1,012,772**	**3,932,897**	**3,239,989**	**1,766,060**	**1,839,956**	**1,999,200**	**33,595,393**
Catchbasins	-	-	-	-	-	-	-	-	-	-	-	-	-	146,256	-	-	-	151,814	-	-	-	298,070
Storm Manholes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,801,584	-	-	-	-	2,801,584
Storm Sewers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sidewalks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,492,952	1,492,952
Bridges	-	309,000	424,360	667,110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,400,470
Culverts	-	-	-	-	-	-	-	-	-	-	-	1,086,392	-	-	-	-	-	-	-	-	-	1,086,392
Buildings	-	-	328,871	615,901	-	-	-	-	-	1,122,081	-	-	-	-	-	-	-	-	-	-	53,640	2,120,494
Ponds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roads	-	-	-	117,214	1,853,736	394,644	-	-	-	-	-	-	2,764,051	-	-	-	-	2,662,900	-	-	-	7,792,545
Vehicles	-	531,811	701,291	996,589	697,509	494,724	249,486	294,779	524,625	1,195,448	350,426	21,006	1,289,090	250,939	569,043	1,012,772	1,131,314	425,275	1,210,924	1,473,456	444,619	13,865,127
Traffic Signs	-	-	-	-	-	42,559	43,836	45,151	46,506	47,901	-	-	-	-	-	-	-	-	65,034	125,358	-	416,345
Recreational	-	-	-	-	-	-	-	-	441,424	-	-	-	-	-	-	-	-	-	-	-	-	441,424
Street Lights	-	-	-	-	-	79,902	82,299	84,768	87,311	89,930	92,628	95,407	98,269	101,217	104,254	-	-	-	490,102	55,951	-	1,462,038
Equipment	-	25,641	-	-	-	5,127	-	-	-	137,800	21,747	34,459	-	-	-	-	-	-	-	185,191	7,988	417,953
																						-

Township of Mapleton
2013 Asset Management Plan
Scheduled Capital Replacement (Tax Supported Assets) - Inflated

Figure E-1
Tax Supported Assets
Scenario 1 - Replacement Year Based on PSAB 3150 Data

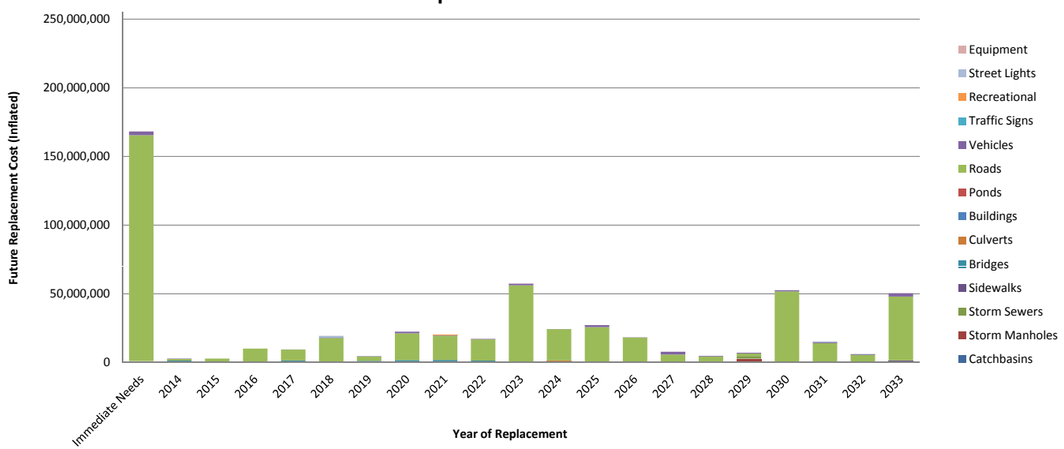


Figure E-2
Tax Supported Assets
Scenario 2 - Replacement Year Based on Level of Service

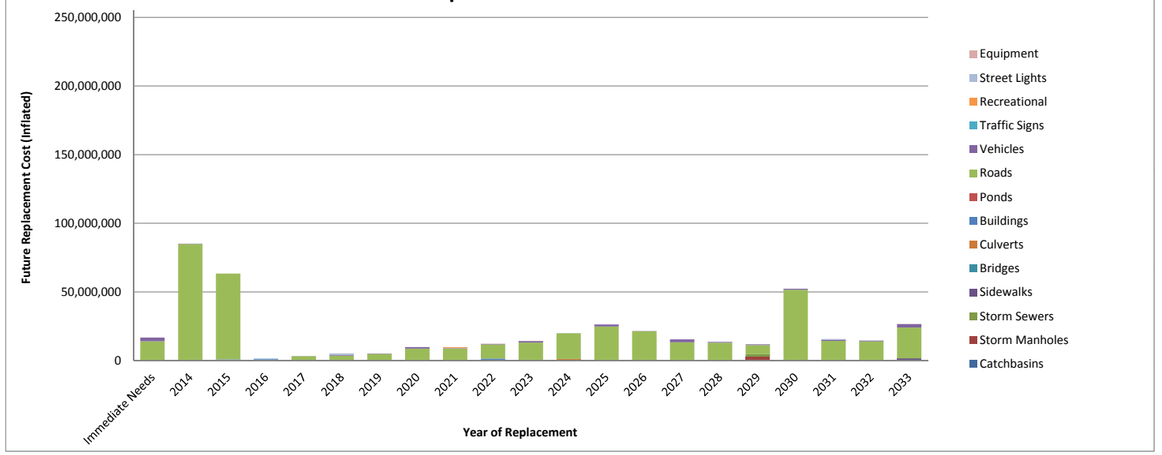
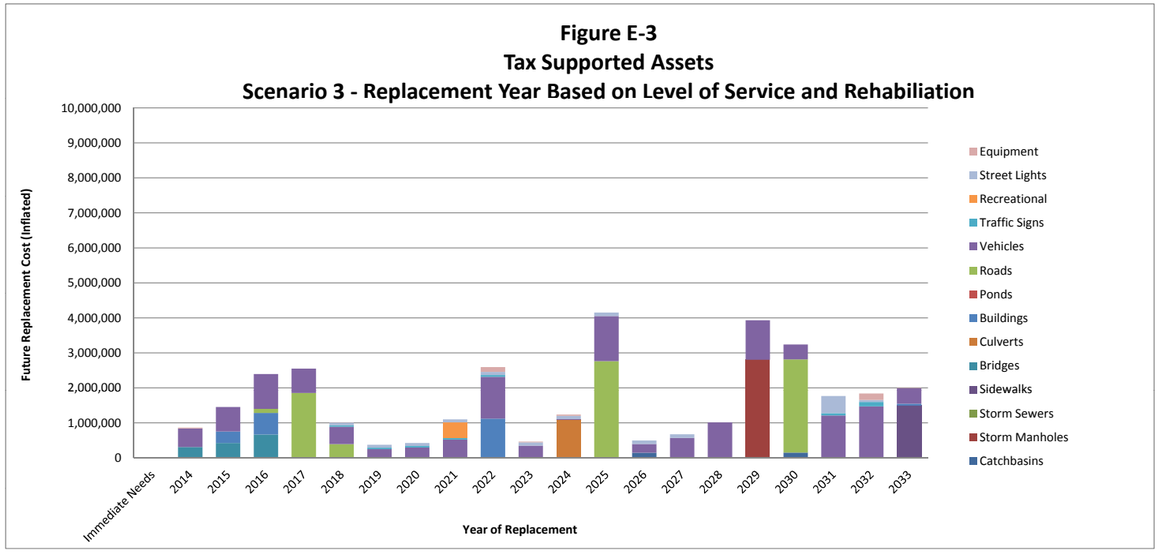


Figure E-3
Tax Supported Assets
Scenario 3 - Replacement Year Based on Level of Service and Rehabiliation



Township of Mapleton
2013 Asset Management Plan
Scheduled Capital Replacement (Water Assets) - Inflated

Table E-4
Replacement Year Based on Scenario 1

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Blow-offs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Valves	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Watermains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wells/Pumps	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stand Pipe/Water Reservoir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																						-

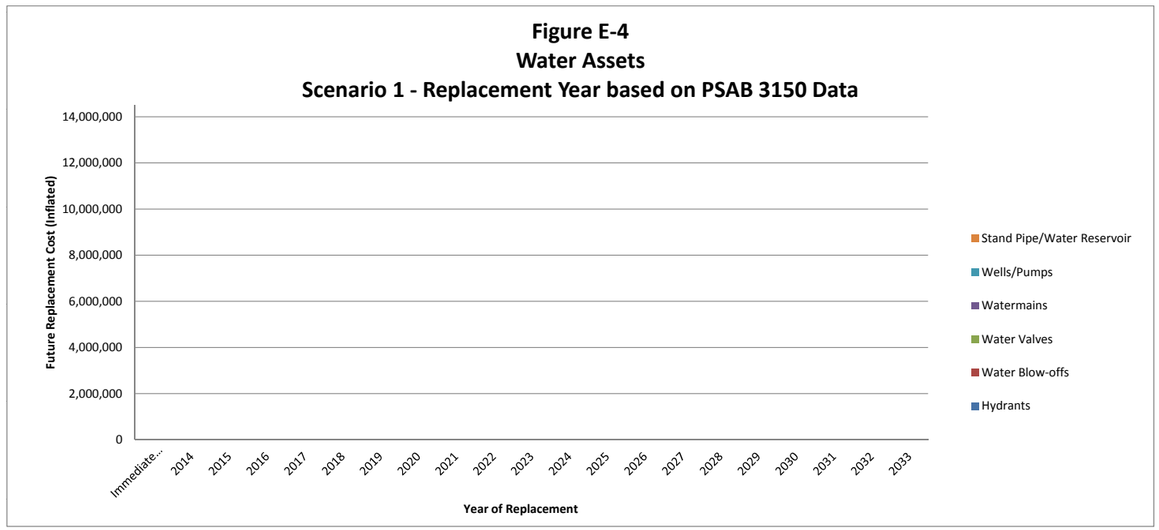
Table E-5
Replacement Year Based on Scenario 2

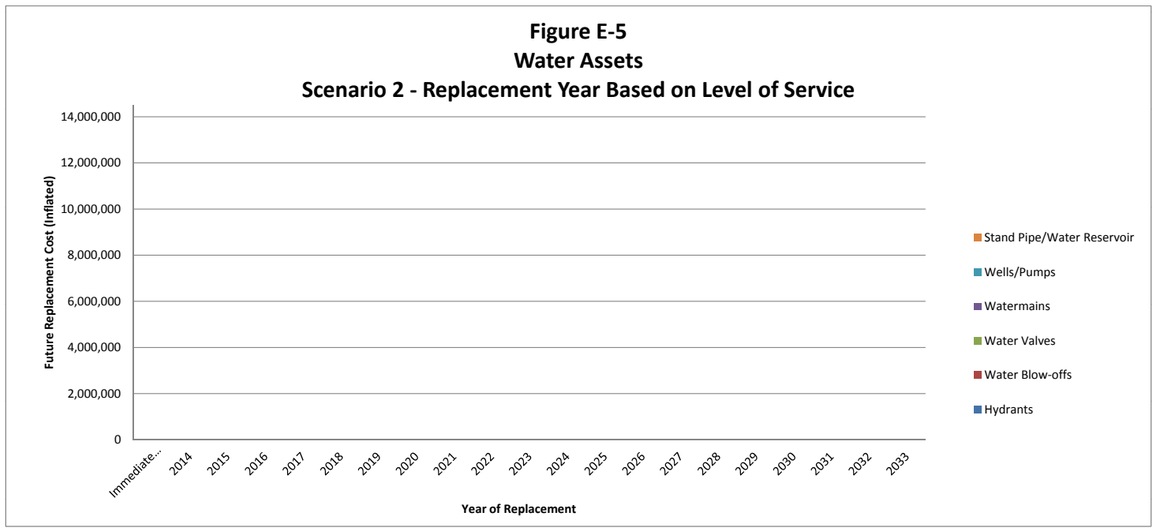
Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrants																						-
Water Blow-offs																						-
Water Valves																						-
Watermains																						-
Wells/Pumps																						-
Stand Pipe/Water Reservoir																						-
																						-

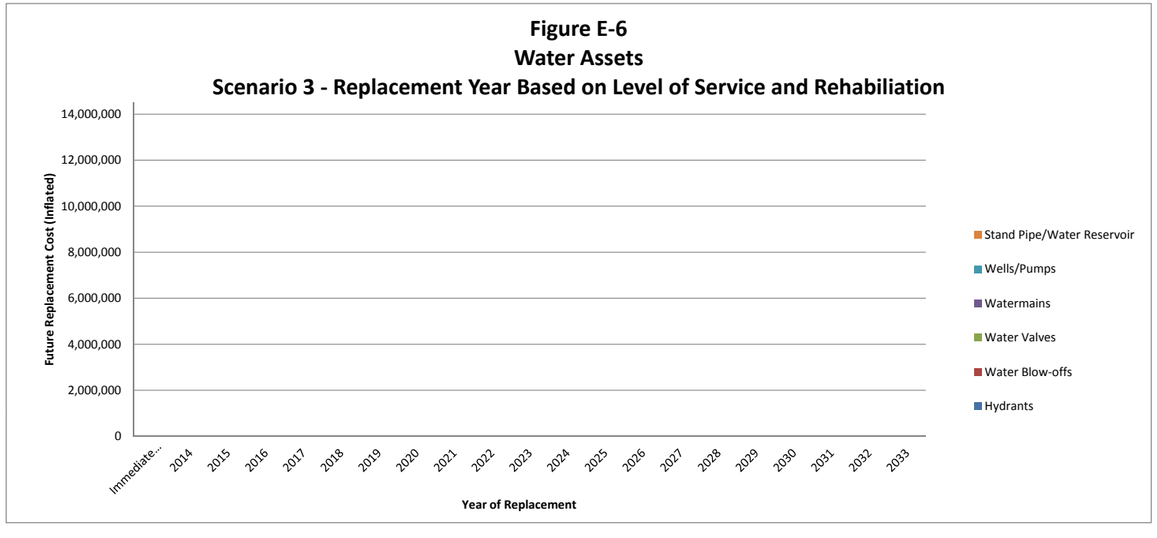
Table E-6
Replacement Year Based on Scenario 3

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrants																						-
Water Blow-offs																						-
Water Valves																						-
Watermains																						-
Wells/Pumps																						-
Stand Pipe/Water Reservoir																						-
																						-

Township of Mapleton
2013 Asset Management Plan
Scheduled Capital Replacement (Water Assets) - Inflated







Township of Mapleton
2013 Asset Management Plan
Scheduled Capital Replacement (Wastewater Assets) - Inflated

Table E-7
Replacement Year Based on Scenario 1

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary MH's	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary Pumpstations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forcemains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary Valves	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary Sewers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WW Treatment Facility (Lagoons)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																						-

Table E-8
Replacement Year Based on Scenario 2

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary MH's																						-
Sanitary Pumpstations																						-
Forcemains																						-
Sanitary Valves																						-
Sanitary Sewers																						-
WW Treatment Facility (Lagoons)																						-
																						-

Table E-9
Replacement Year Based on Scenario 3

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary MH's																						-
Sanitary Pumpstations																						-
Forcemains																						-
Sanitary Valves																						-
Sanitary Sewers																						-
WW Treatment Facility (Lagoons)																						-
																						-

Township of Mapleton
2013 Asset Management Plan
Scheduled Capital Replacement (Wastewater Assets) - Inflated

Figure E-7
Wastewater Assets
Scenario 1 - Replacement Year based on PSAB 3150 Data

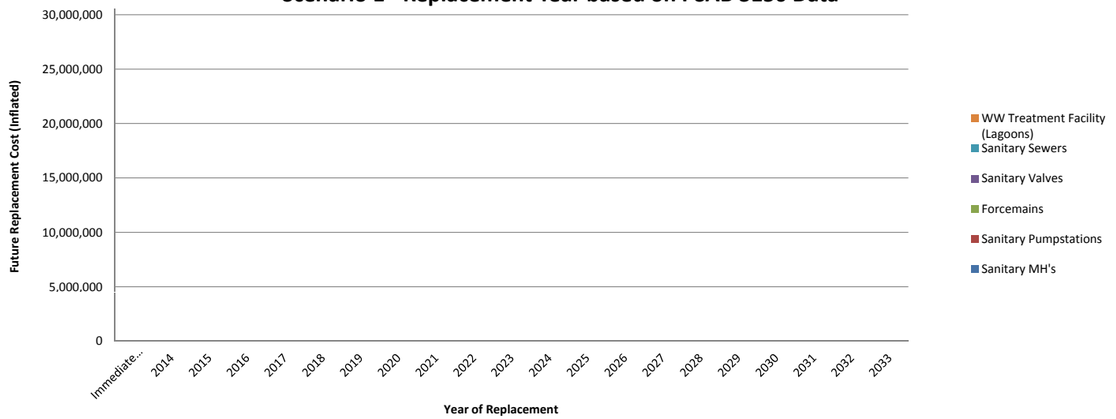


Figure E-8
Wastewater Assets
Scenario 2 - Replacement Year Based on Level of Service

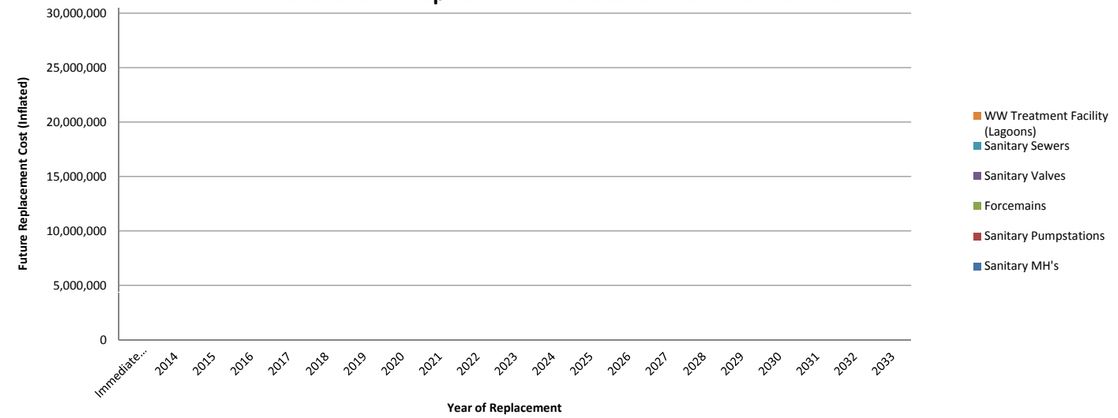
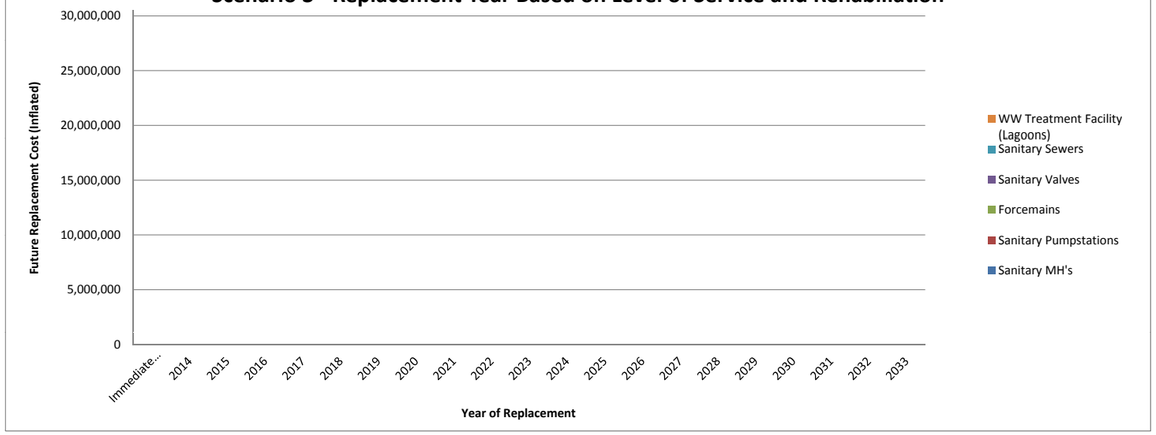


Figure E-9
Wastewater Assets
Scenario 3 - Replacement Year Based on Level of Service and Rehabiliation



Township of Mapleton
2013 Asset Management Plan
Scheduled Capital Rehabilitation & Replacement - Inflated

Table E-10
Tax Supported Assets
Scenario 3 - Replacement and Rehabilitation

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Uninflated	**-**	**1,704,135**	**2,505,700**	**3,804,463**	**3,542,037**	**2,049,954**	**1,634,261**	**1,919,365**	**3,062,741**	**5,140,034**	**2,974,813**	**2,865,423**	**4,209,866**	**2,598,218**	**3,021,719**	**3,958,496**	**7,416,201**	**7,801,334**	**6,897,126**	**2,721,920**	**7,737,534**	**77,565,337**
Catchbasins	-	-	-	-	-	-	-	-	-	-	-	-	-	146,256	-	-	-	151,814	-	-	-	298,070
Storm Manholes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,801,584	-	-	-	-	2,801,584
Storm Sewers	-	3,934	3,019	48,857	622,188	32,176	1,859	-	679	-	-	270	-	-	-	-	-	-	-	-	-	712,983
Sidewalks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,492,952	1,492,952
Bridges	-	309,000	424,360	667,110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,400,470
Culverts	-	-	-	-	-	-	-	-	-	-	-	1,086,392	-	-	-	-	-	-	-	-	-	1,086,392
Buildings	-	-	519,170	738,833	368,604	81,729	302,394	446,444	454,770	1,470,945	38,134	108,835	58,456	146,853	189,074	134,569	-	16,942	-	51,728	53,640	5,181,121
Ponds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roads	-	833,748	857,860	1,353,073	1,853,736	1,313,737	954,387	1,048,222	1,507,426	2,198,009	2,471,878	1,519,053	2,764,051	1,952,953	2,159,348	2,811,154	3,483,304	7,207,304	5,131,066	830,235	5,738,334	47,988,879
Vehicles	-	531,811	701,291	996,589	697,509	494,724	249,486	294,779	524,625	1,195,448	350,426	21,006	1,289,090	250,939	569,043	1,012,772	1,131,314	425,275	1,210,924	1,473,456	444,619	13,865,127
Traffic Signs	-	-	-	-	-	42,559	43,836	45,151	46,506	47,901	-	-	-	-	-	-	-	-	65,034	125,358	-	416,345
Recreational	-	-	-	-	-	-	-	-	441,424	-	-	-	-	-	-	-	-	-	-	-	-	441,424
Street Lights	-	-	-	-	-	79,902	82,299	84,768	87,311	89,930	92,628	95,407	98,269	101,217	104,254	-	-	-	490,102	55,951	-	1,462,038
Equipment	-	25,641	-	-	-	5,127	-	-	-	137,800	21,747	34,459	-	-	-	-	-	-	-	185,191	7,988	417,953
																						-

Table E-11
Water Assets
Scenario 3 - Replacement and Rehabilitation

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Uninflated	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,039**	**541,659**	**-**	**542,697**
Hydrants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Blow-offs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Valves	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Watermains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,039	541,659	-	542,697
Wells/Pumps	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stand Pipe/Water Reservoir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																						-

Table E-12
Wastewater Assets
Scenario 3 - Replacement and Rehabilitation

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Uninflated	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**904,484**	**1,292**	**905,776**
Sanitary MH's	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary Pumpstations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forcemains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274,024	-	274,024
Sanitary Valves	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary Sewers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	630,460	1,292	631,752
WW Treatment Facility (Lagoons)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																						-

Township of Mapleton
2013 Asset Management Plan
Scheduled Capital Rehabilitation & Replacement - Inflated

Figure E-10
Tax Supported Assets
Scenario 3 - Rehabilitation and Replacement

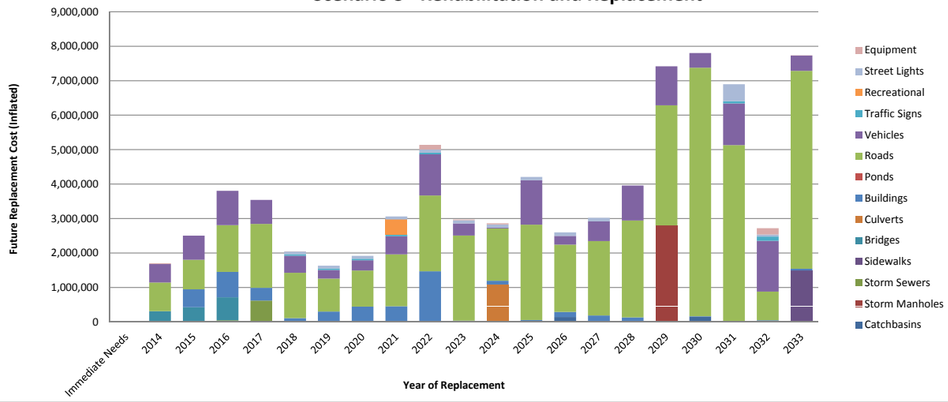


Figure E-11
Water Assets
Scenario 3 - Rehabilitation and Replacement

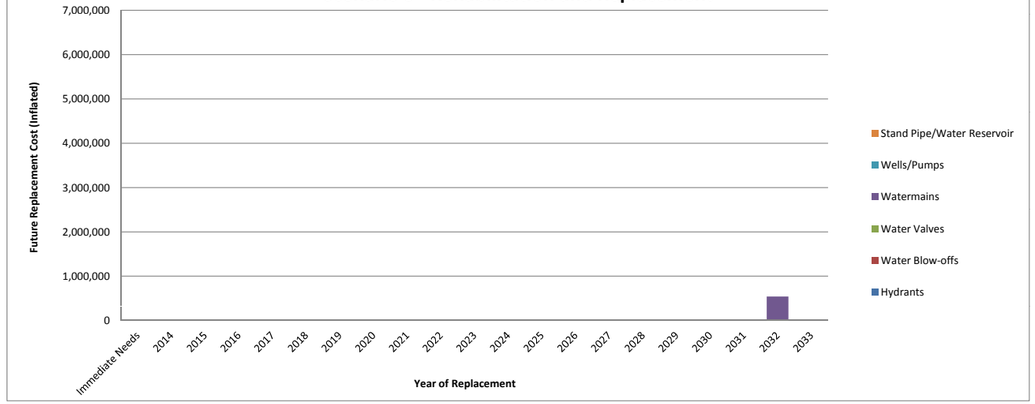
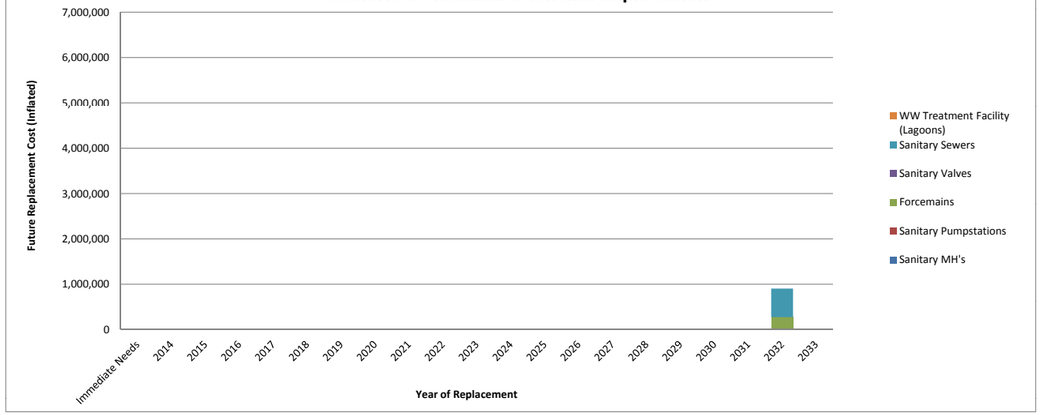


Figure E-12
Wastewater Assets
Scenario 3 - Rehabilitation and Replacement



APPENDIX F
TAX SUPPORTED ASSET MANAGEMENT STRATEGY & FINANCING STRATEGY

Township of Mapleton
2013 Asset Management Plan
Expansion Projects - Uninflated

Table F-1
Tax Supported Assets

Description	Total	Forecast																			
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Growth Projects (DC)																					
Roads																					
Road Improvements	4,400,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000	275,000				
Bridge Replacements	883,400			441,700							441,700										
Rolling Stock																					
Provision for 2 Additional Vehicles	312,200				156,100				156,100												
Urban Area Winter Maintenance Vehicle	120,000									120,000											
Fire Equipment and Vehicles																					
New Radio System (Portable and Base)	30,000	30,000																			
Rescue Van	267,000					267,000															
Parks and Recreation Vehicles																					
Alma Park Maintenance Mower	15,200			15,200																	
Combinatin Blower/Mower	23,000					23,000															
Administration Studies																					
Development Charges Study	27,000	27,000																			
Wastewater EA Study	50,000				50,000																
Total Capital Expenditures	6,127,800	332,000	275,000	731,900	481,100	565,000	275,000	275,000	431,100	395,000	716,700	275,000	275,000	275,000	275,000	275,000	275,000	-	-	-	-
Capital Financing																					
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund	1,221,100	73,705	35,205	98,965	218,655	114,715	35,205	35,205	168,655	137,805	91,755	35,205	35,205	35,205	35,205	35,205	35,205	-	-	-	-
Tax Supported Capital Reserve Fund	4,906,700	258,295	239,795	632,935	262,445	450,285	239,795	239,795	262,445	257,195	624,945	239,795	239,795	239,795	239,795	239,795	239,795	-	-	-	-
Total Capital Financing	6,127,800	332,000	275,000	731,900	481,100	565,000	275,000	275,000	431,100	395,000	716,700	275,000	275,000	275,000	275,000	275,000	275,000	-	-	-	-

Township of Mapleton
2013 Asset Management Plan
Financing Strategy

Table F-2
Tax Supported Capital Forecast

Description	Actual 2011	Actual 2012	Budget 2013	Forecast																		
				2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Prior Capital Expenses																							
General Government	1,245,534	376,616	86,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Protection Services	88,229	63,900	111,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parks, Recreation & Culture	508,246	295,999	433,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roads	1,046,357	931,454	2,408,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cemeteries	6,386	-	3,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Replacement Forecast																							
Catchbasins				-	-	-	-	-	-	-	-	-	-	-	-	146,256	-	-	-	151,814	-	-	-
Storm Manholes				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,801,584	-	-	-	-
Storm Sewers				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sidewalks				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,492,952
Bridges				309,000	424,360	667,110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Culverts				-	-	-	-	-	-	-	-	-	-	1,086,392	-	-	-	-	-	-	-	-	-
Buildings				-	328,871	615,901	-	-	-	-	-	1,122,081	-	-	-	-	-	-	-	-	-	-	53,640
Ponds				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roads				-	-	117,214	1,853,736	394,644	-	-	-	-	-	-	2,764,051	-	-	-	-	-	-	2,662,900	-
Vehicles				531,811	701,291	996,589	697,509	494,724	249,486	294,779	524,625	1,195,448	350,426	21,006	1,289,090	250,939	569,043	1,012,772	1,131,314	425,275	1,210,924	1,473,456	444,619
Traffic Signs				-	-	-	-	42,559	43,836	45,151	46,506	47,901	-	-	-	-	-	-	-	-	65,034	125,358	-
Recreational				-	-	-	-	-	-	-	441,424	-	-	-	-	-	-	-	-	-	-	-	-
Street Lights				-	-	-	-	79,902	82,299	84,768	87,311	89,930	92,628	95,407	98,269	101,217	104,254	-	-	-	490,102	55,951	-
Equipment				25,641	-	-	-	5,127	-	-	-	137,800	21,747	34,459	-	-	-	-	-	-	-	185,191	7,988
Level of Service Adjustments																							
Rehabiliation and Renewal Works				837,683	1,051,178	1,407,648	990,792	1,032,998	1,258,639	1,494,667	1,962,876	2,546,873	2,510,011	1,628,158	58,456	2,099,807	2,348,422	2,945,724	3,483,304	4,561,346	5,131,066	881,963	5,738,334
Capital Expansion Forecast																							
Growth Projects (DC)				341,960	291,748	799,767	541,482	654,990	328,364	338,215	546,105	515,385	963,185	380,664	392,084	403,847	415,962	428,441	441,294	-	-	-	-
Total Expenditures	2,894,752	1,667,969	3,041,800	2,046,095	2,797,447	4,604,229	4,083,519	2,704,944	1,962,625	2,257,580	3,608,845	5,655,419	3,937,998	3,246,087	4,601,951	3,002,065	3,437,681	4,386,937	7,857,495	5,138,435	6,897,126	5,384,819	7,737,534
Capital Financing																							
Provincial/Federal Grants	383,531	16,968	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debentures	405,650	-	800,000	-	-	2,000,000	1,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debentures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: Development Charges	141,451	194,722	-	75,916	37,349	108,142	246,098	132,986	42,037	43,298	213,647	179,804	123,311	48,732	50,194	51,700	53,251	54,848	56,494	-	-	-	-
Reserve Fund: Gas Tax	-	-	-	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179
Reserve Funds	510,000	402,134	426,587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserves	539,971	240,618	1,029,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (Donations)	80,533	150,941	79,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (Penalties and Interest)	25,293	31,838	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	174,000	5,500	35,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer from Operating	431,000	571,472	670,913	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: New Capital (Tax Supported)	-	-	-	1,667,999	2,457,919	2,193,908	2,035,242	2,269,778	1,618,409	1,912,103	3,093,019	5,173,435	3,512,507	2,895,176	4,249,577	2,648,186	3,082,251	4,029,909	7,498,822	4,836,255	6,594,946	5,082,640	7,435,354
Total Capital Financing	**2,691,430**	**1,614,194**	**3,041,800**	**2,046,095**	**2,797,447**	**4,604,229**	**4,083,519**	**2,704,944**	**1,962,625**	**2,257,580**	**3,608,845**	**5,655,419**	**3,937,998**	**3,246,087**	**4,601,951**	**3,002,065**	**3,437,681**	**4,386,937**	**7,857,495**	**5,138,435**	**6,897,126**	**5,384,819**	**7,737,534**
Total Capital Expenses less Capital Financing	**203,322**	**53,775**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Township of Mapleton
2013 Asset Management Plan
Financing Strategy

Table F-3
Debt Requirements

Non-Growth Related Debt	**Principal**	**Forecast**																			
Year	**(Inflated)**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Budget 2013	800,000	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194	64,194
2014	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	2,000,000				160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485
2017	1,500,000					120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364	120,364
2018	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-							-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-								-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-									-	-	-	-	-	-	-	-	-	-	-	-
2022	-										-	-	-	-	-	-	-	-	-	-	-
2023	-											-	-	-	-	-	-	-	-	-	-
2024	-												-	-	-	-	-	-	-	-	-
2025	-													-	-	-	-	-	-	-	-
2026	-														-	-	-	-	-	-	-
2027	-															-	-	-	-	-	-
2028	-																-	-	-	-	-
2029	-																	-	-	-	-
2030	-																		-	-	-
2031	-																			-	-
2032	-																				-
2033	-																				
Total Annual Non-Growth Related Debt Charges	**4,300,000**	64,194	64,194	64,194	224,679	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043

Table F-4
Reserve and Reserve Fund Continuity Schedules

	Forecast																			
Development Charges Reserve Fund (All Tax Supported Funds)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Opening Balance	684,930	791,521	942,989	1,028,753	979,060	1,047,363	1,213,488	1,368,232	1,355,809	1,381,219	1,468,394	1,637,090	1,811,449	1,991,616	2,177,738	2,369,965	2,568,450	2,832,703	3,106,498	3,390,112
Development Charge Proceeds	166,987	170,327	173,734	177,208	180,752	184,367	171,215	174,639	178,132	181,694	185,328	189,035	192,815	196,672	200,605	204,617	208,710	212,884	217,141	221,484
Transfer to Capital	75,916	37,349	108,142	246,098	132,986	42,037	43,298	213,647	179,804	123,311	48,732	50,194	51,700	53,251	54,848	56,494	-	-	-	-
Transfer to Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating (Debenture Payments)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Earned	15,520	18,490	20,172	19,197	20,537	23,794	26,828	26,584	27,083	28,792	32,100	35,519	39,051	42,701	46,470	50,362	55,543	60,912	66,473	72,232
Closing Balance	791,521	942,989	1,028,753	979,060	1,047,363	1,213,488	1,368,232	1,355,809	1,381,219	1,468,394	1,637,090	1,811,449	1,991,616	2,177,738	2,369,965	2,568,450	2,832,703	3,106,498	3,390,112	3,683,829
Required from Development Charges	75,916	37,349	108,142	246,098	132,986	42,037	43,298	213,647	179,804	123,311	48,732	50,194	51,700	53,251	54,848	56,494	-	-	-	-
Required Debenture Funding																				

	Forecast																			
Gas Tax Reserve Fund	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Opening Balance	53,807	54,883	55,981	57,100	58,242	59,407	60,595	61,807	63,043	64,304	65,590	66,902	68,240	69,605	70,997	72,417	73,865	75,343	76,849	78,386
Transfers From Operating/Capital	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179
Transfer to Capital	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179	302,179
Transfer to Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Earned	1,076	1,098	1,120	1,142	1,165	1,188	1,212	1,236	1,261	1,286	1,312	1,338	1,365	1,392	1,420	1,448	1,477	1,507	1,537	1,568
Closing Balance	54,883	55,981	57,100	58,242	59,407	60,595	61,807	63,043	64,304	65,590	66,902	68,240	69,605	70,997	72,417	73,865	75,343	76,849	78,386	79,954

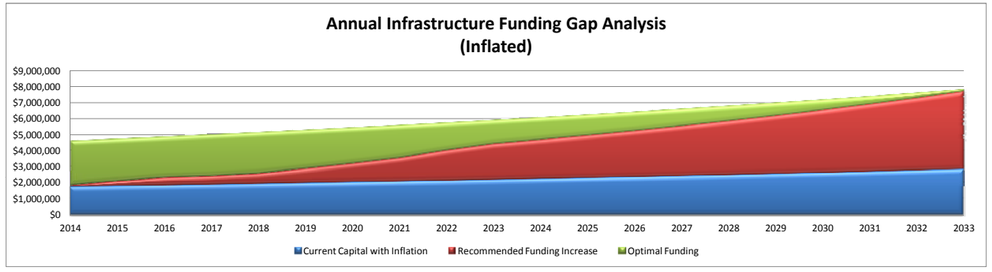
	Forecast																			
Capital Reserve/Reserve Funds (All)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Opening Balance	1,126,227	990,842	301,629	105,160	162,791	139,440	1,083,407	2,075,222	2,235,722	754,506	1,352,074	2,852,518	3,276,971	5,633,903	7,901,235	9,569,952	8,073,369	9,620,540	9,781,408	11,884,678
Transfers From Operating/Capital	1,513,186	1,762,791	1,995,378	2,089,680	2,243,693	2,541,133	2,863,227	3,209,682	3,677,425	4,083,564	4,339,687	4,609,776	4,894,650	5,194,657	5,510,980	5,843,938	6,194,788	6,564,022	6,952,877	7,362,128
Transfer to Capital	1,667,999	2,457,919	2,193,908	2,035,242	2,269,778	1,618,409	1,912,103	3,093,019	5,173,435	3,512,507	2,895,176	4,249,577	2,648,186	3,082,251	4,029,909	7,498,822	4,836,255	6,594,946	5,082,640	7,435,354
Transfer to Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Earned	19,428	5,914	2,062	3,192	2,734	21,243	40,691	43,838	14,794	26,511	55,932	64,254	110,469	154,926	187,646	158,301	188,638	191,792	233,033	236,229
Closing Balance	990,842	301,629	105,160	162,791	139,440	1,083,407	2,075,222	2,235,722	754,506	1,352,074	2,852,518	3,276,971	5,633,903	7,901,235	9,569,952	8,073,369	9,620,540	9,781,408	11,884,678	12,047,681
Note: Closing reserve fund balance as a percentage of capital asset balance	0.25%	0.07%	0.02%	0.04%	0.03%	0.23%	0.43%	0.45%	0.15%	0.26%	0.53%	0.59%	0.98%	1.34%	1.57%	1.29%	1.49%	1.47%	1.74%	1.71%

Township of Mapleton
2013 Asset Management Plan
Financing Strategy

Table F-5
Tax Supported Operating Budget Forecast Summary

Net Impact on Taxation	Actual 2011	Actual 2012	Budget 2013	Forecast 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
General Government	(675,356)	(686,323)	(381,453)	(518,800)	(542,500)	(529,200)	(515,700)	(501,900)	(487,900)	(473,600)	(458,900)	(443,900)	(428,700)	(413,200)	(397,400)	(381,200)	(364,700)	(347,900)	(330,700)	(313,200)	(295,300)	(277,100)	(258,500)
Protection to Persons & Property	610,932	534,872	640,727	551,500	562,400	573,500	584,900	596,500	608,300	620,400	632,700	645,300	658,100	671,200	684,500	698,100	712,000	726,100	740,600	755,300	770,300	785,600	801,200
Transportation Services	2,022,664	2,054,280	2,194,524	1,836,379	1,874,100	1,912,600	1,951,700	1,991,600	2,032,400	2,073,900	2,116,300	2,159,500	2,203,500	2,248,500	2,294,400	2,341,100	2,388,800	2,437,500	2,487,200	2,537,800	2,589,500	2,642,200	2,695,900
Social & Family Services	16,807	26,242	2,338	6,000	9,700	13,500	17,400	21,300	25,300	29,400	33,600	37,900	42,300	46,800	51,400	56,000	60,700	65,500	70,400	75,400	80,500	85,700	91,000
Environmental Services	29,275	48,142	49,692	50,700	51,700	52,700	53,800	54,900	56,000	57,100	58,200	59,400	60,600	61,800	63,000	64,300	65,600	66,900	68,200	69,600	71,000	72,400	73,800
Health Services	46,686	18,067	46,244	45,225	44,955	43,470	39,712	37,871	35,752	33,552	33,168	(60,500)	(62,000)	(63,600)	(65,100)	(66,700)	(68,300)	(70,000)	(71,700)	(73,500)	(75,300)	(77,200)	(79,100)
Recreation/Cultural Services	517,808	562,516	586,724	532,200	542,900	553,800	564,900	576,200	587,700	599,400	611,300	623,500	635,900	648,600	661,500	674,700	688,200	701,900	715,900	730,200	744,800	759,700	774,900
Planning & Development	110,742	106,551	190,470	194,200	198,000	201,900	205,900	209,900	214,100	218,400	222,800	227,300	231,800	236,400	241,100	245,800	250,700	255,700	260,800	266,000	271,300	276,700	282,200
Net Expenditures due to Level of Service Adjustments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	431,000	544,450	670,913	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to Reserve Funds																							
Transfer to Tax Supported Reserve Funds (2014 onward)	-	-	-	1,513,186	1,762,791	1,995,378	2,089,680	2,243,693	2,541,133	2,863,227	3,209,682	3,677,425	4,083,564	4,339,687	4,609,776	4,894,650	5,194,657	5,510,980	5,843,938	6,194,788	6,564,022	6,952,877	7,362,128
Debentures																							
New Debt - Growth Related	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Debt - Non-Growth Related	-	-	-	64,194	64,194	64,194	224,679	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043	345,043
Transfer from Reserve Fund: Development Charges (Debt)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prior Year Surplus Adjustment	152,869	362,297	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Taxation Levy	3,263,428	3,571,094	4,000,179	4,274,784	4,568,240	4,881,842	5,216,971	5,575,107	5,957,828	6,366,822	6,803,893	7,270,968	7,770,107	8,121,230	8,488,219	8,871,793	9,272,700	9,691,723	10,129,681	10,587,431	11,065,865	11,565,920	12,088,571
Taxation Levy Analysis																							
Prior Year Taxation Levy	3,139,300	3,263,428	3,571,094	4,000,179	4,274,784	4,568,240	4,881,842	5,216,971	5,575,107	5,957,828	6,366,822	6,803,893	7,270,968	7,770,107	8,121,230	8,488,219	8,871,793	9,272,700	9,691,723	10,129,681	10,587,431	11,065,865	11,565,920
Add: Provision for Assessment Growth (see below)	-	32,634	57,137	40,002	42,748	45,682	48,818	52,170	55,751	59,578	63,668	68,039	72,710	77,701	81,212	84,882	88,718	92,727	96,917	101,297	105,874	110,659	115,659
Current Year Taxation Levy at 0.0% Increase	3,139,300	3,296,062	3,628,231	4,040,181	4,317,532	4,613,922	4,930,660	5,269,141	5,630,858	6,017,406	6,430,490	6,871,932	7,343,678	7,847,808	8,202,442	8,573,101	8,960,511	9,365,427	9,788,640	10,230,978	10,693,305	11,176,524	11,681,579
Additional Increase in Taxation Levy for the year	124,128	275,032	371,948	234,603	250,708	267,920	286,311	305,966	326,970	349,416	373,403	399,036	426,429	273,422	285,777	298,692	312,189	326,296	341,041	356,453	372,560	389,396	406,992
Total Taxation Levy	3,263,428	3,571,094	4,000,179	4,274,784	4,568,240	4,881,842	5,216,971	5,575,107	5,957,828	6,366,822	6,803,893	7,270,968	7,770,107	8,121,230	8,488,219	8,871,793	9,272,700	9,691,723	10,129,681	10,587,431	11,065,865	11,565,920	12,088,571
Percentage Increase (Factoring in Assessment Growth)				5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	3.48%	3.48%	3.48%	3.48%	3.48%	3.48%	3.48%	3.48%	3.48%	3.48%

	Forecast 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Assessment Growth Estimate (%)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%



APPENDIX G
WATER ASSET MANAGEMENT STRATEGY & FINANCING STRATEGY

Table G-1
Township of Mapleton
Drayton Water Service - Metering Option
Capital Budget Forecast
Inflated $

Description	Total	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Capital Expenditures											
Metering Project	500,615	500,615	-	-	-	-	-	-	-	-	-
Assess and Clean Reservoir	12,000	12,000	-	-	-	-	-	-	-	-	-
Metering Pump (Spare)	3,500	3,500	-	-	-	-	-	-	-	-	-
SCADA Equipment	52,000	-	17,000	17,300	17,700	-	-	-	-	-	-
Inflow & Infiltration (I&I)	20,400	-	20,400	-	-	-	-	-	-	-	-
Hydrant Inspections	37,800	-	5,100	5,200	5,300	5,400	5,500	5,600	5,700	-	-
Growth Related:	-	-	-	-	-	-	-	-	-	-	-
Water Standpipe/Tower	2,000,000	2,000,000	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	2,626,315	2,516,115	42,500	22,500	23,000	5,400	5,500	5,600	5,700	-	-
Capital Financing											
Provincial/Federal Grants	333,744	333,744	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	704,235	704,235	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	676,000	676,000	-	-	-	-	-	-	-	-	-
Other Revenue	-	-	-	-	-	-	-	-	-	-	-
Reserve - Drayton Water (35460)	202,397	202,397	-	-	-	-	-	-	-	-	-
Reserve - Waterworks Drayton (35250)	540,200	430,000	42,500	22,500	23,000	5,400	5,500	5,600	5,700	-	-
Reserve - Drayton Serviced Water and Sewer (35420) - Water Only	169,740	169,740	-	-	-	-	-	-	-	-	-
Total Capital Financing	2,626,315	2,516,115	42,500	22,500	23,000	5,400	5,500	5,600	5,700	-	-

Table G-2
Township of Mapleton
Drayton Water Service - Metering Option
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	704,235	-	56,510	56,510	56,510	56,510	56,510	56,510	56,510	56,510	56,510
2014	-			-	-	-	-	-	-	-	-
2015	-				-	-	-	-	-	-	-
2016	-					-	-	-	-	-	-
2017	-						-	-	-	-	-
2018	-							-	-	-	-
2019	-								-	-	-
2020	-									-	-
2021	-										-
2022	-										
Total Annual Debt Charges	**704,235**	-	56,510	56,510	56,510	56,510	56,510	56,510	56,510	56,510	56,510

Table G-3
Township of Mapleton
Drayton Water Service - Metering Option
Schedule of Growth Related Debenture Repayments
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	676,000	-	54,244	54,244	54,244	54,244	54,244	54,244	54,244	54,244	54,244
2014	-			-	-	-	-	-	-	-	-
2015	-				-	-	-	-	-	-	-
2016	-					-	-	-	-	-	-
2017	-						-	-	-	-	-
2018	-							-	-	-	-
2019	-								-	-	-
2020	-									-	-
2021	-										-
2022	-										
Total Annual Debt Charges	**676,000**	-	54,244	54,244	54,244	54,244	54,244	54,244	54,244	54,244	54,244

Table G-4
Township of Mapleton
Drayton Water Service - Metering Option
Reserves/ Reserve Funds Continuity
Inflated $

Development Charges Reserve Fund - Drayton	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance		127,820	159,466	136,996	114,673	92,505	70,511	48,712	27,118	5,323	(16,252)
Development Charge Proceeds		28,519	29,087	29,673	30,262	30,867	31,491	32,118	32,345	32,987	33,647
Front Ending Agreement (Standpipe)											
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	54,244	54,244	54,244	54,244	54,244	54,244	54,244	54,244	54,244
Closing Balance	127,820	156,339	134,309	112,424	90,691	69,128	47,757	26,586	5,219	(15,933)	(36,849)
Interest		3,127	2,686	2,248	1,814	1,383	955	532	104	(319)	(737)
Required from Development Charges		676,000	-	-	-	-	-	-	-	-	-

Reserve Fund - Drayton Serviced Water and Sewer (35420) - Water	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	168,329	169,740	-	-	-	-	-	-	-	-	-
Transfer from Operating	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	169,740	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	168,329	-	-	-	-	-	-	-	-	-	-
Interest	1,411	-	-	-	-	-	-	-	-	-	-

Reserve - Waterworks Drayton (35250)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	215,005	352,236	48,697	19,595	14,606	13,218	33,562	57,978	86,492	119,121	161,685
Transfer from Operating	155,514	126,462	13,397	17,511	21,612	25,743	29,916	34,114	38,329	42,564	46,831
Transfer to Capital	18,283	430,000	42,500	22,500	23,000	5,400	5,500	5,600	5,700	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	352,236	48,697	19,595	14,606	13,218	33,562	57,978	86,492	119,121	161,685	208,516
Interest	-	-	-	-	-	-	-	-	-	-	-

Reserve - Drayton Water (35460)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	178,450	192,029	-	-	-	-	-	-	-	-	-
Transfer from Operating	11,450	10,368	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	202,397	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	189,900	-	-	-	-	-	-	-	-	-	-
Interest	2,129	-	-	-	-	-	-	-	-	-	-

Water Lifecycle Reserve Fund - Drayton Mains (35440)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	326,263	374,682	423,062	447,707	473,169	499,471	526,635	554,686	583,649	613,548	644,409
Transfer from Operating	44,266	40,084	15,867	16,184	16,508	16,838	17,175	17,518	17,869	18,226	18,591
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	370,529	414,767	438,929	463,892	489,677	516,309	543,810	572,205	601,517	631,774	663,000
Interest	4,154	8,295	8,779	9,278	9,794	10,326	10,876	11,444	12,030	12,635	13,260

Water Lifecycle Reserve Fund - Drayton Facilities (35445)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	92,493	106,219	119,935	229,451	343,299	461,610	584,516	712,153	844,662	982,187	1,124,875
Transfer from Operating	12,549	11,363	105,017	107,117	109,260	111,445	113,674	115,947	118,266	120,631	123,044
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	105,042	117,583	224,952	336,568	452,559	573,055	698,189	828,100	962,928	1,102,818	1,247,919
Interest	1,177	2,352	4,499	6,731	9,051	11,461	13,964	16,562	19,259	22,056	24,958

Table G-5
Township of Mapleton
Drayton Water Service - Metering Option
Operating Budget Forecast
Inflated $

Description	Actual 2012	Forecast 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Expenditures											
Operating Costs											
Wages and Benefits											
Wages/Salary	17,740	18,095	19,160	19,540	19,930	20,330	20,740	21,150	21,570	22,000	22,440
Canada Pension	548	559	570	580	590	600	610	620	630	640	650
Employment Insurance	276	282	290	300	310	320	330	340	350	360	370
Workplace Safety and Insurance	367	374	380	390	400	410	420	430	440	450	460
RSP	407	415	420	430	440	450	460	470	480	490	500
Employee Health Tax	354	361	370	380	390	400	410	420	430	440	450
Benefits	603	615	630	640	650	660	670	680	690	700	710
Materials, Supplies, Services, Rents											
Mileage/Travel/Meal Expenses	47	50	50	50	50	50	50	50	50	50	50
Education/Seminars/Convention	835	910	930	950	970	990	1,010	1,030	1,050	1,070	1,090
Membership Fees	395	400	410	420	430	440	450	460	470	480	490
Insurance	2,106	2,214	2,260	2,310	2,360	2,410	2,460	2,510	2,560	2,610	2,660
Utilities	21,314	22,403	22,850	23,310	23,780	24,260	24,750	25,250	25,760	26,280	26,810
Telephone/Communications	1,169	1,775	1,810	1,850	1,890	1,930	1,970	2,010	2,050	2,090	2,130
Postage/Courier Service	1,113	1,695	1,730	1,760	1,800	1,840	1,880	1,920	1,960	2,000	2,040
Advertising	531	550	560	570	580	590	600	610	620	630	640
Materials and Supplies	671	1,126	1,150	1,170	1,190	1,210	1,230	1,250	1,280	1,310	1,340
Repairs and Maintenance	2,141	6,570	6,700	6,830	6,970	7,110	7,250	7,400	7,550	7,700	7,850
Computer - Maintenance	205	320	330	340	350	360	370	380	390	400	410
Metering Software	-	-	500	510	520	530	540	550	560	570	580
Equipment - Maintenance	1,359	3,351	3,420	3,490	3,560	3,630	3,700	3,770	3,850	3,930	4,010
Equipment - Parts/Tools	-	273	280	290	300	310	320	330	340	350	360
Building Maintenance	14	156	160	160	160	160	160	160	160	160	160
Building and Property Taxes	2,094	2,262	2,310	2,360	2,410	2,460	2,510	2,560	2,610	2,660	2,710
Dept. Clothing and Apparel	-	232	240	240	240	240	240	240	240	240	240
Vehicle Expenses	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous	971	1,000	1,020	1,040	1,060	1,080	1,100	1,120	1,140	1,160	1,180
Operations, Testing, Maintenance											
Contracts	66,294	68,577	69,950	71,350	72,780	74,240	75,720	77,230	78,770	80,350	81,960
Additional Services - Operator	7,691	8,000	8,160	8,320	8,490	8,660	8,830	9,010	9,190	9,370	9,560
Engineer Expense	2,170	2,170	2,210	2,250	2,300	2,350	2,400	2,450	2,500	2,550	2,600
Sample Testing	-	2,000	2,040	2,080	2,120	2,160	2,200	2,240	2,280	2,330	2,380
Studies/Reports	-	865	880	900	920	940	960	980	1,000	1,020	1,040
Line Maintenance	297	1,835	1,870	1,910	1,950	1,990	2,030	2,070	2,110	2,150	2,190
Metering Reading	-	-	200	204	208	212	216	220	224	228	233
Sub Total Operating	131,712	149,434	153,840	156,924	160,098	163,322	166,586	169,910	173,304	176,768	180,293

Description	Actual 2012	Forecast 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Capital-Related											
Debenture Related											
New Growth Related Debt (Principal)	-	-	20,444	21,466	22,539	23,666	24,850	26,092	27,397	28,767	30,205
New Growth Related Debt (Interest)	-	-	33,800	32,778	31,704	30,578	29,394	28,152	26,847	25,477	24,039
New Non-Growth Related Debt (Principal)	-	-	21,298	22,363	23,481	24,655	25,888	27,182	28,541	29,968	31,467
New Non-Growth Related Debt (Interest)	-	-	35,212	34,147	33,029	31,855	30,622	29,328	27,968	26,541	25,043
Transfers											
Transfer to Reserve - Waterworks Drayton (35250)	53,841	-	-	-	-	-	-	-	-	-	-
Transfer to Reserve - Waterworks Drayton (35250)	101,673	126,462	13,397	17,511	21,612	25,743	29,916	34,114	38,329	42,564	46,831
Transfer to Reserve - Drayton Water (35460)	11,450	10,368	-	-	-	-	-	-	-	-	-
Transfer to Lifecycle Reserve - Mains (35440)	44,266	40,084	15,867	16,184	16,508	16,838	17,175	17,518	17,869	18,226	18,591
Transfer to Lifecycle Reserve - Facilities (35445)	12,549	11,363	105,017	107,117	109,260	111,445	113,674	115,947	118,266	120,631	123,044
Sub Total Capital Related	223,779	188,278	245,035	251,566	258,134	264,780	271,518	278,333	285,217	292,175	299,219
Total Expenditures	**355,491**	**337,711**	**398,875**	**408,490**	**418,232**	**428,102**	**438,104**	**448,243**	**458,521**	**468,943**	**479,512**
Revenues											
Base Charge	-	-	93,576	97,651	101,851	106,180	110,642	115,240	119,977	124,858	129,885
Penalties and Interest - Utilities	856	800	820	840	860	880	900	920	940	960	980
Ontario Conditional Grants	30,086	-	-	-	-	-	-	-	-	-	-
Water/Sewer Certificate Fees	363	328	330	340	350	360	370	380	390	400	410
Water Hookup	1,875	1,325	1,350	1,380	1,410	1,440	1,470	1,500	1,530	1,560	1,590
Other Revenue	-	-	-	-	-	-	-	-	-	-	-
Contributions from Development Charges Reserve Fund	-	-	54,244	54,244	54,244	54,244	54,244	54,244	54,244	54,244	54,244
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	33,180	2,453	150,320	154,455	158,715	163,104	167,626	172,284	177,081	182,022	187,109
Water Billing Recovery	322,311	335,258	248,555	254,036	259,517	264,998	270,479	275,960	281,441	286,922	292,403
Total Revenue	**355,491**	**337,711**	**398,875**	**408,490**	**418,232**	**428,102**	**438,104**	**448,243**	**458,521**	**468,943**	**479,512**

Table G-6
Township of Mapleton
Drayton Water Service - Metering Option
Water Rate Forecast
Inflated $

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Water Billing Recovery	322,311	335,258	248,555	254,036	259,517	264,998	270,479	275,960	281,441	286,922	292,403
Total Residential Equivalent Users	806	815									
Total Consumption (m3)			165,703	169,357	173,011	176,665	180,319	183,973	187,627	191,281	194,935
Monthly Flat Rate	**$ 34.28**	**$ 34.28**									
Constant Rate (m^3)			**$ 1.50**	**$ 1.50**	**$ 1.50**	**$ 1.50**	**$ 1.50**	**$ 1.50**	**$ 1.50**	**$ 1.50**	**$ 1.50**
Annual Percentage Change				**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Description	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Monthly Base Charge:										
5/8" or 3/4"		10.00	10.20	10.40	10.61	10.82	11.04	11.26	11.49	11.72
1"		14.00	14.28	14.57	14.86	15.15	15.46	15.77	16.08	16.40
1 ½"		18.00	18.36	18.73	19.10	19.48	19.87	20.27	20.68	21.09
2"		29.00	29.58	30.17	30.78	31.39	32.02	32.66	33.31	33.98
3"		110.00	112.20	114.44	116.73	119.07	121.45	123.88	126.36	128.88
4"		140.00	142.80	145.66	148.57	151.54	154.57	157.66	160.82	164.03
6"		210.00	214.20	218.48	222.85	227.31	231.86	236.49	241.22	246.05
8"		290.00	295.80	301.72	307.75	313.91	320.18	326.59	333.12	339.78
Annual Percentage Change			**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**

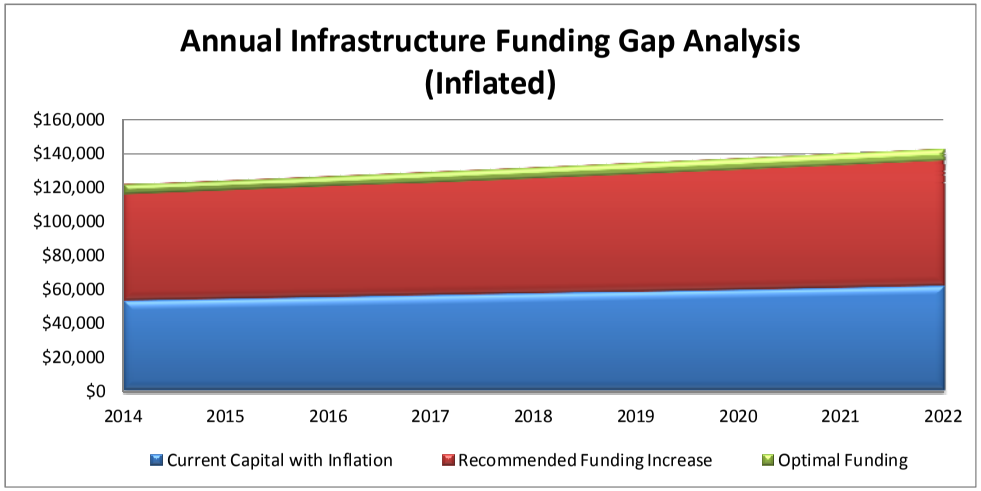

Annual Infrastructure Funding Gap Analysis
(Inflated)
$160,000
$140,000
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Current Capital with Inflation
Recommended Funding Increase
Optimal Funding

Table G-7
Township of Mapleton
Moorefield Water Service - Metering Option
Capital Budget Forecast
Inflated $

Description	Total	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Capital Expenditures											
Metering Project	125,154	125,154	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	125,154	125,154	-	-	-	-	-	-	-	-	-
Capital Financing											
Provincial/Federal Grants	83,436	83,436	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Water Lifecycle Reserve Fund - Moorefield Facilities (45480)	41,718	41,718	-	-	-	-	-	-	-	-	-
Reserve - Waterworks Moorefield (35255)	-	-	-	-	-	-	-	-	-	-	-
Total Capital Financing	125,154	125,154	-	-	-	-	-	-	-	-	-

Table G-8
Township of Mapleton
Moorefield Water Service - Metering Option
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-			-	-	-	-	-	-	-	-
2015	-				-	-	-	-	-	-	-
2016	-					-	-	-	-	-	-
2017	-						-	-	-	-	-
2018	-							-	-	-	-
2019	-								-	-	-
2020	-									-	-
2021	-										-
2022	-										
Total Annual Debt Charges	**-**	-	-	-	-	-	-	-	-	-	-

Table G-9
Township of Mapleton
Moorefield Water Service - Metering Option
Schedule of Growth Related Debenture Repayments
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-			-	-	-	-	-	-	-	-
2015	-				-	-	-	-	-	-	-
2016	-					-	-	-	-	-	-
2017	-						-	-	-	-	-
2018	-							-	-	-	-
2019	-								-	-	-
2020	-									-	-
2021	-										-
2022	-										
Total Annual Debt Charges	**-**	-	-	-	-	-	-	-	-	-	-

Table G-10
Township of Mapleton
Moorefield Water Service - Metering Option
Reserves/ Reserve Funds Continuity
Inflated $

Development Charges Reserve Fund (35330) - Moorefield	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance		33,978	42,390	51,124	60,192	69,601	79,363	89,488	99,986	110,756	121,915
Development Charge Proceeds		7,581	7,732	7,888	8,044	8,205	8,371	8,538	8,598	8,769	8,944
Transfer to Capital		-	-	-	-	-	-	-	-	-	-
Transfer to Operating		-	-	-	-	-	-	-	-	-	-
Closing Balance	33,978	41,559	50,122	59,012	68,237	77,806	87,734	98,026	108,584	119,525	130,859
Interest		831	1,002	1,180	1,365	1,556	1,755	1,961	2,172	2,390	2,617

Reserve - Waterworks Moorefield (35255)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	1,618	-	-	-	-	-	-	-	-	-	-
Transfer from Operating	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	1,618	-	-	-	-	-	-	-	-	-	-
Closing Balance	-	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-	-

Water Lifecycle Reserve Fund - Moorefield Mains (35475)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	22,909	22,287	22,983	16,579	16,979	19,901	24,022	29,446	35,618	42,588	50,049
Transfer from Operating	-	8,623	-	68	2,532	3,650	4,846	5,474	6,134	6,480	6,838
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	975	8,378	6,729		-	-	-	-	-	-	-
Closing Balance	21,934	22,532	16,254	16,647	19,511	23,551	28,869	34,920	41,753	49,068	56,887
Interest	353	451	325	333	390	471	577	698	835	981	1,138

Water Lifecycle Reserve Fund - Moorefield Facilities (35480)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	53,567	54,389	448	457	605	5,790	13,363	23,532	35,186	48,424	62,632
Transfer from Operating	-	19,768	-	136	5,071	7,311	9,708	10,964	12,288	12,980	13,697
Transfer to Capital	-	41,718	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	32,000	-			-	-	-	-	-	-
Closing Balance	53,567	439	448	593	5,676	13,101	23,071	34,496	47,474	61,403	76,328
Interest	822	9	9	12	114	262	461	690	949	1,228	1,527

Table G-11
Township of Mapleton
Moorefield Water Service - Metering Option
Operating Budget Forecast
Inflated $

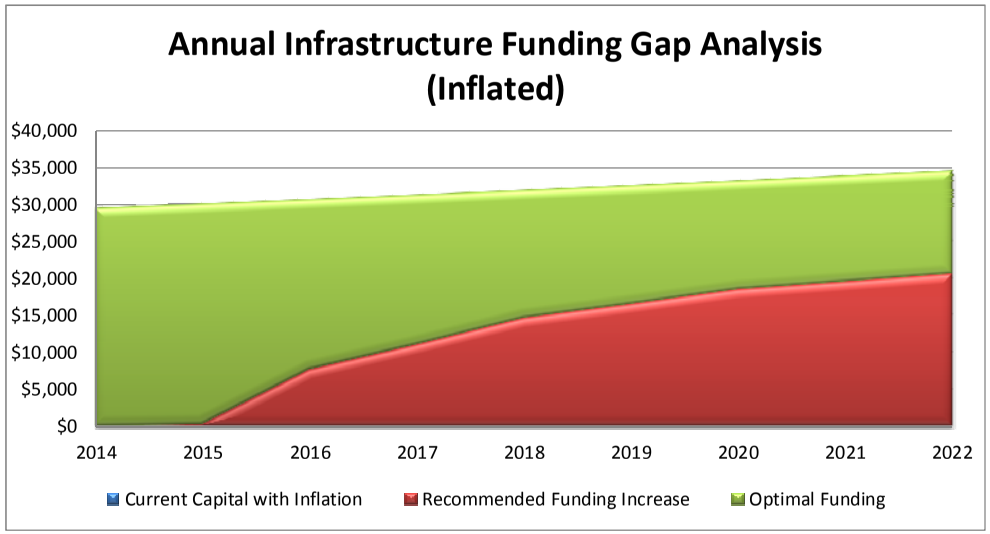
Description	Actual 2012	Forecast 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Expenditures											
Operating Costs											
Wages and Benefits											
Wages/Salary	9,235	9,420	9,810	10,010	10,210	10,410	10,620	10,830	11,050	11,270	11,500
Canada Pension	298	304	310	320	330	340	350	360	370	380	390
Employment Insurance	143	146	150	150	150	150	150	150	150	150	150
Workplace Safety and Insurance	192	196	200	200	200	200	200	200	200	200	200
RSP	234	239	240	240	240	240	240	240	240	240	240
Employee Health Tax	184	188	190	190	190	190	190	190	190	190	190
Benefits	345	352	360	370	380	390	400	410	420	430	440
Materials, Supplies, Services, Rents											
Mileage/Travel/Meal Expenses	-	-	-	-	-	-	-	-	-	-	-
Education/Seminars/Convention	434	459	470	480	490	500	510	520	530	540	550
Membership Fees	104	153	160	160	160	160	160	160	160	160	160
Insurance	2,224	2,068	2,110	2,150	2,190	2,230	2,270	2,320	2,370	2,420	2,470
Utilities	11,744	11,744	11,980	12,220	12,460	12,710	12,960	13,220	13,480	13,750	14,030
Telephone/Communications	2,542	2,750	2,810	2,870	2,930	2,990	3,050	3,110	3,170	3,230	3,290
Postage/Courier Service	306	371	380	390	400	410	420	430	440	450	460
Advertising	156	164	170	170	170	170	170	170	170	170	170
Materials and Supplies	131	236	240	240	240	240	240	240	240	240	240
Repairs and Maintenance	-	1,142	1,170	1,190	1,210	1,230	1,250	1,280	1,310	1,340	1,370
Computer - Maintenance	205	268	270	280	290	300	310	320	330	340	350
Metering Software	-	-	500	510	520	530	540	550	560	570	580
Equipment - Maintenance	-	1,366	1,390	1,420	1,450	1,480	1,510	1,540	1,570	1,600	1,630
Equipment - Parts/Tools	-	134	140	140	140	140	140	140	140	140	140
Miscellaneous	5	555	570	580	590	600	610	620	630	640	650
Operations, Testing, Maintenance											
Contracts	52,431	53,000	54,060	55,140	56,240	57,360	58,510	59,680	60,870	62,090	63,330
Additional Services - Operator	8,678	9,000	9,180	9,360	9,550	9,740	9,930	10,130	10,330	10,540	10,750
Engineering Expense	2,657	3,000	3,060	3,120	3,180	3,240	3,300	3,370	3,440	3,510	3,580
Sample Testing	-	-	-	-	-	-	-	-	-	-	-
Studies/Reports	-	988	1,010	1,030	1,050	1,070	1,090	1,110	1,130	1,150	1,170
Line Maintenance	-	131	130	130	130	130	130	130	130	130	130
Meter Reading	-	-	200	204	208	212	216	220	224	228	233
Sub Total Operating	92,248	98,373	101,260	103,264	105,298	107,362	109,466	111,640	113,844	116,098	118,393

Description	Actual 2012	Forecast 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Capital-Related											
Debenture Related											
Existing Debt (Principal) - Servicing	85,000	88,500	92,500	96,000	-	-	-	-	-	-	-
Existing Debt (Interest) - Servicing	15,585	12,057	8,296	4,272	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-	-
Transfers											
Transfer to Reserve - Waterworks Moorefield (35255)	-	-	-	-	-	-	-	-	-	-	-
Transfer to Lifecycle Reserve - Mains (35475)	-	8,623	-	68	2,532	3,650	4,846	5,474	6,134	6,480	6,838
Transfer to Lifecycle Reserve - Facilities (35480)	-	19,768	-	136	5,071	7,311	9,708	10,964	12,288	12,980	13,697
Sub Total Capital Related	100,585	128,948	100,796	100,476	7,603	10,961	14,554	16,438	18,422	19,460	20,535
Total Expenditures	**192,833**	**227,321**	**202,056**	**203,740**	**112,901**	**118,323**	**124,020**	**128,078**	**132,266**	**135,558**	**138,928**
Revenues											
Base Charge	-	-	24,768	25,410	26,068	26,742	27,433	28,141	28,866	29,609	30,369
Penalties and Interest - Utilities	284	401	410	420	430	440	450	460	470	480	490
Ontario Conditional Grants	8,486	-	-	-	-	-	-	-	-	-	-
Long Term Debt Recovery (Collected from Taxation)	85,000	88,500	92,500	96,000	-	-	-	-	-	-	-
Water/Sewer Certificate Fees	113	35	40	40	40	40	40	40	40	40	40
Water Hookup	75	75	80	80	80	80	80	80	80	80	80
Other Revenue	64	20	20	20	20	20	20	20	20	20	20
Contributions from Reserves and Reserve Funds	2,593	40,378	6,729	-	-	-	-	-	-	-	-
Total Operating Revenue	96,615	129,409	124,547	121,970	26,638	27,322	28,023	28,741	29,476	30,229	30,999
Water Billing Recovery	96,218	97,912	77,509	81,769	86,263	91,001	95,997	99,337	102,790	105,329	107,928
Total Revenue	**192,833**	**227,321**	**202,056**	**203,740**	**112,901**	**118,323**	**124,020**	**128,078**	**132,266**	**135,558**	**138,928**

Table G-12
Township of Mapleton
Moorefield Water Service - Metering Option
Water Rate Forecast
Inflated $

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Water Billing Recovery	96,218	97,912	77,509	81,769	86,263	91,001	95,997	99,337	102,790	105,329	107,928
Total Residential Equivalent Users	208	209									
Total Consumption (m3)			39,687	39,875	40,063	40,251	40,439	40,627	40,815	41,003	41,191
Monthly Flat Rate	**$ 39.04**	**$ 39.04**									
Constant Rate (m^3)			**$ 1.95**	**$ 2.05**	**$ 2.15**	**$ 2.26**	**$ 2.37**	**$ 2.45**	**$ 2.52**	**$ 2.57**	**$ 2.62**
Annual Percentage Change				**5.0%**	**5.0%**	**5.0%**	**5.0%**	**3.0%**	**3.0%**	**2.0%**	**2.0%**

Description	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Monthly Base Charge:										
5/8" or 3/4"		12.00	12.24	12.48	12.73	12.99	13.25	13.51	13.78	14.06
1"		16.80	17.14	17.48	17.83	18.18	18.55	18.92	19.30	19.68
1 ½"		21.60	22.03	22.47	22.92	23.38	23.85	24.33	24.81	25.31
2"		34.80	35.50	36.21	36.93	37.67	38.42	39.19	39.97	40.77
3"		132.00	134.64	137.33	140.08	142.88	145.74	148.65	151.63	154.66
4"		168.00	171.36	174.79	178.28	181.85	185.49	189.20	192.98	196.84
6"		252.00	257.04	262.18	267.42	272.77	278.23	283.79	289.47	295.26
8"		348.00	354.96	362.06	369.30	376.69	384.22	391.90	399.74	407.74
Annual Percentage Change			**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**


Annual Infrastructure Funding Gap Analysis
(Inflated)
$40,000
$35,000
$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Current Capital with Inflation
Recommended Funding Increase
Optimal Funding

APPENDIX H
WASTEWATER ASSET MANAGEMENT STRATEGY & FINANCING STRATEGY

Table H-1
Township of Mapleton
Drayton Wastewater Service - Metering Option
Capital Budget Forecast
Inflated $

Description	Total	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Capital Expenditures											
Replace Pump	37,000	37,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	37,000	37,000	-	-	-	-	-	-	-	-	-
Capital Financing											
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Reserve - Sewers Drayton (35230)	37,000	37,000	-	-	-	-	-	-	-	-	-
Total Capital Financing	37,000	37,000	-	-	-	-	-	-	-	-	-

Table H-2
Township of Mapleton
Drayton Wastewater Service - Metering Option
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-			-	-	-	-	-	-	-	-
2015	-				-	-	-	-	-	-	-
2016	-					-	-	-	-	-	-
2017	-						-	-	-	-	-
2018	-							-	-	-	-
2019	-								-	-	-
2020	-									-	-
2021	-										-
2022	-										
Total Annual Debt Charges	**-**	-	-	-	-	-	-	-	-	-	-

Table H-3
Drayton Wastewater Service
Drayton Wastewater Service - Metering Option
Schedule of Growth Related Debenture Repayments
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-			-	-	-	-	-	-	-	-
2015	-				-	-	-	-	-	-	-
2016	-					-	-	-	-	-	-
2017	-						-	-	-	-	-
2018	-							-	-	-	-
2019	-								-	-	-
2020	-									-	-
2021	-										-
2022	-										
Total Annual Debt Charges	**-**	-	-	-	-	-	-	-	-	-	-

Table H-4
Township of Mapleton
Drayton Wastewater Service - Metering Option
Reserves/ Reserve Funds Continuity
Inflated $

Wastewater Development Charges Reserve Fund	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance		164,477	211,944	261,243	312,429	365,562	420,700	477,894	537,205	598,113	661,245
Development Charge Proceeds		43,312	44,177	45,060	45,965	46,889	47,823	48,778	49,181	50,166	51,173
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	164,477	207,789	256,121	306,303	358,394	412,451	468,523	526,671	586,386	648,279	712,418
Interest		4,156	5,122	6,126	7,168	8,249	9,370	10,533	11,728	12,966	14,248
Required from Development Charges		-	-	-	-	-	-	-	-	-	-

Reserve Fund - Drayton Serviced Water and Sewer (35420) - Sewer Only	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	168,329	84,740	-	-	-	-	-	-	-	-	-
Transfer from Operating	-										
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	85,000	84,740	-		-	-	-	-	-	-	-
Closing Balance	83,329	-	-	-	-	-	-	-	-	-	-
Interest	1,411	-	-	-	-	-	-	-	-	-	-

Reserve - Sewers Drayton (35230)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	10,457	18,556	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)
Transfer from Operating	8,099	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	37,000	-	-	-	-	-	-	-	-	-
Transfer to Operating	-		-	-	-	-	-	-	-	-	-
Closing Balance	18,556	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)	(18,444)
Interest	-	-	-	-	-	-	-	-	-	-	-

Reserve - Drayton Sewers Future Cap. (35235)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	843	843	-	-	-	-	-	-	-	-	-
Transfer from Operating	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	843	-	-	-	-	-	-	-	-	-
Closing Balance	843	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-	-

Reserve Fund - Drayton Sewers Future Capital Expend. (35425)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	36,110	36,515	11,489	11,719	11,954	12,193	12,436	12,685	12,939	13,198	13,462
Transfer from Operating	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	25,251	-	-	-	-	-	-	-	-	-
Closing Balance	36,110	11,264	11,489	11,719	11,954	12,193	12,436	12,685	12,939	13,198	13,462
Interest	405	225	230	234	239	244	249	254	259	264	269

Wastewater Lifecycle Reserve Fund - Mains (35430)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	424,418	487,812	556,715	568,213	585,045	607,730	636,357	670,556	710,374	756,347	808,661
Transfer from Operating	57,987	57,987	356	5,361	10,769	16,149	21,051	25,889	31,143	36,458	41,396
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	482,405	545,799	557,071	573,574	595,814	623,880	657,408	696,445	741,516	792,805	850,057
Interest	5,408	10,916	11,141	11,471	11,916	12,478	13,148	13,929	14,830	15,856	17,001

Wastewater Lifecycle Reserve Fund - Facilities (35435)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	298,370	292,688	340,195	347,745	365,932	395,815	437,568	490,427	554,480	630,822	719,829
Transfer from Operating	40,836	40,836	731	11,013	22,122	33,173	43,242	53,181	63,973	74,892	85,036
Transfer to Capital	49,762	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	289,444	333,524	340,926	358,757	388,054	428,988	480,810	543,608	618,453	705,714	804,865
Interest	3,245	6,670	6,819	7,175	7,761	8,580	9,616	10,872	12,369	14,114	16,097

Table H-5
Township of Mapleton
Drayton Wastewater Service - Metering Option
Operating Budget Forecast
Inflated $

Description	Actual 2012	Forecast 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Expenditures											
Operating Costs											
Wages and Benefits											
Wages/Salary	21,432	21,861	23,000	23,460	23,930	24,410	24,900	25,400	25,910	26,430	26,960
Canada Pension	761	776	790	810	830	850	870	890	910	930	950
Employment Insurance	376	384	390	400	410	420	430	440	450	460	470
Workplace Safety and Insurance	452	461	470	480	490	500	510	520	530	540	550
RSP	517	527	540	550	560	570	580	590	600	610	620
Employee Health Tax	430	439	450	460	470	480	490	500	510	520	530
Benefits	1,406	1,434	1,460	1,490	1,520	1,550	1,580	1,610	1,640	1,670	1,700
Materials, Supplies, Services, Rents											
Mileage/Travel/Meal Expenses	-	-	-	-	-	-	-	-	-	-	-
Education/Seminars/Convention	-	69	70	70	70	70	70	70	70	70	70
Membership Fees	-	174	180	180	180	180	180	180	180	180	180
Insurance	1,273	1,646	1,680	1,710	1,740	1,770	1,810	1,850	1,890	1,930	1,970
Utilities	37,024	37,024	37,760	38,520	39,290	40,080	40,880	41,700	42,530	43,380	44,250
Telephone/Communications	1,169	1,400	1,430	1,460	1,490	1,520	1,550	1,580	1,610	1,640	1,670
Postage/Courier service	1,113	1,200	1,220	1,240	1,260	1,290	1,320	1,350	1,380	1,410	1,440
Advertising	85	328	330	340	350	360	370	380	390	400	410
Materials and Supplies	505	1,000	1,020	1,040	1,060	1,080	1,100	1,120	1,140	1,160	1,180
Repairs and Maintenance	3,256	2,000	2,040	2,080	2,120	2,160	2,200	2,240	2,280	2,330	2,380
Computer-Maintenance	204	300	310	320	330	340	350	360	370	380	390
Equipment-Maintenance	1,196	6,557	6,690	6,820	6,960	7,100	7,240	7,380	7,530	7,680	7,830
Equipment-Parts/Tools	-	174	180	180	180	180	180	180	180	180	180
Building Maintenance	-	232	240	240	240	240	240	240	240	240	240
Building and Property Taxes	1,554	5,005	5,110	5,210	5,310	5,420	5,530	5,640	5,750	5,870	5,990
Dept. Clothing and Apparel	-	225	230	230	230	230	230	230	230	230	230
Miscellaneous	53	500	510	520	530	540	550	560	570	580	590
Operations, Testing, Maintenance											
Contracts	47,797	48,600	49,570	50,560	51,570	52,600	53,650	54,720	55,810	56,930	58,070
Additional Services-Operator	4,374	5,000	5,100	5,200	5,300	5,410	5,520	5,630	5,740	5,850	5,970
Engineer Expense	101,359	37,641	38,390	39,160	39,940	40,740	41,550	42,380	43,230	44,090	44,970
Lagoon Costs	16,927	35,185	35,890	36,610	37,340	38,090	38,850	39,630	40,420	41,230	42,050
Line Maintenance	(2)	2,595	2,650	2,700	2,750	2,810	2,870	2,930	2,990	3,050	3,110
Sub Total Operating	243,261	212,736	217,700	222,040	226,450	230,990	235,600	240,300	245,080	249,970	254,950

Description	Actual 2012	Forecast 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Capital-Related											
Debenture Related											
Existing Debt (Principal) - Cell 4 Land	41,800	41,800	41,800	41,800	41,800	41,800	41,800	41,800	41,800	41,800	41,800
Existing Debt (Interest) - Cell 4 Land	16,640	31,515	30,074	28,067	26,393	24,789	23,108	21,433	19,909	18,014	16,341
Existing Debt (Principal) - Cell 4 Expansion	-	48,980	48,980	50,560	51,350	52,930	53,720	55,300	56,090	57,670	59,400
Existing Debt (Interest) - Cell 4 Expansion	13,457	26,534	25,750	24,891	23,922	22,813	21,546	20,115	18,513	16,749	16,246
Transfers											
Transfer to Reserve - Sewers Drayton (35230)	4,599	-	-	-	-	-	-	-	-	-	-
Transfer to Reserve - Sewers Drayton (35230)	3,500	-	-	-	-	-	-	-	-	-	-
Transfer to Lifecycle Reserve - Mains (35430)	57,987	57,987	356	5,361	10,769	16,149	21,051	25,889	31,143	36,458	41,396
Transfer to Lifecycle Reserve - Facilities (35435)	40,836	40,836	731	11,013	22,122	33,173	43,242	53,181	63,973	74,892	85,036
Sub Total Capital Related	178,819	247,652	147,691	161,691	176,356	191,655	204,468	217,717	231,428	245,584	260,220
Total Expenditures	**422,080**	**460,388**	**365,391**	**383,731**	**402,806**	**422,645**	**440,068**	**458,017**	**476,508**	**495,554**	**515,170**
Revenues											
Base Charge	-	-	93,576	97,651	101,851	106,180	110,642	115,240	119,977	124,858	129,885
Penalties and Interest	926	800	820	840	860	880	900	920	940	960	980
Water/Sewer Certificates	363	300	310	320	330	340	350	360	370	380	390
Sewer Hookup	1,725	1,000	1,020	1,040	1,060	1,080	1,100	1,120	1,140	1,160	1,180
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	85,000	110,834	-	-	-	-	-	-	-	-	-
Total Operating Revenue	88,014	112,934	95,726	99,851	104,101	108,480	112,992	117,640	122,427	127,358	132,435
Wastewater Billing Recovery	334,066	347,454	269,665	283,880	298,705	314,164	327,076	340,378	354,081	368,196	382,734
Total Revenue	**422,080**	**460,388**	**365,391**	**383,731**	**402,806**	**422,645**	**440,068**	**458,017**	**476,508**	**495,554**	**515,170**

12,010.88

Table H-6
Township of Mapleton
Drayton Wastewater Service - Metering Option
Wastewater Rate Forecast
Inflated $

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Wastewater Billing Recovery	334,066	347,454	269,665	283,880	298,705	314,164	327,076	340,378	354,081	368,196	382,734
Total Residential Equivalent Users	808	817									
Total Flows (m3)			165,703	169,357	173,011	176,665	180,319	183,973	187,627	191,281	194,935
Monthly Flat Rate	**$ 35.44**	**$ 35.44**									
Constant Rate (m^3)			**$ 1.63**	**$ 1.68**	**$ 1.73**	**$ 1.78**	**$ 1.81**	**$ 1.85**	**$ 1.89**	**$ 1.92**	**$ 1.96**
Annual Percentage Change				**3.0%**	**3.0%**	**3.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**

Description	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Monthly Base Charge:										
5/8" or 3/4"		10.00	10.20	10.40	10.61	10.82	11.04	11.26	11.49	11.72
1"		14.00	14.28	14.57	14.86	15.15	15.46	15.77	16.08	16.40
1 ½"		18.00	18.36	18.73	19.10	19.48	19.87	20.27	20.68	21.09
2"		29.00	29.58	30.17	30.78	31.39	32.02	32.66	33.31	33.98
3"		110.00	112.20	114.44	116.73	119.07	121.45	123.88	126.36	128.88
4"		140.00	142.80	145.66	148.57	151.54	154.57	157.66	160.82	164.03
6"		210.00	214.20	218.48	222.85	227.31	231.86	236.49	241.22	246.05
8"		290.00	295.80	301.72	307.75	313.91	320.18	326.59	333.12	339.78
Annual Percentage Change			**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**

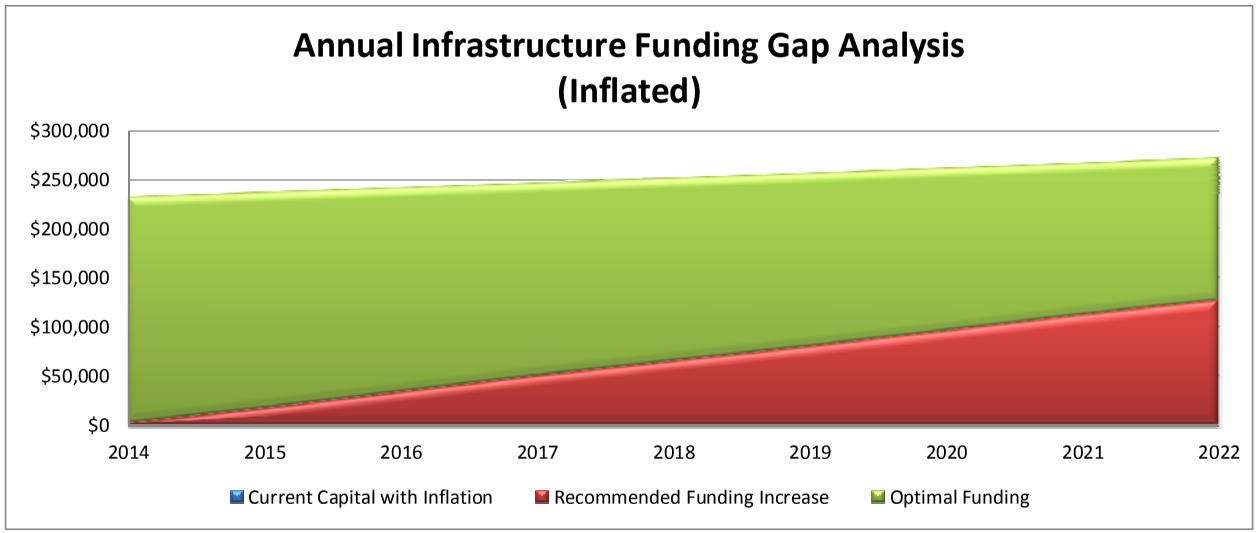

Annual Infrastructure Funding Gap Analysis
(Inflated)
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Current Capital with Inflation
Recommended Funding Increase
Optimal Funding

Table H-7
Township of Mapleton
Moorefield Wastewater Service - Metering Option
Capital Budget Forecast
Inflated $

Description	Total	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Capital Expenditures											
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	-	-	-	-	-	-	-	-	-	-	-
Capital Financing											
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Wastewater Reserve	-	-	-	-	-	-	-	-	-	-	-
Total Capital Financing	-	-	-	-	-	-	-	-	-	-	-

Table H-8
Township of Mapleton
Moorefield Wastewater Service - Metering Option
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-			-	-	-	-	-	-	-	-
2015	-				-	-	-	-	-	-	-
2016	-					-	-	-	-	-	-
2017	-						-	-	-	-	-
2018	-							-	-	-	-
2019	-								-	-	-
2020	-									-	-
2021	-										-
2022	-										
Total Annual Debt Charges	**-**	-	-	-	-	-	-	-	-	-	-

Table H-9
Township of Mapleton
Moorefield Wastewater Service - Metering Option
Schedule of Growth Related Debenture Repayments
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-			-	-	-	-	-	-	-	-
2015	-				-	-	-	-	-	-	-
2016	-					-	-	-	-	-	-
2017	-						-	-	-	-	-
2018	-							-	-	-	-
2019	-								-	-	-
2020	-									-	-
2021	-										-
2022	-										
Total Annual Debt Charges	**-**	-	-	-	-	-	-	-	-	-	-

Table H-10
Township of Mapleton
Moorefield Wastewater Service - Metering Option
Reserves/ Reserve Funds Continuity
Inflated $

Wastewater Development Charges Reserve Fund	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance		43,722	56,340	69,444	83,051	97,175	111,832	127,035	142,801	158,992	175,774
Development Charge Proceeds		11,513	11,743	11,978	12,218	12,464	12,713	12,966	13,073	13,335	13,603
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	43,722	55,235	68,083	81,422	95,269	109,639	124,544	140,001	155,875	172,327	189,377
Interest		1,105	1,362	1,628	1,905	2,193	2,491	2,800	3,117	3,447	3,788
Required from Development Charges		-	-	-	-	-	-	-	-	-	-

Reserve - Sewers Moorefield (35245)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	1,618	7,140	-	-	-	-	-	-	-	-	-
Transfer from Operating	5,522	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	7,140	-	-	-	-	-	-	-	-	
Closing Balance	7,140	-	-	-	-	-	-	-	-	-	-
Interest		-	-	-	-	-	-	-	-	-	-

Wastewater Lifecycle Reserve Fund - Mains (35465)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	43,424	45,576	18,878	-	-	-	-	1,305	3,549	6,941	11,438
Transfer from Operating	1,624	1,709	-	-	-	-	1,280	2,174	3,256	4,273	5,066
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	28,777	18,878			-	-	-	-	-	-
Closing Balance	45,048	18,508	-	-	-	-	1,280	3,479	6,805	11,213	16,503
Interest	528	370	-	-	-	-	26	70	136	224	330

Wastewater Lifecycle Reserve Fund - Facilities (35470)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opening Balance	20,560	24,598	28,954	25,320	10,862	5,417	4,004	4,894	6,369	8,558	11,435
Transfer from Operating	3,788	3,788	-	-	-	-	795	1,350	2,021	2,653	3,145
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	4,131	14,670	5,552	1,492	-	-	-	-	-
Closing Balance	24,348	28,386	24,823	10,649	5,311	3,925	4,798	6,244	8,390	11,211	14,580
Interest	250	568	496	213	106	79	96	125	168	224	292

Table H-11
Township of Mapleton
Moorefield Wastewater Service - Metering Option
Operating Budget Forecast
Inflated $

Description	Actual 2012	Forecast 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Expenditures											
Operating Costs											
Wages and Benefits											
Wages/Salary	13,014	13,274	13,740	14,010	14,290	14,580	14,870	15,170	15,470	15,780	16,100
Canada Pension	438	447	460	470	480	490	500	510	520	530	540
Employment Insurance	200	204	210	210	210	210	210	210	210	210	210
Workplace Safety and Insurance	274	279	290	300	310	320	330	340	350	360	370
RSP	319	325	330	340	350	360	370	380	390	400	410
Employee Health Tax	257	262	270	280	290	300	310	320	330	340	350
Benefits	542	553	560	570	580	590	600	610	620	630	640
Materials, Supplies, Services, Rents											
Mileage/Travel/Meal Expenses	-	-	-	-	-	-	-	-	-	-	-
Insurance	351	438	450	460	470	480	490	500	510	520	530
Utilities	9,547	9,000	9,180	9,360	9,550	9,740	9,930	10,130	10,330	10,540	10,750
Telephone/Communications	868	1,000	1,020	1,040	1,060	1,080	1,100	1,120	1,140	1,160	1,180
Postage/Courier service	306	397	400	410	420	430	440	450	460	470	480
Advertising	-	164	170	170	170	170	170	170	170	170	170
Materials and Supplies	855	3,000	3,060	3,120	3,180	3,240	3,300	3,370	3,440	3,510	3,580
Repairs and Maintenance	-	2,000	2,040	2,080	2,120	2,160	2,200	2,240	2,280	2,330	2,380
Computer-Maintenance	204	240	240	240	240	240	240	240	240	240	240
Equipment-Maintenance	6	3,024	3,080	3,140	3,200	3,260	3,330	3,400	3,470	3,540	3,610
Equipment Charge - E1 Pumps	2,954	17,000	17,340	17,690	18,040	18,400	18,770	19,150	19,530	19,920	20,320
Equipment-Parts/Tools	-	77	80	80	80	80	80	80	80	80	80
Building-Snow Removal	-	61	60	60	60	60	60	60	60	60	60
Building and Property Taxes	413	1,330	1,360	1,390	1,420	1,450	1,480	1,510	1,540	1,570	1,600
Miscellaneous	5	-	-	-	-	-	-	-	-	-	-
Operations, Testing, Maintenance											
Contracts	24,183	26,500	27,030	27,570	28,120	28,680	29,250	29,840	30,440	31,050	31,670
Additional Services-Operator	1,681	240	240	240	240	240	240	240	240	240	240
Engineer Expense	5,887	5,887	6,000	6,120	6,240	6,360	6,490	6,620	6,750	6,890	7,030
Lagoon Costs	4,492	6,338	6,460	6,590	6,720	6,850	6,990	7,130	7,270	7,420	7,570
Line Maintenance	8,315	5,000	5,100	5,200	5,300	5,410	5,520	5,630	5,740	5,850	5,970
Sub Total Operating	75,111	97,041	99,170	101,140	103,140	105,180	107,270	109,420	111,580	113,810	116,080

Description	Actual 2012	Forecast 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Capital-Related											
Debenture Related											
Existing Debt (Principal) - Servicing	85,000	88,500	92,500	96,000	-	-	-	-	-	-	-
Existing Debt (Interest) - Servicing	15,585	12,057	8,296	4,272	-	-	-	-	-	-	-
Existing Debt (Principal) - Cell 4 Land	5,700	5,700	5,700	5,700	5,700	5,700	5,700	5,700	5,700	5,700	5,700
Existing Debt (Interest) - Cell 4 Land	4,538	4,297	4,101	3,827	3,599	3,380	3,151	2,923	2,715	2,457	2,228
Existing Debt (Principal) - Cell 4 Expansion	-	13,020	13,020	13,440	13,650	14,070	14,280	14,700	14,910	15,330	15,790
Existing Debt (Interest) - Cell 4 Expansion	3,577	7,053	6,845	6,617	6,359	6,064	5,728	5,347	4,921	4,452	4,319
Transfers											
Transfer to Reserve - Sewers Moorefield (35245)	5,522	-	-	-	-	-	-	-	-	-	-
Transfer to Lifecycle Reserve - Mains (35465)	1,624	1,709	-	-	-	-	1,280	2,174	3,256	4,273	5,066
Transfer to Lifecycle Reserve - Facilities (35470)	3,788	3,788	-	-	-	-	795	1,350	2,021	2,653	3,145
Sub Total Capital Related	125,334	136,125	130,462	129,856	29,308	29,215	30,933	32,194	33,523	34,864	36,248
Total Expenditures	**200,445**	**233,166**	**229,632**	**230,996**	**132,448**	**134,395**	**138,203**	**141,614**	**145,103**	**148,674**	**152,328**
Revenues											
Base Charge	-	-	24,768	25,410	26,068	26,742	27,433	28,141	28,866	29,609	30,369
Penalties and Interest	343	262	270	280	290	300	310	320	330	340	350
Water/Sewer Certificates	113	82	80	80	80	80	80	80	80	80	80
Sewer Hookup	75	75	80	80	80	80	80	80	80	80	80
Long Term Debt Recovery (collected from Taxation)	85,000	88,500	92,500	96,000	-	-	-	-	-	-	-
Miscellaneous	13,382	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-	35,918	23,009	14,670	5,552	1,492	-	-	-	-	-
Total Operating Revenue	98,913	129,837	145,807	141,720	37,370	34,094	33,403	34,221	35,056	35,909	36,779
Wastewater Billing Recovery	101,532	103,330	83,825	89,275	95,078	100,301	104,800	107,393	110,047	112,765	115,548
Total Revenue	**200,445**	**233,166**	**229,632**	**230,996**	**132,448**	**134,395**	**138,203**	**141,614**	**145,103**	**148,674**	**152,328**

Table H-12
Township of Mapleton
Moorefield Wastewater Service - Metering Option
Wastewater Rate Forecast
Inflated $

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Wastewater Billing Recovery	101,532	103,330	83,825	89,275	95,078	100,301	104,800	107,393	110,047	112,765	115,548
Total Residential Equivalent Users	208	209									
Total Flows (m^3)			39,687	39,875	40,063	40,251	40,439	40,627	40,815	41,003	41,191
Monthly Flat Rate	**$ 41.20**	**$ 41.20**									
Constant Rate (m^3)			**$ 2.11**	**$ 2.24**	**$ 2.37**	**$ 2.49**	**$ 2.59**	**$ 2.64**	**$ 2.70**	**$ 2.75**	**$ 2.81**
Annual Percentage Change				**6.0%**	**6.0%**	**5.0%**	**4.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**

Description	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Monthly Base Charge:										
5/8" or 3/4"		12.00	12.24	12.48	12.73	12.99	13.25	13.51	13.78	14.06
1"		16.80	17.14	17.48	17.83	18.18	18.55	18.92	19.30	19.68
1 ½"		21.60	22.03	22.47	22.92	23.38	23.85	24.33	24.81	25.31
2"		34.80	35.50	36.21	36.93	37.67	38.42	39.19	39.97	40.77
3"		132.00	134.64	137.33	140.08	142.88	145.74	148.65	151.63	154.66
4"		168.00	171.36	174.79	178.28	181.85	185.49	189.20	192.98	196.84
6"		252.00	257.04	262.18	267.42	272.77	278.23	283.79	289.47	295.26
8"		348.00	354.96	362.06	369.30	376.69	384.22	391.90	399.74	407.74
Annual Percentage Change			**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**