

Township of Assiginack

ASSET MANAGEMENT PLAN

FINAL REPORT

July 2022



DFA Infrastructure International Inc.



DFA Infrastructure International Inc.

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July 29, 2022

Deb MacDonald, Treasurer/Deputy CAO
Township of Assiginack
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Re: Asset Management Plan - Final Report

We are pleased to submit the Final Asset Management Plan Report to the Township of Assiginack.

Please do not hesitate to contact us if you have any questions.

Respectfully Submitted by,

DFA Infrastructure International Inc.

A handwritten signature in dark ink, appearing to read 'Derek Ali', is written over a faint, light-colored signature line.

Derek Ali, MBA, P.Eng.
President

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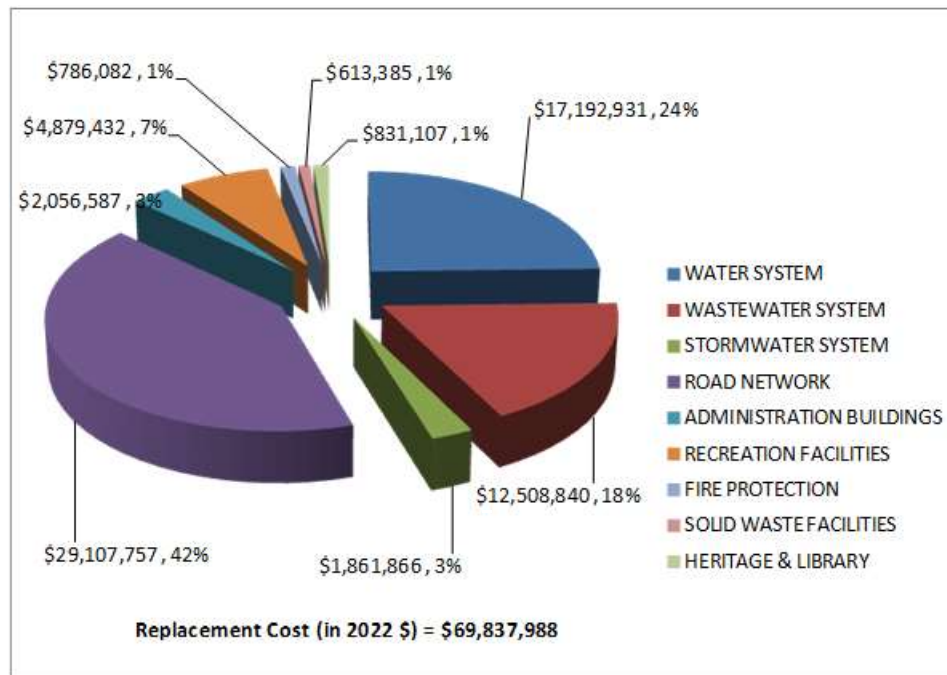
Disclaimer:

The information and statements contained in this report are based on the best available information at the time of preparation and intended use solely by the Township of Assiginack. The statements made shall not have any meaning other than those intended by the author. The author is not in any way liable for use and/or interpretation of the information contained in the document.

ES-1 Background

The Township of Assiginack is responsible for providing a range of services to its community. These services support the local life style and economy and rely on the performance of the respective assets to deliver the required levels of service. The asset classes covered by this Asset Management Plan (AMP) and their respective replacement values are included in Figure ES-1.

Figure ES-1: Replacement Cost Valuation of Assets (in 2022 Dollars)



ES-2 State of Infrastructure Report

The asset condition is rated as: good, fair and poor. Table ES-1 summarizes the asset condition for each asset class and shows the replacement cost in each condition category. In terms of replacement cost, the majority of the assets are in good condition, \$2.1 million (3%) of the assets are in fair condition and \$8.6 million (12%) in poor condition. The future infrastructure requirements are summarized in Table ES-2.

Table ES-1: Asset Condition by Replacement Value

Asset	Condition Rating			Total
	Good	Fair	Poor	
Watermains	\$ 4,125,221	\$ -	\$ -	\$ 4,125,221
Water Valves	\$ 228,900	\$ -	\$ -	\$ 228,900
Water Services	\$ 780,457	\$ -	\$ -	\$ 780,457
Water Hydrants	\$ 364,000	\$ -	\$ -	\$ 364,000
Water Facilities	\$ 11,688,744	\$ 5,609	\$ -	\$ 11,694,353
Total Water System	\$ 17,187,322	\$ 5,609	\$ -	\$ 17,192,931
Percentage (%)	99.97%	0.03%	0%	100%
Wastewater Mains	\$ 3,754,793	\$ -	\$ -	\$ 3,754,793
Service Connections	\$ 786,783	\$ -	\$ -	\$ 786,783
Manholes	\$ 485,644	\$ -	\$ -	\$ 485,644
Force Mains	\$ 1,120,869	\$ -	\$ -	\$ 1,120,869
Wastewater Facilities	\$ 2,292,074	\$ -	\$ 4,068,676	\$ 6,360,750
Total Wastewater System	\$ 8,440,164	\$ -	\$ 4,068,676	\$ 12,508,840
Percentage (%)	67%	0%	33%	100%
Storm Mains	\$ 1,673,199	\$ -	\$ -	\$ 1,673,199
Manholes	\$ 108,726	\$ -	\$ -	\$ 108,726
Catch Basins	\$ 79,941	\$ -	\$ -	\$ 79,941
Total Stormwater System	\$ 1,861,866	\$ -	\$ -	\$ 1,861,866
Percentage (%)	100%	0%	0%	100%
Roads & Bridges	\$ 25,699,843	\$ 736,571	\$ 281,410	\$ 26,717,824
Vehicles and Equipment	\$ 425,175	\$ 414,692	\$ 1,027,359	\$ 1,867,226
Road Facilities	\$ 15,932	\$ -	\$ 350,349	\$ 366,281
Sidewalks & Streetlights	\$ 156,426	\$ -	\$ -	\$ 156,426
Total Road Network	\$ 26,297,376	\$ 1,151,263	\$ 1,659,118	\$ 29,107,757
Percentage (%)	90%	4%	6%	100%
Administration	\$ 1,433,822	\$ 577,765	\$ 45,000	\$ 2,056,587
Total Administration Assets	\$ 1,433,822	\$ 577,765	\$ 45,000	\$ 2,056,587
Percentage (%)	70%	28%	2%	100%
Recreation	\$ 2,810,523	\$ 150,951	\$ 1,917,958	\$ 4,879,432
Total Recreation Assets	\$ 2,810,523	\$ 150,951	\$ 1,917,958	\$ 4,879,432
Percentage (%)	58%	3%	39%	100%
Fire Protection	\$ 390,288	\$ 102,401	\$ 293,393	\$ 786,082
Total Fire Protection Assets	\$ 390,288	\$ 102,401	\$ 293,393	\$ 786,082
Percentage (%)	50%	13%	37%	100%
Solid Waste	\$ 556,054	\$ 57,331	\$ -	\$ 613,385
Total Solid Waste Assets	\$ 556,054	\$ 57,331	\$ -	\$ 613,385
Percentage (%)	91%	9%	0%	100%
Heritage & Library	\$ -	\$ -	\$ -	\$ -
Total Heritage & Library Assets	\$ 234,531	\$ -	\$ 622,377	\$ 856,908
Percentage (%)	27%	0%	73%	100%
Total Assets	\$ 59,211,946	\$ 2,045,320	\$ 8,606,522	\$ 69,863,789
Percentage (%)	85%	3%	12%	100%

Table ES-2: Infrastructure Requirements

Assets	Total Replacement Costs (\$2022)	25-Year Requirement (2022-2046)	%	Requirement Beyond 25 years (>2046)	%	Annual Lifecycle Replacement
Water Mains	\$ 4,125,221	\$ -		\$ 4,125,221		\$ 238,424
Water Valves	\$ 228,900	\$ -		\$ 228,900		\$ 13,050
Water Services	\$ 780,457	\$ -		\$ 780,457		\$ 44,742
Water Hydrants	\$ 364,000	\$ -		\$ 364,000		\$ 20,604
Water Facilities	\$ 11,694,353	\$ 3,981,426		\$ 7,712,927		\$ 405,704
Total Water System	\$ 17,192,931	\$ 3,981,426	9%	\$ 13,211,505	50%	\$ 722,524
Wastewater Mains	\$ 3,754,793	\$ -		\$ 3,754,793		\$ 213,553
Wastewater Laterals	\$ 786,783	\$ -		\$ 786,783		\$ 44,748
Wastewater Manholes	\$ 485,644	\$ -		\$ 485,644		\$ 27,621
Wastewater Force Mains	\$ 1,120,869	\$ -		\$ 1,120,869		\$ 59,174
Wastewater Facilities	\$ 6,360,750	\$ 6,360,750		\$ -		\$ -
Total Wastewater System	\$ 12,508,840	\$ 6,360,750	15%	\$ 6,148,090	23%	\$ 345,096
Stormwater Mains	\$ 1,673,199	\$ -		\$ 1,673,199		\$ 92,823
Stormwater Manholes	\$ 108,726	\$ -		\$ 108,726		\$ 6,184
Stormwater Catch Basins	\$ 79,941	\$ -		\$ 79,941		\$ 4,547
Total Storm Water System	\$ 1,861,866	\$ -	0%	\$ 1,861,866	7%	\$ 103,554
Roads & Bridges	\$ 26,717,824	\$ 24,809,075		\$ 1,908,750		\$ 111,912
Road Vehicles and Equipment	\$ 1,867,226	\$ 1,867,226		\$ -		\$ -
Road Facilities	\$ 366,281	\$ 350,349		\$ 15,932		\$ 842
Sidewalks & Street Lights	\$ 156,426	\$ 156,426		\$ -		\$ -
Total Road Network	\$ 29,107,757	\$ 27,183,076	62%	\$ 1,924,682	7%	\$ 112,754
Administration	\$ 2,056,587	\$ 1,083,310	2%	\$ 973,277	4%	\$ 57,696
Recreation	\$ 4,879,432	\$ 2,925,734	7%	\$ 1,953,698	7%	\$ 109,229
Fire Protection	\$ 786,082	\$ 786,082	2%	\$ -	0%	\$ -
Solid Waste	\$ 613,385	\$ 613,385	1%	\$ -	0%	\$ -
Heritage & Library	\$ 856,908	\$ 666,413	2%	\$ 190,495		\$ 10,154
Total Assets	\$ 69,863,789	\$ 43,600,176	100%	\$ 26,263,613	99%	\$ 1,461,005

ES-3 Preferred Asset Management Strategy

The Township's AMP includes the policy document already approved in 2019. The main components of the preferred strategy include the following:

The main components of this strategy include the following:

- A mix of rehabilitation and replacement of assets. Rehabilitation is considered for assets where the risk to the operation and/ or service is acceptable when compared to replacement;
- Addressing the assets that are deemed to be in fair or poor condition as soon as possible;
- Increasing the wastewater annual operations budget by \$5000 to allow for CCTV inspections
- Rely on the inspections and annual needs identified by the water and wastewater system operator to guide the decisions on items to be addressed and budgets
- Providing an annual budget within the water capital program for water facilities rehabilitation as identified annually by the operation contractor. The amounts in 2022 dollars are \$100,000 annually until 2028 then increasing to approximately \$188,000 between 2029 and 2046. These annual amounts intended to provide ongoing funding to address condition issues as they arise.
- Providing a similar annual budget for wastewater of \$50,000 over the 25-year period.
- Addressing all of the road surface needs in the 25- year period through an annual program over the next 25 years. The annual capital provision is approximately \$410,000 starting in 2023. The current annual funding level is \$200,000. This approach considers road rehabilitation as the

primary activity with replacement as needed based on inspections. Major road replacement is expected to be deferred to future years due to the annual rehabilitation program;

- Providing an additional maintenance budget of \$30,000 annually within the roads operating budget in lieu of major vehicle and equipment replacement given that most have exceeded their respective useful lives but are expected to remain in service for the next several years.
- Provisions for the following building inspections to assess rehabilitation needs:
 - ✓ Public works garage and firehall - \$35,000 in 2025
 - ✓ Arena - \$40,000 in 2024
 - ✓ Docks - \$20,000 in 2027
 - ✓ Museum - \$30,000 in 2023
 - ✓ Log Buildings - \$20,000 in 2024
- Rehabilitation of buildings based on inspections and deferral of replacement. This includes undertaking the rehabilitation work recommended by in the respective inspection reports for the post office/ bank building and Burns Wharf Theatre.
- No provision for replacement of the landfill bins based on the assumption that the Township would no longer be responsible for the drop off depot under the new recycling regulations (O.Reg. 391/21) which transfers responsibility to packaging producers on April 1, 2025.

ES-4 Financial Strategy

The water system and wastewater system costs, including any asset related costs, are recovered through user rates. These are flat fees which are set by the Township each year for water and wastewater. The annual revenues required over the 25-year period through these rates are presented in Appendix G. Table 5-1 summarizes the short-term revenue requirements i.e. for the next 5 years for the water system. Table 5-2 shows the short-term wastewater revenue requirements. Table 5-3 shows the requirements for the tax supported assets.

Table 5-1: Short-Term Water Rate Revenue Requirements

Water System Financial Projections

Cost / Revenue Item	2023	2024	2025	2026	2027
Township 5-Year Capital Forecast	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Rehabilitation	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927
Asset Replacement	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Requirements	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927
Debt Financing	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 13,000	\$ 16,090	\$ 19,273	\$ 22,551	\$ 25,927
Other Financing (Grants, third party, etc.)	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000
Total Capital Financing	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927
Operations & Maintenance	\$ 286,756	\$ 292,441	\$ 298,240	\$ 304,154	\$ 310,187
Transfers to Capital Reserves	\$ 38,000	\$ 52,000	\$ 67,000	\$ 83,000	\$ 100,000
Debt Repayment	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000
Less Non-Rate Revenues	\$ 75,324	\$ 75,450	\$ 75,579	\$ 75,711	\$ 75,845
Revenue Requirements (from Users)	\$ 320,432	\$ 339,990	\$ 360,660	\$ 382,443	\$ 405,342
Annual Increase (\$)	\$ 15,250	\$ 19,559	\$ 20,670	\$ 21,783	\$ 22,899
Annual Increase (%)	6%	6%	6%	6%	6%

Table 5-2: Short-Term Wastewater Rate Revenue Requirements

Waste Water System Financial Projections					
Cost / Revenue Item	2023	2024	2025	2026	2027
Township 5-Year Capital Forecast	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Rehabilitation	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964
Asset Replacement	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Requirements	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964
Debt Financing	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 6,500	\$ 8,045	\$ 9,636	\$ 11,275	\$ 12,964
Other Financing (Grants, third party, etc.)	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
Total Capital Financing	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964
Operations & Maintenance	\$ 128,935	\$ 131,464	\$ 134,043	\$ 136,674	\$ 139,357
Transfers to Capital Reserves	\$ 24,064	\$ 24,064	\$ 24,064	\$ 24,064	\$ 24,064
Debt Repayment	\$ -	\$ -	\$ -	\$ -	\$ -
Less Non-Rate Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Requirements (from Users)	\$ 152,999	\$ 155,528	\$ 158,107	\$ 160,738	\$ 163,422
Annual Increase (\$)	\$ 16,445	\$ 2,529	\$ 2,579	\$ 2,631	\$ 2,683
Annual Increase (%)	12%	2%	2%	2%	2%

Table 5-3: Short-Term Tax Levy Requirements

Tax Supported Services Financial Projections					
Cost / Revenue Item	2023	2024	2025	2026	2027
Township 5-Year Capital Forecast	\$ 365,650	\$ 272,863	\$ 420,649	\$ 284,006	\$ 225,461
Asset Rehabilitation	\$ 576,489	\$ 593,784	\$ 666,234	\$ 629,945	\$ 648,843
Asset Replacement	\$ 766,993	\$ 8,897	\$ 1,291,924	\$ 55,430	\$ -
Total Capital Requirements	\$ 1,709,132	\$ 875,544	\$ 2,378,806	\$ 969,381	\$ 874,305
Debt Financing	\$ -	\$ -	\$ 2,233,245	\$ -	\$ -
Capital Reserve Financing	\$ 1,627,826	\$ 794,238	\$ 64,255	\$ 888,076	\$ 792,999
Other Financing (Grants, third party, etc.)	\$ 81,305	\$ 81,305	\$ 81,305	\$ 81,305	\$ 81,305
Total Capital Financing	\$ 1,709,132	\$ 875,544	\$ 2,378,805	\$ 969,381	\$ 874,305
Operations & Maintenance	\$ 4,018,597	\$ 4,128,569	\$ 4,210,740	\$ 4,294,555	\$ 4,380,046
Transfers to Capital Reserves	\$ 387,187	\$ 488,082	\$ 593,547	\$ 511,985	\$ 631,575
Debt Repayment	\$ 31,360	\$ -	\$ -	\$ 193,902	\$ 193,902
Less Non-Tax Revenues	\$ 1,411,644	\$ 1,439,877	\$ 1,468,675	\$ 1,498,048	\$ 1,528,009
Revenue Requirements (from Taxpayers)	\$ 3,025,499	\$ 3,176,774	\$ 3,335,613	\$ 3,502,394	\$ 3,677,513
Annual Increase (\$)	\$ 144,071	\$ 151,275	\$ 158,839	\$ 166,781	\$ 175,120
Annual Increase (%)	5%	5%	5%	5%	5%

ES-5 Recommendations

The following are the recommendations:

1. That the current Asset Management policy be updated by the Township prior to July 1, 2024;
2. That the levels of service targets presented in Section 3 be adopted by the Township;
3. That the preferred Asset Management Strategy presented in Section 4 be adopted by the Township; and
4. That the Financial Strategy presented in Section 5 be adopted by the Township to support the asset management strategy

1 Introduction

The Township of Assiginack (Township) has a population of approximately 1,008 (Statistics Canada 2021 Census) and provides a range of services to support the local life style and economy. It relies on the performance of its assets to deliver the required levels of service. These include the following assets which are included in this Asset Management Plan (AMP):

- Water System Assets (treatment plant, mains, booster stations etc.);
- Wastewater System Assets (treatment plant, mains, sewage pumping stations etc.);
- Storm Water System Assets (mains, manholes, catch basins etc.);
- Road Network Assets (Buildings, road base, road surface, vehicles, equipment etc.);
- Fire Protection Assets (vehicles, equipment, etc.)
- Solid Waste Management System Assets (landfill, building etc.); and
- Administration Buildings (municipal office, post office, bank, etc.)
- Heritage & Library Buildings (museum, theatre, school house, etc.)

A complete listing of the assets included in the AMP is provided in Section 2.1. The condition of these assets due to aging and deterioration could have a major impact on service delivery if it goes unchecked. Sufficient investments are required to ensure that these assets are maintained, rehabilitated and/or replaced in a timely fashion to ensure that services are delivered at the desired levels. The importance of the assets (i.e. consequence of failure), their respective needs based on existing condition and using appropriate solutions must be considered in determining the most economical asset management strategy. The required investment amounts would be included the future annual operating and capital budgets. The financing of these expenditures through an appropriate financial plan that includes a combination of taxes, user rates, reserves and debt must also be developed to support the asset management strategy having regard to the Township's financial policies, debt capacity and affordability.

1.1 Regulatory Requirements

O.Reg. 588/17 requires municipalities to prepare asset management plans for their core services assets by July 1, 2022 and all other assets by July 1, 2023. The core assets are those related to water, wastewater, stormwater and roads. An asset management policy was also required by July 1, 2019. The following is a general overview of the items that asset management plans must include.

- The municipality's asset management policy that was prepared on July 1, 2019 to be updated every 5 years
- The current level of service for each asset category
- The proposed levels of service for the 10-year period following the date of the asset management plan and an explanation of options, risks, achievability and affordability
- Current performance of each asset category based on information from the most recent 2 years
- Proposed performance of the assets over the next 10 years

- A summary of the assets in each category, their replacement costs, average age, available condition information and the approach used to assess condition
- Options for the activities required to maintain the level of service for each asset category over their respective life cycles, the risks under each option and the lowest cost option
- A financial strategy
- Growth assumptions and potential impact on the lifecycle activities and the financial strategy
- The method for distributing the asset management plan to the public

The asset management plans must also be reviewed annually to assess progress with its implementation and identify any steps to address challenges faced. An update of the plan is required every 5 years.

1.2 Objectives

The purpose of the Asset Management Plan (AMP) is to meet the requirements of O.Reg.588/17 for both the core and non-core assets and serve as a “road map” covering the next 25 years (2022 to 2046) for the Township by:

- Assessing the condition of its assets;
- Identifying the maintenance, rehabilitation and replacement needs; and
- Having a plan to finance the work required to ensure that services continue to be delivered at the desired levels.

A 100-year asset renewal outlook is used to capture the full life cycle of the assets when identifying the timing of asset replacement and/or rehabilitation requirements and associated costs. Many of the assets have life expectancies that span decades so a 100-year timeframe ensures that the complete lifespan of each asset is captured. A 25-year life cycle cost projection as well as the annual amount required over the next 25 years for asset renewal beyond 2046 is included. This is intended to provide the full picture of “what is to come”. The AMP is based on the best available information provided by the Township and input from senior staff. It will require updating every 5 years as required under O.Reg. 588/17 to reflect changes to the asset condition data, Township priorities and financial opportunities over time.

Limitations of the AMP

This AMP is based on using the best information available to the Township and making assumptions using professional judgment to address the gaps. The limitations of this AMP include assumptions made regarding the following for some assets:

- Installation dates where these were not available;
- Use of age-based condition assessment for most assets in the absence of actual condition information;
- Estimates of costs based on professional judgment where cost information was unavailable;
- Timing of asset replacement and/ or rehabilitation based on the life expectancies noted in the Townships PSAB 3150 TCA records; and
- Debt financing rate and term and other financial rates

2 State of Local Infrastructure

2.1 Asset Inventory

Table 2-1: Asset Inventory

Service	Assets	Quantity
Water	Watermains	7114 Metres
	Valves	109 Units
	Services	235 Service Connections
	Hydrants	46 Units
	Buildings	Water Treatment 2 Plants
		2 Pump Stations
		2 Reservoirs
Wastewater	Wastewater Mains	5698 Metres
	Laterals	199 Lateral Connections
	Manholes	67 Units
	Forcemains	1701 Metres
	Buildings	1 Pumping Station
		2 Treatment Lagoons
Storm	Stormwater Mains	2116 Metres
	Manholes	15 Units
	Catch basins	32 Units
Road	Gravel	50,214 Metres
	Asphalt	6325 Metres
	Surface Treatment	41582 Metres
	Vehicles and Equipment	16 Vehicles/Equipment
	Buildings	Public Works Salt 1 Shed
		1 Coverall Vinyl Storage Building
		1 Public Works Garage and Fire Hall
Administration	Buildings	Municipal Office and 1 Library
		1 Post Office and Bank
		1 Hilly Grove Chapel
		1 Medical Clinic
		Log General
		1 Blacksmithing
		1 Museum
		1 Burn Warehouse
		1 Log Drive Shed
		1 Old Mill
		1 Log Pioneer
		1 Log Schoolhouse
		1 Information Booth
	Mechanical and Electrical Equipment	Unspecified Quantity Computers
Recreation	Land	- Area not Provided
	Buildings	1 Arena
		1 Marina
	Parks	Unspecified Quantity Parks and Sports Fields
Fire Protection	Vehicles	3 Fire Trucks/Vehicles
	Mechanical and Electrical Equipment	Unspecified Quantity Bunker Suits
		Unspecified Quantity FD Autoext. Equipment
Solid Waste	Landfill	1 Recycling Depot
		1 Landfill Site
		Unspecified Quantity Landfill Bins
Heritage & Library	Buildings	1 Library
		1 Log Heritage Building
		1 Theatre

The Township's asset inventory covered under this asset management plan is summarized in Table 2-1. This asset inventory was developed from the PSAB 3150 TCA data and refined based on discussions with the Township to ensure as much accuracy as possible.

The inventory forms part of the overall Asset Management and Financial Planning Model to establish the preferred asset management strategy and related financial strategy for the Township. It includes all of the relevant asset attributes and was segmented by service to facilitate cost recovery from taxes and the water and wastewater rates as appropriate.

The Township's ability to achieve and sustain its services at desired levels depends on the performance and condition of the assets related to the respective services. Therefore the timing of asset maintenance, rehabilitation and replacement activities is essential to sustaining performance so that service levels are maintained.

2.2 Financial Valuation

Two perspectives of the financial valuation of the Township's assets are presented below:

- *The Accounting Valuation.* This is based on historical costs and depreciation assumptions over the expected life of the asset; and
- *The Replacement Cost Valuation.* This is based on current industry pricing and inflation to the year of replacement and/ or rehabilitation.

2.2.1 Accounting Valuation

The Accounting Valuation is based on the Township's PSAB 3150 reporting at December 31, 2021 and assumes straight line depreciation over the useful life of the assets. The valuation of assets by service area is reflected in Table 2-2 which indicates the following:

- The total historical cost of the of all the assets is approximately \$29.8 million;
- The accumulated depreciation is approximately \$14.4 million which means that the total asset base (i.e. as a "basket of goods") is approximately 49% through its life expectancy; and
- The Net Book Value (NBV) of the asset base is approximately \$15.1 million.

The assets have approximately 51% of their expected life remaining. The water system and recreation facilities are the newest. However, the road network and fire protection assets are estimated to have only 22% of their expected life remaining.

Table 2-2: Accounting Valuation of Assets

Asset Class	Historical Cost	Accumulated Amortization	Net Book Value (December 31, 2021)	Remaining Life (%)
WATER SYSTEM	\$ 10,429,832	\$ 3,553,429	\$ 6,876,403	66%
WASTEWATER SYSTEM	\$ 4,938,017	\$ 2,925,603	\$ 2,012,414	41%
STORMWATER SYSTEM	\$ 382,679	\$ 180,514	\$ 202,164	53%
ROADS NETWORK	\$ 7,843,709	\$ 4,942,998	\$ 2,523,418	32%
ADMINISTRATION BUILDINGS	\$ 1,500,050	\$ 614,887	\$ 885,163	59%
RECREATION FACILITIES	\$ 3,328,244	\$ 1,287,651	\$ 2,040,593	61%
FIRE PROTECTION	\$ 578,163	\$ 393,676	\$ 186,252	32%
SOLID WASTE FACILITIES	\$ 488,017	\$ 277,223	\$ 210,794	43%
HERITAGE & LIBRARY	\$ 331,093	\$ 190,747	\$ 142,603	43%
TOTAL	\$ 29,819,805	\$ 14,366,731	\$ 15,079,804	51%

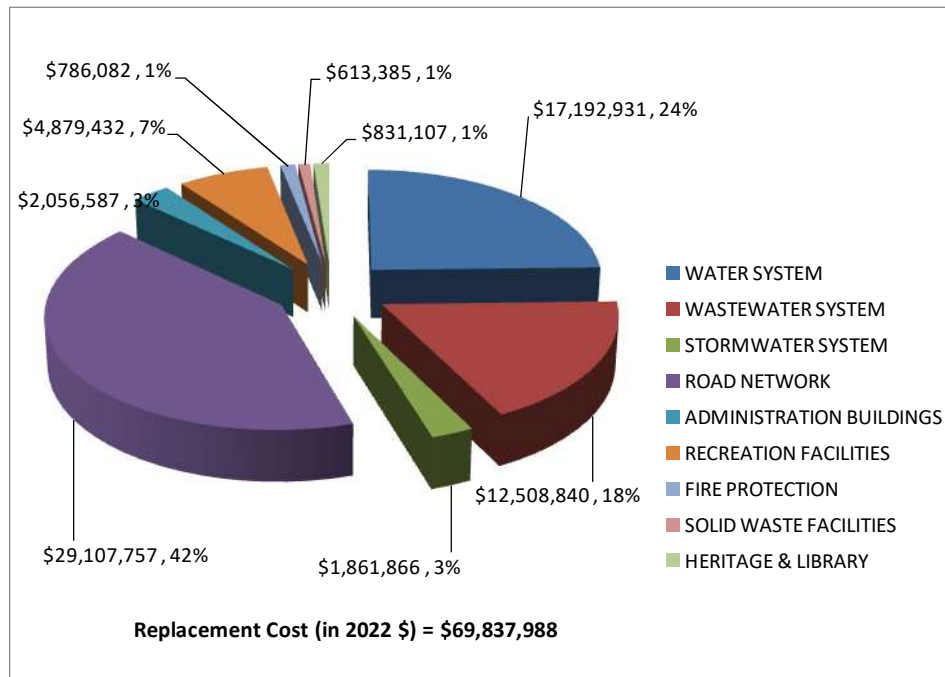
2.2.2 Replacement Cost Valuation

The Replacement Cost Valuation is based on a combination of industry prices for the infrastructure assets and indexing historical costs to current year for vehicles and buildings to reflect the replacement value in 2022 Dollars. The 2022 replacement value is indexed using an annual capital inflation rate of 3% to the year in which future replacement and/ or rehabilitation work is expected to be undertaken.

Figure 2-1 shows the replacement value of the assets by service. The total replacement value of all the assets is estimated to be approximately \$70 million in 2022 dollars. This is the estimated cost that would be incurred if the Township were to replace all of its assets today. The Road network accounts for most of the value at approximately \$30 million (42% of total assets) followed by the Water System at \$17 million (19%) and the Wastewater System at 12.5 million (18%).

The replacement cost valuation is almost five (5) times higher than the accounting valuation (NBV) of the assets. Therefore the replacement costs valuation, which is a more realistic estimate of actual costs that can be expected, is used for asset management planning as the Township looks to the future.

Figure 2-1: Replacement Cost Valuation of Assets (in 2022 Dollars)



2.3 Asset Age

2.3.1 Water System Age

The age of the water system is summarized in Table 2-3. It consists of 7 kilometres of water main, 109 valves, 235 service connections, 52 hydrants and 16 facilities components.

Table 2-3: Water System Age

Water System Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
Watermains by Diameter (mm)												
100	-	-	-	-	2,356	-	-	-	-	-	2,356	33.12%
150	-	100	-	-	3,894	-	-	-	-	-	3,994	56.14%
200	-	-	-	-	624	-	-	-	-	-	624	8.77%
250	-	-	-	-	140	-	-	-	-	-	140	1.97%
Length (m) by Age	-	100	-	-	7,014	-	-	-	-	-	7,114	
Percent (%) by Age	0.00%	1.41%	0.00%	0.00%	98.59%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Watermains by Material												
PVC CL-160	0	-	-	-	7,014	-	-	-	-	-	7,014	100.00%
Length (m) by Age	0	-	-	-	7,014	-	-	-	-	-	7,014	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Water Valves												
No. of Units by Age	-	-	-	-	109	-	-	-	-	-	109	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Service Connections												
No. of Units by Age	-	-	-	-	235	-	-	-	-	-	235	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Hydrants												
No. of Units by Age	-	7	-	-	45	-	-	-	-	-	52	
Percent (%) by Age	0.00%	13.46%	0.00%	0.00%	86.54%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Water Facilities												
No. of Components by Age	6	10	-	-	-	-	-	-	-	-	16	
Percent (%) by Age	37.50%	62.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%

The pipe system is all PVC ranging in diameter from 100mm to 250 mm. Approximately 2.4 km (33%) is 100mm and 4 km (56%) is 150mm. The water system is 41 to 50 years old with some hydrants and facilities less than 20 years old. This suggests that the water system is generally at half its life expectancy which is projected to be approximately 80 years.

2.3.2 Wastewater System Age

The age of the water system is summarized in Table 2-4. It consists of 5.6 kilometres of sanitary sewer main, 1.7 kilometres of forcemain, 67 manholes, 199 service connections and 6 facilities or components.

Most of the pipe system (approximately 5.2 kilometres or (93%) is asbestos cement. Approximately 5.1 km (91%) is 200mm and the remainder 150mm. These are all between 41 and 50 years old. All of the forcemains are 150mm diameter PVC pipe and 10 to 20 years old. Three (3) facilities are 41 to 50 years old and 1 less than 20 years old. This suggests that the wastewater system is generally just over half of its life expectancy which is estimated at approximately 80 years.

Table 2-4: Wastewater System Age

Sanitary System Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
Sanitary Mains by Diameter (mm)												
200	-	-	-	-	5,181	-	-	-	-	-	5,181	90.92%
300	-	-	-	-	425	-	-	-	-	-	425	7.46%
Unknown	-	-	-	-	92	-	-	-	-	-	92	1.62%
Length (m) by Age	-	-	-	-	5,698	-	-	-	-	-	5,698	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Sanitary Mains by Material												
Abs-Cem	-	-	-	-	5,230	-	-	-	-	-	5,230	93.21%
Concrete C76	-	-	-	-	254	-	-	-	-	-	254	4.53%
Ductile Iron	-	-	-	-	5	-	-	-	-	-	5	0.09%
PE	-	-	-	-	122	-	-	-	-	-	122	2.17%
Length (m) by Age	-	-	-	-	5,611	-	-	-	-	-	5,611	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Sanitary Laterals												
Length (m) by Age	-	-	-	-	199	-	-	-	-	-	199	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Sanitary Manholes												
No. of Units by Age	-	-	-	-	67	-	-	-	-	-	67	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Force Mains by Diameter (mm)												
150	-	1,701	-	-	-	-	-	-	-	-	1,701	100.00%
Length (m) by Age	-	1,701	-	-	-	-	-	-	-	-	1,701	
Percent (%) by Age	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Force Mains by Material												
PVC CL160	-	1,701	-	-	-	-	-	-	-	-	1,701	100.00%
Length (m) by Age	-	1,701	-	-	-	-	-	-	-	-	1,701	
Percent (%) by Age	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Sanitary Facilities												
No. of Components by Age	0	1	0	0	3	0	0	0	0	0	4	
Percent (%) by Age	0.00%	25.00%	0.00%	0.00%	75.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%

2.3.3 Roads Network Age

The age of the road system is summarized in Table 2-5. It consists of approximately 98 kilometres of surface treated, asphalt and gravel road, 4 facilities and 20 vehicles and equipment units.

Approximately 50 km (51%) of the roads is gravel, 41 km (42%) surface treated and 6 km (6%) asphalt. Most (62km or 63%) of the road surfaces are 51 to 60 years old. Most of the asphalt surfaces (4.5 km), 21 km (50%) of the surface treated surfaces and 39.4km (78%) of the gravel surfaces fall in this age group. This suggests that many of the road surfaces have exceeded their life expectancy which is estimated at approximately 20 to 40 years depending on surface type. Most of the vehicles and equipment are less than 20 years old but beyond their estimated life expectancy of 5 to 10 years. 3 facilities are 51 to 60 years old.

Table 2-5: Road Network Age

Road System Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
Road Surface												
Surface Treatment	2,245	18,350	-	-	37	20,950	-	-	-	-	41,582	42.38%
Asphalt	3,700	840	475	-	-	1,310	-	-	-	-	6,325	6.45%
Gravel	-	10,720	-	-	84	39,410	-	-	-	-	50,214	51.18%
Length (m) by Age	5,945	29,910	475	-	121	61,670	-	-	-	-	98,121	
Percent (%) by Age	6.06%	30.48%	0.48%	0.00%	0.12%	62.85%	0.00%	0.00%	0.00%	0.00%		100.00%
Road Vehicles												
Equipment	5	7	3	1	0	1	0	0	0	0	17	85.00%
Vehicle	1	2	0	0	0	0	0	0	0	0	3	15.00%
Quantity by Age	6	9	3	1	0	1	0	0	0	0	20	
Percent (%) by Age	30.00%	45.00%	15.00%	5.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Road Facilities												
No. of Facilities by Age	0	0	0	0	0	3	0	0	1	0	4	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	0.00%	75.00%	0.00%	0.00%	25.00%	0.00%		100.00%

2.3.4 Stormwater System Age

The age of the storm water system is summarized in Table 2-6. It consists of approximately 2.1 kilometres of storm sewer main, 15 manholes, and 32 catch basins.

Table 2-6: Stormwater System Age

Stormwater System Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
Stormwater Mains by Diameter (mm)												
300	-	-	-	-	631	-	-	-	-	-	631	29.82%
375	-	-	-	-	129	-	-	-	-	-	129	6.10%
450	-	600	-	-	102	-	-	-	-	-	702	33.18%
525	-	-	-	-	102	-	-	-	-	-	102	4.82%
750	-	-	-	-	102	-	-	-	-	-	102	4.82%
900	-	450	-	-	-	-	-	-	-	-	450	21.27%
Length (m) by Age	-	1,050	-	-	1,066	-	-	-	-	-	2,116	
Percent (%) by Age	0.00%	49.62%	0.00%	0.00%	50.38%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Stormwater Mains by Material												
PVC	-	1,050	-	-	1,066	-	-	-	-	-	2,116	100.00%
Length (m) by Age	-	1,050	-	-	1,066	-	-	-	-	-	2,116	
Percent (%) by Age	0.00%	49.62%	0.00%	0.00%	50.38%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Stormwater Manholes												
No. of Units by Age	0	-	-	-	15	-	-	-	-	-	15	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
Stormwater Catch Basins												
No. of Units by Age	-	-	-	-	32	-	-	-	-	-	32	
Percent (%) by Age	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%

The pipes are all PVC with approximately 50% less than 20 years old and 50% in the 41 to 50 age group along with the manholes and catch basins. This suggests that the storm water system is generally just beyond half of its life expectancy which is estimated at approximately 80 years.

2.3.5 Administration Facilities Age

The age of the administration facilities is summarized in Table 2-7. Approximately assets (73%) are less than 20 years old. This suggests the building assets are early stages in their life expectancy estimated 20 to 50 years.

Table 2-7: Administration Facilities Age

Administration Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
Administration												
Quantity by Age	3	8	1	2	0	0	0	0	1	0	15	
Percent (%) by Age	20.00%	53.33%	6.67%	13.33%	0.00%	0.00%	0.00%	0.00%	6.67%	0.00%		100.00%

2.3.6 Recreation Facilities Age

The age of the recreation facilities is summarized in Table 2-8. Most of these assets (14 or 54%) are less than 10 years old. 7 (27%) are between 10 and 20 years old. The structural components are approaching their estimated useful lives of 50 years. The mechanical and electrical components are between 20% and 40% of their useful lives of 20 years.

Table 2-8: Recreation Facilities Age

Recreation Assets	Age (Years)										Total Length (m) or Units	Percent (%)
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
Recreation Assets												
Quantity by Age	14	7	1	0	1	3	0	0	0	0	26	
Percent (%) by Age	53.85%	26.92%	3.85%	0.00%	3.85%	11.54%	0.00%	0.00%	0.00%	0.00%		100.00%

2.3.7 Fire Protection Equipment Age

The age of the fire protection equipment is summarized in Table 2-9. Note that the fire hall is part of the public works garage which is included under the roads facilities assets. 5 assets (50%) are less than 10 years old and 3 (30%) between 10 and 20 years old. One fire truck is almost 50 years old and another almost 30 years old. Their life expectancy is noted as 25 years.

Table 2-9: Fire Protection Assets Age

Fire Protection Assets	Age (Years)											
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown	Total Length (m) or Units	Percent (%)
Fire Protection Assets												
Quantity by Age	5	3	1	0	1	0	0	0	0	0	10	
Percent (%) by Age	50.00%	30.00%	10.00%	0.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%

2.3.8 Solid Waste Assets Age

The age of the solid waste facilities is summarized in Table 2-10. Most assets are less than 10 years old.

Table 2-10: Solid Waste Assets Age

Solid Waste Assets	Age (Years)											
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown	Total Length (m) or Units	Percent (%)
Solid Waste Assets												
No. of Components by Age	3	1	0	0	0	0	0	0	0	0	4	
Percent (%) by Age	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%

2.3.9 Library/ Heritage Facilities Age

The age of the library and heritage facilities is summarized in Table 2-11. 3 (33%) of the facilities are less than 10 years old. These are the library assets. Approximately 7 facilities (58%) comprising mainly the log buildings and the Burns Wharf Theatre are 71 to 80 years old. The Information Booth is approximately 51 years old. This indicates that most of the heritage assets are past their estimated life expectancy of 50 years.

Table 2-11: Library / Heritage Facilities Age

Solid Waste Assets	Age (Years)										Total Length (m) or Units Percent (%)	
	<10	10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	>80	Unknown		
Library & Heritage Assets												
No. of Components by Age	4	0	0	0	0	1	0	7	0	0	12	
Percent (%) by Age	33.33%	0.00%	0.00%	0.00%	0.00%	8.33%	0.00%	58.33%	0.00%	0.00%		100.00%

2.4 Asset Condition

The condition of each asset was determined based on age and adjusted as necessary using the condition assessment information from the 2008 Asset Management Study discussions with staff to identify any operational issues due to deteriorating asset condition and capital works completed since 2008. Recent condition information and discussions with staff to identify any issues were used to gauge asset condition. Age was used as the condition indicator in cases where condition information was not available. The asset condition is rated as: good, fair and poor. Table 2-12 summarizes the asset condition for each asset class and shows the replacement cost in each condition category. Further breakdown of the condition of each asset class is provided in Appendix A.

In terms of replacement cost, the majority of the assets are in good condition, \$2.1 million (3%) of the assets are in fair condition and \$8.6 million (12%) in poor condition. The condition by asset class is summarized as follows:

- *Water System* – Generally good condition except for the gantry crane which will reach useful life in. Operations personnel have also indicated that there are process components requiring ongoing repair and maintenance. An annual budget is included in the asset management plan to address these items.
- *Wastewater System* – Generally good condition except for sewage pumping station and treatment lagoon components valued at approximately \$4.1 million in poor condition;
- *Road Network* – The road network is generally in good condition except for approximately 1.3 km valued at approximately \$281,000 assessed to be in poor condition. However many road surfaces are expected to become due for replacement within the next 25 years. In terms of vehicles, equipment and facilities, 17 equipment units valued at approximately \$1.4 million and 3 facilities valued at approximately \$ 350,000 are in fair or poor condition;
- *Storm Water System* – Generally good condition;
- *Administration Facilities* – 6 (30%) of the 15 components (i.e. electrical, mechanical, structural, roof) valued at approximately \$691,000 are in mostly poor to fair condition. The other 70% are in good condition. The post office/ bank falls into this group based on age. However a 2021 inspection report recommends repair and rehabilitation work which is included in the financial strategy;
- *Recreation Facilities* – 8 (30%) of the assets (i.e. electrical, mechanical, structural, roof) valued at approximately \$2.1 million are in mostly poor to fair condition. The other 18 components are in good condition;
- *Fire Protection Equipment* – 6 of the 10 units valued at approximately \$396,000 is in fair to poor condition. These are mainly the fire trucks. The remaining units are in good condition;
- *Solid Waste Facilities* – Generally in good condition ; and
- *Library & Heritage Facilities* - The library assets are in generally good condition. However the log buildings and the Burns Wharf Theatre are in poor condition and need of repair. These are valued at approximately \$622,000. A condition assessment report outlining the rehabilitation requirements at the theatre was prepared in 2016. The theatre has been temporarily removed from service pending a decision by Council on whether or not to proceed with the work.

Table 2-12: Asset Condition by Replacement Value

Asset	Condition Rating			Total
	Good	Fair	Poor	
Watermains	\$ 4,125,221	\$ -	\$ -	\$ 4,125,221
Water Valves	\$ 228,900	\$ -	\$ -	\$ 228,900
Water Services	\$ 780,457	\$ -	\$ -	\$ 780,457
Water Hydrants	\$ 364,000	\$ -	\$ -	\$ 364,000
Water Facilities	\$ 11,688,744	\$ 5,609	\$ -	\$ 11,694,353
Total Water System	\$ 17,187,322	\$ 5,609	\$ -	\$ 17,192,931
Percentage (%)	99.97%	0.03%	0%	100%
Wastewater Mains	\$ 3,754,793	\$ -	\$ -	\$ 3,754,793
Service Connections	\$ 786,783	\$ -	\$ -	\$ 786,783
Manholes	\$ 485,644	\$ -	\$ -	\$ 485,644
Force Mains	\$ 1,120,869	\$ -	\$ -	\$ 1,120,869
Wastewater Facilities	\$ 2,292,074	\$ -	\$ 4,068,676	\$ 6,360,750
Total Wastewater System	\$ 8,440,164	\$ -	\$ 4,068,676	\$ 12,508,840
Percentage (%)	67%	0%	33%	100%
Storm Mains	\$ 1,673,199	\$ -	\$ -	\$ 1,673,199
Manholes	\$ 108,726	\$ -	\$ -	\$ 108,726
Catch Basins	\$ 79,941	\$ -	\$ -	\$ 79,941
Total Stormwater System	\$ 1,861,866	\$ -	\$ -	\$ 1,861,866
Percentage (%)	100%	0%	0%	100%
Roads& Bridges	\$ 25,699,843	\$ 736,571	\$ 281,410	\$ 26,717,824
Vehicles and Equipment	\$ 425,175	\$ 414,692	\$ 1,027,359	\$ 1,867,226
Road Facilities	\$ 15,932	\$ -	\$ 350,349	\$ 366,281
Sidewalks & Streetlights	\$ 156,426	\$ -	\$ -	\$ 156,426
Total Road Network	\$ 26,297,376	\$ 1,151,263	\$ 1,659,118	\$ 29,107,757
Percentage (%)	90%	4%	6%	100%
Administration	\$ 1,433,822	\$ 577,765	\$ 45,000	\$ 2,056,587
Total Administration Assets	\$ 1,433,822	\$ 577,765	\$ 45,000	\$ 2,056,587
Percentage (%)	70%	28%	2%	100%
Recreation	\$ 2,810,523	\$ 150,951	\$ 1,917,958	\$ 4,879,432
Total Recreation Assets	\$ 2,810,523	\$ 150,951	\$ 1,917,958	\$ 4,879,432
Percentage (%)	58%	3%	39%	100%
Fire Protection	\$ 390,288	\$ 102,401	\$ 293,393	\$ 786,082
Total Fire Protection Assets	\$ 390,288	\$ 102,401	\$ 293,393	\$ 786,082
Percentage (%)	50%	13%	37%	100%
Solid Waste	\$ 556,054	\$ 57,331	\$ -	\$ 613,385
Total Solid Waste Assets	\$ 556,054	\$ 57,331	\$ -	\$ 613,385
Percentage (%)	91%	9%	0%	100%
Heritage & Library	\$ -	\$ -	\$ -	\$ -
Total Heritage & Library Assets	\$ 234,531	\$ -	\$ 622,377	\$ 856,908
Percentage (%)	27%	0%	73%	100%
Total Assets	\$ 59,211,946	\$ 2,045,320	\$ 8,606,522	\$ 69,863,789
Percentage (%)	85%	3%	12%	100%

2.5 Infrastructure Requirements

Table 2-13 summarizes the infrastructure needs based on replacement for the study period i.e. 2022 – 2046 and beyond. This reflects the future costs facing the Township over the next 100 years. The assumptions made to develop these costs projections are included in Appendix B.

Approximately \$43.6 million is required between 2022 and 2046 and \$26.3 million beyond 2046. The latter amount translates to an annual requirement of approximately \$1.5 million to ensure that sufficient funds are available for replacement beyond 2046.

Approximately 62% (\$27.2 million) of the \$43.6 million requirement over the next 25 years is road related mostly resurfacing. Water accounts for approximately \$3.9 million (9%) and Wastewater \$6.4 million (15%).

Regarding the needs beyond 2037, water accounts for the majority of costs (50%) estimated at \$13.2 million and wastewater accounts for \$6.1 million (23%).

A Report Card reflecting the asset condition and projected costs is provided in Appendix C.

Table 2-13: Infrastructure Requirements (Next 25 years and beyond)

Assets	Total Replacement Costs (\$2022)	25-Year Requirement (2022-2046)	%	Requirement Beyond 25 years (>2046)	%	Annual Lifecycle Replacement
Water Mains	\$ 4,125,221	\$ -		\$ 4,125,221		\$ 238,424
Water Valves	\$ 228,900	\$ -		\$ 228,900		\$ 13,050
Water Services	\$ 780,457	\$ -		\$ 780,457		\$ 44,742
Water Hydrants	\$ 364,000	\$ -		\$ 364,000		\$ 20,604
Water Facilities	\$ 11,694,353	\$ 3,981,426		\$ 7,712,927		\$ 405,704
Total Water System	\$ 17,192,931	\$ 3,981,426	9%	\$ 13,211,505	50%	\$ 722,524
Wastewater Mains	\$ 3,754,793	\$ -		\$ 3,754,793		\$ 213,553
Wastewater Laterals	\$ 786,783	\$ -		\$ 786,783		\$ 44,748
Wastewater Manholes	\$ 485,644	\$ -		\$ 485,644		\$ 27,621
Wastewater Force Mains	\$ 1,120,869	\$ -		\$ 1,120,869		\$ 59,174
Wastewater Facilities	\$ 6,360,750	\$ 6,360,750		\$ -		\$ -
Total Wastewater System	\$ 12,508,840	\$ 6,360,750	15%	\$ 6,148,090	23%	\$ 345,096
Stormwater Mains	\$ 1,673,199	\$ -		\$ 1,673,199		\$ 92,823
Stormwater Manholes	\$ 108,726	\$ -		\$ 108,726		\$ 6,184
Stormwater Catch Basins	\$ 79,941	\$ -		\$ 79,941		\$ 4,547
Total Storm Water System	\$ 1,861,866	\$ -	0%	\$ 1,861,866	7%	\$ 103,554
Roads & Bridges	\$ 26,717,824	\$ 24,809,075		\$ 1,908,750		\$ 111,912
Road Vehicles and Equipment	\$ 1,867,226	\$ 1,867,226		\$ -		\$ -
Road Facilities	\$ 366,281	\$ 350,349		\$ 15,932		\$ 842
Sidewalks & Street Lights	\$ 156,426	\$ 156,426		\$ -		\$ -
Total Road Network	\$ 29,107,757	\$ 27,183,076	62%	\$ 1,924,682	7%	\$ 112,754
<i>Administration</i>	\$ 2,056,587	\$ 1,083,310	2%	\$ 973,277	4%	\$ 57,696
<i>Recreation</i>	\$ 4,879,432	\$ 2,925,734	7%	\$ 1,953,698	7%	\$ 109,229
<i>Fire Protection</i>	\$ 786,082	\$ 786,082	2%	\$ -	0%	\$ -
<i>Solid Waste</i>	\$ 613,385	\$ 613,385	1%	\$ -	0%	\$ -
<i>Heritage & Library</i>	\$ 856,908	\$ 666,413	2%	\$ 190,495		\$ 10,154
Total Assets	\$ 69,863,789	\$ 43,600,176	100%	\$ 26,263,613	99%	\$ 1,461,005

2.6 Asset Management Policy

The Township's asset management policy is provided in Appendix D. It presents the Township's vision, objectives and principles regarding asset management planning and related policies on the following:

- Stakeholder engagement
- Climate change
- Capitalization thresholds
- Budgeting
- Governance and continuous improvement

O.Reg. 588/17 requires that the policy be updated in 2024.

3 Levels of Service

The requirements of O.Reg. 588/17 form the basis for defining the expected service levels for the core asset classes. The levels of service for the non-core assets are at the Township's discretion. The Township's corporate strategic objectives related to service levels and their respective asset classes are not explicitly documented in a strategic plan. However the general objectives of providing services at levels that meet the community expectations and compliance with regulatory requirements are inherent in the Township's current levels of service.

Population growth is not expected to have a major influence on the asset needs based on the slight decline in population from 1,013 in 2016 to 1,008 in 2021 (Statistics Canada 2021 Census of Population).

The Township's road maintenance policy document entitled: "Minimum Maintenance Standards for Municipal Highways – Policy and Procedures" approved under By-Law 04-42 identifies the desired level of service for each road class. These standards are consistent with requirements of O.Reg. 239/02 which sets the minimum road maintenance service levels in Ontario. The current annual maintenance budget and staff resources allow the Township to meet these targets. However, additional capital funding is required annually to ensure that roads are kept in good condition do not deteriorate.

The service levels for the non-core assets are identified as the percentage of the asset class that is deemed to be in "poor" condition is zero such that the use of the asset is not restricted. It is recognized that these targets would be adjusted over time as more detailed asset condition information become available.

Appendix E identifies the Township's level of service by asset class and the requirements under O.Reg. 588/17. It shows the current service levels, the target (desired) service levels and performance measure for each asset class. These service level targets were reviewed and discussed with Township staff prior to finalization.

4 Asset Management Strategy

Two (2) alternative asset management strategies were identified based on a high level qualitative assessment of the potential likelihood and consequence of failure given the current asset condition in each system. The components of each strategy are summarized in Appendix F and generally include the following:

- Asset Management Strategy No.1. This strategy is generally based primarily on replacement of assets as they reach their respective life expectancies but includes maintenance activities;
- Asset Management Strategy No.2. This strategy is generally based on a combination of inspection, maintenance, rehabilitation and replacement of assets to offer a balanced approach. It focuses on the assets that are a priority from a condition perspective and uses rehabilitation as the primary approach to defer replacement to future years.

In addition each strategy includes the following components:

- Growth Considerations. Growth is expected to be through infilling and conversion of seasonal to permanent residential units and accommodated through the existing infrastructure capacity i.e. no infrastructure capacity expansions are anticipated. Therefore the preferred strategy does not attempt to dovetail replacement and/ or rehabilitation work with any infrastructure expansion that may be required in the future if and when a major new development is identified;
- Procurement. The Township's policy on group procurement on a case specific basis when there is a potential benefit to be derived would continue;
- Contracted Water & Wastewater Operations. The water and wastewater operations are currently outsourced. This allows the Township to access the required expertise, control costs and manage risks. Under the contract the Township is responsible for major capital expenditures and maintenance call outs that exceed the specified allocation in the contract. This arrangement is expected to continue in the future; and
- Operations and Maintenance. Increasing the annual wastewater operations and maintenance budget by \$5,000 to facilitate sewer inspections over time. Other water and wastewater maintenance would remain the same as these are covered under the operating contract and the existing budgets are sufficient to cover additional annual maintenance not included in the operations contract.

The life cycle costs of each alternative strategy were developed based on the projected capital, operating and maintenance costs over the life expectancy of each asset using the financial assumptions noted in Appendix B. The operating costs and non-rate revenue projections were based on the 2022 operating budget. The life cycle costs are presented in Appendix G.

4.1 Asset Management Strategy No.1

The main components of this strategy include the following:

- Replacement of assets as a priority over rehabilitation;
- Addressing the assets that are deemed to be in fair or poor condition as soon as possible;
- Addressing the road surface replacement needs as needed throughout the 25-year period;

- Replacement of buildings as their life expectancy expires.

4.2 Asset Management Strategy No.2

The main components of this strategy include the following:

- A mix of rehabilitation and replacement of assets. Rehabilitation is considered for assets where the risk to the operation and/ or service is acceptable when compared to replacement;
- Addressing the assets that are deemed to be in fair or poor condition as soon as possible;
- Increasing the wastewater annual operations budget by \$5000 to allow for CCTV inspections
- Rely on the inspections and annual needs identified by the water and wastewater system operator to guide the decisions on items to be addressed and budgets
- Providing an annual budget within the water capital program for water facilities rehabilitation as identified annually by the operation contractor. The amounts in 2022 dollars are \$100,000 annually until 2028 then increasing to approximately \$188,000 between 2029 and 2046. These annual amounts intended to provide ongoing funding to address condition issues as they arise.
- Providing a similar annual budget for wastewater of \$50,000 over the 25-year period.
- Addressing all of the road surface needs in the 25- year period through an annual program over the next 25 years. The annual capital provision is approximately \$410,000 starting in 2023. The current annual funding level is \$200,000. This approach considers road rehabilitation as the primary activity with replacement as needed based on inspections. Major road replacement is expected to be deferred to future years due to the annual rehabilitation program;
- Providing an additional maintenance budget of \$30,000 annually within the roads operating budget in lieu of major vehicle and equipment replacement given that most have exceeded their respective useful lives but are expected to remain in service for the next several years.
- Provisions for the following building inspections to assess rehabilitation needs:
 - ✓ Public works garage and firehall - \$35,000 in 2025
 - ✓ Arena - \$40,000 in 2024
 - ✓ Docks - \$20,000 in 2027
 - ✓ Museum - \$30,000 in 2023
 - ✓ Log Buildings - \$20,000 in 2024
- Rehabilitation of buildings based on inspections and deferral of replacement. This includes undertaking the rehabilitation work recommended by in the respective inspection reports for the post office/ bank building and Burns Wharf Theatre.
- No provision for replacement of the landfill bins based on the assumption that the Township would no longer be responsible for the drop off depot under the new recycling regulations (O.Reg. 391/21) which transfers responsibility to packaging producers on April 1, 2025.

The type of activity, timing of projects, estimated costs, reserve contributions and balances and available debt capacity over the 25-year period are presented in Appendix G.

4.3 Risk Analysis

A high level qualitative risk analysis was undertaken for the alternative strategies. The results are summarized in Appendix H. The risk assessment indicates that Alternative No.1 generally offers lower overall risk as assets would be replaced for the most part versus rehabilitation. However, the combination of replacement and rehabilitation activities included in Alternative No.2 also offers reduced risks to the service delivery. Therefore from a risk perspective both Alternatives No.1 and No.2 offer acceptable risks. Alternative No.2 is preferred due its potential lower cost over the 25-year period and deferral of costs while lowering the risk of asset failure

4.4 Preferred Strategy

Table 4-1: Comparison of Alternative Strategies

Criteria	Alternative Strategy No.1 - Replacement Based	Alternative Strategy No.2 - Rehabilitation Based
Water System Costs (in 2022\$)		
Within 25 years (2022-2046)	\$ 3,981,426	\$ 3,981,426
Beyond 25 years (> 2046)	\$ 13,211,505	\$ 13,211,505
Wastewater System Costs (in 2022\$)		
Within 25 years (2022-2046)	\$ 6,360,750	\$ 1,663,052
Beyond 25 years (> 2046)	\$ 6,148,090	\$ 6,148,090
Tax Supported Asset Costs (in 2022\$)		
Within 25 years (2022-2046)	\$ 33,258,000	\$ 28,633,290
Beyond 25 years (> 2046)	\$ 6,904,017	\$ 6,904,017
Total Asset Costs (in 2022\$)		
Within 25 years (2022-2046)	\$ 43,600,176	\$ 34,277,768
Beyond 25 years (> 2046)	\$ 26,263,613	\$ 26,263,613
	Higher 25- year costs	Lower 25- year costs and deferral of costs to later years
Affordability	Less affordable	More affordable
Levels of Service and Asset Performance	Reliance on replacement activities to maintain performance service levels. These would be in specific years.	Reliance on rehabilitation annually to maintain performance and levels of service - able to address asset performance issues sooner
		Increased maintenance budgets for wastewater sewer inspections and vehicel maintenance
Safety	Improves asset condition and therefore safety	Improves asset condition and therefore safety
Municipal Image	Improves image as risks to service delivery are lowered	Improves image as risks to service delivery is lowered
Risk to Public Health & Environment	Lower overall risk	Risks are manageable. Allows flexibility over time to target priority assets based on inspections

A qualitative comparison of both strategies was completed and Alternative Strategy No.2 was selected as the preferred asset management strategy due mainly to its lower cost over the 25-year period and ability to address asset performance issues annually. It lowers the risks of asset failure and related impacts to service levels. The comparison is summarized in Table 4-1.

5 Financing Strategy

The cost of the Preferred Strategy over the 25-year period and the financing of these costs are presented in Appendix G. The financing strategy includes the following key components:

- Capital Projects would be financed through a combination of reserve funds and debt within the available debt limit. The annual debt limit projections are calculated using 25% of the projected net revenues (as a proxy for “own revenues”). Only approved grant funding is considered in the revenue;
- The annual operating costs including debt repayment and reserve contributions would be financed through non-rate revenues and taxes (for tax supported services) or the water and wastewater rates (for the water and wastewater system costs);
- The financial assumptions noted in Appendix B;
- Making annual contributions to the respective capital reserves over the period to maintain a minimum balance (to the extent possible) of approximately 1.5 % of the asset value. This, along with the available debt capacity, is intended to provide the financial capacity to address any unforeseen asset needs;
- The minimum 1.5% target balance includes an allowance of 0.5% to address capital needs that may arise due to emergency events or asset performance impacts due to climate change.
- Building reserves to sufficient levels towards the end of the period so that the Township would be in a reasonable position to address the asset needs beyond 2046 (i.e. without overbuilding the reserves).
- Aggressively pursuing grant funding opportunities particularly those that may become available through Provincial and Federal funding programs, to reduce the burden on the rate payers; and
- Annually assessing the Township’s financial position and making adjustments when necessary to maintain the objective of having a sustainable asset management plan.

5.1 User Rate Requirements

The water system and wastewater system costs, including any asset related costs, are recovered through user rates. These are flat fees which are set by the Township each year for water and wastewater. The annual revenues required over the 25-year period through these rates are presented in Appendix G. Table 5-1 summarizes the short-term revenue requirements i.e. for the next 5 years (2023 to 2027) for the water system. Table 5-2 shows the short-term wastewater revenue requirements.

Table 5-1: Short-Term (2023-2027) Water Rate Revenue Requirements

Water System Financial Projections

Cost / Revenue Item	2023	2024	2025	2026	2027
Township 5-Year Capital Forecast	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Rehabilitation	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927
Asset Replacement	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Requirements	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927
Debt Financing	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 13,000	\$ 16,090	\$ 19,273	\$ 22,551	\$ 25,927
Other Financing (Grants, third party, etc.)	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000
Total Capital Financing	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927
Operations & Maintenance	\$ 286,756	\$ 292,441	\$ 298,240	\$ 304,154	\$ 310,187
Transfers to Capital Reserves	\$ 38,000	\$ 52,000	\$ 67,000	\$ 83,000	\$ 100,000
Debt Repayment	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000
Less Non-Rate Revenues	\$ 75,324	\$ 75,450	\$ 75,579	\$ 75,711	\$ 75,845
Revenue Requirements (from Users)	\$ 320,432	\$ 339,990	\$ 360,660	\$ 382,443	\$ 405,342
Annual Increase (\$)	\$ 15,250	\$ 19,559	\$ 20,670	\$ 21,783	\$ 22,899
Annual Increase (%)	6%	6%	6%	6%	6%

Increases in water rate revenue of approximately 6 % per year between 2023 and 2027 are required mainly to finance the rehabilitation of treatment assets on an annual basis and maintain the capital reserve at the target level. It is recommended that the Township pursue available grant funding to partially offset the cost of the replacement and lower the revenue required from the users though the water rates.

Table 5-2: Short-Term Wastewater Rate Revenue Requirements

Waste Water System Financial Projections

Cost / Revenue Item	2023	2024	2025	2026	2027
Township 5-Year Capital Forecast	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Rehabilitation	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964
Asset Replacement	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Requirements	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964
Debt Financing	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 6,500	\$ 8,045	\$ 9,636	\$ 11,275	\$ 12,964
Other Financing (Grants, third party, etc.)	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
Total Capital Financing	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964
Operations & Maintenance	\$ 128,935	\$ 131,464	\$ 134,043	\$ 136,674	\$ 139,357
Transfers to Capital Reserves	\$ 24,064	\$ 24,064	\$ 24,064	\$ 24,064	\$ 24,064
Debt Repayment	\$ -	\$ -	\$ -	\$ -	\$ -
Less Non-Rate Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Requirements (from Users)	\$ 152,999	\$ 155,528	\$ 158,107	\$ 160,738	\$ 163,422
Annual Increase (\$)	\$ 16,445	\$ 2,529	\$ 2,579	\$ 2,631	\$ 2,683
Annual Increase (%)	12%	2%	2%	2%	2%

A significant increase in wastewater rate revenue of approximately 12% in 2023 is required mainly to finance the repayment to the reserve for the forcemain project completed in 2012. The capital levy charges that offset this contribution will end in 2022. Revenue increases of approximately 2% are required from 2024 for treatment plant asset rehabilitation and maintaining the reserve at target levels. It is recommended that the Township pursue available grant funding to partially offset the cost of asset

replacement and/ or rehabilitation projects over the period.

5.2 Tax Levy Requirements

All services provided by the Township except for water and wastewater system costs, including any asset related costs, are recovered through the annual tax levy. The annual revenues required over the 25-year period through these rates are presented in Appendix G. Table 5-3 summarizes the short-term tax levy requirements i.e. for the next 5 years.

Table 5-3: Short-Term Tax Levy Requirements

Tax Supported Services Financial Projections

Cost / Revenue Item	2023	2024	2025	2026	2027
Township 5-Year Capital Forecast	\$ 365,650	\$ 272,863	\$ 420,649	\$ 284,006	\$ 225,461
Asset Rehabilitation	\$ 576,489	\$ 593,784	\$ 666,234	\$ 629,945	\$ 648,843
Asset Replacement	\$ 766,993	\$ 8,897	\$ 1,291,924	\$ 55,430	\$ -
Total Capital Requirements	\$ 1,709,132	\$ 875,544	\$ 2,378,806	\$ 969,381	\$ 874,305
Debt Financing	\$ -	\$ -	\$ 2,233,245	\$ -	\$ -
Capital Reserve Financing	\$ 1,627,826	\$ 794,238	\$ 64,255	\$ 888,076	\$ 792,999
Other Financing (Grants, third party, etc.)	\$ 81,305	\$ 81,305	\$ 81,305	\$ 81,305	\$ 81,305
Total Capital Financing	\$ 1,709,132	\$ 875,544	\$ 2,378,805	\$ 969,381	\$ 874,305
Operations & Maintenance	\$ 4,018,597	\$ 4,128,569	\$ 4,210,740	\$ 4,294,555	\$ 4,380,046
Transfers to Capital Reserves	\$ 387,187	\$ 488,082	\$ 593,547	\$ 511,985	\$ 631,575
Debt Repayment	\$ 31,360	\$ -	\$ -	\$ 193,902	\$ 193,902
Less Non-Tax Revenues	\$ 1,411,644	\$ 1,439,877	\$ 1,468,675	\$ 1,498,048	\$ 1,528,009
Revenue Requirements (from Taxpayers)	\$ 3,025,499	\$ 3,176,774	\$ 3,335,613	\$ 3,502,394	\$ 3,677,513
Annual Increase (\$)	\$ 144,071	\$ 151,275	\$ 158,839	\$ 166,781	\$ 175,120
Annual Increase (%)	5%	5%	5%	5%	5%

Increases in the tax levy revenue of 5% are required between 2023 and 2027. These are due mainly to rehabilitation of buildings in poor condition, increasing the annual road rehabilitation allocation required to keep up with the annual needs and increasing the annual vehicle maintenance budget. The increases would also facilitate the reserve contributions required to achieve the annual target balances. It is also recommended that the Township pursue available grant funding to partially offset the cost of rehabilitating the critical buildings and road sections to lower the revenue required from the tax payers through the general tax levy.

6 Recommendations

The following are the recommendations:

1. That the current Asset Management policy be updated by the Township prior to July 1, 2024;
2. That the levels of service targets presented in Section 3 be adopted by the Township;
3. That the preferred Asset Management Strategy presented in Section 4 be adopted by the Township; and
4. That the Financial Strategy presented in Section 5 be adopted by the Township to support the asset management strategy

References

1. Building Together: A Guide for Municipal Asset Management Plans
2. Township of Assiginack 2021 and 2022 operating and capital budgets.
3. J.L. Richards, Building Condition Assessment Report, Township of Assiginack, 115 Arthur Street Manitowaning , ON, September 7, 2021
4. Castellan James & Partners Architects Inc. and K. Lang Engineering Ltd., Burns Wharf Theatre Study, July 21, 2016
5. Township of Assiginack 2019 and 2021 FIR
6. Township of Assiginack 2021 PSAB 3150 TCA information.
7. 2013 Asset Management Study.
8. Township of Assiginack Project Priorities
9. Statistics Canada 2021 Census Data for Assiginack

APPENDIX A

ASSET CONDITION ASSESSMENT

APPENDIX A: Asset Condition Assessment

	Age Based Condition Assessment		
	Poor (less than)	Fair (between)	Good (greater than)
Water Mains	5%	=> 5% and =< % 15	15%
Water Valves	5%	=> 5% and =< % 15	15%
Water Services	5%	=> 5% and =< % 15	15%
Water Hydrants	5%	=> 5% and =< % 15	15%
Water Facilities	10%	=> 10% and =< % 20	20%
Wastewater Mains	5%	=> 5% and =< % 15	15%
Wastewater Laterals	5%	=> 5% and =< % 15	15%
Wastewater Manholes	5%	=> 5% and =< % 15	15%
Wastewater Force Mains	5%	=> 5% and =< % 15	15%
Wastewater Facilities	10%	=> 10% and =< % 20	20%
Stormwater Mains	5%	=> 5% and =< % 15	15%
Stormwater Manholes	5%	=> 5% and =< % 15	15%
Stormwater Catch Basins	5%	=> 5% and =< % 15	15%
Roads & Bridges	5%	=> 5% and =< % 15	15%
Road Vehicles and Equipment	20%	=> 20% and =< % 50	50%
Road Facilities	10%	=> 10% and =< % 20	20%
Sidewalks & Street Lights	20%	=> 20% and =< % 20	20%
Administration	10%	=> 10% and =< % 20	20%
Recreation	10%	=> 10% and =< % 20	20%
Fire Protection	10%	=> 10% and =< % 20	20%
Solid Waste	10%	=> 10% and =< % 20	20%
Heritage & Library	5%	=> 5% and =< % 15	15%

APPENDIX A: Asset Condition Assessment

Condition of Water System Assets

Water System Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Watermains</i>				
Length (m)	7,114	-	-	7,114
Percent (%)	100%	0%	0%	100%
Replacement Cost	\$ 4,125,221	\$ -	\$ -	\$ 4,125,221
Percent (%)	100%	0%	0%	100%
<i>Water Valves</i>				
No. of Units	25	-	-	25
Percent (%)	100%	0%	0%	100%
Replacement Cost	\$ 228,900	\$ -	\$ -	\$ 228,900
Percent (%)	100%	0%	0%	100%
<i>Water Services</i>				
No. of Units	235	-	-	235
Percentage (%)	100%	0%	0%	100%
Replacement Cost	\$ 780,457	\$ -	\$ -	\$ 780,457
Percent (%)	100%	0%	0%	100%
<i>Water Hydrants</i>				
No. of Units	52	-	-	52
Percentage (%)	100%	0%	0%	100%
Replacement Cost	\$ 364,000	\$ -	\$ -	\$ 364,000
Percent (%)	100%	0%	0%	100%
<i>Water Facilities</i>				
No. of Facilities	15	1	-	16
Percentage (%)	94%	2%	0%	96%
Replacement Cost	\$ 11,688,744	\$ 5,609	\$ -	\$ 11,694,353
Percent (%)	100%	2%	0%	101%

APPENDIX A: Asset Condition Assessment

Condition of Wastewater System Assets

Wastewater System Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
Wastewater Mains				
Length (m)	5,698	-	-	5,698
Percent (%)	100%	0%	0%	100%
Replacement Cost	\$ 3,754,793	\$ -	\$ -	\$ 3,754,793
Percent (%)	100.00%	0.00%	0.00%	100.00%
Service Connections				
Length (m)	199	-	-	199
Percent (%)	100%	0%	0%	100%
Replacement Cost	\$ 786,783	\$ -	\$ -	\$ 786,783
Percent (%)	100.00%	0.00%	0.00%	100.00%
Manholes				
No. of Units	67	-	-	67
Percentage (%)	100%	0%	0%	100%
Replacement Cost	\$ 485,644	\$ -	\$ -	\$ 485,644
Percent (%)	100.00%	0.00%	0.00%	100.00%
Force Mains				
Length (m)	1,701	-	-	1701
Percentage (%)	100%	0%	0%	100%
Replacement Cost	\$ 1,120,869	\$ -	\$ -	\$ 1,120,869
Percent (%)	100%	0%	0%	100%
Wastewater Facilities				
No. of Facilities	2	-	2	4
Percentage (%)	50%	0%	50%	100%
Replacement Cost	\$ 2,292,074	\$ -	\$ 4,068,676	\$ 6,360,750
Percent (%)	36%	0%	64%	100%

Condition of Stormwater System Assets

Road Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
Storm Mains				
Length (m)	2,116	-	-	2,116
Percent (%)	100%	0%	0%	100%
Replacement Cost	\$ 1,673,199	\$ -	\$ -	\$ 1,673,199
Percent (%)	100%	0%	0%	100%
Manholes				
No. of Facilities	15	-	-	15
Percentage (%)	100%	0%	0%	100%
Replacement Cost	\$ 108,726	\$ -	\$ -	\$ 108,726
Percent (%)	100%	0%	0%	100%
Catch Basins				
No. of Facilities	32	-	-	32
Percentage (%)	100%	0%	0%	100%
Replacement Cost	\$ 79,941	\$ -	\$ -	\$ 79,941
Percent (%)	100%	0%	0%	100%

APPENDIX A: Asset Condition Assessment

Condition of Road Network Assets

Roads Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Roads & Bridges</i>				
Length (km)	94,511	2,300	1,310	98120.82
Percent (%)	96%	2%	1%	100%
Replacement Cost	\$ 25,699,843	\$ 736,571	\$ 281,410	\$ 26,717,824
Percent (%)	96%	3%	1%	100%
<i>Vehicles and Equipment</i>				
No. of Units	3	5	12	20
Percentage (%)	15%	25%	60%	100%
Replacement Cost	\$ 425,175	\$ 414,692	\$ 1,027,359	\$ 1,867,226
Percent (%)	23%	22%	55%	100%
<i>Road Facilities</i>				
No. of Facilities	-	-	3	3
Percentage (%)	0%	0%	100%	100%
Replacement Cost	\$ 15,932	\$ -	\$ 350,349	\$ 366,281
Percent (%)	4%	0%	96%	100%
<i>Sidewalks & Streetlights</i>				
Length & Units	NA	NA	NA	NA
Percentage (%)	NA	NA	NA	NA
Replacement Cost	\$ 156,426	\$ -	\$ -	\$ 156,426
Percent (%)	100%	0%	0%	100%

Condition of Administration Assets

Administration Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Administration</i>				
No. of Units	11	3	1	15
Percentage (%)	73%	20%	7%	100%
Replacement Cost	\$ 1,977,788	\$ 33,799	\$ 45,000	\$ 2,056,587
Percent (%)	96%	2%	2%	100%

Condition of Recreation Assets

Recreation Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Recreation</i>				
No. of Units	18	4	4	26
Percent (%)	69%	15%	15%	100%
Replacement Cost	\$ 2,810,523	\$ 150,951	\$ 1,917,958	\$ 4,879,432
Percent (%)	58%	3%	39%	100%

APPENDIX A: Asset Condition Assessment

Condition of Fire Protection Assets

Fire Protection Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Fire Protection</i>				
No. of Units	4	4	2	10
Percent (%)	40%	40%	20%	100%
Replacement Cost	\$ 390,288	\$ 102,401	\$ 293,393	\$ 786,082
Percent (%)	50%	13%	37%	100%

Condition of Solid Waste Assets

Solid Waste Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Solid Waste</i>				
No. of Units	3	1	-	4
Percent (%)	75%	25%	0%	100%
Replacement Cost	\$ 556,054	\$ 57,331	\$ -	\$ 613,385
Percent (%)	91%	9%	0%	100%

Condition of Heritage & Library Assets

Heritage & Library Assets	Condition Rating			Total Length (m) or Units
	Good	Fair	Poor	
<i>Heritage & Library</i>				
No. of Components	4	-	8	12
Percent (%)	33%	0%	67%	100%
Replacement Cost	\$ 213,388	\$ -	\$ 617,719	\$ 831,107
Percent (%)	26%	0%	74%	100%

APPENDIX B

ASSUMPTIONS

APPENDIX B: Assmptions

ASSUMPTIONS	
MUNICIPALITY	Township of Assiginack
SERVICE	Asset Management Plan
STUDY PERIOD	25
YEAR OF STUDY	2022
FORECAST PERIOD	2023 - 2046
INFLATION RATE	2.0%
CAPITAL INFLATION	3.0%
BORROWING RATE	3.5%
BORROWING TERM	15
INVESTMENT RATE	1.5%

Cost estimates based on indexing Historical Costs from PSAB 3140 TCA data to 2022 or using the costs noted in the following tables.

Cost Estimates for Road Surface assets rehabilitation based on the shown below .

APPENDIX B: Assumptions

Water ***Note unit costs for rehabilitation are heavily case sensitive. The Unit Costs below are cost estimates for a 200mm pipe with reasonable accessibility, low/no connections, no cleaning							
REHAB STRATEGY	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Slip-Lining	2012	\$300.00	2022	\$384.90	50	Cost estimate	Seemed too low. (Les suggests raising to \$300 range)
Relining	2012	\$325.00	2022	\$416.98	75	Auro Rehabilitation Infrastructure (Quebec)	Trenchless Rehab Investigation
CIPP	2012	\$200.00	2022	\$256.60	50	Liquiforce (Kingsville)	Estimated 1cent per mm diameter.
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Water Main	2008	\$440.00	2022	\$579.87	80	Walker Study	Replacement
Valve	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Valve	2021	\$2,100.00	2022	\$2,100.00	80	Lambton Area Water Supply System	Gate Valves
Hydrant	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Hydrant	2021	\$7,000.00	2022	\$7,000.00	80	Lambton Area Water Supply System	
Water Services- Values from Water Main Rehab							
REHAB STRATEGY	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Slip-Lining	2012	\$1,704.55	2022	\$2,186.95	50		Service Connection Length estimated at 5.68m (2500/440)
Relining	2012	\$1,846.59	2022	\$2,369.20	75		Service Connection Length estimated at 5.68m (2500/440)
CIPP	2012	\$1,136.36	2022	\$1,457.97	50		Service Connection Length estimated at 5.68m (2500/440)
REPLACEMENT	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Service Connection	2008	\$2,520.00	2022	\$3,321.09	80	Walker Study	

APPENDIX B: Assumptions

Sewer Main							
REHAB STRATEGY	Source Year of Unit Cost	Average Unit Cost per m	Inflated to Year	Current Unit Cost m	Service Life	Source	Comments
Relining	2012	\$325.00	2022	\$416.98	75	Professional Estimate Collection Systems O&M Fact Sheet "Trenchless Sewer Rehabilitation"	
Sliplining	2012	\$300.00	2022	\$384.90	75		
CIPP	1998	\$147.50	2022	\$277.34	75		
REPLACEMENT	Source Year of Unit Cost	Average Unit Cost per m	Inflated to Year	Current Unit Cost m	Service Life	Source	Comments
Waste Water Main	2008	\$500.00	2022	\$658.95	80	Walker Study	Replacement
Sanitary Manholes							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Waste Water Manhole	2008	\$5,500.00	2022	\$7,248.42	80	Walker Study	
Force Main *****Copied values from Sewer Main Rehab							
REHAB STRATEGY	Source Year of Unit Cost	Average Unit Cost per m	Inflated to Year	Current Unit Cost m	Service Life	Source	Comments
Relining	2012	300	2022	\$384.90	50	Collection Systems O&M Fact Sheet "Trenchless Sewer Rehabilitation" Collection Systems O&M Fact Sheet "Trenchless Sewer Rehabilitation"	
Sliplining	2012	\$325.00	2022	\$416.98	75		Note much higher than slip-lining in Watermain section
CIPP	2012	\$200.00	2022	\$256.60	50		
REPLACEMENT	Source Year of Unit Cost	Average Unit Cost per m	Inflated to Year	Current Unit Cost m	Service Life	Source	Comments
Force Main	2008	\$500.00	2022	\$658.95	80	Walker Study	
Sanitary Services *****Copied values from Sewer Main Rehab							
REHAB STRATEGY	Source Year of Unit Cost	Average Unit Cost	Inflated to Year	Current Unit Cost m	Service Life	Source	Comments
Relining	2012	\$ 1,950.00	2022	\$2,501.87	75	Collection Systems O&M Fact Sheet "Trenchless Sewer Rehabilitation" Collection Systems O&M Fact Sheet "Trenchless Sewer Rehabilitation"	
Sliplining	2012	\$ 1,800.00	2022	\$2,309.42	75		Length of 6 m was assumed (3000/500)
CIPP	1998	\$ 885.00	2022	\$1,664.02	75		
REPLACEMENT	Year of Information	Unit Cost	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Sanitary Service	2008	\$3,000.00	2022	\$3,953.68	80	Walker Study	

APPENDIX B: Assumptions

Stormwater Mains ***Copied Values from Sewer Main Rehab							
REHAB STRATEGY	Source Year of Unit Cost	Average Unit Cost per m	Inflated to Year	Current Unit Cost m	Service Life	Source	Comments
Relining	2012	\$ 1,950.00	2022	\$2,501.87	75		
SlipLining	2012	\$1,800.00	2022	\$2,309.42	75	Collection Systems O&M Fact Sheet "Trenchless Sewer Rehabilitation"	Note much higher than slip-lining in Watermain section
CIPP	1998	\$885.00	2022	\$1,664.02	75	Collection Systems O&M Fact Sheet "Trenchless Sewer Rehabilitation"	
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Storm Water Main	2008	\$600.00	2022	\$790.74	80	Walker Study	
Stormwater Manholes							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Storm Water Manhole	2008	\$5,500.00	2022	\$7,248.42	80	Walker Study	
Stormwater Catch Basins							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Catch Basin	2008	\$2,000.00	2022	\$2,498.14	80	Walker Study	
Vehicles and Equipment							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Vehicle			2022		5		Service Life PSAB
Equipment			2022		10		Service Life PSAB
Buildings							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Structure			2022		60		Values assumed
Roof			2022		20		Values assumed
Mechanical Electrical			2022		30		Values assumed
Roads Buildings			2022		50		Values assumed
Membrane Filler			2022		10		Values assumed
Fence			2022		10		PSAB
Bins			2022		5		PSAB
Monitoring Wells			2022		25		PSAB
Recycling Depot			2022		20		PSAB
Lighting			2022		20		PSAB
Aerators			2022		10		PSAB
Gantry Crane			2022		5		PSAB
Communications			2022		5		PSAB

APPENDIX B: Assumptions

Roads							
REPLACEMENT	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
Gravel	2008	\$163.00	2022	\$214.82	20	Walker Study	
Surface Treatment	2008	\$243.00	2022	\$320.25	20	Walker Study	
Asphalt	2008	\$300.00	2022	\$395.37	40	Walker Study	
Base	2008	\$163.00	2022	\$214.82	80		Values were not calculated. Used Gravel Replacement Costs.
REHAB STRATEGY	Year of Information	Unit Cost m	Inflated to Year	Current Unit Cost	Service Life	Source	Comments
SST	2010	\$17.98	2022	\$24.19	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format	(single surface treatment)
DST	2007	\$31.77	2022	\$45.18	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format	(double surface treatment)
CM/SST	2007	\$104.00	2022	\$147.91	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(cold mix plus single surface treatment)
R2	2007	\$127.08	2022	\$180.72	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(rural: 50mm full width milling plus 50mm HL8 HS & 40mm HL3 HS asphalt overlay)
R1	2010	\$145.25	2022	\$195.40	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(semi-urban: base repairs plus 40mm asphalt overlay)
SR	2010	\$145.25	2022	\$195.40	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(semi-urban: base repairs plus 40mm asphalt overlay of various lengths)
R1M	2010	\$196.97	2022	\$264.97	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(semi-urban: 50mm full width milling plus 50mm HL8 HS & 40mm HL3 HS asphalt overlay)
R1U	2010	\$190.62	2022	\$256.43	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(e/g urban: base repairs plus 40mm asphalt overlay)
R1UM	2010	\$251.04	2022	\$337.71	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(e/g urban, 50mm full width milling plus 50mm HL8 HS & 40mm HL3 HS asphalt overlay)
RNS	2007	\$775.55	2022	\$1,102.96	20	Walker Study format- Service Life is a professional estimate	(reconstruction utilizing existing storm sewers to full urban standards)
RSS	2007	\$1,080.54	2022	\$1,536.70	20	Grimsby Unit Costs were Multiplied by a width of 6.35m to match Walker Study format- Service Life is a professional estimate	(reconstruction including new storm sewers to full urban standards)

APPENDIX C

REPORT CARD

APPENDIX C: REPORT CARD

2022 ASSET REPORT CARD					
Asset	Condition Rating			Investment Needed	
	Good	Fair	Poor	2022-2046	After 2046
WATER SYSTEM	Watermains Water Valves Water Services Water Hydrants Water Facilities	Gantry Crane		\$ 3,981,426	\$ 13,211,505
Value Percentage (%)	\$17,187,322 99.97%	\$5,609 0.03%	\$0 0%		
WASTEWATER SYSTEM	Wastewater Mains Service Connections Manholes Force Mains Wastewater Facilities		Sewage Pumpin Station Treatment Lagoon	\$ 6,360,750	\$ 6,148,090
Value Percentage (%)	\$8,440,164 67%	\$0 0%	\$4,068,676 33%		
STORMWATER	Storm Mains Manholes Catch Basins			\$ -	\$ 1,861,866
Value Percentage (%)	\$1,861,866 100%	\$0 0%	\$0 0%		
ROADS	Roads (94.5km) Bridges (1) Vehicles and Equipment (3) Road Facilities Sidewalks & Streetlights	Roads (2.3km) Vehicles and Equipment (5)	Roads (1.3km) Vehicles and Equipment Public Works Salt Shed Public Works Garage	\$ 27,183,076	\$ 1,924,682
Value Percentage (%)	\$26,297,376 90%	\$1,151,263 4%	\$1,659,118 6%		
ADMINISTRATION	Municipal Office Medical Clinic	Lighting Computers & Server Post Office/ Bank	Chapel	\$ 1,083,310	\$ 973,277
Value Percentage (%)	\$1,433,822 70%	\$577,765 28%	\$45,000 2%		
RECREATION	Arena Sports Parks Zamboni Marina	Marina Plastic Docks Retaining Wall Parking Lot Lights	Arena Building (Part) Judge Stand Pavilion Sunsite Tennis Court	\$ 2,925,734	\$ 1,953,698
Value Percentage (%)	\$2,810,523 58%	\$150,951 3%	\$1,917,958 39%		
FIRE PROTECTION	Fire Hall Rescue Equipment Other Equipment	Bunker Suits Auto Extinguisher Light Tower Thermal Camera	2 Pumper Trucks	\$ 786,082	\$ -
Value Percentage (%)	\$390,288 50%	\$102,401 13%	\$293,393 37%		
SOLID WASTE	Landfill Fencing Recycling Depot Monitoring Wells	Landfill Bins		\$ 613,385	\$ -
Value Percentage (%)	\$556,054 91%	\$57,331 9%	\$0 0%		
HERITAGE & LIBRARY	Library Stage Lighting		Pioneer Bulding Museum Theatre Blacksmith Building School House Information Booth	\$ 658,946	\$ 172,161
Value Percentage (%)	\$213,388 26%	\$0 0%	\$617,719 74%		
Total Assets	\$59,190,803	\$2,045,320	\$8,601,864	\$43,592,709	\$26,245,279
Percentage (%)	85%	3%	12%	62%	38%
Total Requirements				\$69,837,988	

APPENDIX D

ASSET MANAGEMENT POLICY



Township of Assiginack – Strategic Asset Management Policy

1.0 Purpose

A strategic asset management policy formalizes the Municipality's commitment to asset management, aligns its asset management actions with strategic goals and objectives, and provides direction to guide Council, management and staff in carrying out its business strategies, plans and activities. This policy will support the Municipality in focusing its infrastructure efforts on managing risks, addressing priorities and meeting short and long-term needs within the bounds of possible funding.

2.0 Vision

The Municipality's vision is to proactively manage its assets to best serve the Municipality's objectives, including:

- Prioritizing the need for existing and future assets to effectively deliver services,
- Supporting sustainability and economic development, and
- Maintaining prudent financial planning and decision making.

3.0 Objectives

The objectives of this policy are to:

- Provide a consistent framework for implementing assets management throughout the organization.
- Provide transparency and accountability and to demonstrate to stakeholders the legitimacy of decision-making processes which combine strategic plans, budgets, service levels and risks.

Our vision to maintain a safe, family-oriented community with sustainable growth as well as promote the township as a primary destination requires alignment of the many initiatives underway in our organization at any given time in order for it to be achieved. This alignment is necessary to properly consider whether the level of service provided by our existing and planned assets is congruent and supports our vision.

Asset management planning therefore will not occur in isolation from other municipal goals, plans, and policies. Rather, an integrated approach will be followed to successfully develop practical asset management plans that align with the overarching accountabilities and aspirations of our community. The elements of our asset management planning approach keep us mindful of the goals described in municipal documents such as: The strategic plan, Emergency Plan, and Official Plans.

5.0 Stakeholder Engagement

The ultimate goal of the municipality is to efficiently provide its various stakeholders with the municipal services they need within the bounds of regulatory requirements, the built environment, and the natural environment. In order to achieve this goal, it is necessary that the municipality understand the needs of current stakeholders, consider the needs of future generations, and incorporate these perspectives into asset management plans. The municipality recognizes then as an integral part of the asset management approach. Accordingly, the municipality will:

- Provide opportunities for residents and other stakeholders served by the municipality to provide input in asset management planning; and
- Coordinate asset management planning with other infrastructure asset owning agencies such as municipal bodies and regulated utilities.

6.0 Guiding Principles

The Infrastructure for Jobs and Prosperity Act, 2015 sets our principles to guide asset management planning in municipalities in Ontario. The Township of Assiginack will strive to incorporate the following principles whenever possible into the day to day operation of the Municipality:

- **Forward looking** – The Municipality shall take a long-term view while considering demographic and economic trends in the region.
- **Budgeting and planning** – The Municipality shall take into account any applicable budgets or fiscal plans, including those adopted through Ontario legislation
- **Prioritizing** – The Municipality shall clearly identify infrastructure priorities which will drive investment decisions.
- **Economic development** – The Municipality shall promote economic competitiveness, productivity, job creation, and training opportunities.
- **Transparency** – The Municipality shall be evidence-based and transparent, basing decision on publicly shared information and make info available to the public.
- **Consistency** – The Municipality shall ensure the continued provision of core public services.
- **Environmentally conscious** – The Municipality shall minimize the impact of infrastructure on the environment by: 1. Respecting and helping maintain ecological and biological diversity, 2. Augmenting resilience to the effects of climate change, and 3. Endeavoring to make use of acceptable recycled aggregates.
- **Health and safety** – The Municipality shall ensure that the health and safety of workers involved in the construction and maintenance of infrastructure assets is protected.

- **Community focused** – The Municipality shall promote community benefits, being the supplementary social and economic benefits arising from an infrastructure project that are intended to improve the well-being of a community affected by the project, such as 1. Local job creation and training, 2. Improvement of public space within the community, and 3. Promoting accessibility for persons with disabilities.
- **Innovation** - The Municipality shall create opportunities to make use of innovative technologies, services, and practices, particularly where doing so would utilize technology, techniques, and practices developed on Ontario.
- **Integration** – The Municipality shall where relevant and appropriate, be mindful and consider the principles and content of non-binding provincial or municipal plans and strategies established under an Act or otherwise, in planning and making decisions surrounding the infrastructure that supports them.

7.0 Community Planning

Asset management planning will be aligned with the Municipality’s official plan. The asset management plans will reflect how the community is projected to change and the related asset impacts. The Municipality will achieve this by consulting with those responsible for managing the services to analyze the future costs and viability of projected changes. Methods, assumptions, and data used in the selection of projected changes should be documented to the recommendations of the Asset Management Plan.

8.0 Climate Change

Climate change will be considered as part of the Municipality’s risk management approach embedded in local asset management planning methods. This approach will balance the potential cost of vulnerabilities to climate change impacts and other risks with the cost of reducing these vulnerabilities. Bolstering resilience to climate change includes adapting to opportunities to manage vulnerabilities, anticipating possible costs to support contingency funds, and disaster planning to allow for business continuity. These actions will be taken in addition to acquiring or modifying assets based on greenhouse gas reductions.

9.0 Capitalization Thresholds

The Asset Management Policy applies to all assets whose role in service delivery requires deliberate management by the Municipality. The service-focus intent of this policy differentiates its requirements for identifying assets from the capitalization thresholds which are developed for the purposes of financial reporting. For this reason, the capitalization threshold developed for financial reporting will not be the guide in selecting the assets covered by asset management planning processes.

10. Budgeting

The Municipality will integrate asset management planning into the annual capital budget, operating budget, and its long-term financial plan. The asset management plan will be used as a resource in order to:

Identify all potential revenues and costs (including operating, maintenance, replacement and decommissioning) associated with forthcoming infrastructure asset decisions;

Evaluate the validity and need of each significant new capital asset, including considering the impact on future operating costs, and Incorporate new revenue tools and alternative funding strategies where possible.

The department level budget submission prepared by each Department Head will be reviewed and evaluated by the CAO and Treasurer in the preparation of the Municipality's annual budget. Service area personnel will reference the asset management plan for their area in order to look up forecasted spending needs identified in the plan, verify progress made on the plan to identify potential gaps, and prioritize spending needs, across the gap identified in the plan and recent developments, for the year to be budgeted for. Finance staff will be involved in the asset management planning process to coordinate the information from the service personnel in the preparation of the budget submission.

For the purposes of managing water and wastewater assets, the water and wastewater financial plans will be used as a basis for establishing user fees, and master plans will be referenced in order to ensure alignment with the budgeting process.

11.0 Governance and Continuous Improvement

The policy requires the commitment of key stakeholders with the Township's organization to ensure the policy guides the development of a clear plan that can be implemented, reviewed and updated.

The Council is entrusted with the responsibility of overseeing, on behalf of citizens, a large range of service provided through a diverse portfolio of assets. Council, having stewardship responsibility, is the final decision maker on all matters related to asset management in the Township. The Council and senior management are committed to the success of asset management planning. The following details the responsibilities of the key stakeholders within the Township:

Council, will approve the Asset Management documents and required updates every five years. They will review managements implementation of the plan as part of the annual budget process. They will support efforts to improve the plan and ensure it includes changes necessitated by updates to other Township strategic documents.

Treasurer, will assume the lead role and be responsible for the maintenance of and reporting on the activity related to the management of Township assets. Department heads will assist in this task through the utilization of condition assessment information and service level requirements to update

the long and short-term asset requirements. The information will be reviewed and presented annually for consideration during the budget deliberations.

Management, will oversee the policy implementation and ensure both the Asset Management Plan and the Asset Management Policy are in compliance with Provincial Asset Management regulations. Management will update the Policy and Plan to reflect changes as needed and present them for Council approval at least every five years. These changes will include all condition assessments commissioned for assets covered by the plan.

APPENDIX E

LEVELS OF SERVICE

APPENDIX E - LEVELS OF SERVICE

Target Level of Service Standard for Asset Management Plan

Asset Class	O.Reg. 588/17	Current Service Level	Target Service Level	Performance	Comment
Water Treatment & Distribution	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system.	All residential and non-residential properties within the service areas of the Township's two (2) water systems are connected to the respective water system. Total properties connected =710	Same as Current Service Level	Target Met	
	Percentage of properties connected to the municipal water system	100%	100%	Target Met	
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow.	All residential and non-residential properties that are connected to the water systems have sufficient fire flow	Same as Current Service Level	Target Met	
	Percentage of properties where fire flow is available.	100%	100%	Target Met	
	Description of boil water advisories and service interruptions.	No boil water advisories were issued in 2020 or 2021	Maintain drinking water quality such that boil water advisories would not be necessary	Target Met	
		There were 2 watermain breaks in 2020 and in 2021. Repairs were completed on the same day that breaks occurred	Limit the number of watermain breaks to 5 per year maximum	Target Met	
	The number of connection-days per year where a boil water advisory (BWA) notice is in place compared to the total number of properties connected to the municipal water system.	The number of connection days per year for a BWA = 0	Maintain BWA connection days = 0	Target Met	
	The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.	The number of connection days per year related to watermain breaks = 0.0028	Maximum number of connections days due to main breaks =0.0070	Target Met	no. of beaks in 2020 = 2
Wastewater Collection & Treatment	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	All residential and non-residential properties within the service area of the Township's Manitowaning wastewater system to be connected to the system	Percentage of properties connected to the Manitowaning wastewater system = 100%	100%	

APPENDIX E - LEVELS OF SERVICE

Asset Class	O.Reg. 588/17	Current Service Level	Target Service Level	Performance	Comment
	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	There are no combined sewers in the wastewater system	There are no combined sewers in the wastewater system	Target Met	
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.	There are no combined sewers in the wastewater system	There are no combined sewers in the wastewater system	Target Met	
	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.	Stormwater may enter the sanitary sewer through inflow from direct connections to the wastewater system (e.g. weeping tiles, down spouts) and infiltration through cracks/ joints in the wastewater system. This may cause excessive volume resulting in back-up into basements and overflow on to streets.	Minimize surcharging of the wastewater to achieve no back-ups into basements or overflow through manholes	Target Met	
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid back-ups into homes and on to streets	Wastewater systems are designed according to industry standards to meet capacity requirements including a base level of inflow and infiltration	Same as Current Service Level		
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.	Monthly average effluent concentrations for the following parameters are within the compliance limits established by the Environmental Compliance Approval (ECA) for the treatment plant: CBOD ₅ ;TSS;TP,TAN,TKN, Nitrate,Nitrite;E.coli. Effluent must also be free of floating and settleable solids, oil or other substance that may create a film, sheen or foam on receiving waters	Achieve the effluent compliance limits for each parameter 12 months per year	TP exceeded in May and June 2020. Target Not Met	Based on 2020 Annual Operating Report. TP difficult to control in spring and early summer
	The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.	There are no combined sewers in the wastewater system	There are no combined sewers in the wastewater system	Not Applicable	No. of back-ups in 2020 = 0
	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system = 0%	Number of days per year times the number of properties affected divided by the number of properties connected = 3.3% maximum	Target met	Assumed Target of (2 events , 2 days affecting 5 properties each day divided by 600 connections). Current performance based on 2020 FIR

APPENDIX E - LEVELS OF SERVICE

Asset Class	O.Reg. 588/17	Current Service Level	Target Service Level	Performance	Comment
	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	All effluent parameters within compliance limits except for TP during 2 months per year	Average monthly concentrations for effluent parameters to be below compliance limits. TP May exceed limits 2 month per year	2 effluent exceedances occurred for TP in 2020. Target not met	2 TP exceedances Based on 2020 Annual Operating Report
Storm Water	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	The storm water system includes 2,116 m of mains, 15, manholes and 32 catch basins providing drainage to the built up areas. Flooding may occur in cases of extreme weather events that exceed the capacity of the system	Same as Current Service Level	Target Met	
	Percentage of properties in municipality resilient to a 100-year storm	The stormwater system is not designed to handle a 100-year storm and therefore not resilient to a 100-year storm	Same as Current Service Level	Target Met	
	Percentage of the municipal stormwater management system resilient to a 5-year storm.	100% of the stormwater system is designed to be resilient to 5-year storms	Same as Current Service Level	Target Met	
Roads	Description, which may include maps, of the road network in the municipality and its level of connectivity.	The road network consists of class 5 and 6 roads and are maintained in accordance with the Minimum Maintenance Standards (O.Reg. 239/02 and amendment O.Reg. 366/18) and the Township's By-law 04-42.	NA	NA	
	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.	All roads are local roads (Class 5 and 6). Total lan area = 196.3 lane-km/224.89 km ² =0.87	Same as Current Service Level		
	Description or images that illustrate the different levels of road class pavement condition	There are approximately 12.7 lane-km of asphalt roads; 100.4 lane-km of gravel road; and 83.2 lane-km of surface treated roads. Overall 96% of roads in good condition; 2-3% fair condition; and 1-2% poor condition	Same as Current Service Level		
	For paved roads in the municipality, the average pavement condition index value.	The pavement condition indices for paved roads are not available	Same as Current Service Level		
	For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).	The average surface condition is good	Same as Current Service Level	Target Met	

APPENDIX E - LEVELS OF SERVICE

Asset Class	O.Reg. 588/17	Current Service Level	Target Service Level	Performance	Comment
Bridges and Culverts	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	There is 1 bridge that supports most types of traffic. OSIM bridge inspections are completed very 2 years as required by regulation	Same as Current Service Level		
	Percentage of bridges in the municipality with loading or dimensional restrictions	0%	Same as Current Service Level		
	Description or images of the condition of bridges and how this would affect use of the bridges	The bridge was installed in 2020 and is relatively new. No impact on the use of the bridge is anticipated	Same as Current Service Level		
	Description or images of the condition of culverts and how this would affect use of the culverts	Information on culverts is not available			
	For bridges in the municipality, the average bridge condition index value.	90%	70% and above	Target met	
	For structural culverts in the municipality, the average bridge condition index value.	Information on culverts is not available			
Roads Vehicles & Equipment	No regulatory standard	3 units are in good condition; 5 units are in fair condition and 12 in poor condition	All units to be in good or fair condition and safe for use	Target not met	increase maintenance funding
Recreation	No regulatory standard	85% of the facility components are in good or fair condition and 15 % in poor condition. All facilities are in use	Number of Days Facility unable to be used due to failure of one or more asset components = 0	Target Met	Assumed Target
			Percentage of Facilities where accessibility standards are met = 100%	100%	Assumed Target
			Percentage of Facility components where Condition is rated poor =0%	15%. Rated poor. Target not met	Assumed Target
Library / Heritage	No regulatory standard	4 components are in good condition and 8 in poor condition	Number of Days Facility unable to be used due to failure of one or more asset components = 0	Target Not Met. 1 facility closed indefinitely due to poor condition	Burns Wharfe Theatre. Also log buildings require inspections are work
Fire Protection	No regulatory standard	2 fire trucks and 1 fire station are provided for 710 properties. Percentage of fire trucks in good condition = 0%	Percentage of Fire Trucks where Condition is rated Good = 100%	Target Not Met. Both fire trucks are past service life	Fire truck replacement required

APPENDIX E - LEVELS OF SERVICE

Asset Class	O.Reg. 588/17	Current Service Level	Target Service Level	Performance	Comment
Administration	No regulatory standard	93% of components are in fair to good condition and 7% in poor condition. Use is not impacted. However, the bank/PO building requires work	Number of Days Facilities unable to be used due to failure of one or more asset components = 0	Target Met	Assumed Target
			Percentage of Facilities where accessibility standards are met = 100%	100%	Assumed Target
			Percentage of Facility components where Condition is rated poor= 0%	7% rated poor. Target not met	Rehabilitation work required at Burns Wharf Theatre
Solid Waste	No regulatory standard	All assets are in good or fair condition to provide adequate service	Assets in poor condition = 0%	Target met	

APPENDIX F

ALTERNATIVE ASSET MANAGEMENT STRATEGIES

APPENDIX F - ALTERNATIVE STRATEGIES

Strategy No.1	Strategy No.2
Water System	
Replace watermain as their expected lives expire	Continue regular watermain maintenance as they are in relatively good condition and non-critical.
Replace service connections as their expected lives expire	Continue regular service connection maintenance as they are in relatively good condition and non-critical.
Replace valves & hydrants as they fail	Continue regular hydrant and valve maintenance as they are in relatively good condition
Replace structural mechanical / electrical equipment as their expected lives expire	Inspect, maintain & rehabilitate structural mechanical / electrical equipment annually as needed (as identified by operator)
Continue system maintenance to meet DWQMS requirements	Continue system maintenance to meet DWQMS requirements
Wastewater System	
Replace sewer mains as their expected lives expire	Continue regular watermain maintenance as they are in relatively good condition and non-critical.
Replace laterals as their expected lives expire	Continue regular service lateral maintenance as they are in relatively good condition and non-critical.
Replace manholes as needed	Implement manhole inspection and repair program. Replace only as needed (annual allowance)
Implement CCTV inspection program	Implement CCTV inspection program in focused areas of concern (annual allowance)
Replace structural mechanical / electrical equipment as their expected lives expire	Inspect, maintain & rehabilitate structural mechanical / electrical equipment annually as needed (as identified by operator)
Storm Water System	
Replace components as their expected lives expire	Ensure maintenance and replace components as needed
Road Network	
Replace road surface sections through an annual program over the 25-year period	Continue annual road resurfacing program and rehabilitate road surface based through an annual rehabilitation program over the 25 year period
Continue to comply with minimum road maintenance standards	Continue to comply with minimum road maintenance standards
Replace vehicles as needed	Continue using existing large vehicles and equipment but enhance maintenance to ensure reliability
Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate building components (Structural, Electrical, Mechanical) as necessary
Administration Buildings	
Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate building components (Structural, Electrical, Mechanical) as necessary
Recreation Facilities	
Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate building components (Structural, Electrical, Mechanical) as necessary
Fire Protection Equipment	
Replace 2 fire trucks and other components as their expected lives expire	Replace 2 fire trucks and other components as their expected lives expire
Solid Waste System	
Expand landfill capacity and replace existing facility components as they expire	Expand landfill capacity; inspect and maintain existing facilities
Transfer responsibility for landfill bins to Producers on April 1, 2025	Transfer responsibility for landfill bins to Producers on April 1, 2025
Heritage & Library	
Replacement of building components as their expected lives expire	Undertake rehabilitation work at Post Office/ Bank building as recommended in inspection report
	Undertake rehabilitation work at Burns Wharf Theatre building as recommended in inspection report
Growth Impacts	
Assume not new assets would be needed to accommodate growth due to the slight decline in population from 1,013 in 2016 to 1,008 in 2021 (Statistics Canada 2021 Census of Population)	Assume not new assets would be needed to accommodate growth due to the slight decline in population from 1,013 in 2016 to 1,008 in 2021 (Statistics Canada 2021 Census of Population)
Financial	
Set capital reserve target to be between 1% and 2% of asset value plus an additional 0.5% of asset value to cover unforeseen capital requirements due to climate change and meergency events	Set capital reserve target to be between 1% and 2% of asset value plus an additional 0.5% of asset value to cover unforeseen capital requirements due to climate change and meergency events
Make annual capital reserve contribuitions sufficient to maintain a target reserve balance of between 1.5% and 2.5% of asset value in year of contribution	Make annual capital reserve contribuitions sufficient to maintain a target reserve balance of between 1.5% and 2.5% of asset value in year of contribution

APPENDIX F - ALTERNATIVE STRATEGIES

Strategy No.1	Strategy No.2
Defer reserve contributions for asset needs beyond 2046 to the end of the 25 year period	Defer reserve contributions for asset needs beyond 2046 to the end of the 25 year period
No additional maintenance budgets	\$5,000 Increase maintenance budget for wastewater for sewer inspections \$30,000 Increase maintenance budgets for roads for for equipment maintenance
No additional building inspection budgets	Additional budgets for building inspections: Public works garage and firehall - \$35,000 in 2025 Arena - \$40,000 in 2024 Docks - \$20,000 in 2027 Museum - \$30,000 in 2023 Log Buildings - \$20,000 in 2024
Water System Requirement in 25 year Period = \$3,981,426 but invested in the years when replacement is required	Water System Requirement in 25 year Period = \$3,981,426 but spread annually over the period
Water System Requirement Beyond 2037 = \$13,211,505	Water System Requirement Beyond 2037 = \$13,211,505
Wastewater System Requirement in 25 year Period = \$6,360,750	Wastewater System Requirement in 25 year Period = \$1,663,052 plus \$4,697,698 in deferred costs if required
Wastewater System Requirement Beyond 2037 = \$6,148,090	Wastewater System Requirement Beyond 2037 = \$6,148,090
Tax Supported Requirement in 25-year Period = \$33,258,000	Tax Supported Requirement in 25-year Period = \$28,633,290
Tax Supported Requirement Beyond 2037 = \$6,904,017	Tax Supported Requirement Beyond 2037 = \$6,904,017 plus \$4,524,709 in deferred costs if required
Funding to be from a combination of taxes (or user fees as the case may be) and debt and avoid exceeding debt limit. Seek available Federal and Provincial Funding to reduce impact to rate/ tax payer	Funding to be from a combination of taxes (or user fees as the case may be) and debt and avoid exceeding debt limit. Seek available Federal and Provincial Funding to reduce impact to rate/ tax payer
Policies	
Joint procurement with others on a case by case basis	Joint procurement with others on a case by case basis
Continue to combine activities to reduce costs	Continue to combine activities to reduce costs
Continue to outsource W&WW operations	Continue to outsource W&WW operations

APPENDIX G

ALTERNATIVE STRATEGY NO.2 25-YEAR FINANCIAL PROJECTIONS

WATER SYSTEM ASSET REQUIREMENTS

		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Cost / Revenue Item																									
Township 5-Year Capital Forecast																									
Asset Rehabilitation	\$	103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927	\$ 119,405	\$ 231,040	\$ 237,972	\$ 245,111	\$ 252,464	\$ 260,038	\$ 267,839	\$ 275,874	\$ 284,151	\$ 292,675	\$ 301,455	\$ 310,499	\$ 319,814	\$ 329,408	\$ 339,231	\$ 349,469	\$ 359,953	\$ 370,762	\$ 381,075
Asset Replacement	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Requirements	\$	103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927	\$ 119,405	\$ 231,040	\$ 237,972	\$ 245,111	\$ 252,464	\$ 260,038	\$ 267,839	\$ 275,874	\$ 284,151	\$ 292,675	\$ 301,455	\$ 310,499	\$ 319,814	\$ 329,408	\$ 339,231	\$ 349,469	\$ 359,953	\$ 370,762	\$ 381,075
Debt Financing	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Reserve Financing	\$	13,000	\$ 16,090	\$ 19,273	\$ 22,551	\$ 25,927	\$ 29,405	\$ 141,040	\$ 147,972	\$ 155,111	\$ 162,464	\$ 170,038	\$ 177,839	\$ 186,874	\$ 194,151	\$ 202,675	\$ 211,455	\$ 220,499	\$ 229,814	\$ 239,408	\$ 249,231	\$ 259,469	\$ 269,953	\$ 280,762	\$ 291,075
Other Financing Grants (third party, etc.)	\$	90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000
Total Capital Financing	\$	103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927	\$ 119,405	\$ 231,040	\$ 237,972	\$ 245,111	\$ 252,464	\$ 260,038	\$ 267,839	\$ 275,874	\$ 284,151	\$ 292,675	\$ 301,455	\$ 310,499	\$ 319,814	\$ 329,408	\$ 339,231	\$ 349,469	\$ 359,953	\$ 370,762	\$ 381,075
Operations & Maintenance	\$	285,755	\$ 292,441	\$ 299,240	\$ 304,154	\$ 310,167	\$ 316,341	\$ 322,616	\$ 329,020	\$ 335,551	\$ 342,212	\$ 349,006	\$ 355,936	\$ 363,005	\$ 370,215	\$ 377,569	\$ 385,071	\$ 392,722	\$ 400,527	\$ 408,467	\$ 416,507	\$ 424,659	\$ 433,337	\$ 441,953	\$ 450,743
Transfers to Capital Reserves	\$	38,000	\$ 52,000	\$ 67,000	\$ 83,000	\$ 100,000	\$ 50,000	\$ 70,000	\$ 90,000	\$ 108,000	\$ 127,000	\$ 186,000	\$ 222,000	\$ 227,000	\$ 231,000	\$ 236,000	\$ 235,000	\$ 234,000	\$ 232,000	\$ 230,000	\$ 229,000	\$ 227,000	\$ 225,000	\$ 223,000	\$ 221,000
Debt Repayment	\$	71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 71,000	\$ 31,612	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less Non-Rate Revenues	\$	75,324	\$ 75,450	\$ 75,579	\$ 75,711	\$ 75,845	\$ 6,982	\$ 7,122	\$ 7,264	\$ 7,410	\$ 7,559	\$ 7,709	\$ 7,863	\$ 8,020	\$ 8,181	\$ 8,344	\$ 8,511	\$ 8,681	\$ 8,855	\$ 9,032	\$ 9,213	\$ 9,397	\$ 9,585	\$ 9,777	\$ 9,972
Revenue Requirements (from Users)	\$	320,432	\$ 339,990	\$ 360,680	\$ 382,443	\$ 405,342	\$ 430,359	\$ 456,461	\$ 482,755	\$ 507,141	\$ 532,654	\$ 559,939	\$ 570,073	\$ 581,985	\$ 595,034	\$ 608,225	\$ 611,559	\$ 618,041	\$ 623,671	\$ 629,455	\$ 635,394	\$ 642,492	\$ 648,762	\$ 655,177	\$ 661,770
Annual Increase (\$)	\$	15,250	\$ 19,559	\$ 20,670	\$ 21,783	\$ 22,899	\$ 25,017	\$ 26,137	\$ 26,261	\$ 24,365	\$ 25,513	\$ 26,255	\$ 11,164	\$ 11,911	\$ 11,050	\$ 12,191	\$ 6,324								

[illegible]

WASTEWATER SYSTEM ASSET REQUIREMENTS

Cost/ Revenue Item	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Township 5-Year Capital Forecast	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Rehabilitation	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703	\$ 61,494	\$ 63,339	\$ 65,239	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,305,444	\$ -	\$ 481,412	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Requirements	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703	\$ 61,494	\$ 63,339	\$ 65,239	\$ -	\$ -	\$ -	\$ -	\$ 1,305,444	\$ -	\$ 481,412	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Financing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 785,444	\$ -	\$ 321,412	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Reserve Financing	\$ 6,300	\$ 8,045	\$ 9,636	\$ 11,275	\$ 12,964	\$ 14,703	\$ 16,494	\$ 18,339	\$ 20,239	\$ -	\$ -	\$ -	\$ -	\$ 520,000	\$ -	\$ 180,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Financing (Grants, third party, etc.)	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Financing	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703	\$ 61,494	\$ 63,339	\$ 65,239	\$ -	\$ -	\$ -	\$ -	\$ 1,305,444	\$ -	\$ 481,412	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operations & Maintenance	\$ 128,935	\$ 131,464	\$ 134,043	\$ 136,574	\$ 139,057	\$ 142,055	\$ 144,885	\$ 147,724	\$ 150,630	\$ 153,602	\$ 156,624	\$ 159,705	\$ 162,880	\$ 166,057	\$ 169,239	\$ 172,665	\$ 176,088	\$ 179,540	\$ 183,000	\$ 186,682	\$ 190,276	\$ 194,133	\$ 197,966	\$ 201,975
Transfers to Capital Reserves	\$ 24,094	\$ 24,094	\$ 24,094	\$ 24,094	\$ 24,094	\$ 24,094	\$ 24,094	\$ 30,000	\$ 36,000	\$ 42,000	\$ 48,000	\$ 55,000	\$ 62,000	\$ 70,000	\$ 78,000	\$ 86,000	\$ 94,003	\$ 103,000	\$ 113,000	\$ 124,000	\$ 135,000	\$ 147,000	\$ 159,000	\$ 172,000
Debt Retirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 88,196	\$ 88,196	\$ 96,103	\$ 96,103	\$ 96,103	\$ 96,103	\$ 96,103	\$ 96,103	\$ 96,103
Less Non-Rate Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Requirements (from Users)	\$ 152,999	\$ 155,928	\$ 158,107	\$ 160,738	\$ 163,422	\$ 166,759	\$ 170,885	\$ 174,886	\$ 179,724	\$ 184,639	\$ 189,624	\$ 194,716	\$ 199,880	\$ 205,157	\$ 210,545	\$ 216,088	\$ 221,791	\$ 228,642	\$ 235,643	\$ 242,806	\$ 250,131	\$ 257,626	\$ 265,291	\$ 273,126
Annual Increase (\$)	\$ 16,445	\$ 2,259	\$ 2,579	\$ 2,631	\$ 2,863	\$ 2,737	\$ 8,728	\$ 8,848	\$ 8,935	\$ 8,963	\$ 10,022	\$ 10,082	\$ 11,144	\$ 11,207	\$ 11,467	\$ 12,337	\$ 12,310	\$ 13,471	\$ 15,541	\$ 16,612	\$ 17,684	\$ 18,753	\$ 19,823	\$ 20,893
Annual Increase (%)	12%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	2%	2%	2%	2%	2%	2%

[illegible]

TAX SUPPORTED SERVICES ASSET REQUIREMENTS

Tax Supported Services Capital Reserve Schedule (all reserves combined)

[illegible]

APPENDIX G: ALTERNATIVE STRATEGY NO.2 (25-YEAR FINANCIAL PROJECTIONS)

DEBT CAPACITY PROJECTIONS

Total Debt Capacity

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Total Debt Limit	\$ 1,246,475	\$ 1,293,905	\$ 1,346,859	\$ 1,404,834	\$ 1,462,533	\$ 1,505,976	\$ 1,570,713	\$ 1,637,988	\$ 1,675,711	\$ 1,714,214	\$ 1,753,641	\$ 1,791,080	\$ 1,828,175	\$ 1,865,571	\$ 1,935,080	\$ 1,931,364	\$ 1,930,460	\$ 1,985,677	\$ 2,010,778	\$ 2,038,831	\$ 2,083,163	\$ 2,088,841	\$ 2,116,788	\$ 2,143,579
Less Current Debt Repayment	\$ 402,360	\$ 71,000	\$ 71,000	\$ 284,902	\$ 284,902	\$ 284,902	\$ 284,902	\$ 307,945	\$ 307,945	\$ 307,945	\$ 288,557	\$ 302,100	\$ 302,100	\$ 302,100	\$ 370,295	\$ 370,295	\$ 338,203	\$ 338,203	\$ 294,301	\$ 255,722	\$ 255,722	\$ 255,722	\$ 212,579	\$ 212,579
Available Debt Capacity	\$ 1,144,115	\$ 1,225,905	\$ 1,278,859	\$ 1,139,932	\$ 1,197,631	\$ 1,241,074	\$ 1,305,812	\$ 1,330,023	\$ 1,367,766	\$ 1,406,269	\$ 1,465,083	\$ 1,488,980	\$ 1,526,075	\$ 1,563,472	\$ 1,534,784	\$ 1,561,068	\$ 1,591,257	\$ 1,637,474	\$ 1,806,477	\$ 1,781,109	\$ 1,807,441	\$ 1,832,919	\$ 1,934,080	\$ 1,930,000

APPENDIX H

RISK ASSESSMENT

Likelihood and Consequence (Risk Level) Chart

Likelihood	Consequence		
	Minor	Moderate	Major
Likely	<i>Medium</i>	<i>Medium</i>	<i>High</i>
Somewhat Likely	<i>Low</i>	<i>Medium</i>	<i>High</i>
Unlikely	<i>Low</i>	<i>Medium</i>	<i>High</i>

Risk Assessment

Risks	Likelihood	Consequence	Level of Risk	Priority	Strategy No.1	Strategy No.2	Assessment	Preferred Strategy
Water System								
Frequent main breaks affecting supply to localized areas	Unlikely	Minor	Medium	Low	Replace watermain as their expected lives expire	Continue regular watermain maintenance as they are in relatively good condition and non-critical.	Mains in relatively good condition. Continuation of regular maintenance offers acceptable risk	Strategy No.2
Service connection failure affecting customers	Unlikely	Minor	Medium	Low	Replace service connections as their expected lives expire	Continue regular service connection maintenance as they are in relatively good condition and non-critical.	Pipes in relatively good condition. Continuation of regular maintenance offers acceptable risk	Strategy No.2
Water valve and hydrant failure affecting ability to isolate system and fire fighting capability	Unlikely	Major	Medium	Low	Replace hydrants and valves as they fail	Continue regular hydrant and valve maintenance as they are in relatively good condition	No major issues. Regular maintenance would address risks	Strategy No.2
Potential loss of treatment capability due to aging process components. Would affect ability to supply water; impact to public health and image; significant costs	Somewhat Likely	Major	Medium	High	Replace aging components at both WTPs as needed	Inspect replace /repair aging components at both WTPs as needed over the next 5 years	Aging components could become major risk if they go unattended. A mix of replacement and rehabilitation depending on the component and its condition based on inspection offer acceptable risk	Strategy No.2
Potential loss of treatment capability due to deterioration of structure. Would affect ability to supply water; impact to public health and image; significant costs	Unlikely	Moderate	Medium	Low	Replace structural components as their expected lives expire	Inspect & rehabilitate structural components as needed	Structure is in relatively good condition. No issues identified. Periodic inspections and rehabilitation offer acceptable risk	Strategy No.2

APPENDIX H: RISK ASSESSMENT

Risks	Likelihood	Consequence	Level of Risk	Priority	Strategy No.1	Strategy No.2	Assessment	Preferred Strategy
Potential loss of treatment capability due to failing electrical and mechanical components. Would affect ability to supply water; Impact to public health and image; significant costs	Unlikely	Moderate	Medium	Low	Replace mechanical / electrical equipment as their expected lives expire	Inspect, maintain & replace or rehabilitate mechanical / electrical equipment as needed	Most electrical/ mechanical components are in relatively good condition. Periodic inspections and rehabilitation or replacement as needed offer acceptable risk	Strategy No.2
Wastewater System								
Frequent main blockages or breaks causing back-up and possible discharge to the environment	Unlikely	Minor	Medium	Low	Replace wastewater mains as their expected lives expire	Continue regular wastewater main maintenance as they are in relatively good condition and non-critical.	Mains in relatively good condition. Continuation of regular maintenance offers acceptable risk	Strategy No.2
Lateral connection blockage or failure affecting customers	Unlikely	Minor	Medium	Low	Replace service connections as their expected lives expire	Continue regular service connection maintenance as they are in relatively good condition and non-critical.	Pipes in relatively good condition. Continuation of regular maintenance offers acceptable risk	Strategy No.2
Potential loss of treatment capability due to failing mechanical or electrical components. Would affect ability to transmit and treat wastewater; Impact to public health, environment and image; potential significant costs	Likely	Moderate	Medium	Medium	Replace mechanical and electrical components as their expected lives expire	Inspect and replace or repair mechanical and electrical components based on condition	Mechanical Electrical components at one pumping station beyond their respective life expectancies and could be a risk. Replacement or rehabilitation based on inspection would reduce the risk. Aerators are in good condition	Strategy No.2
Potential loss of treatment capability due to deterioration of structure. Would affect ability to supply water; impact to public health and image; significant costs	Unlikely	Moderate	Medium	Low	Replace structural components as their expected lives expire	Inspect & rehabilitate structural components as needed	Structures are in relatively good condition. Periodic inspections and rehabilitation offer acceptable risk	Strategy No.2
Stormwater System								
Poor pipe condition potentially resulting in drainage problems, public safety issues and environmental impacts; Public image affected	Unlikely	Minor	Low	Low	Replace stormwater pipes, manholes and catch basins as their expected lives expire	Undertake inspections in main areas to assess need and rehabilitate or replace as necessary.	System is in relatively good condition. Strategy No.2 offers reasonable risk reduction and management.	Strategy No.2

APPENDIX H: RISK ASSESSMENT

Risks	Likelihood	Consequence	Level of Risk	Priority	Strategy No.1	Strategy No.2	Assessment	Preferred Strategy
Administration Buildings								
Poor building condition potentially resulting in loss of use and public safety issues; Public image affected; significant costs	Likely	Moderate	Medium	High	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Undertake recommended work on Post Office/ Brak Building from inspection report	Inspections and undertaking the recommended works would mitigate the risks. Strategy No.2 offers reasonable risk reduction and management	Strategy No.2
Fire Protection Equipment								
Reduced capacity to respond to fire call outs due to equipment in poor condition	Unlikely	Major	High	Medium	Replace vehicles as needed	Continue regular maintenance and monitor condition. Repair or replace vehicles and other equipment as needed based on operating condition	Units 1 and 2 and other response equipment are at or past their useful lives. Strategy No. 2 includes continuing regular maintenance, condition monitoring and replacing or rehabilitating the units in poor condition. This offers acceptable risk management.	Strategy No.2
Recreation Facilities								
Fair to poor condition of structure resulting in temporary loss of use; public image impact; public safety issues	Somewhat Likely	Moderate	Medium	Medium	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary.	Strategy No.2 offers reasonable risk reduction and management	Strategy No.2
Fair to poor asset condition mechanical and electrical components resulting in temporary loss of use; public image impact; public safety issues	Unlikely	Minor	Low	Low	Replace equipment as needed	Undertake inspections to assess need and replace as necessary.	No major issues identified.	Both offer same risk reduction
Solid Waste System								
Reduced capacity to respond to deliver service due to buildings in poor condition	Unlikely	Minor	Low	Low	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. Facility is relatively good condition. Not critical.	Assets in good condition. Strategy No.2 offers acceptable risk management	Strategy No.2

APPENDIX H: RISK ASSESSMENT

Risks	Likelihood	Consequence	Level of Risk	Priority	Strategy No.1	Strategy No.2	Assessment	Preferred Strategy
Heritage & Library								
Reduced capacity to respond to deliver service due to buildings in poor condition	Unlikely	Minor	Low	Low	Replace building components as their expected lives expire	Undertake inspections to assess need and rehabilitate as necessary. The Museum, Theatre, Blacksmith Building and School House are past their life expectancies	Assets require inspections. Strategy No.2 offers acceptable risk management	Strategy No.2
Road Network								
Poor road base condition potentially affecting public safety; significant costs	Unlikely	Minor	Low	Low	Replace road base sections as they expire	Repair and reconstruct road base sections only as needed based on inspections. In relatively good condition. Non critical.	Road Base is in good condition. Strategy No.2 offers acceptable risk management	Strategy No.2
Poor road surface condition potentially affecting public safety; significant costs	Likely	Major	High	High	Approximately 4 km of surface in fair to poor condition. Replace backlog of road surface sections in poor condition over 25 years	Approximately 4 km of surface in fair to poor condition. Continue annual road resurfacing (rehabilitation) program and replace road surface based on inspections and prioritized need over the 25 year period.	Strategy No.1 offers faster road resurfacing. Strategy No.2 lowers risk of further surface deterioration by having ongoing resurfacing and addresses backlog over time.	Strategy No.2
Fair to poor vehicle condition affecting ability to carry out operations and respond to situations; Public image impact; reduced level of service	Likely	Minor	Medium	High	5 vehicles/ equipment are in fair to poor condition. Replace vehicles as needed	5 vehicles/ equipment are in fair to poor condition. Replace vehicles as needed	Replacement offers best risk reduction	Both offer same risk reduction
Fair to poor facility electrical/ mechanical condition affecting ability to carry out operations and respond to situations; worker safety issues; Public image impact; reduced level of service	Somewhat Likely	Moderate	Medium	Medium	Public Works Garage / Firehall is at life expectancy. Replace building components as their expected lives expire	Public Works Garage / Firehall is at life expectancy. Undertake inspections to assess need and rehabilitate as necessary	Strategy No.2 offers reasonable risk reduction	Strategy No.2