Township of Enniskillen

Asset Management Plan

2016

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Introduction

The Township of Enniskillen is a rural municipality located in central Lambton County with a 2011 population of **2930** people. The Township was the site of the first commercial development of oil in North America. Vestiges of the early oil industry remain in the municipality. Today the primary economic activity is row crop farming mixed with livestock production. The proximity of the petro chemical industry along the St Clair River provides employment for many residents of the Township. The hamlets of Marthaville and Oil City are located within the Township of Enniskillen.

The Township of Enniskillen is responsible for providing services to the residents of the municipality in the following areas:

Roads and Bridges
Potable Water Distribution
Sewer Collection and Treatment for the hamlet of Oil City
Municipal Drainage

The purpose of this asset management plan is to help preserve and enhance the quality of life in Enniskillen Township by managing the Township's assets in an efficient and sustainable manner.

The asset management plan will provide a format to develop operating, maintenance and financial plans that support the level of service approved by the Township Council.

The revised 2016 Asset Management Plan incorporates the following assets: roads, bridges, machinery, structures and linear assets which include municipal waterlines and sewer lines. Data has been drawn from the fixed asset inventory of the Township of Enniskillen. It has been supplemented by replacement cost values developed from contracts, insurance valuations and other reliable sources.

The Township of Enniskillen has agreements for the sharing of the costs for three fire departments. The departments are funded by a separate tax levy to address the projected operational and multi-year capital expenses. The projected costs and its related levy are reviewed annually during the budget process.
Street lights are funded by user charges which are collected annually through the property taxes for the areas of the communities serviced. All street lights were replaced in 2016 to incorporate more energy efficient lights to reduce the growth in electrical expenses.
The street light and fire department operations have not been incorporated into the asset management plan.

The water and sewer systems are funded by user fees. Construction of new water and sewer projects are normally self-funded by user charges.

All remaining capital works are funded by the general tax rate of the municipality.

This update of the Asset Management plan incorporates machinery and structures. The revised bridge rating system has been incorporated into the plan. A 60 year projection has been obtained with the use of the asset modeling software. The modeling software projects the revenue required to address the projected costs for each asset group.

This plan has been prepared by the staff of the Township of Enniskillen. In examining the assets of the municipality, assumptions have been incorporated into the projections. Current technologies and standards have been applied in the projections. It should be clearly understood that over time changes take place in public expectations of service levels, regulatory standards, infrastructure materials, and construction methods. These changes may have dramatic impacts on the cost of the services provided. As a result one must accept that projections decades into the future will only provide benchmarks to the actual future capital expenditures.

State of Local Infrastructure

This section is broken down by asset describing the state of the infrastructure for roads, bridges, machinery, structures, water system and sewer system. The assets are evaluated using available data drawn from the municipal asset inventory. Incorporated into this inventory are the historical costs, current replacement values as well as information on the age, anticipated life, and condition ratings.

Roads

The Enniskillen Township road system consists of 273 kilometers of roads. The chart below provides an inventory of the clay, gravel, surface treated and asphalted roads within the Township.

Asset Type	Quantity lane km	Quantity km	Historical Cost
Gravel/Clay/Stone	306	153	$269,788
Surface Treated	124	62	$1,881,747
Paved	116	58	$2,818,487

The Township of Enniskillen road system has been listed by segment from intersection to intersection. Attributes such as condition, age and replacement costs have been assigned to each road segment. Gravel, clay and stone roads are included in the inventory but do not form part of the road condition index.

Pavement Condition

The future maintenance, rehabilitation and renewal programs for the roads have been generated from the pavement condition index. An analysis of the road condition will be undertaken every three years. More frequent inspection will take place where road segments are observed to be in greater distress. The pavement condition index has been utilized from Guide SP-022 Flexible Pavement Condition Rating, Guidelines for Municipalities.
The roadway rating system provides a useful assessment of the structural condition of the road surface. Clay, stone and gravel roads are included in the inventory but do not form part of the road condition index. The road segments are compiled into 5 categories which are excellent, good, fair, poor and very poor. Eighty five percent of asphalt and surface treated roads are in good to excellent condition

Asset	Average Age	Age as a % of Useful Life	Average Condition
Surface treatment	25.29	40.9	Good
Paved	24.45	40.8	Good

Bridges

The Township of Enniskillen is responsible for the maintenance, repair and replacement of 57 bridges with spans of three meters or greater. The Township is also responsible for 117 bridges with spans less than three meters but over $5000 in replacement value. These bridges do not form part of this asset management plan.

Ontario Regulation 104/97 requires municipalities to undertake inspections every two years of all bridges greater than three meters in span. The qualified engineer inspecting the structures has reviewed the structural integrity in accordance with the Ontario Structure Inspection Manual. This report has been generated using the revised inspection formula.

The following table provides the number of bridges over three meters in span by bridge type as well and estimates of the 2016 replacement costs.

Bridge Type	Number	Historical Cost	Replacement Cost
Steel Bridges	11	$1,925,519	$5,960,000
CSP Culverts	12	$59,638	$1,527,000
Concrete Bridges	8	$1,498,313	$3,820,000
Concrete Culverts	26	$2,705,077	$5,345,000
Total	**57**	**$6,188,547**	**$16,762,000**

The following table provides an overview of the average age, age as a percentage of useful life and the average condition rating for bridges within the Township.

Bridge Type	Average Age	Age as % of Useful Life	Average Condition
Steel Bridge	59.4	79	Fair
CSP Culverts	30.3	76	Good
Concrete Bridges	37.5	50	Good
Concrete Culverts	24.7	33	Good

Water

The Township of Enniskillen operates a municipal water distribution system under license #028-101 issued by the Ministry of Environment and Climate Change. The Township strives to provide a safe and reliable water system. The system provides potable water to 1332 services located in the Township of Enniskillen, the Township of Brooke-Alvinston, the City of Sarnia, the Township of St Clair and the Town of Plympton-Wyoming. In addition potable water is sold to the Village of Oil Springs and the Township of Dawn-Euphemia. These two municipalities operate licensed water distribution systems providing potable water to the residents of their communities. All waterlines in the Enniskillen distribution system are plastic and most are less than 30 years of age.

The Township of Enniskillen operates a water storage and pumping station. The pumping station was constructed in 1993 and has storage capacity of 1660 cubic meters of water. One third of the stored water is recirculated into the distribution system daily made possible by three 40 hp variable speed pumps. A 25 hp diesel generator provides power backup. The facility provides storage for emergency backup to the water distribution system and to provide fire flow to the Village of Oil Springs and the hamlet of Oil City.

Water Pipelines

Diameter (mm)	Meters	Historical Cost	Replacement Cost
250	11,569	$479,385	$1,272,884
225	60	$2,172	$6,960
200	13,079	$399,895	$1,118,254
150	118,436	$3,436,565	$8,685,616
100	159,015	$2,454,454	$7,187,753
50	44,739	$345,994	$1,353,608
Total	**346,898**	**$7,117,465**	**$19,582,590**

Water Lines- Average Age 24 years- Age as % of useful Life 30 Years

Water Reservoir

Structure	Replacement Cost	Initial Age	Useful Life
Pumps	$60,000	23	20
Generator	$50,000	23	20
Piping/Valves	$70,000	23	20
Fencing	$33,000	22	20
Heating	$10,000	1	20
Structure	$1,277,000	23	50
Total	**$1,500,000**	**115**	**150**

Sewer Collection

The Township of Enniskillen operates a sewage system for the hamlet of Oil City. This primary treatment system has 104 services with wastes treated in a single cell lagoon. The sewer system was constructed in 1974 and consists of 2,497 meters of 200 mm diameter plastic pipe. The pumping station was refurbished in 2006 with the inclusion of new pumps and new automated control systems. The sewage is pumped through 1189 meters of 100 mm ductile steel force main into the single cell sewage lagoon located west of the hamlet. The replacement cost of the sewer lines does not include rehabilitation of the associated roads. The historical costs include road rehabilitation.

The Oil City sewer system consists of a trunk main that gravity flows sewage to a single wet well pump station that contains two submersible pumps that alternate run cycles. The pump station is setup with an alarm system. A backup generator is required in the event of an extended power outage.

Sewers

Diameter (mm)	Meters of Pipe	Historical Cost	Replacement Cost
100	1,189	$69,900	$71,388
200	2,497	$444,481	$461,902

Sewer Lines- Average Age 42 years- Age as % of useful life 52.5 %

Sewer Pump Station

	Historical Value	Replacement Value
Lagoon Pump Station	$68,474	$400,00
Shell		$50,000
Pump/Valves	$32,213	$100,000
Total	**$100,687**	**$550,000**

	Initial Age (Years)	Useful Life (Years)	% of Useful Life
Lagoon Pump Station	43	50	86%
Shell	42	80	53%
Pump/Valves	10	20	50%

Structures

The Township of Enniskillen is responsible for the management of structures associated with the provision of services for water, administration, parks, roads, drainage and bridges.
The Township utilizes facilities to provide services to the public and is responsible for the upkeep and maintenance of all structures. There is the expectation that the structure and facilities will be updated as necessary and maintained to a desirable level to best serve the needs of residents. The strategy for structures is age based. The structures have been viewed on a component basis to recognize variations in the life expectancy.
A joint administration and public works building is located at 4465 Rokeby Line. The public works buildings were constructed in 1988 with office areas added in 1985. An addition to the public works building was constructed in 1991. A salt shed was constructed and put into service in 2015.
Within the Township parks there are three pavilions, two separate washroom buildings. A historic church in Oil City has been converted into a community center.

	Initial Age (Years)	**Useful Life (Years)**	**Age as % of Useful Life**
Gorman Park	88	200	44%
Krall Park	206	370	56%
Marthaville Park	146	210	70%
Admin	128	190	67%
Public Works	115	300	38%
Enniskillen Center	58	110	58%

Machinery

The Township of Enniskillen requires equipment to provide for the maintenance of the road systems, water and sewer systems. The Township has a fleet of three tandem trucks with salting and snow equipment, as well as one road grader, one tractor, one backhoe and four pickup trucks.

Number	**Number**	**Average Age**	**Useful Life (Years)**	**Age as a % of useful life**
Pick up	4	4.75	25	76%
Trucks	3	9	45	60%
Unlicensed	4	2.75	70	16%
General	6	10.5	99	64%

Desired Levels of Service

The identification of the desired levels of service for each asset is an important component to the asset management plan. The service levels are indicators to outline whether the infrastructure meets the expectations of the community.

Roads
The physical condition of the roads is the primary indicator used by the Township to determine the satisfaction with the road system. The Township maintains several types of road surfaces including asphalt, surface treatment, gravel, stone and clay. The discussion of service levels is restricted to the asphalt and surface treated roads. The service level concerning roads focuses on the physical condition rating of the road surface. The municipality attempts to maintain all roads above the poor condition rating.

Level of Service	Year	Target	Performance
Maintain an average road condition of good	2016	Good	Good
Maintain 100% of roads above "Very Poor" condition	2016	100%	98.8%

Bridges
The provincial government requires that an inspection of bridges over 3 meters in span be inspected every two years. The rating includes structural soundness, bridge condition and safety. It should be noted that bridges will be permitted to fall into the poor rating for a period of time until replacement.

Level of Service	Year	Target	Performance
Maintain an average bridge condition of Good	2016	Good	Good
Maintain 100% of bridges and major culverts above Poor	2016	100%	88%

Water
Water is an integral part of each household. The community expects that the quality of water meets water quality standards and that the supply is reliable. The indicators selected for water address the number of boil water orders issued and the number of water main breaks per year.

Level of Service	Year	Target	Performance
Number of Boil Water Advisories	2015 2016	0 0	0 0
Number of Boil Water Orders	2015 2016	0 0	0 0
Number of Water Main Breaks per year (excluding services)	2015 2016	0 0	7 2

Sewer

Sanitary sewers are available only to the hamlet of Oil City. Residents expect that sewage is moved and treated with no main line backups and no untreated releases into the environment. The indicators for the sewer system address the number of backups in the sanitary sewer main and the sewer main breaks per year. This does not include backups on private property or breaks within the service laterals on private property.

Level of Service	Year	Target	Performance
Number of sewer backups (excluding services)	2015 2016	0 0	0 0
Number of sewer main breaks per year	2015 2016	0 0	0 0

Structures

Structures located within the Township of Enniskillen include park pavilions, washroom facilities, playground equipment, a combination Municipal Office/Public Works garage, and a salt storage shed. The Township utilizes these facilities to provide service to the public. The Council is responsible to ensure that the structures will be maintained to a desirable level to best serve the needs of the residents.

Level of Service	Year	Target	Performance
Number of Days Facility unavailable due to system failures	2015 2016	0 0	0 0

Machinery

Equipment or machinery is used by the Public Works staff to provide service to the residents in the Township of Enniskillen. The Township has a fleet of three large trucks with snow equipment, four pickups as well as a road grader, a tractor backhoe, a tractor, a mower and a trailer. Equipment replacement is undertaken generally by age, repair costs and equipment reliability.

Level of Service	Year	Target	Performance
Number of Days Machinery (trucks) unavailable due to Equipment failure per year	2016	14	53

Asset Management Strategy

The Ministry of Infrastructure bulletin describes an asset management strategy “as the set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, at the lowest cost (e.g. through preventable action.)” The following outlines the asset management strategy to be undertaken by the Township of Enniskillen.

Roads

Non Infrastructure

The road monitoring program undertaken by the municipality promotes identification of deficiencies developing in the municipal roads. Half load restrictions are put in place on selected roads deemed to be susceptible to damage to traffic loading during the spring freeze/thaw events. Municipal policy normally requires (1) that directional boring of the road for the installation of small diameter drains and water services. Although more costly this reduces the long term impact to the road surface and base.
(2) that water mains and municipal drains be installed off the travelled portion of the roads to reduce the potential of additional costs during future road construction.

Maintenance

Maintenance of the asphalt and surface treated roads consists of the placement of cold mix and spray patching surfaces to reduce the impact of the freeze thaw cycle on the surfaces.

Renewal/Rehabilitation

Surface Renewal
Historically new riding surfaces have been applied to the old asphalt and surface treated surfaces. This may include the use of an asphalt material at the time of the application of the asphalt to address surface cracking on the roads. A single layer of surface treatment may be used on surface treated roads.
Where sufficient asphalt thickness exists on a road surface “in place” recycling of the asphalt layer will be incorporated.

Replacement

Total reconstruction of a roadway occurs when the application of the maintenance strategies are no longer appropriate either due to the road condition or the costs.

Disposal

At this time there is little likelihood of any portion of any municipal road being incorporated into the county or provincial road systems. The Township has no current plans to close and sell any open public road.

Expansion

There are no development plans which will lead to the increase of the municipal road system. Expansion by downloading from the County is unlikely and there are no provincial roads within the Township of Enniskillen.

Bridges

Non Infrastructure
Regular monitoring of the bridge conditions will continue to be undertaken by the public works staff. The biannual inspections of the larger spanned bridges will take place as required by regulation.

Maintenance
The biannual bridge inspection identifies the primary maintenance projects for the structures. These inspections could recommend removal of vegetation, repairs to erosion control works, deck drains, painting and minor concrete repairs.

Renewal/Rehabilitation
Minor rehabilitation includes the replacement of bridge bearings, water proofing, replacement of joint seals, resurfacing and barrier repairs.
Major rehabilitation includes more extensive work such as deck replacement, replacement of barriers and recoating structural steel.

Replacement
Replacement of a bridge takes place when it is determined that the bridge is no longer viable either due to the maintenance costs or the bridge's condition. The timing of the replacement of the bridge will take into consideration the associated risk of the failure of the bridge. The Township has replaced corrugated steel bridges with concrete bridges to extend the replacement time of the affected bridges.

Disposal
The Township has no plans in place to reduce the number of bridges in the municipality. The Township has restricted access to one low volume road due to the condition of the bridge. A second site is currently under consideration for this same policy. Consideration of not replacing these two bridges is a clear option although this decision has not been made.

Expansion
There are no anticipated developments that would increase the number of bridges within the Township road system. Future bridge replacements will be subject to different flow rate standards requiring larger capacity structures. Roads subject to pedestrian and bicycle traffic may require the addition of wider lane widths.

Water

Non infrastructure

The municipality monitors water loss within the distribution system by daily reading of the flow at primary meters and analyzing water loss during the water billing cycle. It is anticipated that this monitoring will reduce operating costs by identifying breaks earlier and reduce unbilled water usage. Staff will continue to be provided training related to changes in technology for operating and maintaining the water distribution system with the goal of incorporating procedures that reduce water loss and extend the life of the infrastructure.

Maintenance

The regular maintenance of the water distribution system consists of visual monitoring for leaks, flushing, exercising valves and painting of fire hydrants. Repairs are made to meters and shut offs as well as water main valves. Corrosion to metal parts of valves and water service shutoffs may require incorporating the use of replacement materials which reduce corrosion.

Renewal/Rehabilitation

The municipal water system consists of plastic waterlines most less than 30 years of age. The Township will continue to monitor the location and the number of waterline breaks in the distribution system. The Township will incorporate the current renewal and rehabilitation techniques to control the unbilled water usage in the distribution system. As trenchless technology is refined the lining of waterlines may become a viable option.

Replacement

The expected life of the waterlines indicates that replacement is not anticipated for 50 years. The replacement of any portion of the water distribution system will take place based on the amount of waterline breakage and the amount of water loss (unbilled usage). Efforts will be made to incorporate current replacement practices at that time.

Disposal

Water pipelines located in neighbouring municipalities could be assumed and operated by those municipalities. A water line located on Old Walnut Road north of LaSalle Line has been abandoned due to the instability in the road structure. The three water services in the area have been assumed by the Township of Brooke-Alvinston.
No other discussions are currently underway to dispose of portions of the municipal water system.

Expansion

There is limited potential for expansion of the water distribution system as access to the system has been provided to most properties within the Township. There is little potential for expansion of the water system resulting from land development taking place within the Township.

Sewer

Non infrastructure

The Oil City sewer system was constructed in the travelled portion of the roads. There will be coordination of the maintenance of manholes and sewer lines when road rehabilitation takes place. The Township will monitor sewer main backups, failure of service connections and the failure of the sewer mains.

The sewer flow is metered at the pump station. In the event that sewer flows increase the municipality will undertake inspections to ensure that sump pumps and other surface water flow has not been connected to the sewer system.

The Township will incorporate video inspection when it is determined that there is potential for blockage of the mains or deterioration of the mains or to find illegal storm water connections.

Maintenance

A maintenance program is in place to undertake visual inspection of manholes. Flushing of the sewer mains is undertaken when it is determined that there is a potential for blockage of the mains.

Renewal/Rehabilitation

The Township will incorporate the current practices in place at the time of the rehabilitation or replacement of the sewer mains. As trenchless technology is refined rehabilitation may incorporate relining of the mains. The relining or replacement of the sewer mains will be coordinated with road reconstruction in the hamlet.

A major rehabilitation of the sewer pump station took place in 2006 with the replacement of the pumps, valves and electronics. A review of the structural stability of the pump station shell will be undertaken prior to the next refurbishment in ten years. A review is underway to determine whether the removal of the sediment from the lagoon should be undertaken.

Disposal

There is no consideration of closing or transferring the ownership of the sewer system.

Expansion

The hamlet of Oil City is a low growth area with little potential for expansion of the sewer system. Any development will be subject to the design limitations to the single cell lagoon.

Machinery

Non Infrastructure
The Township equipment replacement policy incorporates participation in a dealer trade in program for both the tractor and backhoe. As a result the Township receives a new tractor annually and a new backhoe every two years. This policy also directs the replacement of the Road Superintendents pickup after four years of use to ensure the reliability of the vehicle. All other vehicles are replaced based on associated costs to maintain the units, the number of kilometers and the vehicle age.

Maintenance
Most vehicle servicing is done in house by staff to meet the manufacturers recommended requirements. Each of the three dump trucks are inspected annually as part of the normal licensing procedures. The two primary electric generators are inspected and serviced annually by service technicians

Renewal/Rehabilitation
The replacement policy for the licensed and unlicensed vehicles does not contemplate rehabilitation of equipment. The Township does not own or have access to sufficient equipment to continue normal activities if rehabilitation of vehicles was required.

Replacement-Disposal
All equipment disposal is subject to the purchasing policy of the Township as directed by the Municipal Council. There are no plans to reduce the number of vehicles or equipment operated by the Township.

Expansion
There are no plans to increase the type and number of equipment used by the municipality.

Structures

NON INFRASTRUCTURE

The Township has adopted a policy of regular inspections of all structures to identify issues associated with the structure. The Township policy is to replace asphalt shingled roofs with steel for a longer life expectancy.

MAINTENANCE

The Township undertakes monthly inspections of all structures to ensure that they are operational. Annual inspections are undertaken of all heating and cooling systems.

RENEWAL/REHABILITATION

The rehabilitation of the water reservoir and sewage pump station will be undertaken after an engineer's review of each facility. Replacement of the primary systems will be based on the principle of controlling the operating expenses of each facility. The Township is currently undertaking a major renewal of the water reservoir. The Township will undertake alterations to the municipal administration building to accommodate accessibility standards.

DISPOSAL

The Council opened a community center from a closed church within the hamlet of Oil City. The decline in volunteer involvement in operating the center and the major replacement costs may lead to the disposal of the building and the sale of the property. The quonset shed that was used for salt storage was demolished and a new salt shed was constructed in 2015.

EXPANSION

There are no plans for expansion of existing structures or the addition of new structures by the Township.

Financing Strategy

The asset management plan must be incorporated into the financial planning of the Township. This will provide information to the Council as to the cost implications of sustaining the physical assets of the Township.
It should be noted that the financial costs of the water and sewer systems are to be funded through user fees. The costs associated with the roads and bridges will generally be funded by municipal property taxes. The Township of Enniskillen receives Gas Tax revenue provided by the Government of Canada which has been directed into the maintenance and reconstruction of roads and bridges.

Although incremental funding of capital projects is being made available by the provincial and federal governments there is no long term stability in this financial support. The Township will make application for funds from incremental programs as they are available.

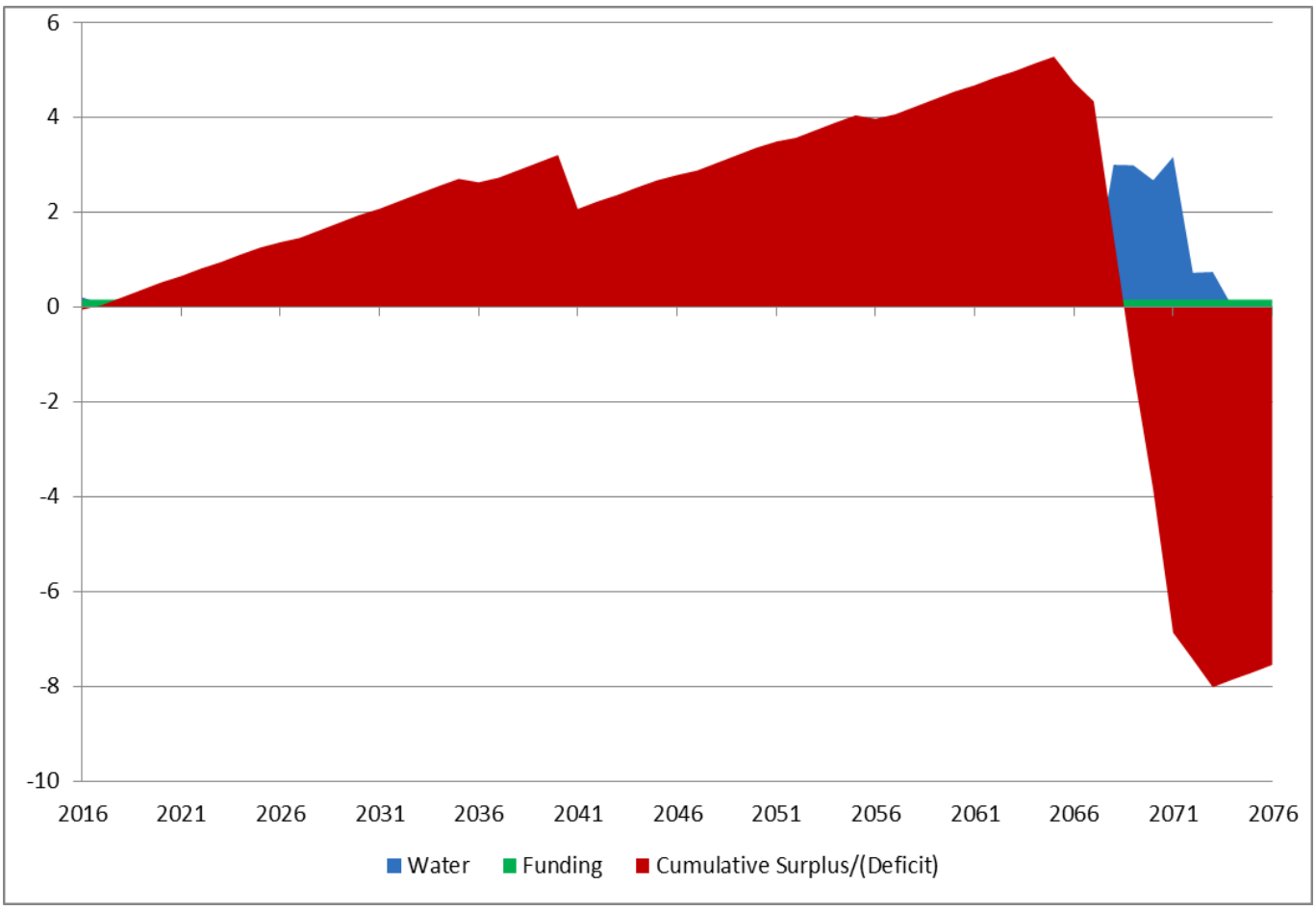
The Ministry of Finance has changed the eligibility requirements for transfer payments under the Ontario Municipal Partnership Fund (OMPF). The program strategy is to focus the funds on municipalities that are deemed to be in financial need. In Lambton County the program metrics have shifted funding from rural municipalities to urban municipalities due to the distribution of funds on a per household basis. The current effect of the policy change has been to reduce transfer payments to this municipality from over $1 million annually to $.5 million annually. The Township has directed tippage fees from the Waste Management landfill site in the Town of Petrolia to public works within the Township. This annual payment of between two and three hundred thousand dollars annually will stop in 2017 due to the planned closure of the landfill.
The effect of these two changes in revenue sources has made the Township more reliant on the local property taxes.

Water

A sixty year projection of the costs associated with the capital replacement of the water distribution system operated by the Township of Enniskillen has been prepared based on 2013 estimated costs. The capital replacement projection includes vehicles, pumps waterlines and the pumping/reservoir station.

During the period of 2016-2025 it is estimated that $345,600 would be required for capital replacement. During the period of 2026-35 it is estimated that an additional $155,800 will be required for capital replacement. During the period of 2036-2055 an additional $1.9 million will be required for capital replacement.

The average water surplus for the last five years has been calculated to be $160,500. Assuming collection of a similar annual surplus for the planning period of 60 years the municipality would collect $9,790,000. By increasing the annual water surplus to $250,000 per year the municipality would be able to generate $15,250,000.

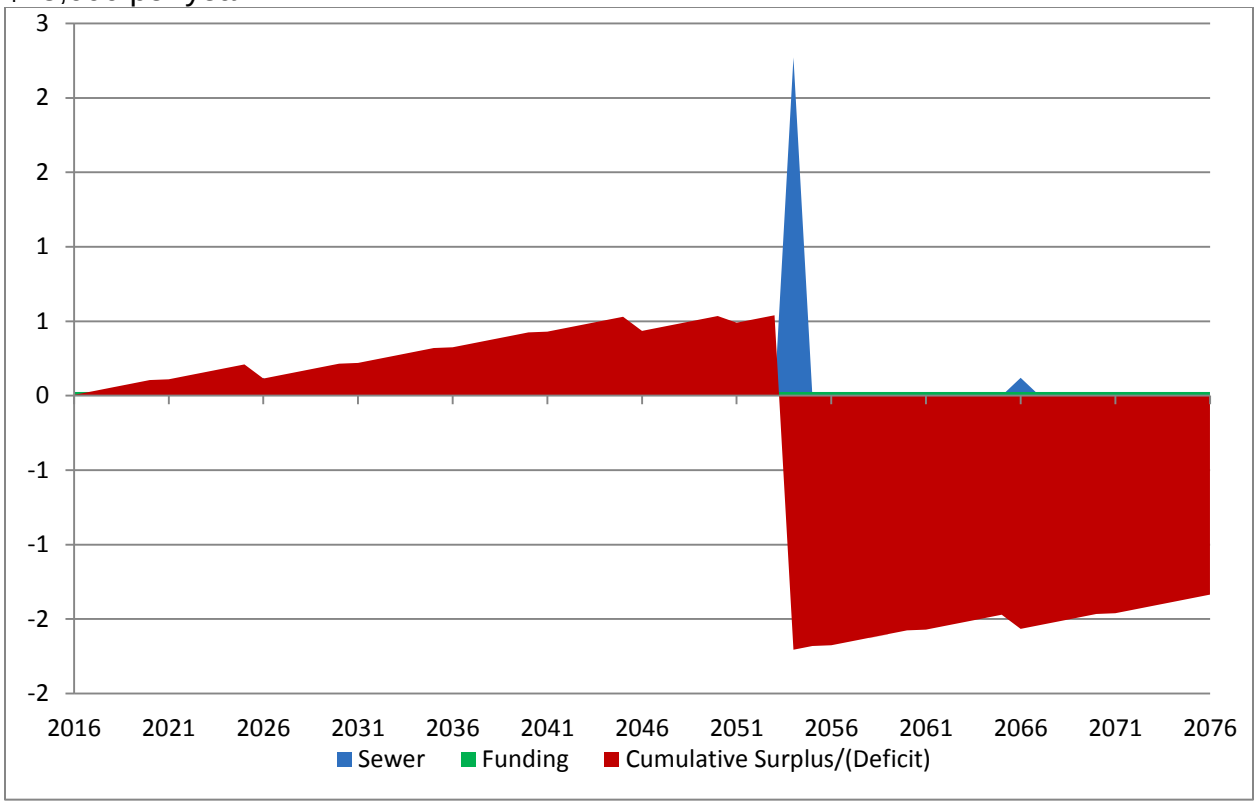


The above chart provides an illustration of what a $160,500 annual surplus will do to offset the capital replacement of the water distribution system over the next sixty year period. The chart indicates that maintenance of this surplus would leave a short fall of over $8 million to offset the replacement cost of the water distribution system fifty years into the future.

Sewer

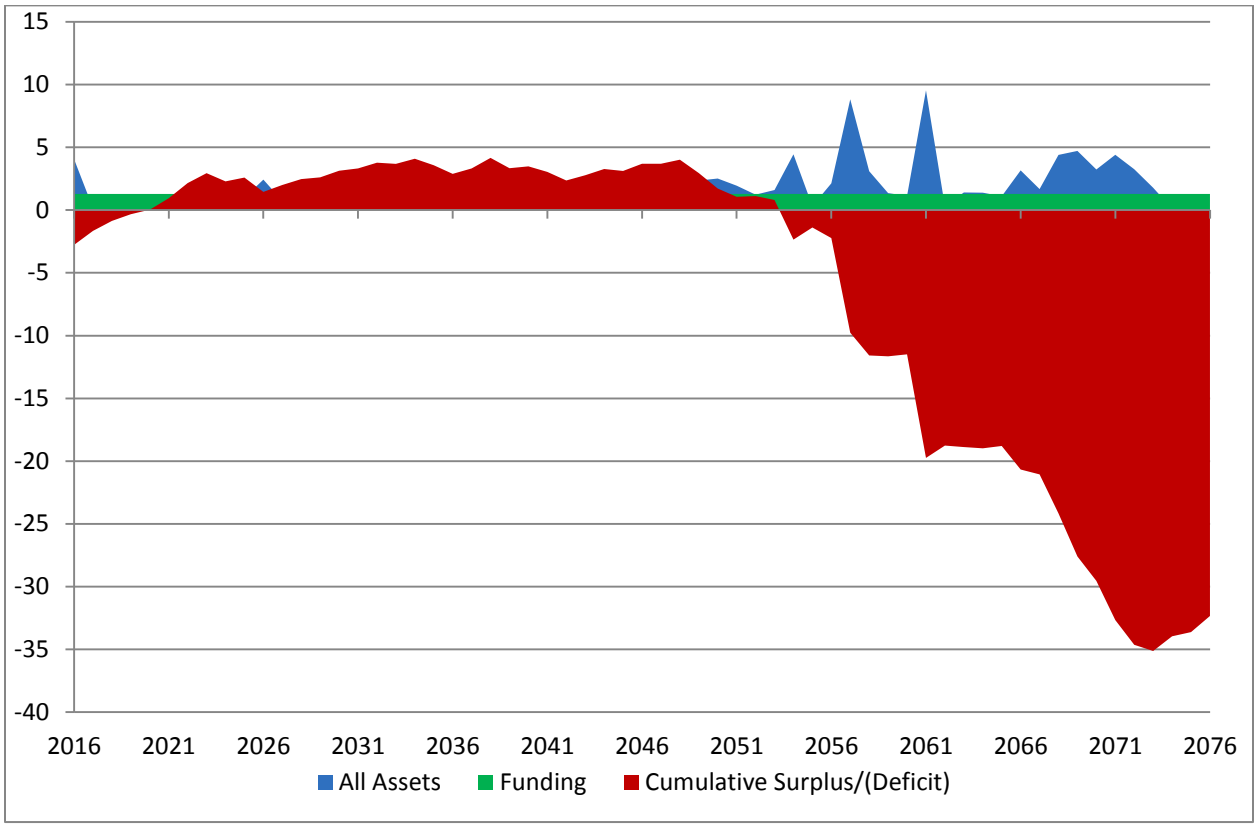
A sixty year projection of the cost associated with the capital replacement of the sewer collection system operated by the Township has been prepared based on 2013 costs. During the 2054 to 2063 period it is projected that all of the sewer collection system will need to be replaced at a projected cost of $2,270,000.00. This would require a commitment of $23,000 from each household to replace the collection system. There will be a need on the part of Council to increase the annual sewer rates to finance the capital replacement of the system.

The following table provides a sixty year projection based on an annual surplus of $25,000 per year.



Roads, Bridges, Machinery and Buildings

The replacement of the roads, bridges, machinery and buildings will be financed primarily by local tax revenue and supplemented by incremental grant allocations. The current capital budget is $760,000. Based on the strategies in the plan the annual capital funding should exceed $1.1 million annually to address the current backlog and projected projects. This would require an increase in the annual capital budget of over $340,000 to be directed to infrastructure renewal for roads, bridges, equipment and buildings. The following chart provides a projection based on annual capital budget of $1.1 million.



Summary

The Township of Enniskillen Asset Management Plan provides an overview of the roads, bridges, water and sewer systems, associated equipment and structures. The review has structured the assets by revenue source.

The review of the water system financial projections indicates that an increase in the annual surplus of $200,000 would provide sufficient funds to maintain the water distribution system. Council will need to continue to monitor the operating expenses as the system ages to ensure adequate funds for future capital replacement.

The review of the financial support for the sewer system clearly indicates a need to increase the user fees for the system to generate sufficient funds for replacement in the future. An increase in the user fees by 100% would still leave a shortfall at the time of the replacement of the sewer system. The Council will be required to review the user fees for the system to ensure adequate funds for the renewal of the pumping station, lagoon and the eventual replacement of the sewer lines and chambers.

The review of the roads, bridges, buildings and vehicles identifies a back log of work. The modeling indicates that not sufficient revenue is being generated to offset the projected rehabilitation and replacement. An increase in the annual funding by over $360,000 annually is needed to address the shortfall. Council will need to increase local taxes to fund the replacement of these assets.

Appendix