TOWNSHIP OF COCKBURN ISLAND

ASSET MANAGEMENT PLAN

DECEMBER 2013

PREPARED BY

TULLOCH
ENGINEERING

PROJECT No. 13-2068

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

As with most Municipalities across Ontario, The Township of Cockburn Island has undertaken the development of an Asset Management Plan in response to the Ontario Government's provincial capital funding requirements. The purpose of this Asset Management Plan is to assist with prioritizing needs over wants to ensure that infrastructure funding, whether generated through local or senior levels of government, be applied to projects with the higher needs. This Asset Management Plan has been structured to adhere to the requirement described in the Ontario Ministry of Infrastructure's Building Together, Guide for Municipal Asset Management Plans.

As the following Asset Management Plan will outline, the Township's existing infrastructure is aging and deteriorating while demand grows for better infrastructure facilities. This demand is in response to higher standards of safety, accessibility, health, environmental protection, and regulations. The solution to this issue is to examine the way the Municipality plans, designs and manages infrastructure to meet changing demands. This Asset Management Plan is expected to assist:

- Council in making service level and investment decisions;
- Staff with the planning and management of the assets;
- Taxpayers by sustaining value for the services provided.

As presented in this Asset Management Plan, the total replacement cost of the Municipality's assets was calculated to be approximately $ 4.78 million (2013 Dollars), for assets providing transportation (ie municipal dock and roads principally), waste disposal, administration, tourism and recreation. The Municipality is not required to budget for the full replacement value of all these assets simultaneously, as portions of assets only require an initial investment followed by further re-investment to maintain acceptable levels of service.

With that in mind, it was calculated that the annual reinvestment should be an average of $ 61,000 per year into various assets as they reach their maximum potential useful lives, in order to sustain existing services at an appropriate level of service. A further reserve investment of $ 94,000 is recommended to save for long-term replacement of assets. The actual investment value will vary from year to year depending on the scope and size of the planned capital works. Projects will need to be shuffled from year to year based on the availability of funding.

This plan addresses the replacement and planned expansion priorities of the Township, however it is imperative that current maintenance activities be continued and expanded as recommended. The ability for the Township to leverage its knowledge of infrastructure and by applying the best Asset

Management practices at the time will result in very positive improvements in infrastructure. A brief summary of the sections contained within this report is presented as follows.

Section Two of the Township's Asset Management Plan provides an introduction to the assets included in the plan as well as how the plan was developed and the goals of the Asset Management Plan. The Third section summarizes the asset types and quantities as well as their characteristics, condition and replacement values which were quantified by the Municipality's current asset inventory and for some assets, supplemented with visual inspections.

Section Four outlines the expected levels of service for each asset, and provides an indication of the minimum acceptable standards for an asset. Service levels were developed through consideration of industry standards, generally accepted levels of operation and safety, as well as evaluating the risk associated with achieving the targets levels established. Additionally, policy recommendations for condition rating updates for each asset are presented.

The asset management strategy for each asset type is presented in Section Five along with potential procurement methods to finance the strategy. The strategy and scheduling of asset renewal activities has been laid out by establishing planned actions through options analysis and risk assessment to maximize lifespan and minimize cost in a sustainable way. In addition, the priority assets for each category are presented within this section.

The final section of the plan consists of the financial plan required to support the asset management strategy by summarizing the cost per year, per asset to ensure sustainability of the asset. Comparisons are made to past expenditures and funding sources to identify the funding gaps in the proposed plan.

Although this comprehensive Asset Management Plan has been created beginning in 2014, it is expected to be a living document that is updated regularly as priority's shift or as work is completed. In addition, improvements to the methodologies of data collection for developing more accurate inventory information and evaluation will only serve to bolster the content of the plan. An Asset Management Plan that is not adhered to or not updated will quickly become obsolete and be of absolutely no benefit to the Municipality.

2.0 INTRODUCTION

This Asset Management Plan (AMP) was prepared by Tulloch Engineering Inc. (Tulloch) in cooperation with the Township of Cockburn Island (Municipality) to meet the requirements of a Municipal Asset Management Plan as presented by the Ontario Ministry of Infrastructure in their publication "Building Together – Guide for Municipal Asset Management Plans" (2012)

The intention of the AMP is to provide answers and guidelines to the following questions.

1) What do you have and where is it?
2) What is it worth? (Current and Estimated Replacement Costs)
3) What is its condition and expected remaining service life?
4) What is the level of service expectation?
5) When do you need to do it?
6) How do you ensure long-term affordability?

Asset management planning is meant to aid municipalities is making cost effective decisions with regards to operating, maintaining, renewing, replacing and disposing of their infrastructure assets. The decisions and directions laid out in the asset management planning process are intended to ensure that the Municipality will be capable of providing the levels of service needed to meet their desired plans, goals and objectives.

The assets considered within this AMP are the following municipal assets:

- Roads
- Buildings
- Vehicles
- Equipment, and Fixtures;
- Land & Land Improvements
- Landfill;
- Wharf/Marina

Each asset was divided into its respective category based type and was assessed for current state, financial accounting valuation and replacement cost valuation. The condition of each of the assets was assessed using sound and accepted methods.

This AMP has been developed to cover a ten (10) year window but is intended to be updated on a regular basis as operating conditions and municipal goals change. A key aspect of this plan is the ongoing evaluation of asset performance and value that will be required in future years. The development of this plan involved continued communication between Tulloch and Municipal Staff. The

policies and strategies presented are based upon discussions with Municipal representatives and accepted practices for the management of infrastructure assets.

This Asset Management Plan is a tool to help ensure that measures are taken to maintain an acceptable performance level for years to come. The quality and condition of infrastructure assets are of great importance as they help to support economic activity and improve general quality of life. This plan is not intended to change the Municipality's existing processes and procedures with regards to their infrastructure assets but rather improve the decision making process by using long range vision to dictate resource allocation and use performance based analyses to determine if desired goals and objectives are being met.

The Municipality's Capital Asset Summary information presents the inventory, current and projected condition ratings, as well as known or projected replacement/rehabilitation costs on a per asset type basis in a digital format.

This Asset Management Plan is based on capital improvements and does not account for maintenance activities that are currently undertaken by the Municipality. The plan is not intended to replace maintenance procedures and any reports prepared or practices undertaken should be continued to be followed.

3.0 STATE OF LOCAL INFRASTRUCTURE

This Section of the report outlines the quantity and quality of assets owned and managed by the Municipality. In addition, the current age, condition, financial valuation and replacement cost valuation of the assets included is presented.

The two following figures provide a comparison of the Municipality's capital assets based on 2013 Public Sector Accounting Board (PSAB) values and 2013 replacement values. The PSAB values are based on currently accepted historical costs and depreciation values, which were extracted from the current Municipal inventory presented as the Tangible Capital Asset Continuity Schedule (PSAB Inventory). The 2013 replacement values were generated based on the assets physical characteristics and benchmark costs established from recent construction projects. The benchmark costs per asset type are presented in the corresponding asset management spreadsheets in the Capital Asset Summary.

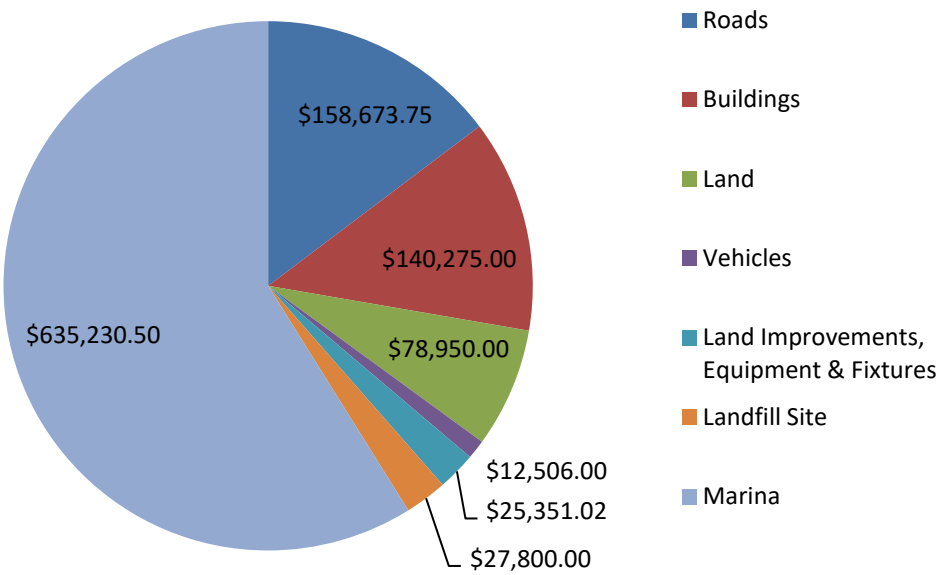

Figure 1 – Capital Asset PSAB 2013 Values ($ 1.08 M)

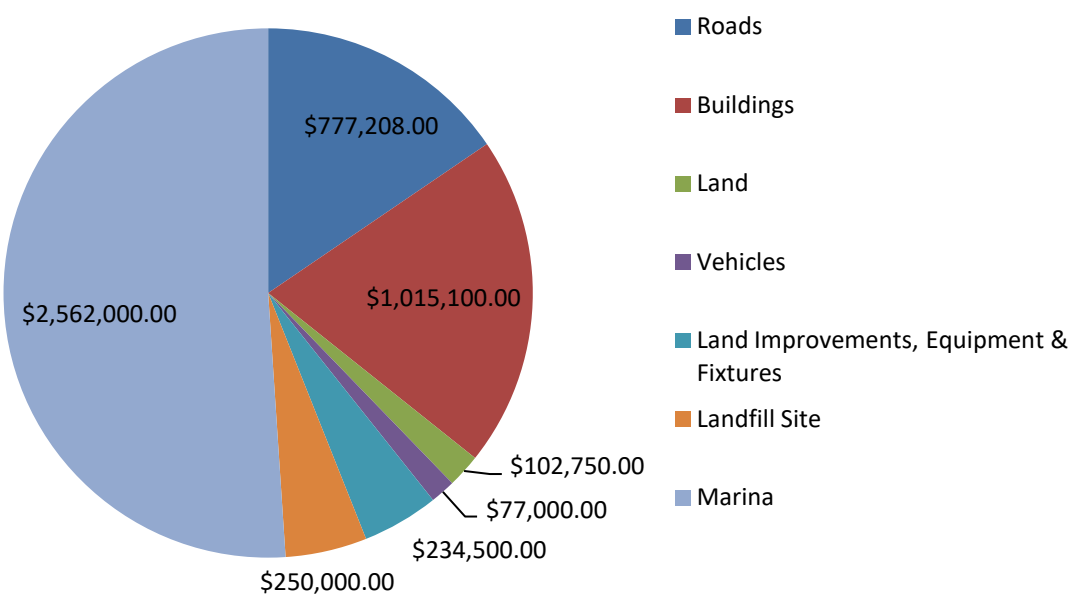

Figure 2 – 2013 Asset Replacement Costs ($ 4.72M)

3.1 ROADS

The Municipality's road network consists of approximately 49.1km roads, all of which are gravel surfaced. The roadway inventory and condition ratings were based on an extension of the 2013 Road appraisals completed by Tulloch Engineering Inc.

3.1.1 METHOD OF CONDITION EVALUATION

Appraisal of the Municipality's local road system was carried out in the fall of 2013, in accordance with procedures outlined in the MTO Methods and Inventory Manual by Tulloch Engineering Inc. The system was divided into 30 road sections and a standard MTO Road Appraisal Sheet was completed for each section. Each road section was identified and assigned a number, and then its location, length, geometrics, roadside environment, and surface type were noted. Traffic volumes were also estimated. The condition of each road section was assessed and improvement needs and associated costs were then identified.

Each road section was been given a subjective condition rating from 1 to 10 based on current surface condition, surface type and drainage conditions. Condition ratings greater than 5 are considered acceptable and are expected to require only normal maintenance. A condition rating less than 5 is considered unacceptable and a road improvement is to be evaluated for cost. The road condition for

each section is projected over ten years to forecast future work. This method of evaluating road surface deterioration relies on estimating the life cycle of various road surfaces.

For the purposes of this study, the following assumptions were made for road deterioration rates:

- *Gravel Top Roads → Condition rating, no reduction with regular maintenance;*

The following is a measure of the condition of the existing road system as outlined in the Methods and Inventory Manual:

Condition Rating	System Condition
8 to 10	good structural condition; some local improvement may be needed
5 to 7	average structural condition; continued improvement needed
Less than 5	poor structural condition; substantial improvement needed throughout total road system

3.1.2 INVENTORY

A summary of the Municipality's road system inventory is presented in the following figures and is based on the Municipality's Tangible Capital Asset Summary, supplemented with Road Appraisal information. The complete inventory is presented in the Capital Asset Summary, including all assumptions used to arise at the given ratings and projected costs.

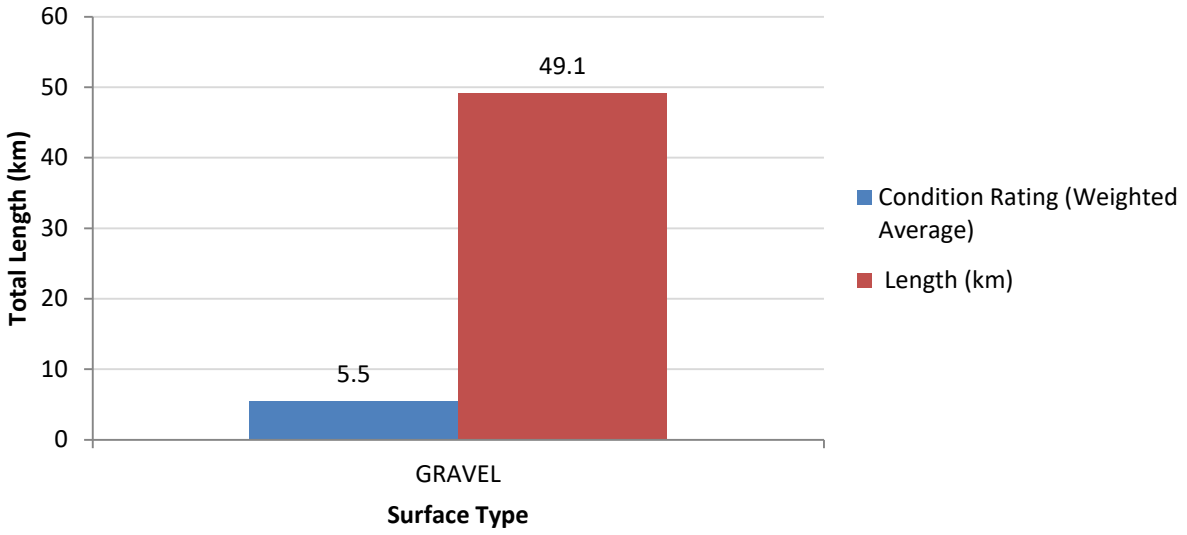

Figure 3 – Road Length by Surface Type

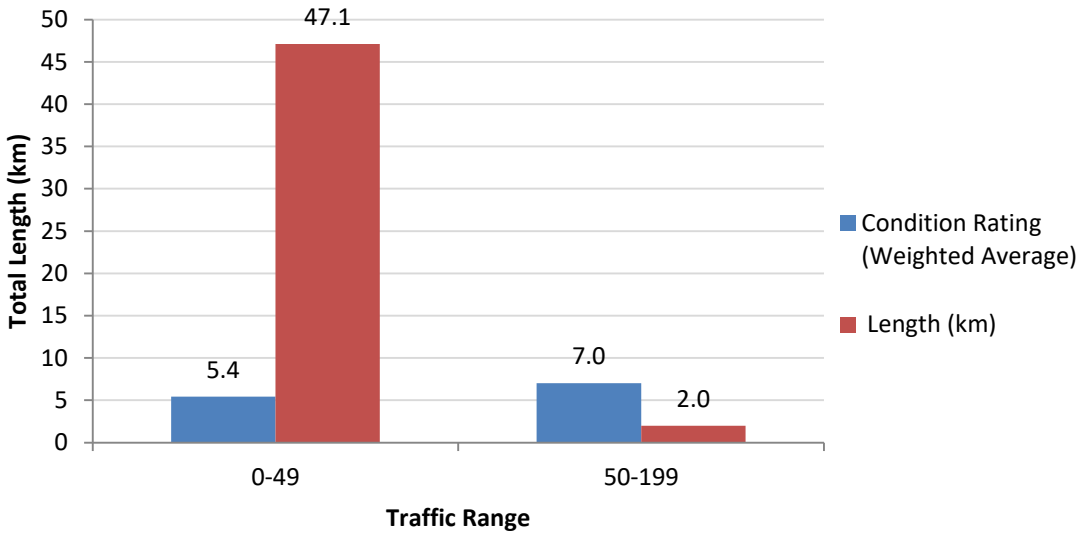

Figure 4 – Road Length by Traffic Volume

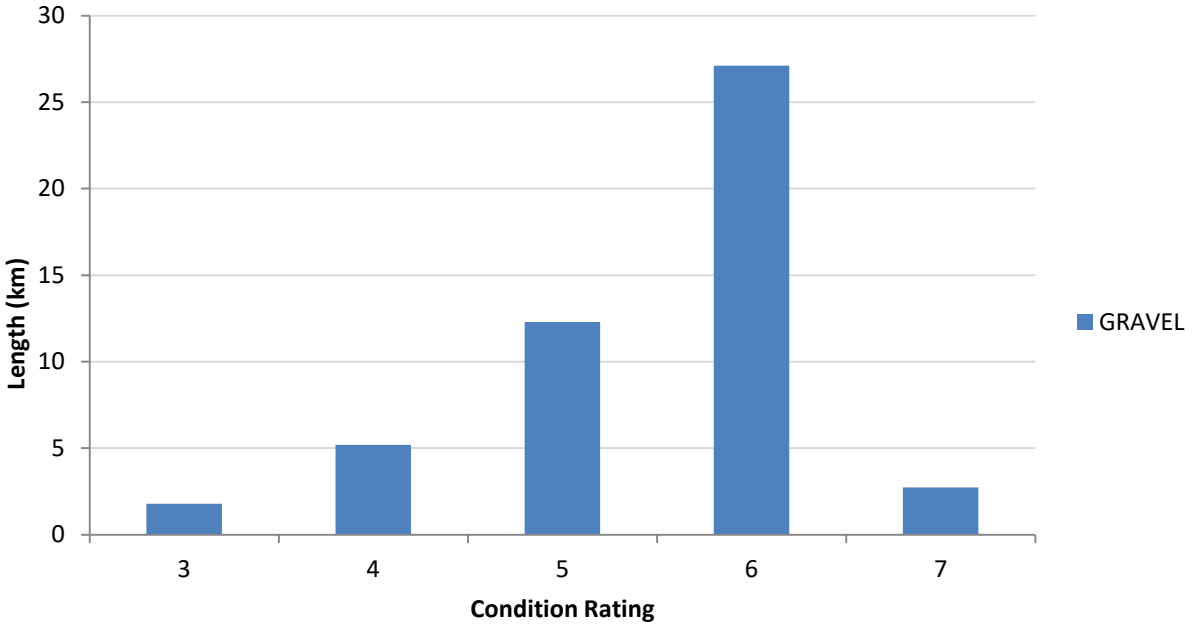

Figure 5 – Condition Rating Summary by Surface Type

3.1.3 POLICIES

In accordance with the Guide, it is recommended that a data verification policy and condition assessment policy be established to outline when and how the Road Asset state of infrastructure be updated. It is recommended that a biennial cycle be established to update condition ratings and cost projections in accordance with the procedures outlined in the MTO Methods and Inventory Manual.

3.2 BUILDINGS

The Municipality owns and operates a total of eighteen buildings located throughout the Municipality which serve a variety of purposes. The table below provides a summary of the replacement costs.

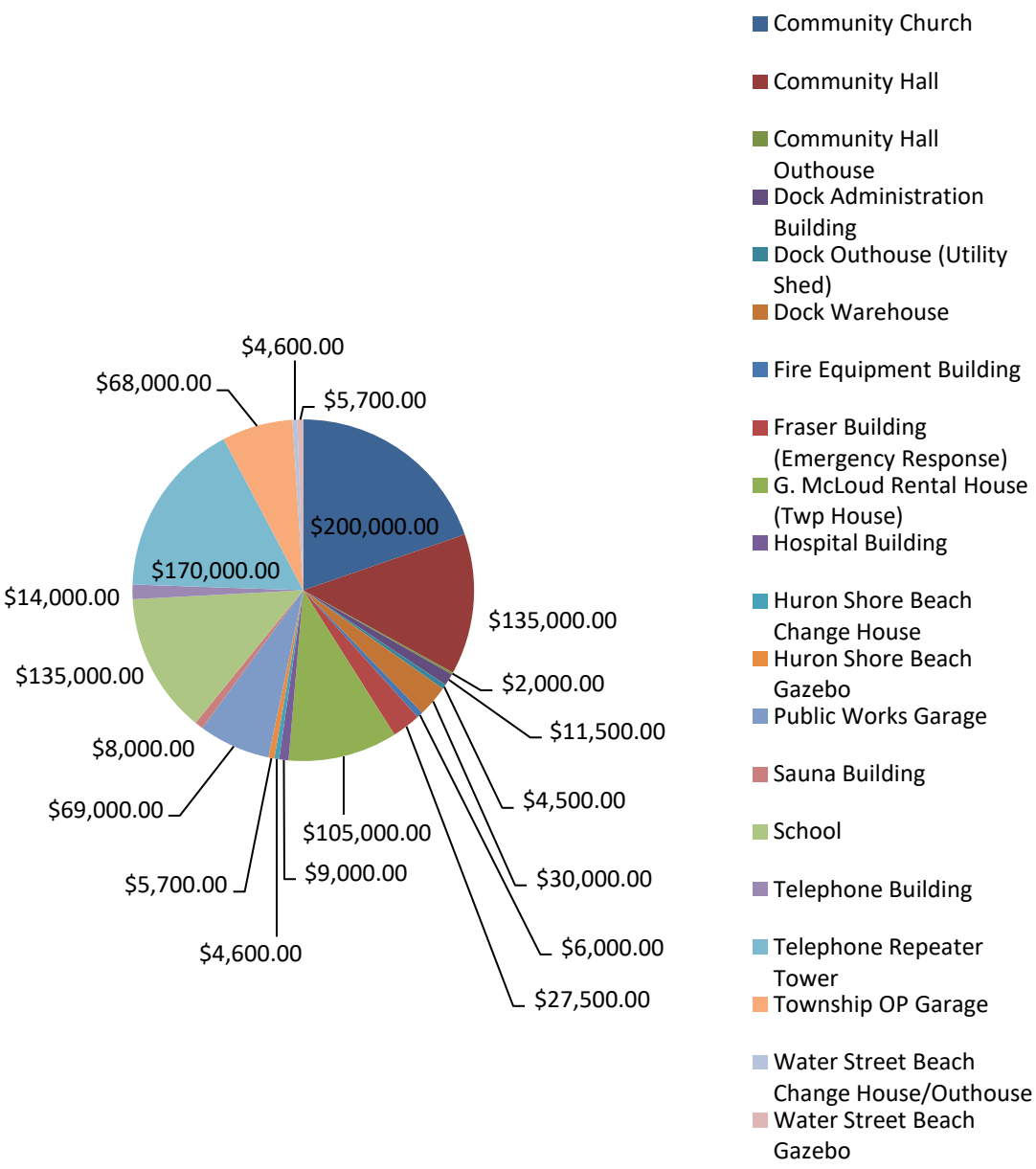

Figure 6 – Building Infrastructure Replacement Cost (2013 Dollars)

Asset Name	Replacement Value	
Community Church	$	200,000.00
Community Hall	$	135,000.00
Community Hall Outhouse	$	2,000.00
Dock Administration Building	$	11,500.00
Dock Outhouse (Utility Shed)	$	4,500.00
Dock Warehouse	$	30,000.00
Fire Equipment Building	$	6,000.00
Fraser Building (Emergency Response)	$	27,500.00
G. McLeod Rental House (Twp House)	$	105,000.00
Hospital Building	$	9,000.00
Huron Shore Beach Change House	$	4,600.00
Huron Shore Beach Gazebo	$	5,700.00
Public Works Garage	$	69,000.00
Sauna Building	$	8,000.00
School	$	135,000.00
Telephone Building	$	14,000.00
Telephone Repeater Tower	$	70,000.00
Township OP Garage	$	68,000.00
Water Street Beach Change House/Outhouse	$	4,600.00
Water Street Beach Gazebo	$	5,700.00
Grand Total	**$**	**915,100.00**

3.2.1 METHOD OF CONDITION EVALUATION

The Municipality's buildings were evaluated based on the inventory and information provided by the Municipality within the Tangible Capital Asset Continuity Schedule. Each of the eighteen buildings were reviewed by Tulloch and Municipal Staff and assigned an identification number, along with location, dimensions and year of construction being noted. In addition, the buildings were divided into the representative components with the dimensions and general condition of each component identified. For components in need of improvement, the needs and associated timing were also reported.

Each building asset was given a subjective rating of Excellent, Good, Fair or Poor, based on the current overall condition of the asset. A condition rating greater than Poor is considered acceptable and is expected to require continued maintenance. A condition rating less than Poor is considered unacceptable and an improvement or replacement is to be evaluated for cost. For the purpose of forecasting, building assets were estimated to have varying lifespans between 25 and 75 years with an average condition rating assigned based on age as follows.

Individual building components were subject to varying lifespans which can be reviewed in detail as presented in the Capital Asset Summary.

Rating	Age
Excellent	Less than 5 years old
Good	Between 5 years old and 50% of its life expectancy
Fair	Between 50% and 75% of its life expectancy
Poor	Between 75% and 100% of its life expectancy
Replace	Beyond its life expectancy

3.2.2 INVENTORY

A summary of the Municipality's building inventory is presented in the following figures outlining year of construction and condition ratings. The inventory is based on the Municipality's Tangible Capital Asset Summary and supplemented with the inspection forms completed by Tulloch. The complete inventory is presented in the Capital Asset Summary, including all building components as well as assumptions used to arise at the given ratings and projected costs.

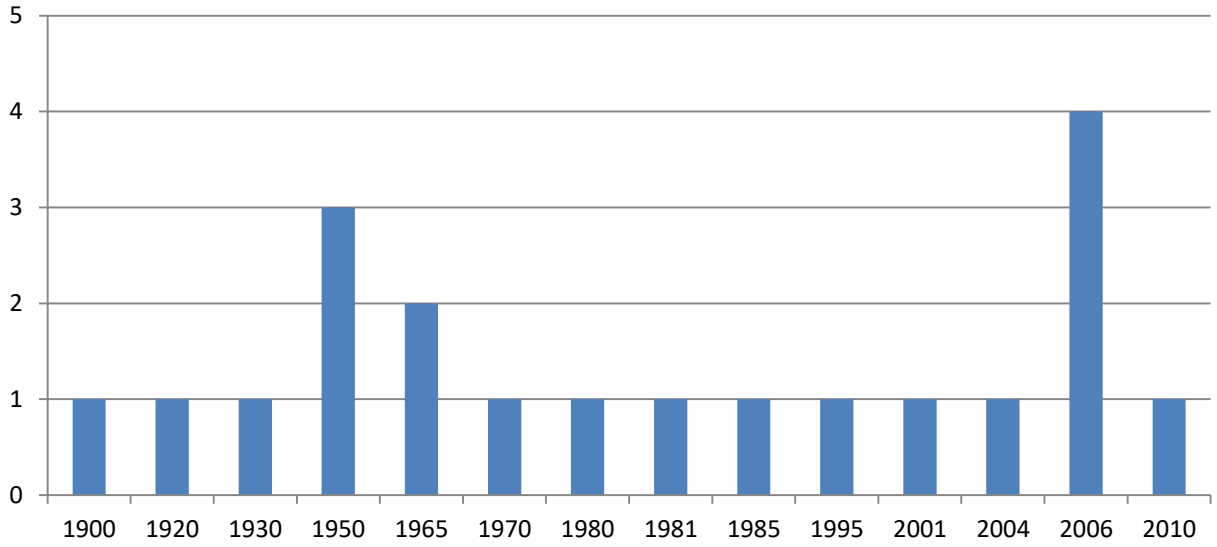

Figure 7 – Building Count by Year of Construction

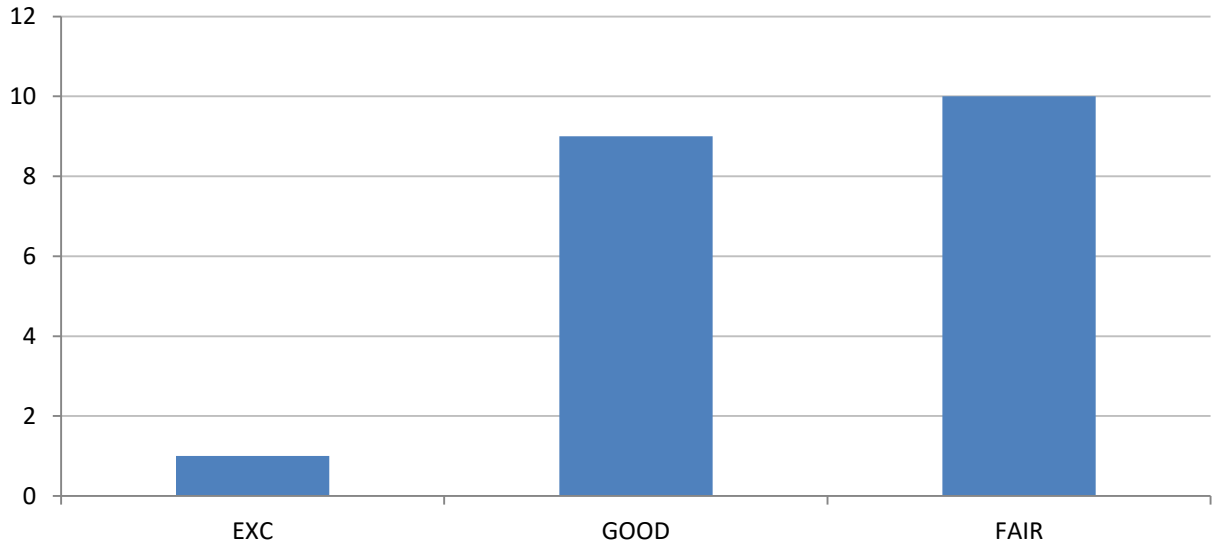

Figure 8 – Building Count by Condition Rating

3.2.3 POLICIES

In accordance with the Guide, it is recommended that a data verification policy and condition assessment policy be established to outline when and how the building infrastructure be updated. It is recommended that a 2 year cycle be established to update condition ratings and cost projections in accordance with the current inventory forms, as well as to recommend further investigations where warranted. Problematic buildings or those over 50 years in age should be reviewed on a more frequent basis.

That wherever feasible funds be found or set aside to preserve the Township's heritage buildings, most notably the Community Hall, Church and School House which date back to the early years of the last century not long after the municipality was incorporated in 1881. These buildings are still in use today for various public purposes and stand as a reminder of the strength of the Township's founders and the community's early citizens who believed strongly in the Cockburn Island as a place to live and raise a family. Preserving these and other buildings serves to demonstrate our commitment as a community and municipal government to the future by preserving our past.

3.3 LAND

The Municipality's land asset category is comprised of six following categories:

- General Government
- Protection Services
- Transportation
- Environmental
- Cemeteries
- Recreation

The table below provides a summary of the land value.

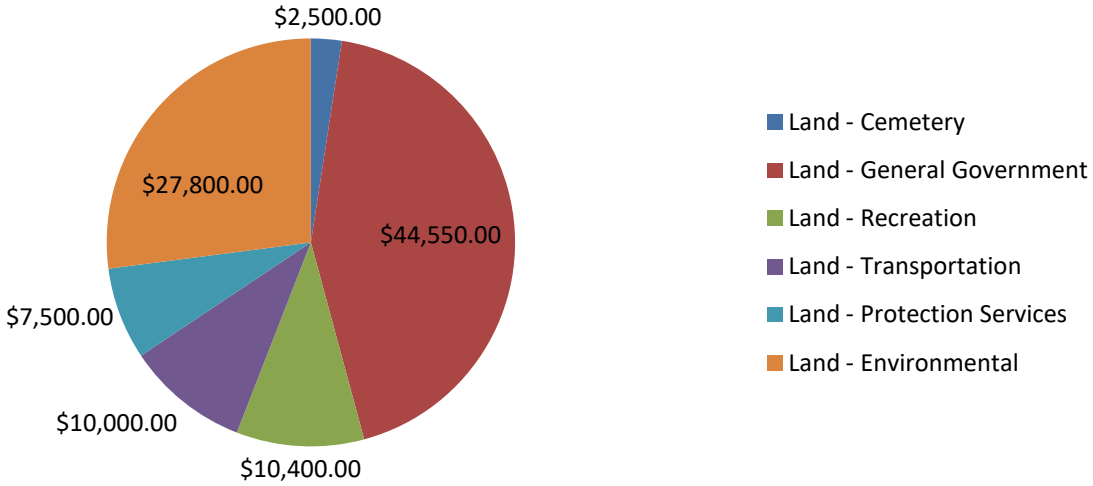

Figure 9 – Land Value (2013 Dollars - $ 102,750.00)

3.4 VEHICLES

The Municipality's vehicle assets are comprised of three vehicles allocated to two departments and are located throughout the Municipality to serve a variety of purposes. The chart below summarizes the total cost of all municipally owned vehicles by department.

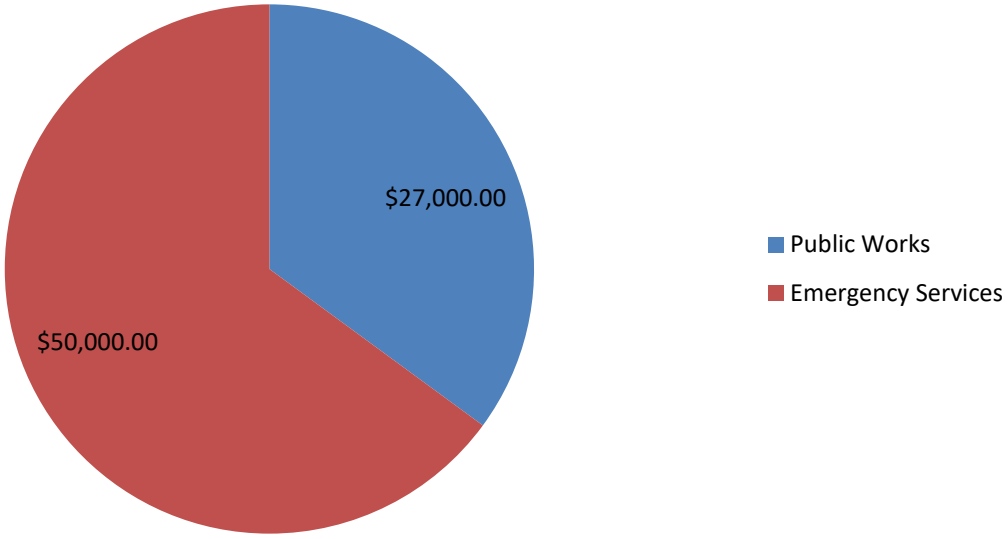

Figure 10 – Vehicle Replacement Costs (2013 Dollars)

3.4.1 METHOD OF CONDITION EVALUATION

The Municipality's vehicle assets were evaluated based on the inventory and information provided by the Municipality. Each of the assets was assigned an identification number, along with department, use and year of purchase being noted.

Each asset has been given a subjective rating of Excellent, Good, Fair or Poor, based on the lifespan of the asset. A condition rating greater than Poor is considered acceptable and is expected to require continued maintenance. A condition rating less than Poor is considered unacceptable and an improvement or replacement is to be evaluated for cost. Assets were subject to varying lifespans which can be reviewed in detail as presented in the Capital Asset Summary.

Rating	Age
Excellent	Less than 5 years old
Good	Between 5 years old and 50% of its life expectancy
Fair	Between 50% and 75% of its life expectancy
Poor	Between 75% and 100% of its life expectancy
Replace	Beyond its life expectancy

3.4.2 INVENTORY

A summary of the Municipality's vehicle inventory is presented in the following figures outlining a summary of the count and conditions of vehicles by department. The complete inventory is presented in the Capital Asset Summary, including all assumptions used to arise at the given ratings and projected costs.

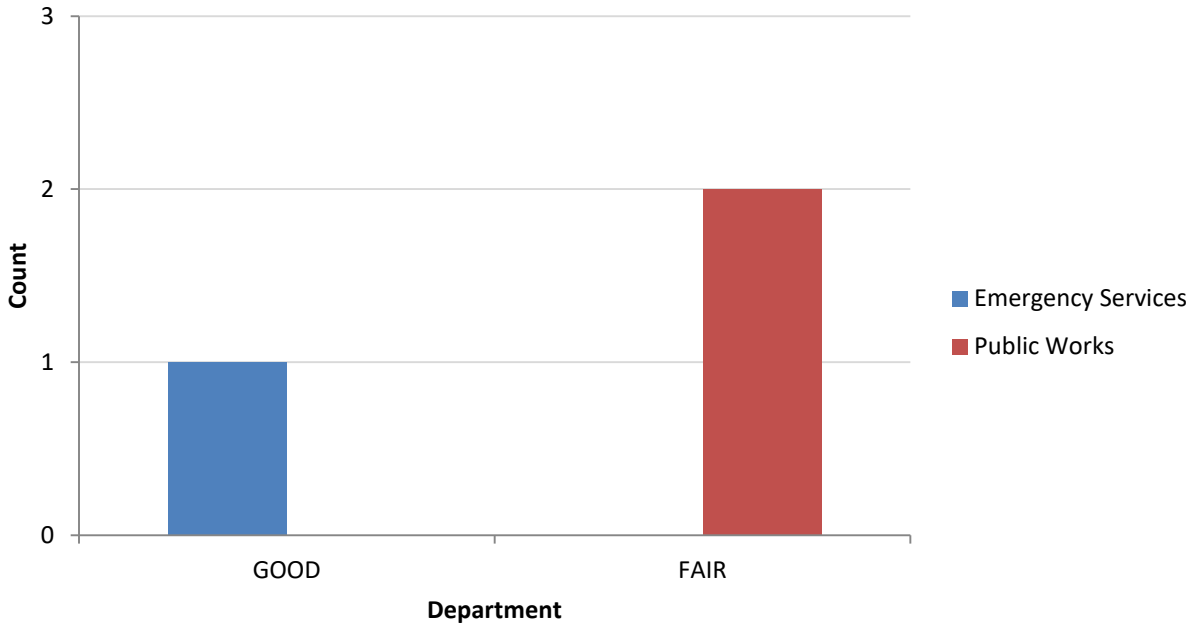

Figure 11 – Vehicle Summary by Condition Rating

3.4.3 POLICIES

In accordance with the Guide, it is recommended that a data verification policy and condition assessment policy be established to outline when and how the vehicle information is updated. For the vehicle assets, it is recommended that a 2 year cycle is established to update condition ratings and cost projections in accordance with MTO vehicular safety standards.

3.5 EQUIPMENT, LAND IMPROVEMENTS, FURNITURE & FIXTURES

The Municipality's equipment, land improvements, furniture & fixture assets are comprised of sixteen assets allocated to seven classes and are located throughout the Municipality to serve a variety of purposes. The chart and table below provides a summary of the replacement value of all municipally owned machinery, equipment, furniture & fixtures.

Asset Description	Replacement Value
2,200L Fuel Storage Tanks (w/ Pump)	$ 5,000.00
Miscellaneous - 3 Buckets for Backhoe and 12' Stone Rake	$ 7,500.00
John Deere 310-C Loader/ Backhoe	$ 40,000.00
Husqvarna Yth 1542 Lawn Tractor	$ 3,500.00
7.5hp Vertical Tank Mounted Air Compressor	$ 2,500.00
10.5hp Yard Works Snow Blower	$ 3,000.00
Miscellaneous Power Tools, Hand Tools & Spare Parts	$ 40,000.00
GR500 Radio Telephone System c/w Repeater and Acc.	$ 20,000.00
Cemetery Fence (4' high x 1,122' long)	$ 20,000.00
Dock Flag Pole (40' tall steel pole)	$ 2,500.00
Furnishings and Appliances for McLoud Rental House	$ 10,000.00
Church Furnishings and Fixtures	$ 50,000.00
Community Hall Furnishings and Fixtures	$ 15,000.00
School Furnishings and Fixtures	$ 1,500.00
Stone Rake 12ft	$ 4,000.00
Helipad	$ 10,000.00
Grand Total	**$ 234,500.00**

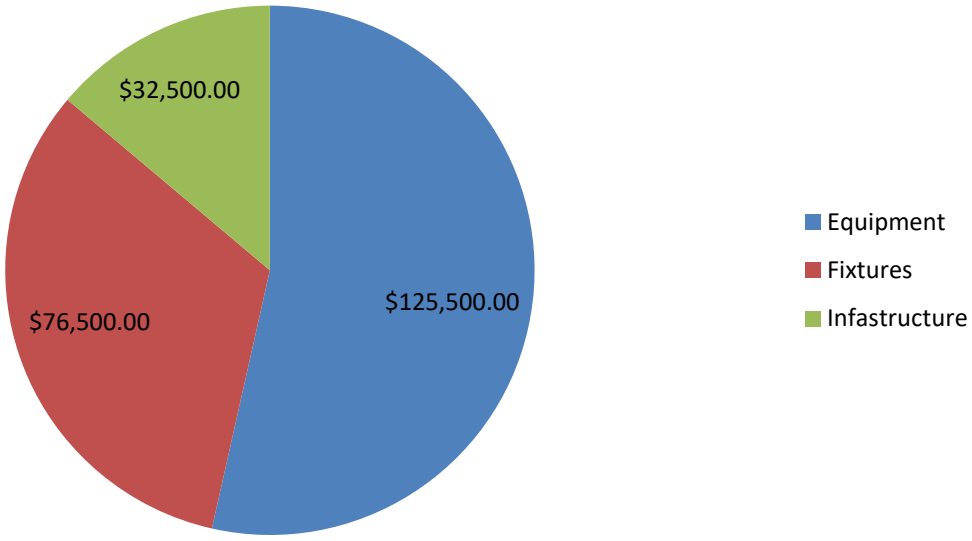

Figure 12 –Equipment, Land Improvements, Furniture & Fixture Replacement Costs (2013 Dollars)

3.5.1 METHOD OF CONDITION EVALUATION

The Municipality's equipment, land improvements, furniture & fixture assets were evaluated based on the inventory and information provided by the Municipality. Each of the sixteen assets was assigned an identification number, along with location, use and year of construction being noted.

Each asset was given a subjective rating of Excellent, Good, Fair or Poor, based on the lifespan of the asset. A condition rating greater than Poor is considered acceptable and is expected to require continued maintenance. A condition rating less than Poor is considered unacceptable and an improvement or replacement is to be evaluated for cost. Assets were subject to varying lifespans which can be reviewed in detail as presented in the Capital Asset Summary.

Rating	Age
Excellent	Less than 5 years old
Good	Between 5 years old and 50% of its life expectancy
Fair	Between 50% and 75% of its life expectancy
Poor	Between 75% and 100% of its life expectancy
Replace	Beyond its life expectancy

3.5.2 INVENTORY

A summary of the Municipality's equipment, land improvements, furniture & fixture inventory is presented in the following figures outlining a summary of the condition of the assets. The complete inventory is presented in the Capital Asset Summary, including all assumptions used to arise at the given ratings and projected costs.

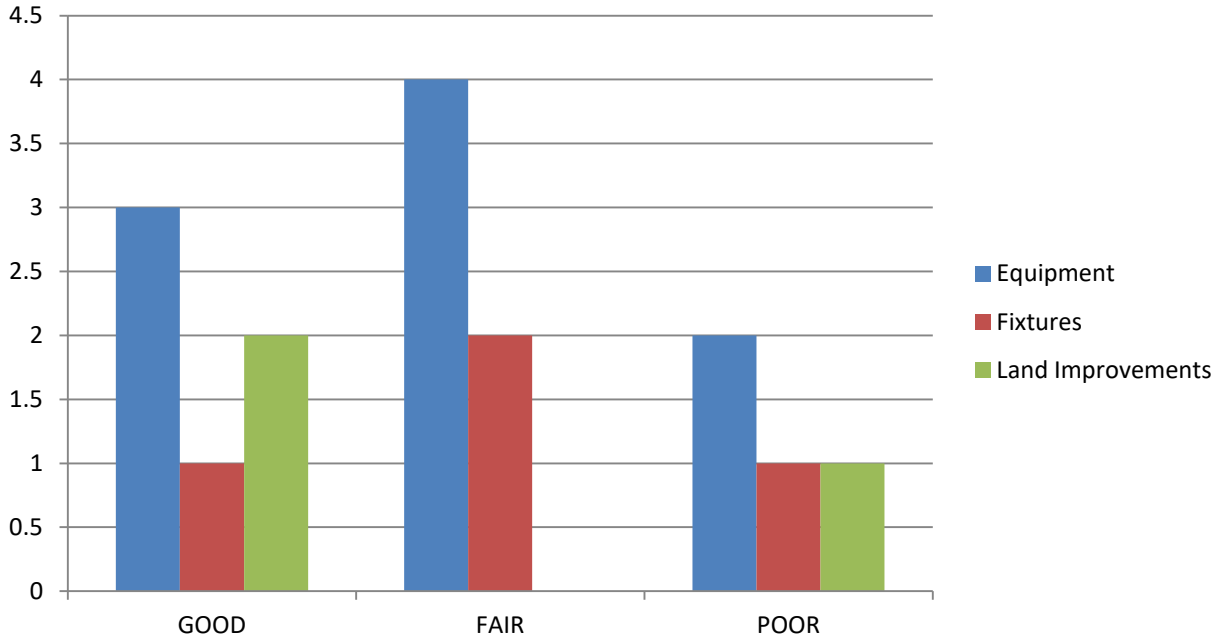

Figure 13 – Asset Summary by Class

3.5.3 POLICIES

In accordance with the Guide, it is recommended that a data verification policy and condition assessment policy is established to outline when and how the equipment, land improvements, furniture & fixture information is updated. For each of the assets, it is recommended that a 2 year cycle is established to update condition ratings and cost projections in accordance with applicable safety standards.

3.6 LANDFILL

The Municipality's landfill asset consists of a 0.1 hectare lot. The ownership of the landfill is in the process of transfer from MNR.

3.6.1 METHOD OF CONDITION EVALUATION

The Municipality's landfill is evaluated through operation plans completed on a regular basis to determine remaining capacity and identify operation and maintenance deficiencies.

3.6.2 INVENTORY

It is estimated that construction of a new landfill site is approximately $ 250,000.00.

3.6.3 POLICIES

In accordance with the Guide, it is recommended that a operation and maintenance of the landfill site follows the monitoring and operations plan.

3.7 WHARF/MARINA

The Municipality's Wharf/Marina is a significant piece of infrastructure due to the Township being a water-access only community. A significant investment has been made into the Wharf/Marina over the past ten years. This asset is the critical link which allows transportation between the mainland and the Island.

3.7.1 METHOD OF CONDITION EVALUATION

The Municipality's Wharf/Marina is evaluated through visual inspections. Each asset was given a subjective rating of Excellent, Good, Fair or Poor, based on the lifespan of the asset. A condition rating greater than Poor is considered acceptable and is expected to require continued maintenance. A condition rating less than Poor is considered unacceptable and an improvement or replacement is to be evaluated for cost. Assets were subject to varying lifespans which can be reviewed in detail as presented in the Capital Asset Summary.

Rating	Age
Excellent	Less than 5 years old
Good	Between 5 years old and 50% of its life expectancy
Fair	Between 50% and 75% of its life expectancy
Poor	Between 75% and 100% of its life expectancy
Replace	Beyond its life expectancy

3.7.2 INVENTORY

It is estimated that a reconstruction of the Wharf/Marina is approximately $ 2,562,000.00. The chart below provides a more detailed breakdown of the major components.

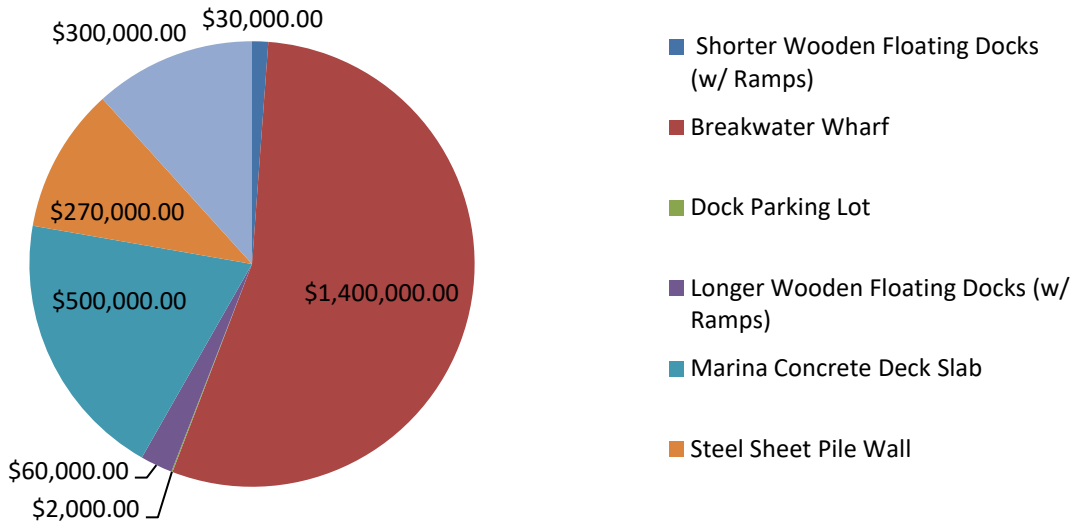

Figure 14 – Wharf/Marina Replacement Costs

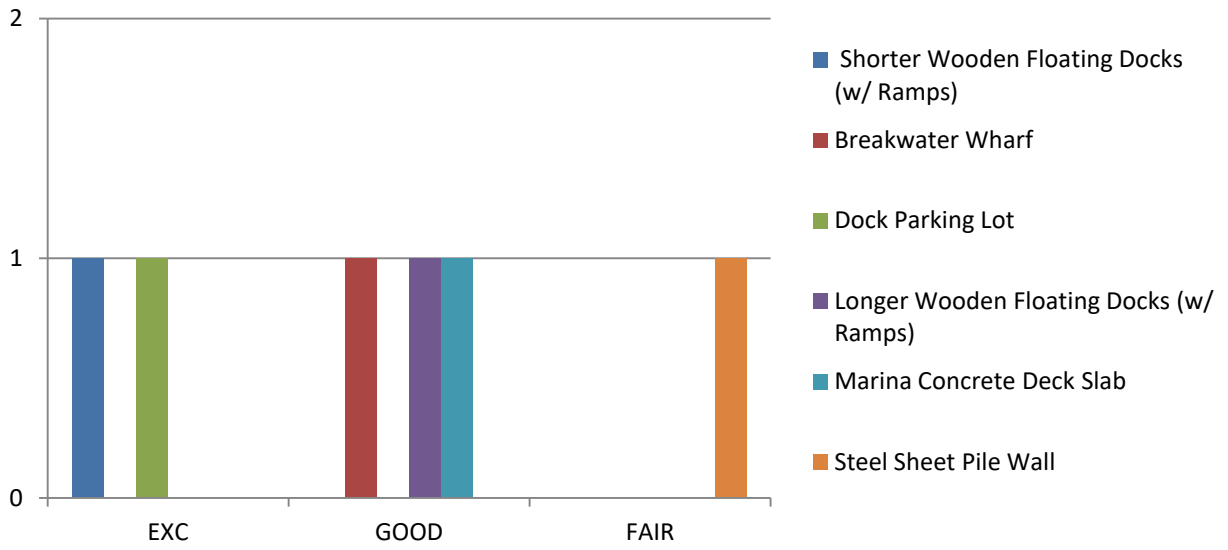

Figure 15 – Wharf/Marina Component Condition

3.7.3 POLICIES

In accordance with the Guide, it is recommended that a data verification policy and condition assessment policy is established to outline when and how the Wharf/Marina infrastructure condition information is updated. For each of the assets, it is recommended that a 2 year cycle is established to update condition ratings and cost projections in accordance with applicable safety standards.

4.0 EXPECTED LEVELS OF SERVICE

Levels of Service are statements of performance criteria which provide an indication of the minimum acceptable standard for an asset.

Desired levels of service within the Municipality were developed in consultation with the Municipal staff and through consideration of a number of documents and industry recognized standards to meet generally accepted levels of operation and safety. The target levels of service should be reviewed on a regular basis to determine if they are appropriate, and achievable. Consideration should be given to risk, and cost in the development of target levels of service.

4.1 RISK ASSESSMENT

All assets carry a level of risk for their users. Generally when conducting a risk assessment, two key factors that come into consideration are frequency of use and cost of improvement. Acceptable levels of risk may vary depending on the frequency of use. For example, if a rarely used asset and a frequently used asset do not meet today's minimum standards, the risk is higher for the frequently used asset and therefore, rehabilitation of this asset should be prioritized ahead of a rarely used substandard asset.

It is desirable to limit risk by replacing/improving the condition of all assets to meet today's minimum standards; however, the cost of doing so is not always feasible. The Municipality attempts to achieve a manageable level of risk by completion of condition reviews and prioritization of replacement/improvement projects.

4.2 PERFORMANCE MEASUREMENT

To optimize an Asset Management Plan and ensure target levels of service are appropriate, performance measures or indicators are established and should be reviewed on a regular basis. Performance measurement of the assets will provide an indication as to whether the rehabilitation and replacement strategies are effective or whether changes need to be made. Performance benchmarks for the various asset groups are described in the following sections.

4.3 ROADS

The Municipality has established a target level of service for roads by classifying road segments based on their surface type and estimated traffic volume. The municipal road network has been evaluated by Tulloch Engineering Inc. through completion of road appraisals in the summer of 2013. In this evaluation, all road segments have been rated using the MTO Road Appraisal forms. The rating system

utilized consists of a number 1 through 10 (where 10 represents a road in excellent or new condition, and a rating of 5 or less corresponding to poor condition).

The desired level of service for Municipal roads is to maintain an average weighted condition rating of 5.0 for the entire road network. The goal of this level of service is to develop and maintain uniformity for users of the road network and to ensure that roads meet the minimum standards across the Municipality.

The following strategies have been incorporated to achieve the target, however, as a general rule, when a roadway reaches a condition rating of less than 5.0, it is scheduled for improvement.

1. Improvements to Poor condition roads (condition rating of less than 5);
2. Widening of critically substandard width roads;
3. Improvements to roads with other critical needs (eg. Grade raise of road in flood plain);
4. Remaining improvements generally prioritized on the basis of condition rating;

These improvements and repairs are incorporated into the road condition inventory spreadsheets which project the condition of road segments over the next 10 years.

The performance of the road network should be evaluated by completing condition assessments on a biennial basis; the actual condition ratings collected in 2019 should be compared to the projected ratings to determine whether or not the target level of service is being achieved. Adjustments to the plan should be made as necessary either by increasing the annual budget for road improvements, or by revising the target level of service.

4.4 BUILDINGS

The overall condition of a building is evaluated by completing visual inspections which provide detailed condition ratings of all the components of each structure. The condition of the various components is described by one of four rating as being Excellent, Good, Fair or Poor.

In general, components of a building are recommended for rehabilitation or repair once a large percentage reaches a condition of 'Poor'. If a number of components are rated poor, the structure is typically recommended for a major rehabilitation or replacement.

The target level of service for Municipal buildings is to maintain all buildings such that they do not restrict access or intended use. This should be achieved by continuing to complete rehabilitation and repair recommendations outlined during inspections within the suggested timeframes.

Achievement of the levels of service for the buildings can easily be determined by reviewing the performance of the existing infrastructure, i.e. is the building serving its intended purpose without restrictions? The Municipality does not currently keep records of the number of building service interruptions; however a policy should be implemented as part of the new asset management strategy. Confirming achievement of this level of service will require the Municipality to keep records and review them on an annual basis as a minimum.

4.5 LAND

Municipal land supports the recreational and leisure needs of both the residents of the Municipality and the large volume of tourists and seasonal residents. The desired level of service for the municipal land includes having a clean, safe space for all residents to make use of.

The most appropriate method of confirming the adequacy and user satisfaction/dissatisfaction with these facilities is through regular inspections. The inspections could be supplemented by user surveys for the residents of the Municipality on an annual basis. Results of the surveys can be reviewed and considered for future planning purposes. Alternatively, the number of complaints received could be monitored with a target set for the maximum permissible.

Achievement of the desired levels of service for the land can easily be determined by reviewing the performance of the existing infrastructure, (i.e. is the land serving its intended purpose without major interruptions in service?)

4.6 VEHICLES

The overall condition of a vehicle is based on its age and useful lifespan and was described by one of five rating as being Excellent, Good, Fair, Poor or Replace as defined below.

- Excellent → Component age is less than 5 years old;
- Good → Component age is less than half of its life expectancy;
- Fair → Component age is greater than ½ of its life expectancy;
- Poor → Component age is greater than ¾ of its life expectancy;
- Replace → Component age is beyond its life expectancy;

The target level of service for Municipal vehicles is to maintain all vehicles such that they are in good repair with few breakdowns. This should be achieved by continuing to complete regular maintenance and repair recommendations as may be outlined during regular inspections completed during maintenance servicing. All vehicles with recommended maintenance schedules as part of the manufacturer's warranty service should follow the schedules as described.

Achievement of the levels of service for vehicles can easily be determined by reviewing the performance of the existing vehicle, i.e. is the vehicle operating for its intended purpose without interruption? The Municipality does not currently keep records of the amount of down time for vehicles, however a policy should be implemented to do so including recording the scheduled maintenance intervals as part of the new asset management strategy. Confirming achievement of this level of service will require the Municipality to keep records and review them on an annual basis as a minimum.

4.7 EQUIPMENT, LAND IMPROVEMENTS, FURNITURE & FIXTURES

The overall condition of a equipment, land improvements, furniture & fixture assets is based on its age and useful lifespan and was described by one of five rating as being Excellent, Good, Fair, Poor or Replace as defined below.

- Excellent → Component age is less than 5 years old;
- Good → Component age is less than half of its life expectancy;
- Fair → Component age is greater than ½ of its life expectancy;
- Poor → Component age is greater than ¾ of its life expectancy;
- Replace → Component age is beyond its life expectancy;

The target level of service for these assets is to maintain all assets such that they are in good repair with minimal breakdowns. This should be achieved by continuing to complete regular maintenance and repair recommendations as may be outlined during regular inspections completed during maintenance servicing. All assets with recommended maintenance schedules as part of the manufacturer's warranty service should follow the schedules as described.

Achievement of the levels of service for these assets can be determined by reviewing the performance of the asset, i.e. is the asset operating for its intended purpose without interruption? The Municipality does not currently keep records of the amount of down time for these assets, however a policy should be implemented to do so including recording the scheduled maintenance intervals as part of the new asset management strategy. Confirming achievement of this level of service will require the Municipality to keep records and review them on an annual basis as a minimum.

4.8 LANDFILL

The target level of service for this asset is to maintain adequate capacity for the users, as well as maintain the area in accordance with the Ministry of Environment rules and regulations.

4.9 WHARF/MARINA

The Township Wharf/Marina is a vital not only for its role in the mainland link and it supports the recreational and leisure needs of both the residents of the Municipality and the large volume of tourists and seasonal residents. The desired level of service for the municipal Wharf/Marina includes having a clean, safe space for all residents to access and make use of.

The most appropriate method of confirming the adequacy and user satisfaction/dissatisfaction with these facilities is through regular inspections. The inspections could be supplemented by user surveys for the residents of the Municipality on an annual basis. Results of the surveys can be reviewed and considered for future planning purposes. Alternatively, the number of complaints received could be monitored with a target set for the maximum permissible.

Achievement of the desired levels of service for the Wharf/Marina can easily be determined by reviewing the performance of the existing infrastructure.

5.0 ASSET MANAGEMENT STRATEGY

5.1 PLANNED ACTIONS & OPTION ANALYSIS

As referenced in the Guide, "*the asset strategy is the set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way."* All assets have a limited life expectancy and to some degree the rate of deterioration can be estimated. A decision made at any point in time in the lifecycle of an asset has an effect on the remaining life and may have operational implications and related costs.

The following sections will summarize the planned actions and option analysis for each asset type to maximize lifespan and minimize costs, in a sustainable way.

5.1.1 ROADS

Roads require regular roadside maintenance activities such as ditching and brushing to ensure adequate drainage of the road subgrade. Poor subgrade drainage will lead to premature deterioration of the road base which will directly impact the deterioration of the surface.

The following maintenance practices should be employed on a regular basis to help prolong the lifespan of roadway assets. The quantities provided are intended to be used as guideline:

- Right-of-way brushing;
- 5000m Ditch Cleanout annually;
- Culvert cleanout/flushing;

The completion of capital projects will depend on the availability of government funding.

5.1.2 BUILDINGS

As with all assets, buildings require regular maintenance activities such as cleaning and landscaping to maintain proper functioning of the asset. Renewal and rehabilitation activities of buildings should be carried out in accordance with the inspection recommendations. These activities were evaluated against options and longevity such as brick facing against vinyl siding, or steel roofing against shingles.

Replacement activities are generally considered once maintenance, renewal and rehabilitation activities are no longer feasible or economical to undertake. As can be seen in the Capital Asset Summary, when replacement is considered, the replacement asset does not need to be identical to the existing asset, such as replacing windows and doors with more energy efficient ones. Increase in level of service should always be considered at time of replacement.

In addition, integrated infrastructure planning was considered, as reflected in the Capital Asset Summary. The replacement of windows and doors was scheduled for the same time, or in advance of the siding replacement which would result in cost savings and greater flexibility in the assets selected for replacement.

5.1.3 LAND

Land, like all other assets require regular maintenance activities such as trimming, cleaning and landscaping to maintain proper functioning of the asset. Replacement activities are generally not completed on land assets, however major improvements to upgrade the land are considered as capital projects. No works are planned for land assets at this time.

5.1.4 VEHICLES

Vehicles require regular maintenance activities such as engine, transmission and break system servicing in accordance with the manufactures operating manuals to minimize potential for breakdowns. In addition, failing to complete these maintenance intervals could void the manufacturer warranty in the event there is a concern.

Major rehabilitation of most vehicles will not significantly extend the useful life. Due to the nature of the Municipal operations associated with the vehicles, the asset is treated similar to a rolling stock that is disposed of at the end of its useful lifecycle and replaced with a new or used asset. The replacement asset selected would likely be an upgrade to disposed asset as over the course of the disposed assets lifecycle, improvements in technology and efficiency would have been made.

5.1.5 EQUIPMENT, LAND IMPROVEMENTS, FURNITURE & FIXTURES

Equipment, land improvements, furniture and fixture assets also require regular maintenance activities such as servicing in accordance with the manufactures operating manuals to minimize potential for breakdowns. In addition, failing to complete these maintenance intervals could void the manufacturer warranty in the event there is a concern.

Major rehabilitation of most machinery, equipment, furniture and fixtures will not significantly extend the useful life. Due to the nature of the Municipal operations associated with these assets, the asset is treated similar to a rolling stock that is disposed of at the end of its useful lifecycle and replaced with a new asset. The replacement asset selected would likely be an upgrade to disposed asset as over the course of the disposed assets lifecycle, improvements in technology and efficiency would have been made.

5.1.6 LANDFILL

Operation and maintenance strategy will continue in accordance with the MOE rules and regulations.

5.1.7 WHARF/MARINA

The Wharf/Marina, like all other assets require regular maintenance activities such as cleaning, dock repair, and landscaping to maintain proper functioning of the various components. Renewal and rehabilitation activities of Wharf/Marina should be carried out in accordance with the inspection recommendations. Based on funding opportunities, the steel sheet pile retaining wall is scheduled for replacement/completion.

Replacement activities are generally considered once maintenance, renewal and rehabilitation activities are no longer feasible or economical to undertake. As can be seen the Capital Asset Summary, when replacement is considered, the replacement asset does not need to be identical to the existing asset, an increase in the level of service should always be considered at time of replacement.

5.2 RISK ASSESSMENT

All assets carry a level of risk for the Municipality. The options above were evaluated based on the lifecycle costs and benefits, as well as the potential risks. Due to the uncertainty in assigning a reasonable estimate of probability and cost associated with a risk event, a qualitative approach was applied to the management plan of the assets.

The scheduling of asset improvements took into consideration the risk associated with the volume of use that the assets received. Acceptable levels of risk will vary depending on their frequency of use.

5.3 PROCUREMENT METHODS

The Municipality currently has procurement by-laws in place for use when considering various projects; however, additional investigations and discussions could be undertaken to pool resources with neighboring municipalities when possible. The creation of an amalgamated tender would allow for a higher volume of service by a supplier, which would reduce the overall cost per municipality. This approach would be applicable to purchasing of supplies, vehicles, and equipment.

5.4 SCHEDULE OF PRIORITIES

This Asset Management Plan identifies the schedule of projects based on asset type for the next ten years. Options were considered for each type of asset as outlined above, with the options being evaluated for risk and lifecycle costs.

The following is a schedule of priorities by asset type as presented in the Capital Asset Summary.

5.4.1 ROADS

Asset ID	Asset Name
COC – RD – 165	R Street
COC – RD – 175	L Street
COC – RD – 187	W Street
COC – RD – 170	Concession Roads 9, 12,15

5.4.2 BUILDINGS

Asset ID	Asset Name
COC – BLD – 056	School

5.4.3 LAND

No planned work.

5.4.4 VEHICLES

Asset ID	Asset Name
COC – VEH – 002	10’ X 20’ Steel Deck Trailer
COC – VEH – 001	GMC 6500 5 Tonne Dump Truck

5.4.5 EQUIPMENT, LAND IMPROVEMENT, FURNITURE & FIXTURES

Asset ID	Asset Name
COC – FURN – 004	School Furnishings & Fixtures
COC – EQP – 002	Buckets for Backhoe
COC – EQP – 009	Radio Telephone System
COC – EQP – 004	Husqvarna Law Tractor
COC – EQP – 008	Power Tools
COC – EQP – 003	John Deere Loader
COC – EQP – 008	Snow Blower
COC – FURN – 003	Community Hall Furniture & Fixtures

5.4.6 LANDFILL

No planned work.

5.4.7 WHARF/MARINA

Asset ID	Asset Name
COC – WHARF/MARINA – 002P	Sheet Pile Wall

6.0 FINANCING STRATEGY

Establishment of a financial plan is critical to the successful implementation of an asset management plan. The following section will summarize the Municipal expenditures over the past three years and will detail the financial commitment required in order to keep the Municipal infrastructure at acceptable levels of service.

In conjunction with developing the Asset Management Plan, the replacement cost of all the Municipality's assets was estimated. Replacement costs for linear assets were generated through use of local competitive bid construction costs for projects of similar scope and size. Replacement costs for non-linear assets such as buildings, land, vehicles, and equipment were estimated using recent purchase prices and construction costs for major components (buildings).

As presented previously (Figure 2), the total replacement cost of the Municipality's assets was calculated to be approximately $ 4.72 million dollars (2013 Dollars). The Municipality is not required to budget for the full replacement value of all its assets, as portions of assets only require an initial investment followed by further re-investment to maintain acceptable levels of service.

It was also calculated that the annual reinvestment should be an average of $ 61,000 per year into various assets as they reach their maximum potential useful lives, in order to sustain existing services at an appropriate level of service. It is recommended that an additional $ 95,000 thousand per year be put aside into a reserve fund for long term planning purposes, beyond the 10-year plan.

The Municipality has not made any large capital investments in roads over the past three years except for roads maintenance equipment such as a grader, tractor-driven roadside brush hog, large wood chipper to complement roadside brushing and a back-hoe. A program of gravel resurfacing continues each season.

As reported in the Township's FIR, debt levels are modest to non-existent (seasonal line of credit only if required depending upon cash flow timing – no long term debt at the present). It is feasible for the Township to invest $60,000 to $100,000 per year to maintain its assets in accordance with the AMP. This is based upon, among other things;

1. annual tax rate increases at 1% above prior year inflation,
2. an indefinite commitment made by NCC being honoured to pay a support grant to replace tax revenue lost when Residential lands are reassessed as Managed Forest lands (assessment cut to 25%)
3. OMPF block funding formulae remaining stable and predictable

Using the historic data as a base model for future financial planning purposes, the table below outlines a forecast of the required annual expenditures into Municipal infrastructure for the 10-year period of 2014 through 2023 as well as the anticipated shortfall in required spending for all infrastructures included in this plan.

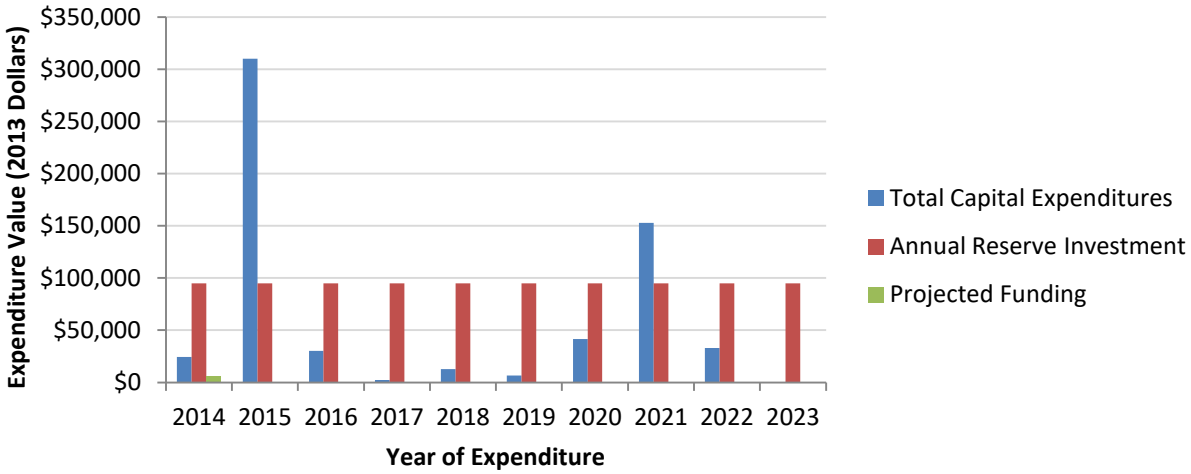

Figure 16 - Municipal Assets – 10 Year Capital Expenditures & Reserve Contributions

The figure above can be described as:

- *Expenditure Forecast Without Grants (2014) → $ 6,000.00*
  Projection of the average spent over the past three years, without accounting for government grants.
- *Expenditure Forecast With Grants (2014) → $ 6,000.00*
  Projection of the average spent over the past three years, including government grants.
- Total Recommended Investment – including reserves (2014) → $ 119,356.38
- Expected Shortfall (2014) → $ 113,356.38

The intention of this section of the report is to highlight the recommended expenditures, as well as suggested methods of lessening the shortfall. Suggested ways of decreasing the magnitude of the annual shortfall are listed below, however whether they are implemented or not is a decision to be made by Council.

- Increasing municipal taxes;
- Implementing or increasing user fees;
- Financing projects; or
- Accepting decreased levels of service;

The expected funding shortfall is quite significant; however, the magnitude of this shortfall is exaggerated by the inclusion of the recommended reserve savings. Saving into a reserve fund is one method of financial planning however many Municipalities take the strategy of debentures and financing projects over their useful life. The actual finance strategy will not only vary from year to year but may vary from one asset project to another.

It should be noted that the values presented in this section of the report does not account for inflation rate over the next 10 years. The following sections present a more detailed breakdown of the required reinvestment for each of the asset groups included in this comprehensive asset management plan.

6.1 ROADS

Reinvestment in the Municipality's roads is a required expenditure to maintain an acceptable average condition rating for the entire road network. Required reinvestment levels were calculated to be an average of $ 10,000 per year to resurface and reconstruct road infrastructure.

Over the past three years, the Municipality has not invested in major capital roads projects. Using the historic data as a base model for future financial planning purposes, the table below outlines a forecast of the required annual expenditures into road infrastructure for the 10-year period of 2014 through 2023 as well as the anticipated shortfall in required spending for this asset type.

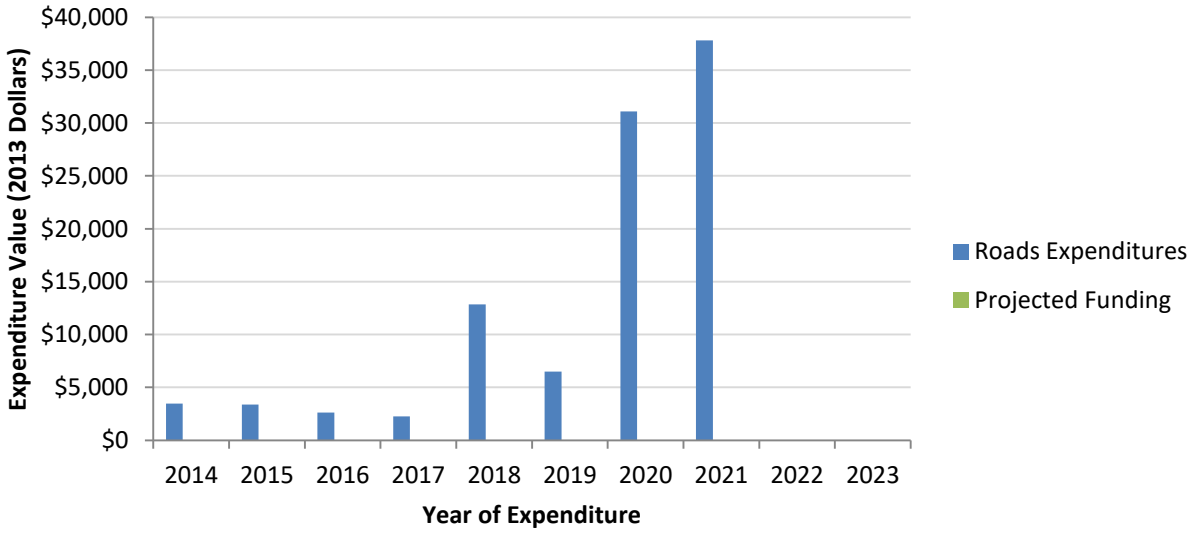

Figure 17 – Road Infrastructure 10 Year Capital Expenditures

The previous figure can be described as:

- *Expenditure Forecast Without Grants (2014) → $ 0.00 /year*
  Projection of the average spent over the past three years, without accounting for government grants.
- *Expenditure Forecast With Grants (2014)* → $ 0.00 /year
  Projection of the average spent over the past three years, including government grants.
- Total Recommended Investment – including reserves (2014) → $ 3,480.00 /year
- Expected Shortfall (2014) → $ 3,480.00 /year

A commitment by the Municipality to contribute the required reinvestment into road infrastructure projects will ensure that the road network remains at the established level of service. Failure to make an annual contribution will result in the road network quickly deteriorating below the acceptable level of service.

6.2 BUILDINGS

Reinvestment in the Municipality's buildings is a required expenditure to maintain their structural integrity for the future as well as ensure the comfort of their users. Building assets support services such as recreation and culture, protection (fire) and also support many administrative functions that are required to provide services. It was calculated that the Municipality should be reinvesting an average of $ 5,010.00 per year to rehabilitate, repair, and replace various building components. It is recommended that an additional $ 15,322.26 per year be put aside into a reserve fund for long term planning purposes, beyond the 10-year plan.

Over the past three years, the Municipality has not invested into capital projects related to building infrastructure. Using the historic data as a base model for future financial planning purposes, the table below outlines a forecast of the required annual expenditures into Building infrastructure for the 10-year period of 2014 through 2023 as well as the anticipated shortfall in required spending for this asset type.

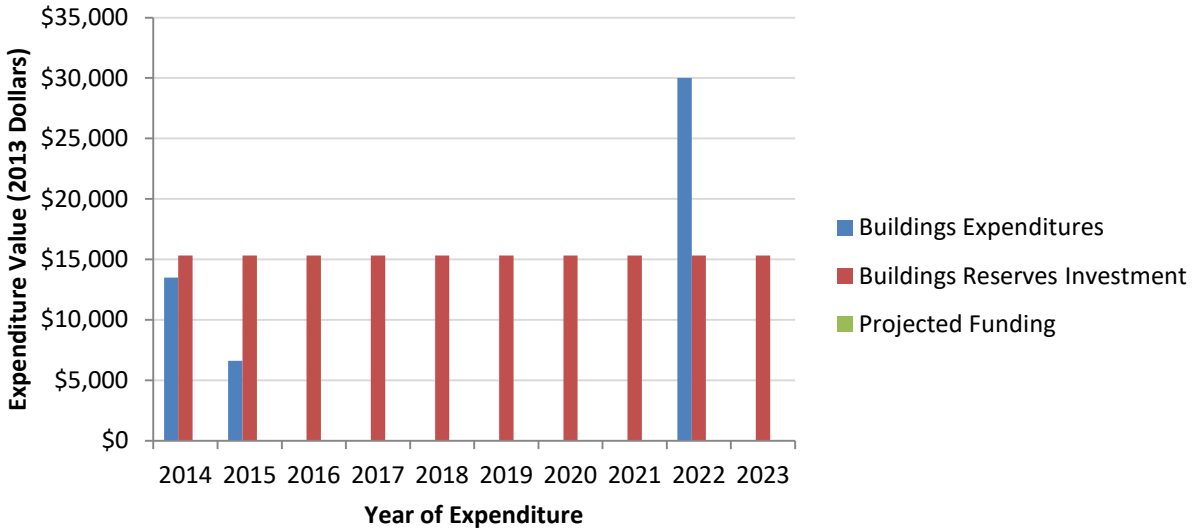

Figure 18 – Building Infrastructure 10 Year Capital Expenditures

The figure above can be described as:

- *Expenditure Forecast Without Grants (2014) → $ 0.00 /year*
  Projection of the average spent over the past three years, without accounting for government grants.
- *Expenditure Forecast With Grants (2014)* → $ 0.00 /year
  Projection of the average spent over the past three years, including government grants.
- Total Recommended Investment – including reserves (2014) → $ 28,822.26 /year
- Expected Shortfall (2014) → $ 28,822.26 /year

6.3 LAND

There is no requirement to invest into municipally owned lands.

6.4 MUNICIPAL VEHICLES

Reinvestment in the Municipality's fleet of vehicles is required to maintain an acceptable fleet average age. It was calculated that the Municipality should be reinvesting an average of $ 2,700.00 per year to repair, and replace vehicles. It is recommended that an additional $ 3,080.00 per year be put aside into a reserve fund for long term planning purposes, beyond the 10-year plan.

Over the past three years, the Municipality has not invested into municipal fleet vehicles. Using the historic data as a base model for future financial planning purposes, the table below outlines a forecast of the required annual expenditures into fleet vehicles for the 10-year period of 2014 through 2023 as well as the anticipated shortfall in required spending for this asset type.

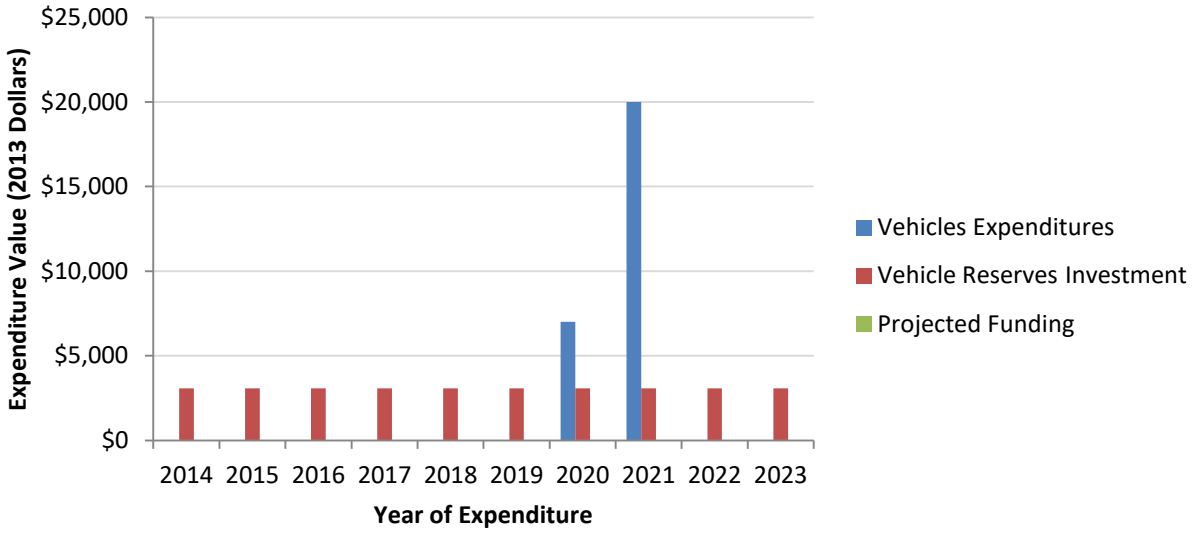

Figure 19 –Fleet Vehicles 10 Year Capital Expenditures

The figure above can be described as:

- *Expenditure Forecast Without Grants (2014) → $ 0.00 /year*
  Projection of the average spent over the past three years, without accounting for government grants.
- *Expenditure Forecast With Grants (2014)* → $ 0.00 /year
  Projection of the average spent over the past three years, including government grants.
- Total Recommended Investment – including reserves (2014) → $ 3,080.00 / year
- Expected Shortfall (2014) → $ 3,080.00 / year

A commitment by the Municipality to contribute the required reinvestment into existing fleet of vehicles will ensure that the average age of the fleet remains above the established level of service. Failure to

make an annual contribution will result in the condition of the fleet deteriorating, ultimately requiring expensive repairs and increased vehicle downtime.

6.5 EQUIPMENT, LAND IMPROVEMENTS, FURNITURE AND FIXTURES

Reinvestment in the Municipality's equipment, land improvements, and furniture/fixture assets is required to maintain an acceptable service level. It was calculated that the Municipality should be reinvesting an average of $ 13,050.00 per year to repair, and replace various assets. It is recommended that an additional $ 9,380.00 per year be put aside into a reserve fund for long term planning purposes, beyond the 10-year plan.

Over the past three years, the Municipality has not invested into equipment, land improvements, furniture and fixtures. Using the historic data as a base model for future financial planning purposes, the table below outlines a forecast of the required annual expenditures into machinery, equipment, furniture & fixtures for the 10-year period of 2014 through 2023 as well as the anticipated shortfall in required spending for this asset type.

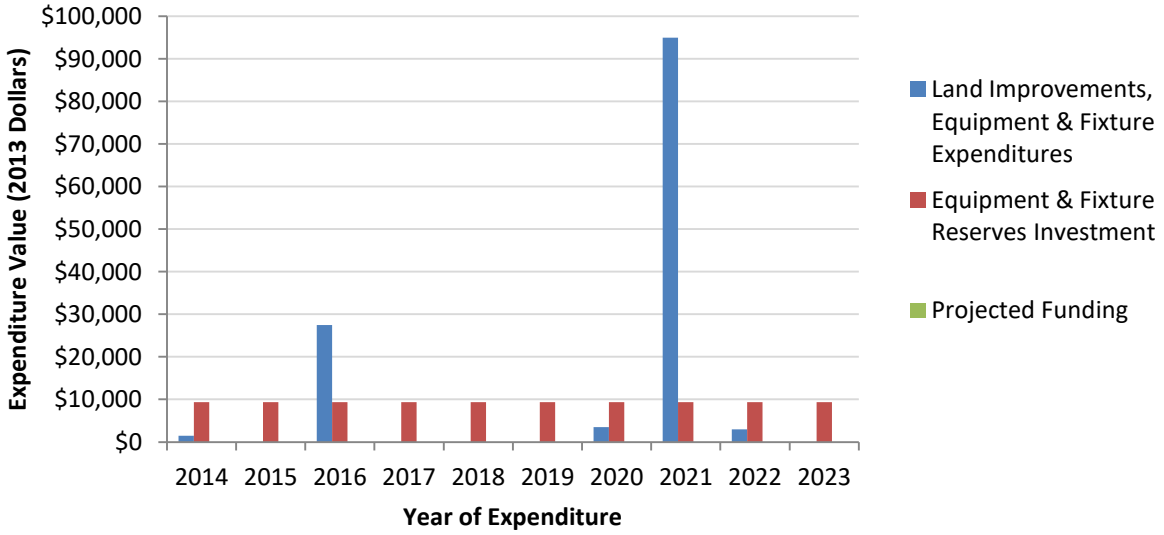

Figure 20 –Machinery, Equipment, Furniture & Fixtures 10 Year Capital Expenditures

The figure above can be described as:

- *Expenditure Forecast Without Grants (2014) → $ 0.00 /year*
  Projection of the average spent over the past three years, without accounting for government grants.

- *Expenditure Forecast With Grants (2014)* → $ 0.00 /year
  Projection of the average spent over the past three years, including government grants.
- Total Recommended Investment – including reserves (2014) → $ 10,880.00 / year
- Expected Shortfall (2014) → $ 10,880.00 / year

6.6 LANDFILL

Reinvestment in the Municipality's landfill is required to maintain ensure it stays in compliance with rules and regulations. It was calculated that the Municipality should be reinvesting an average of $ 600.00 per year to repair, and replace various items. It is recommended that an additional $ 5,000.00 per year be put aside into a reserve fund for long term planning purposes, beyond the 10-year plan.

Over the past three years, the Municipality has not invested into the landfill. Using the historic data as a base model for future financial planning purposes, the table below outlines a forecast of the required annual expenditures into the landfill for the 10-year period of 2014 through 2023 as well as the anticipated shortfall in required spending for this asset type.

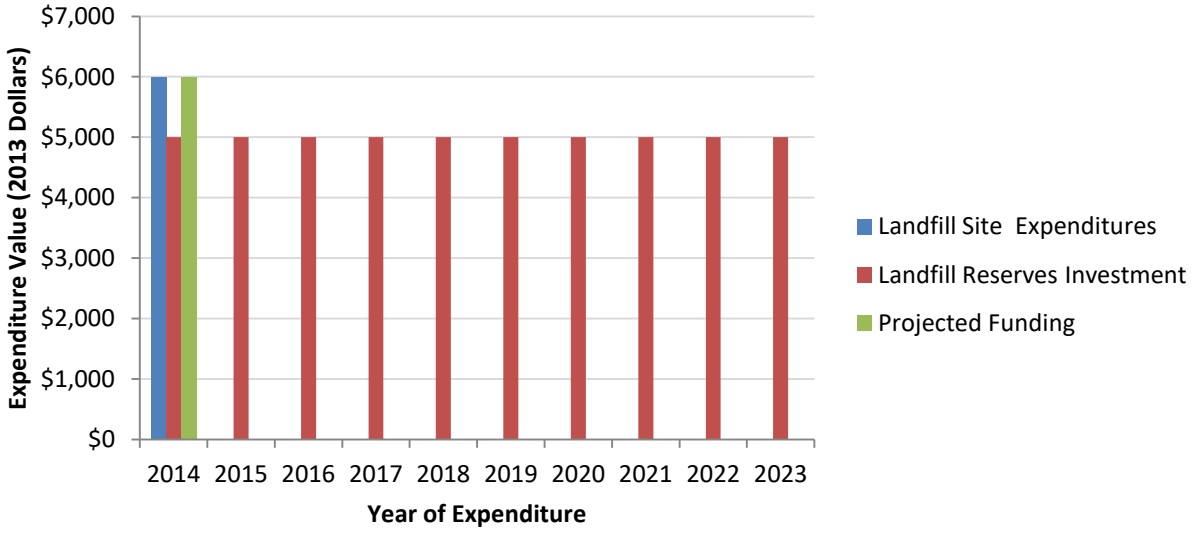

Figure 21 – Landfill 10 Year Capital Expenditures

The figure above can be described as:

- *Expenditure Forecast Without Grants (2014) → $ 6,000.00*
  Based on actual budget plans
- *Expenditure Forecast With Grants (2014) → $ 6,000.00*

Projection of the average spent over the past three years, including government grants.

- Total Recommended Investment – including reserves (2014) → $ 5,600.00
- Expected Shortfall (2014) → N/A

6.7 WHARF/MARINA

Reinvestment in the Municipality's Wharf/Marina is critical to ensure residents and tourists have proper access to Cockburn Island. This facility provides the essential and critical infrastructure required for the movement of goods, people and services. It was calculated that the Municipality should be reinvesting an average of $30,000.00 per year to repair, and replace various items. It is recommended that an additional $62,094.00 per year be put aside into a reserve fund for long term planning purposes, beyond the 10-year plan.

Over the past three years, the Municipality has not invested significantly in the Wharf/Marina however several large expenditures are required. It is hoped a major effort to improve the Wharf/Marina can take place soon. The table below outlines a forecast of the required annual expenditures into the landfill for the 10-year period of 2014 through 2023 as well as the anticipated shortfall in required spending for this asset type.

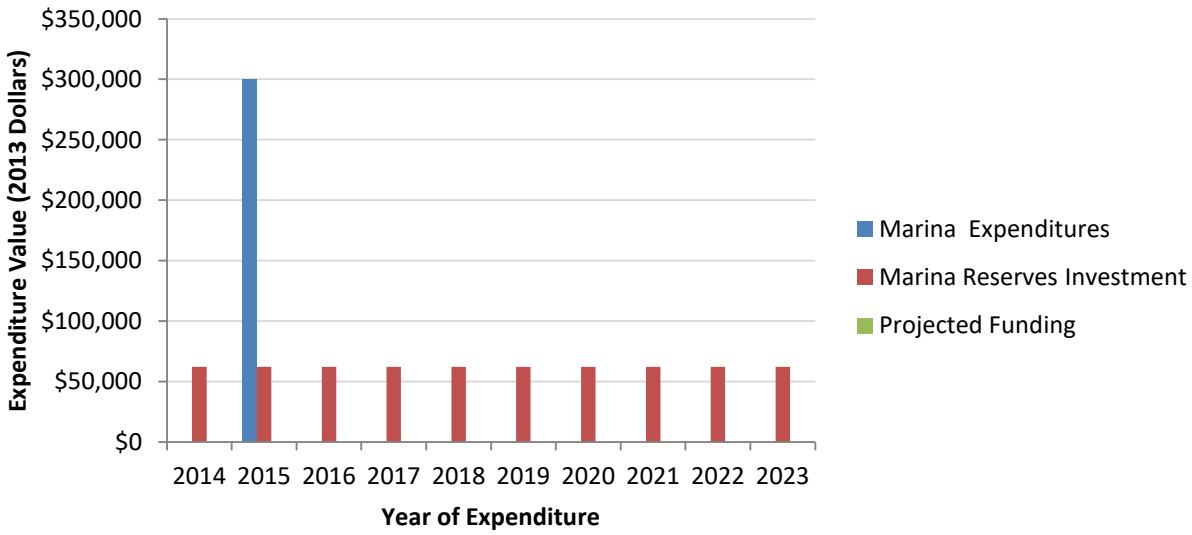

Figure 22 – Wharf/Marina 10 Year Capital Expenditures

The previous above can be described as:

- *Expenditure Forecast Without Grants (2014) → $ 0.00 /year*
  Projection of the average spent over the past three years, without accounting for government grants.
- *Expenditure Forecast With Grants (2014)* → $ 0.00 /year
  Projection of the average spent over the past three years, including government grants.
- Total Recommended Investment – including reserves (2014) → $ 62,094.12
- Expected Shortfall (2014) → $ 62,094.12

7.0 CLOSURE

This comprehensive asset management plan will require on-going updates, and improvements to the methodologies of data collection for developing more accurate inventory information. The ability for the Municipality to leverage its knowledge of infrastructure and by applying the best Asset Management practices at the time will result in very positive improvements in municipal infrastructure. This document will also provide the means to effectively apply for external funding opportunities as they may become available.

The Municipality has significant backlog of projects, the implementation of this plan will require the Municipality to find additional funds from various sources. Continued contribution of municipal funds, as well as contributions from Government grants into capital projects will help ensure the sustainability of the Municipality's infrastructure assets for years to come.

QUALIFICATIONS

This comprehensive asset management plan has been prepared for the exclusive use of the Township of Cockburn Island by Tulloch Engineering Inc. This plan is intended to be a living document, updated on a biennial basis to project future costs and expenditures on a planning basis only. This plan is not intended to establish exact annual budgets but rather act as a tool and guide for identifying cost estimates and priority projects. All cost projections presented in this report must be verified through detailed cost estimation at time of consideration for the works and subsequent budgeting.

ACKNOWLEDGEMENT OF SUPPORT

The Township of Cockburn Island acknowledges the financial support of the Ontario Ministry of Agriculture, Food and Rural Affairs in the preparation of this comprehensive asset management plan. The views expressed in this plan are the views of the Township of Cockburn Island and do not necessarily reflect those of Ontario Ministry of Agriculture, Food and Rural Affairs.

8.0 DEFINITIONS

AMP – Asset Management Plan

AADT – Average Annual Daily Traffic Count

Expenditure Forecast – Average Annual Historic Expenditure projected over 10 years with inflation;

Guide – Ministry of Infrastructure – *Building Together – Guide for Municipal Asset Management Plans*

Historic Expenditure – Average of expenditures made over the past three years

CONTINUING RECORD OF REVISIONS MADE

TO THE

TOWNSHIP OF COCKBURN ISLAND ASSET MANAGEMENT PLAN

This page should be retained permanently in this page sequence in the asset management plan. All revised material should be inserted as soon as approved and the relevant entries made by hand in the spaced provided below to show who incorporated the Revision and the date it was completed.

Revision		Entered By	Date	
No.	Dated			
01-2016	Sept 26, 2016	B St. Denis	Sept 26, 2016	Dock
01-2018	April 17, 2018	B St. Denis	April 18, 2018	Heritage Buildings