2024

Asset Management Plan for the Township of Hornepayne

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Executive Summary

Municipal infrastructure provides the foundation for the economic, social and environmental health and growth of a community through the delivery of critical services. The goal of asset management is to deliver an adequate level of service in the most cost-effective manner. This involves the development and implementation of asset management strategies and long-term financial planning.

All municipalities in Ontario are required to complete an asset management plan (AMP) in accordance with Ontario Regulation 588/17 (O. Reg. 588/17). This AMP outlines the current state of asset management planning in the Township of Hornepayne. It identifies the current practices and strategies that are in place to manage public infrastructure and includes a development plan so that they can be further refined. Through the implementation of sound asset management strategies, the Township can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

This updated plan has attained compliance with O. Reg. 588/17 to the level of the requirements that must be completed for the current levels of service provided by the Township. There are additional requirements regarding proposed levels of service and growth that must be met by July 1, 2025.

This AMP includes the following asset categories:

Asset Category	Source of Funding	
Bridges & Culverts	Tax Levy	Reserves Grants Debt Donations
Buildings & Facilities		
Land Improvements		
Machinery & Equipment		
Road Network		
Vehicles		
Waste Disposal		
Stormwater Network		
Water Network	User Rates	
Sanitary Sewer Network		

The overall replacement cost of the asset categories included in this AMP totals $129.3 million. 61% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 35% of assets. For the remaining 65% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in many municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and an important part of the development plan in this AMP.

The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP has identified costs using a combination of proactive lifecycle strategies (paved roads) and replacement only strategies (all other assets) to determine the lowest cost option to maintain the current level of service.

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the Township's average annual capital requirement totals $3.5 million. Based on an analysis of sustainable capital funding sources in the past four years, the Township has committed approximately $1.75 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $1.73 million.

This AMP represents a snapshot in time and is based on the best available processes, data, and information at the Township. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources. This plan is constantly evolving and may be revised to reflect the most current information and circumstances. Planning continues for future developments and improvements to the Township's asset management program. These include:

a) regular and ongoing asset inventory data review to ensure that asset management planning and long-term projections are based on completed and accurate data
b) the continuous review, development and implementation of optimal lifecycle management strategies
c) the development of short- and long-term capital plans for each asset category to ensure adequate revenue is available to meet capital requirements
d) the continuing measurement of current levels of service across all asset categories and the identification of proposed levels of service that are realistic and sustainable

The evaluation of the above items and further development of a data-driven, best-practice approach to asset management is underway to ensure the Township is providing optimal value through its management of infrastructure and delivery of services.

AM Program Development Plan

Asset management is an ongoing practice that requires dedicated time and resources across all departments. The above improvements include many key activities designed to enhance the accuracy and reliability of asset management planning.

However, it is far from a comprehensive list of all activities required to manage a municipal asset management program. Timelines, resources and effort for the above improvements and all regular asset management activities will continue to be reviewed. Roles and responsibilities will be clearly defined and delegated to assigned resources to ensure that the Township's asset management program is progressing towards its strategic goals and objectives.

The following table provides a summarized list of plans to further the development of the Township's asset management program. A more detailed description of each item identified can be found within the appropriate Asset Category in **Section 4** of the AMP.

AMP Development Plan Category	Development Plan Details	Applicable Asset Categories
Asset Inventory/Data Refinement	Review Replacement Costs	Bridges & Culverts Buildings & Facilities Land Improvements Machinery & Equipment Vehicles Road Network Waste Disposal Water Network Sanitary Sewer Network Stormwater Network
Condition Assessment Strategies	Review Backlog Assets	All Asset Categories
	Review and Update Lifecycle Management Strategy	All Asset Categories

Lifecycle Management Strategies	Update Long-Term Capital Plan	All Asset Categories
Levels of Service	Measure Current Levels of Service	All Categories
	Identify Proposed Levels of Service	All Categories
	Identify Current LOS Metrics for **new** assets	All Asset Categories

1 Introduction & Context

Key Insights

The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, and manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio

The Township's asset management policy provides clear direction to staff on their roles and responsibilities regarding asset management

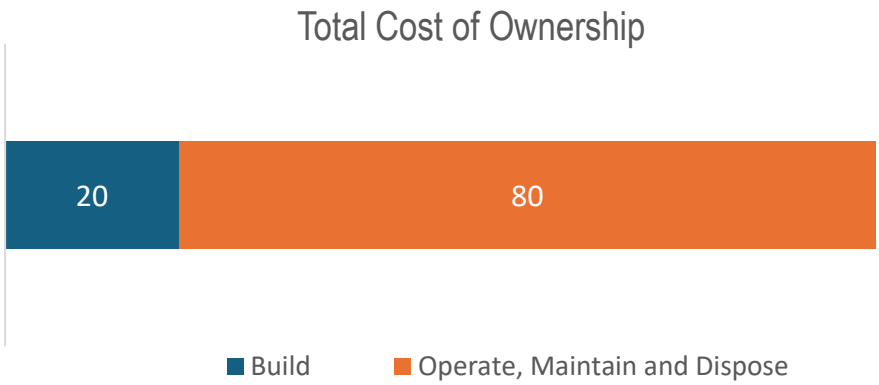
An asset management plan is a living document that should be updated regularly to inform long-term planning

Ontario Regulation 588/17 outlines several key milestones and requirements for asset management plans in Ontario between July 1, 2021 and 2025

1.1 An Overview of Asset Management

Communities are responsible for managing and maintaining a broad portfolio of infrastructure assets to deliver municipal services to their residents. The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, and manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio.

The acquisition of capital assets accounts for only 10-20% of their total cost of ownership. The remaining 80-90% comes from operations and maintenance. This AMP focuses its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.



These costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of a broader asset management program. The diagram below depicts an industry standard approach and sequence to developing a practical asset management program.

The diagram, adopted from the Institute of Asset Management (IAM), illustrates the concept of 'line of sight', or alignment between the corporate strategic plan and various asset management documents. The strategic plan has a direct, and cascading impact on asset management planning and reporting.

1.1.1 Asset Management Policy

An asset management policy represents a statement of the principles guiding the Township's approach to asset management activities. It aligns with the organizational strategic plan and provides clear direction to municipal staff on their roles and responsibilities as part of the asset management program.

The Township's Asset Management Policy was developed in 2019 (By-law No. 1739) and was reviewed and approved in 2024 (By-law No. 2078) in satisfaction of the requirements outlined in O. Reg. 588/17.

This Asset Management Plan satisfies the policy statement outlined in Section 4.3:

> "*The Township will develop an asset management plan that incorporates all infrastructure categories and assets that meet the capitalization thresholds outlined in the organization's Tangible Capital Asset Policy, and it will be updated at least every five years to promote, document and communicate continuous improvement*"

1.1.2 Asset Management Strategy

An asset management strategy outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. It provides greater detail than the policy on how the Township plans to achieve asset management objectives through planned activities and decision-making criteria.

The Township's Asset Management Policy contains many of the key components of an asset management strategy and may be expanded on in future revisions or as part of a separate strategic document.

1.1.3 Asset Management Plan

The asset management plan (AMP) provides a snapshot in time of the current state of municipal infrastructure assets as well as the current strategies in place to assist with planning and decision-making.

The focus of the AMP is not simply about identifying the money or resources that are required to meet lifecycle needs of infrastructure and maintain an adequate level of service. It should also identify the processes and strategies that are and can be implemented to improve decision-making outcomes.

The AMP is a living document that should be updated regularly as asset and financial data becomes available. This will allow the Township to re-evaluate the state of the infrastructure and identify how the asset management plan and financial strategies are progressing.

1.2 Key Concepts in Asset Management

Effective asset management integrates several key components, including lifecycle management, risk management, and levels of service. These concepts are applied throughout this asset management plan and are described below in greater detail.

1.2.1 Lifecycle Management Strategies

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including an asset's characteristics, location, utilization, maintenance history and environment. Asset deterioration has a negative effect on the ability of an asset to fulfill its intended function, and may be characterized by increased cost, risk and even service disruption.

To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation and replacement. The following table provides a description of each type of activity and the general difference in cost.

Lifecycle Activity	Activity Description	Example (Roads)	Cost
Maintenance	Activities that prevent defects or deteriorations from occurring	Crack Seal	$
Rehabilitation/ Renewal	Activities that rectify defects or deficiencies that are already present and may be affecting asset performance	Mill & Re-surface	$$
Replacement/ Reconstruction	Asset end-of-life activities that often involve the complete replacement of assets	Full Reconstruction	$$$

Depending on initial lifecycle management strategies, asset performance can be sustained through a combination of maintenance and rehabilitation, but at some point, replacement is required. Understanding what affect these activities will have on the lifecycle of an asset, and their cost, will enable staff to make better recommendations.

The Township's approach to lifecycle management is described within each asset category outlined in this AMP. Developing and implementing a proactive lifecycle strategy will help staff to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

1.2.2 Risk Management Strategies

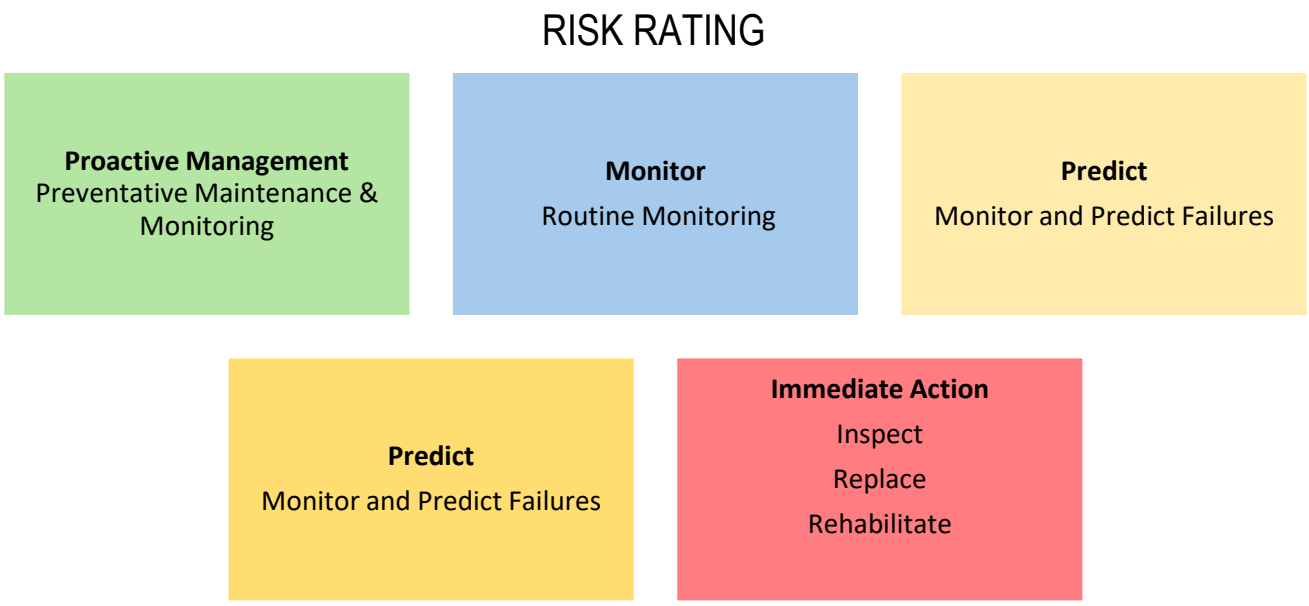
Municipalities generally take a 'worst-first' approach to infrastructure spending. Rather than prioritizing assets based on their importance to service delivery, assets in the worst condition are fixed first, regardless of their criticality. However, not all assets are created equal, and some assets pose a greater risk to service delivery if they were to fail.

For example, a road with a high volume of traffic that provides access to critical services poses a higher risk than a low volume rural road servicing a handful of properties. Asset risk and criticality is a key component of both short- and long-term planning.

Risk Rating = Probability of Failure x Consequence of Failure

This AMP includes a high-level evaluation of asset risk and criticality. Each asset has been assigned a probability of failure score and consequence of failure score based on available asset data. These risk scores can be used to prioritize maintenance, rehabilitation and replacement strategies for critical assets.

Risk matrices are a useful tool used to visualize risk across a group of assets. The following image provides an example of the actions or strategies that may be considered depending on an asset's risk rating.



1.2.3 Levels of Service

A level of service (LOS) is a measure of what the Township is providing to the community and the nature and quality of that service. Within each asset category in this AMP, technical metrics and qualitative descriptions that measure both technical and community levels of service have been established and measured as data is available.

These measures include a combination of those that have been outlined in O. Reg. 588/17 in addition to performance measures identified by the Township as worth measuring and evaluating. The Township measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

Community Levels of Service

A simple, plain language description or measure of the service that the community receives, i.e. an expectation.

Technical Levels of Service

Technical levels of service are a measure of key technical attributes of the service being provided to the community. These include mostly quantitative measures and tend to reflect the impact of the Township's asset management strategies on the physical condition of assets or the quality/capacity of the services they provide, i.e. a measurement.

Current and Proposed Levels of Service

This AMP focuses on measuring the current level of service provided to the community. In the next iteration of the AMP in 2025, the Township will include proposed levels of service over a 10-year period, in accordance with O. Reg. 588/17.

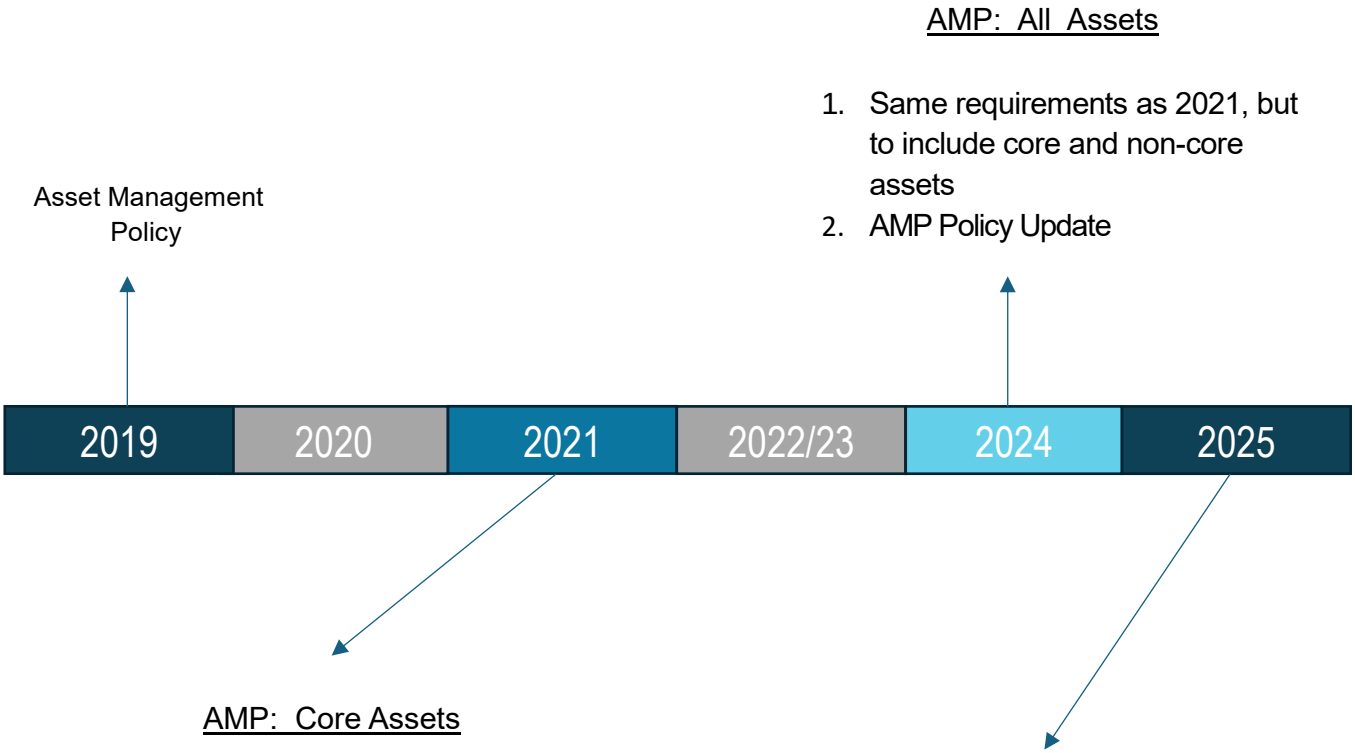
Proposed levels of service should be realistic and achievable within the timeframe outlined by the Township. They should also be determined with consideration of a variety of community expectations, fiscal capacity, regulatory requirements, corporate goals and long-term sustainability.

Once proposed levels of service have been established, the Township will identify a lifecycle management and financial strategy which allows these targets to be achieved.

1.3 Ontario Regulation 588/17

As part of the *Infrastructure for Jobs and Prosperity Act, 2015*, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure (O. Reg 588/17). Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

The diagram below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.



Asset Management Policy

AMP: Core Assets

1. Current levels of service
2. Inventory analysis
3. Lifecycle activities to sustain LOS
4. Cost of lifecycle activities
5. Population and employment forecasts
6. Discussion of growth impacts

AMP: All Assets

1. Same requirements as 2021, but to include core and non-core assets
2. AMP Policy Update

AMP: All Assets

1. Proposed levels of service for next 10 years
2. Updated Inventory analysis
3. Lifecycle management strategy
4. Financial strategy and addressing shortfalls
5. Discussion of how growth assumptions impacted lifecycle and financial strategy

1.3.1 O. Reg. 588/17 Compliance Review

The following table identifies the requirements outlined in Ontario Regulation 588/17 for municipalities to meet by July 1, 2025. Next to each requirement a page or section reference is included in addition to the status at July 1, 2024.

Requirement	O. Reg Section	AMP Section Reference	Status
Summary of assets in each category	S.5 (2), 3 (i)	4.1.1 – 5.2.1	Complete
Replacement cost of assets in each category	S.5 (2), 3 (ii)	4.1.1 – 5.2.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	4.1.3 - 5.2.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	4.1.2 – 5.2.2	Complete
Description of Township's approach to assessing the condition of assets in each category	S.5(2), 3(v)	4.1.2 – 5.2.2	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	4.1.6 - 5.2.6	Complete
Current performance measures in each category	S.5(2), 2	4.1.6 - 5.2.6	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	4.1.4 - 5.2.4	Complete
Cost of providing lifecycle activities for 10 years	S.5(2), 4	Appendix A	Complete
Growth Assumptions	S.5(2), 5(i-ii)	6.1 - 6.2	Complete
	S.5(2), 6(i-vi)		Not Applicable
Proposed Levels of Service	S.6(1), 1-5		In Progress 2025
	S.6(1), 6		Not Applicable
	S.6(1), 7		In Progress 2025

2 Scope & Methodology

Key Insights

This asset management plan includes 10 asset categories and is divided between tax-funded and rate-funded categories.

The source and recency of replacement costs impacts the accuracy and reliability of asset portfolio valuation.

Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life.

2.1 Asset Data Hierarchy

This asset management plan uses a two-tier asset hierarchy to sort assets into both a primary functional category (e.g. Road Network) and a secondary departmental or characteristic-based segment (e.g. Paved Roads or Transportation Services).

2.1.1 Asset Categories

This asset management plan for the Township of Hornepayne is produced in compliance with Ontario Regulation 588/17. The July 2024 deadline under the regulation—the second of three AMP updates— requires analysis of both core assets (roads, bridges & culverts, water, wastewater, and stormwater) and non-core asset categories (buildings, machinery & equipment, vehicles, land improvements).

The AMP summarizes the state of the infrastructure for the Township's asset portfolio, establishes current levels of service and the associated technical and community-oriented key performance indicators (KPIs), outlines lifecycle strategies for asset management and performance, and provides lifecycle costs for the asset categories listed below.

<table>
<tr><th>Asset Category</th><th colspan="2">Sources of Funding</th></tr>
<tr><td>Bridges & Culverts</td><td rowspan="8">Tax Levy</td><td rowspan="10">Reserves
Grants
Debt
Donations</td></tr>
<tr><td>Buildings & Facilities</td></tr>
<tr><td>Land Improvements</td></tr>
<tr><td>Machinery & Equipment</td></tr>
<tr><td>Road Network</td></tr>
<tr><td>Vehicles</td></tr>
<tr><td>Waste Disposal</td></tr>
<tr><td>Stormwater Network</td></tr>
<tr><td>Water Network</td><td rowspan="2">User Rates</td></tr>
<tr><td>Sanitary Sewer Network</td></tr>
</table>

2.1.2 Asset Segments

Within each asset category, a series of segments have been developed to allow for a more granular level of analysis. This secondary level of the asset data hierarchy aims to group assets together based on either departmental ownership or assets with similar characteristics. Examples of both approaches are found in the tables below

Asset Category	Asset Segment (Departmental)
Vehicles	Airport Vehicles
	Fire Vehicles
	Public Works Vehicles

Asset Category	Asset Segment (Characteristics)
Water Network	Hydrants
	Service Leads
	Watermains

2.2 Deriving Replacement Costs

Replacement costs should reflect the total costs associated with the full replacement or reconstruction of an asset. They should include the combined cost of materials, plant, labour, engineering and administrative costs.

This AMP relies on three methods to determine asset replacement costs:

- **Unit Cost**: A unit-based cost (e.g. per metre) determined through a review of recent contracts, reports and/or staff estimates
- **Unit Cost Inflated:** A unit-based cost (e.g. per asset) determined through recent purchases, engineering reports and/or staff estimates, and which may include inflation of the replacement cost to today's value using an index (e.g. CPI or NRBCPI)
- **Historical Cost Inflation:** Inflation of the asset cost recorded at the time it was initially acquired to today's value using an index (e.g. CPI or NRBCPI)

Unit cost inflation is used for assets such as bridges and buildings, when the engineering estimate of replacement cost is provided on a periodic basis during the (most recent) scheduled assessment, and then inflated to today's value for this AMP.

Historical cost inflation is typically used in the absence of reliable unit cost data. It is a fairly reliable method for recently purchased and/or constructed assets where the cost is reflective of the total capital costs that the Township incurred. As assets age, and new products and technologies impact procurement costs and construction methods, cost inflation becomes a less reliable technique to determine replacement cost.

2.3 Estimated Useful Life and Service Life Remaining

The estimated useful life (EUL) of an asset is the period over which the Township expects the asset to be available for use and remain in service before requiring replacement or disposal. The EUL for each asset in this AMP was assigned according to the knowledge and expertise of municipal staff and supplemented by existing industry standards when necessary.

By using an asset's in-service data and its EUL, the Township can determine the service life remaining (SLR) for each asset. Using condition data and the asset's SLR, the Township can more accurately forecast when it will require replacement. The SLR is calculated as follows:

Service Life Remaining (SLR) = In Service Date + Estimated Useful Life (EUL) - Current Year

2.4 Reinvestment Rate

As assets age and deteriorate, they require additional investment to maintain a state of good repair. The reinvestment of capital funds, through asset renewal or replacement, is necessary to sustain an adequate level of service. The reinvestment rate is a measurement of available or required funding relative to the total replacement cost.

By comparing the actual vs. target reinvestment rate the Township can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

$$\textit{Target Reinvestment Rate} = \textit{Annual Capital Requirement} \,/\, \textit{Total Replacement Cost}$$

$$\textit{Actual Reinvestment Rate} = \textit{Annual Capital Funding} \,/\, \textit{Total Replacement Cost}$$

2.5 Deriving Asset Condition

An incomplete or limited understanding of asset condition can mislead long-term planning and decision-making. Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life.

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Township's asset portfolio. The table below outlines the condition rating system used in this AMP to determine asset condition. This rating system is aligned with the Canadian Core Public Infrastructure Survey which is used to develop the Canadian Infrastructure Report Card. When assessed condition data is not available, service life remaining is used to approximate asset conditions.

Condition	Description	Criteria	Service Life Remaining (%)
Very Good	Fit for the future	Well maintained, good condition, new or recently rehabilitated	80 – 100
Good	Adequate for now	Acceptable, generally approaching mid-stage of expected service life	60 – 80
Fair	Requires attention	Signs of deterioration, some elements exhibit significant deficiencies	40 – 60
Poor	Increasing potential of affecting service	Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration	20 – 40
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable	0 – 20

The analysis in this AMP is based on assessed condition data only as available. In the absence of assessed condition data, asset age is used as a proxy to determine asset condition.

3 Portfolio Overview

Key Insights

The total replacement cost of the Township's asset portfolio is $129.3 million

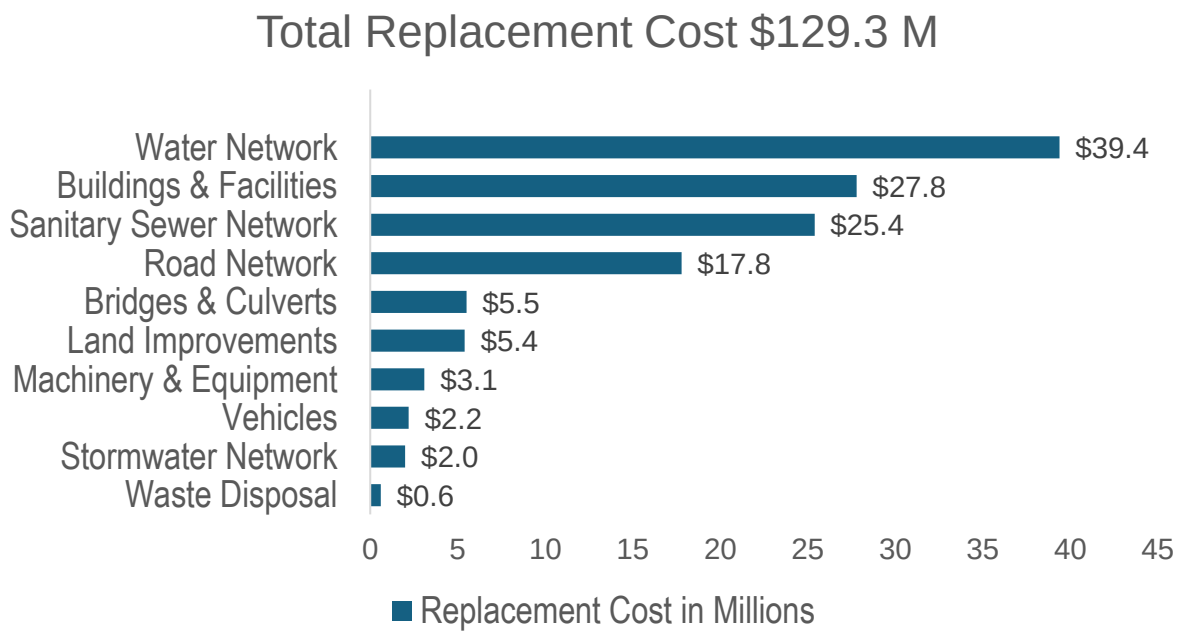
61% of all assets are in fair or better condition

28% of assets are projected to require replacement in the next 10 years

Average annual capital requirements total $3.5 million per year across all assets

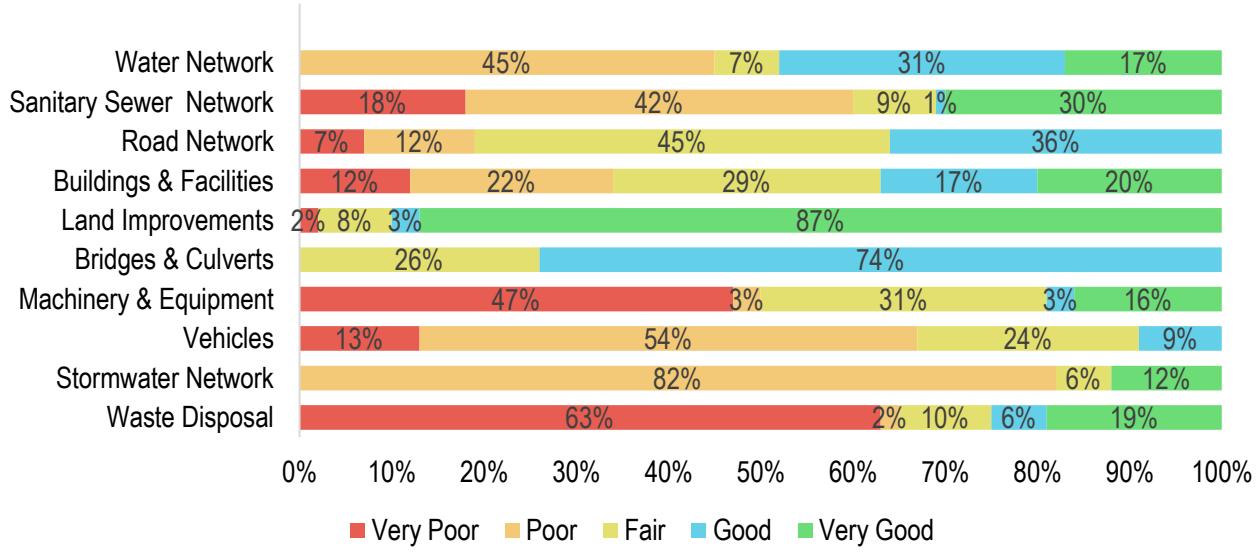
3.1 Total Replacement Cost of Asset Portfolio

The asset categories analyzed in this AMP have a total replacement cost of $129.3 million. This total was determined based on a combination of unit costs and historical cost inflation. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today.



3.2 Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 61**%** ($78.2 million) of assets in Hornepayne are in fair or better condition. This estimate relies on both age-based and assessed condition data.

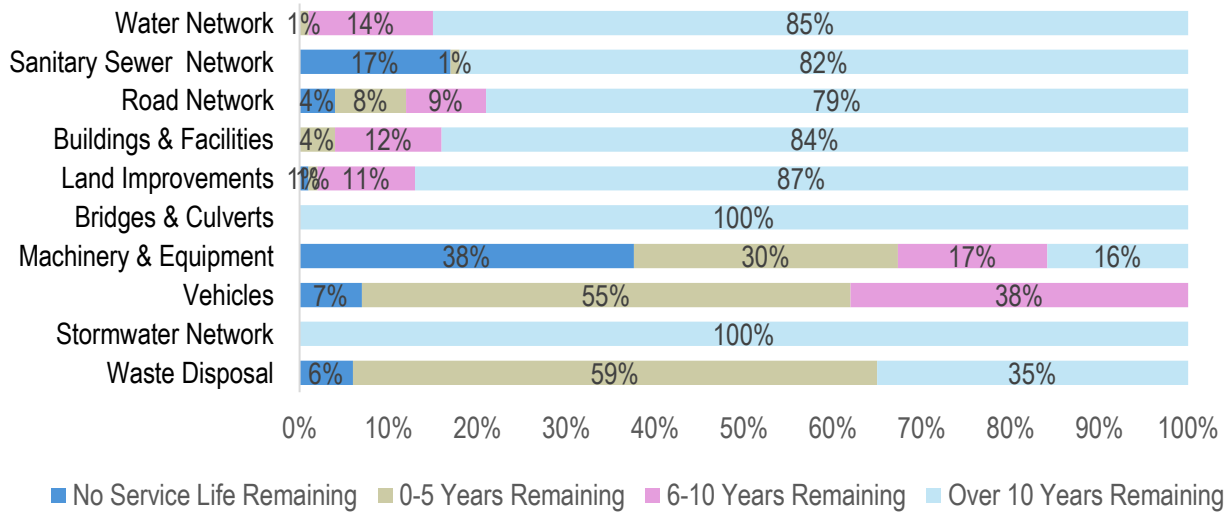


This AMP relies on assessed condition data for **35%** of assets; for the remaining portfolio, age is used as an approximation of condition. For newer assets, an age-based condition will be similar to an assessed condition, as all new assets are considered to be in Very Good condition when they are put in service. For older assets, assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions.

Asset Category	% of Assets with Assessed Condition	Source of Condition Data
Water Network	11%	Age-based estimates / 2023 Building Condition Assessments
Sanitary Sewer Network	15%	Age-based estimates / 2023 Building Condition Assessments
Buildings & Facilities	100%	2023 Building Condition Assessments
Land Improvements	11%	Staff Assessments
Road Network	97%	Staff & Engineering Assessments
Bridges & Culverts	100%	2023 OSIM Inspections
Machinery & Equipment	46%	Staff Assessments
Vehicles	63%	Staff Assessments
Stormwater Network	0%	Age-based estimates
Waste Disposal	37%	Staff Assessments
Overall:	**35%**	

3.3 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, **19%** of the Township's assets have less than 10 years of service life remaining. Capital requirements over the next 10 years are identified in Appendix A.



Category	Estimated Useful Life Range (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Water Network	10–75 Years	45.2	22.1
Sanitary Sewer Network	10–75 Years	41.1	22.0
Road Network	30–40 Years	42.6	10.8
Buildings & Facilities	10–75 Years	25.0	15.6
Land Improvements	10–25 Years	39.5	9.3
Bridges & Culverts	50 Years	38.1	31.8
Machinery & Equipment	5–20 Years	10.5	2.4
Vehicles	5-15 Years	19.3	2.5
Stormwater Network	60–75 Years	47.2	27.6
Waste Disposal	10-50 Years	22.1	14.4

While capital planning horizons tend to be short (<10 Years), a sustainable lifecycle and financial strategy should consider the full lifecycle of all assets.

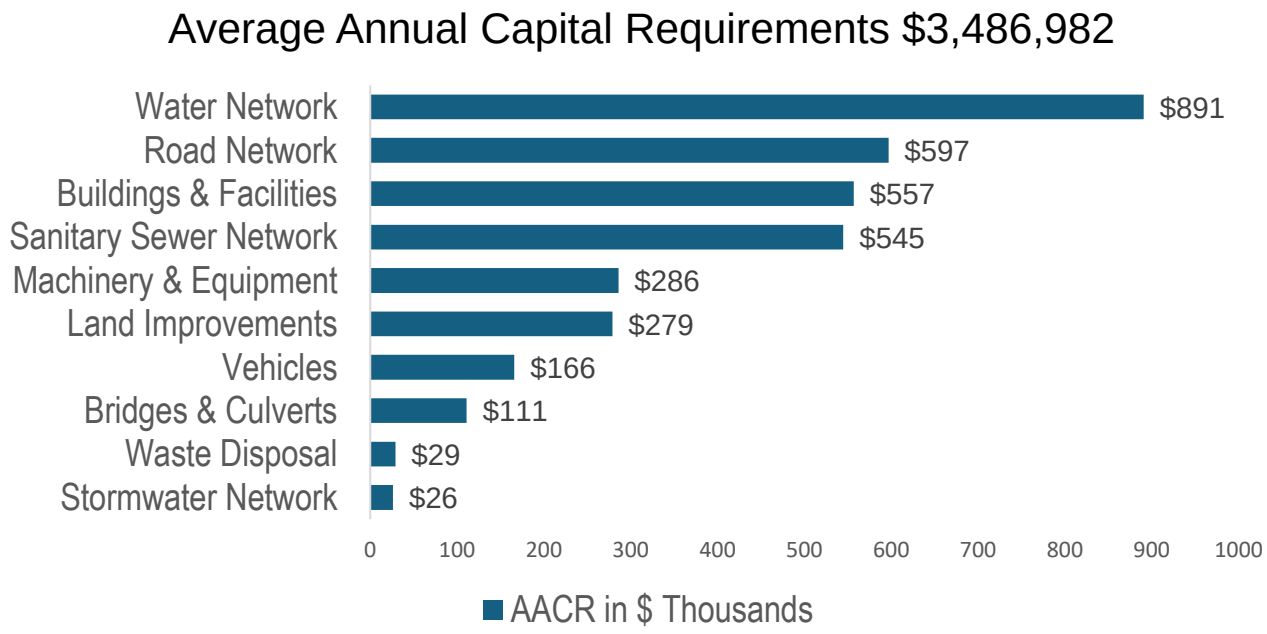
Short-term capital costs may be low for asset categories with long useful lives where infrastructure is relatively new. However, planning and saving for long-term capital costs is a key component of asset management planning.

The calculation of an average annual capital requirement considers the estimated useful life and cost of infrastructure to identify the amount that the Township should be allocating to meet capital needs regardless of whether the project costs will be incurred in the short or long-term.

3.4 Forecasted Capital Requirements

3.4.1 Average Annual Capital Requirements

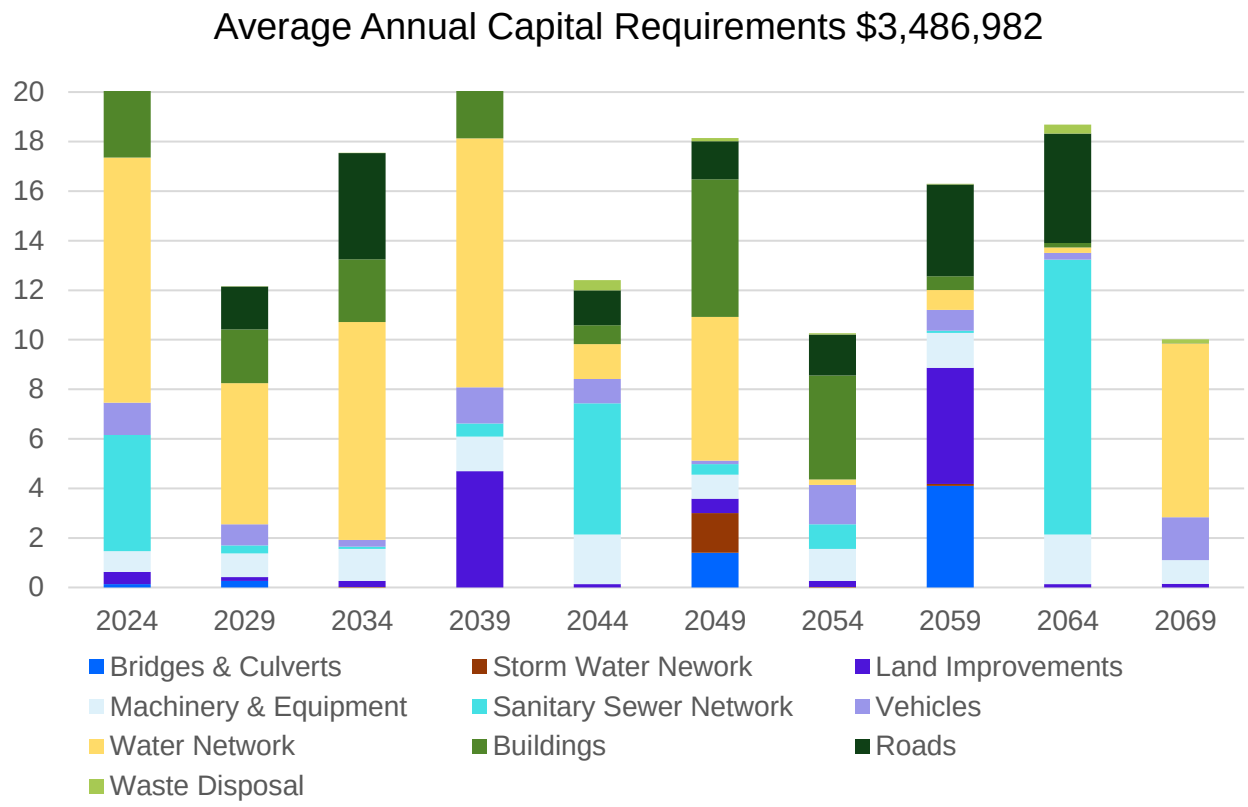
Annual capital requirements represent the amount the Township should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs and achieve long-term sustainability.



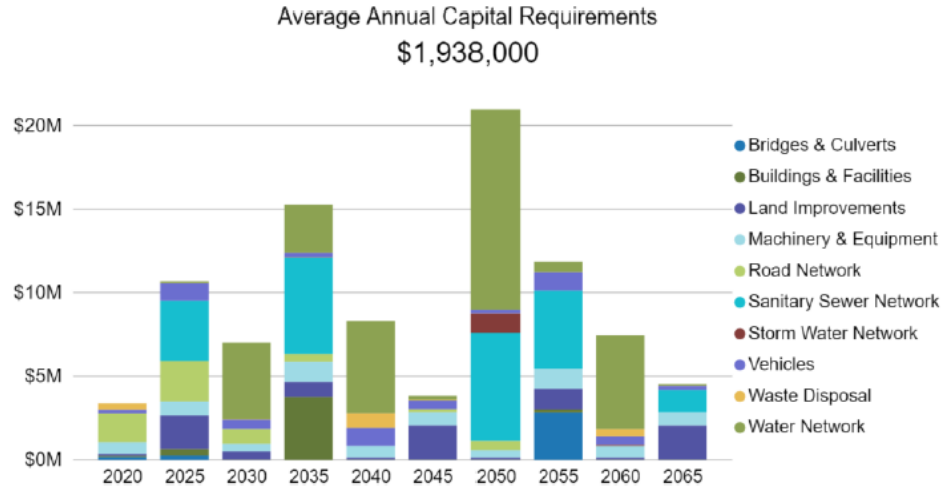
In total, the Township should allocate approximately $3.5 million annually to address capital requirements for the assets included in this AMP.

3.4.2 Projected Capital Requirements (50 Years)

The following graph identifies projected capital requirements over the next 50 years.



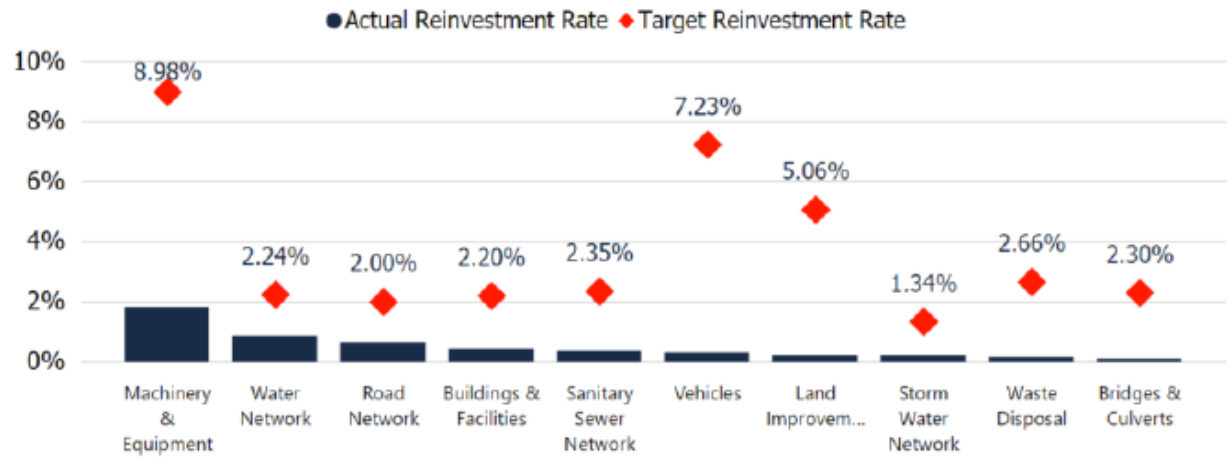
The graph below shows the same information as of August 2020



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

3.5 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. To meet the long-term replacement needs, the Township should be allocating approximately $3.5 million annually, for a target reinvestment rate of 2.90%. Actual annual spending from sustainable revenue sources totals approximately $485,000, for an actual reinvestment rate of 0.67%.



4 Analysis of Tax-funded Assets

Key Insights

Tax-funded assets are valued at $64.5 million

72% of tax-funded assets are in fair or better condition

The average annual capital requirement to sustain the current level of service for tax-funded assets is approximately $2.1 million

4.1 Road Network

The Road Network is a critical component of the provision of safe and efficient transportation services. It includes all municipally owned and maintained roadways in addition to supporting roadside infrastructure streetlights.

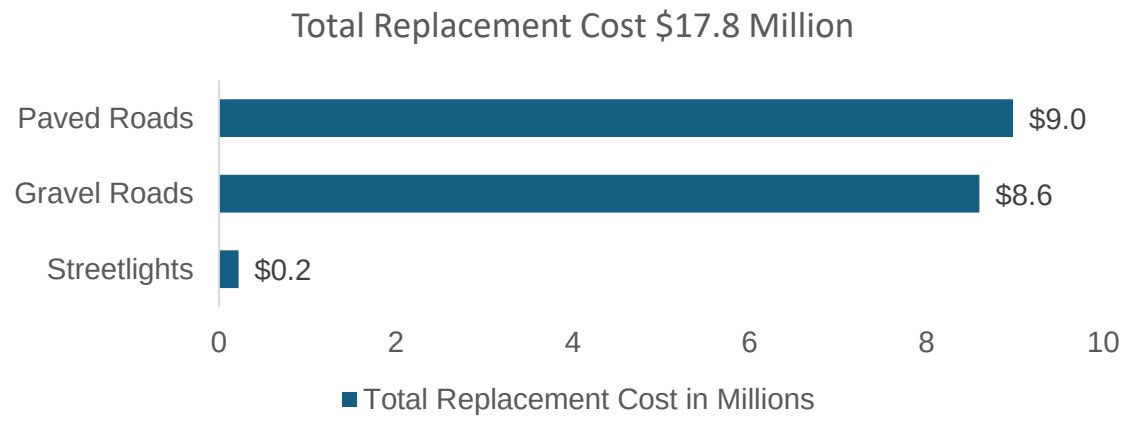
The Township's Road Network is maintained by the Public Works Department who are responsible for:

- Roadway and sidewalk maintenance
- Winter maintenance; plowing, sanding and snow removal
- Maintenance of trees on Township road allowances and laneways
- Street name and traffic signs, guide rails and traffic control signals

4.1.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Road Network inventory.

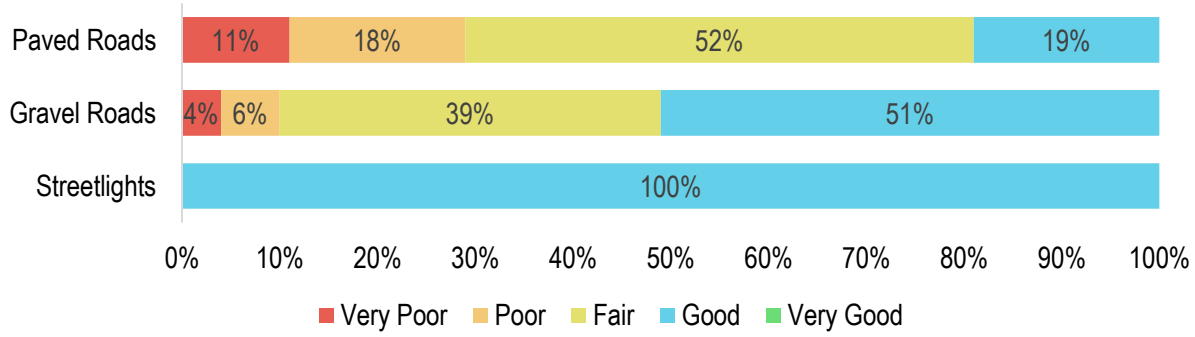
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Paved Roads	13,875 metres	Cost/Unit Inflated	$8,988,406
Gravel Roads	13,102 metres	CPI Tables	$8,628,245
Streetlights	180	CPI Tables	$221,536
		Total	**$17,838,187**



4.1.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Paved (H.C.B.) Roads	47%	Fair	100% Assessed
Gravel Roads	58%	Fair	96% Assessed
Streetlights	72%	Good	Age-based
Total	**50%**	**Fair**	**97% Assessed**



Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

- A formal condition assessment of the state of the roads was completed by Tulloch Engineering Inc. in October, 2020, based upon practices outlined in the MTO Methods and Inventory Manual. Each road section received a rating based on current surface condition, surface type and drainage conditions. The anticipated road condition for each section was then projected over ten years to allow for forecasting of required future work.

- Informal assessments by staff include daily road patrols, which enable staff to identify distresses and deficiencies, and required intervention activities are addressed on an as-needed basis

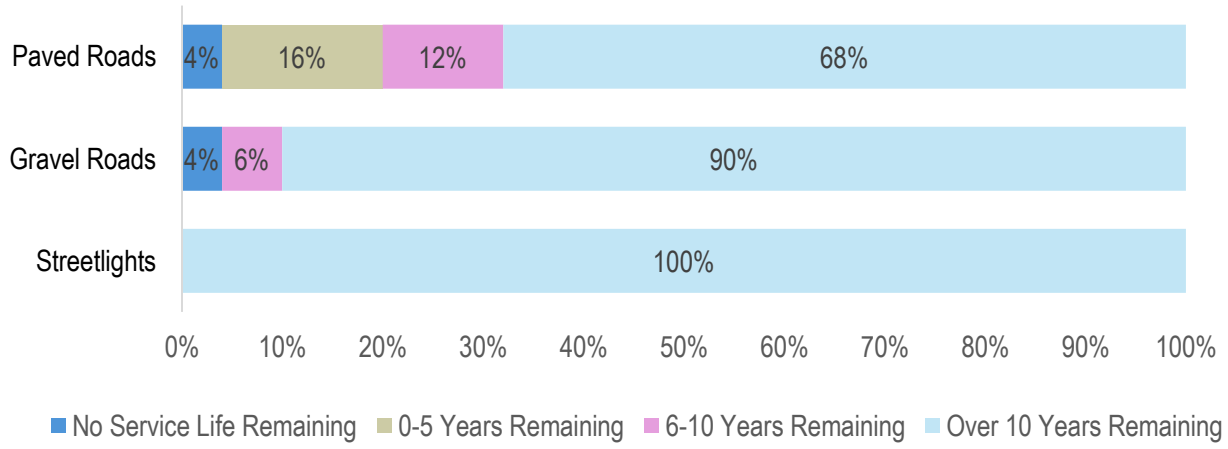
- When the asphalt roads in the Township depreciate to a condition rating of Poor or below, they are resurfaced with surface treatment rather than asphalt due to cost constraints.

4.1.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Road Network assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Paved Roads	40 Years	42.2	9.7
Gravel Roads	40 Years	45.3	15.2
Streetlights	30 Years	8.5	21.5
Total		**42.6**	**10.8**



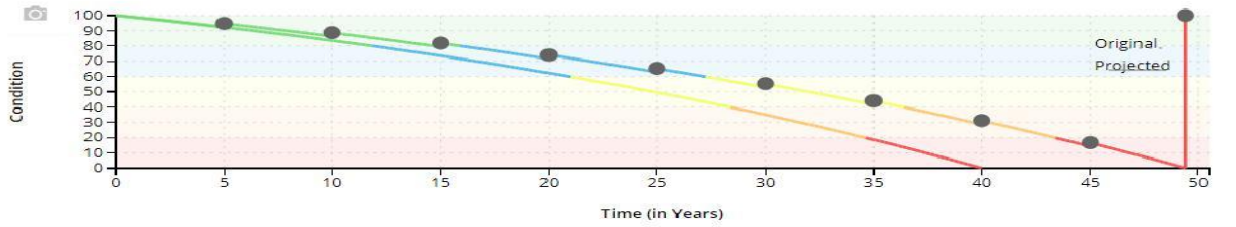
Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.1.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including an asset's characteristics, location, utilization, maintenance history and environment.

The following lifecycle strategies have been developed as a proactive approach to managing the lifecycle of Paved Roads. Instead of allowing the roads to simply deteriorate until replacement is required, strategic intervention is expected to extend the service life of roads at a lower total cost.

Paved Roads		
Event Name	Event Class	Event Trigger
Asphalt Patching/Crack Sealing	Preventative Maintenance	As-needed



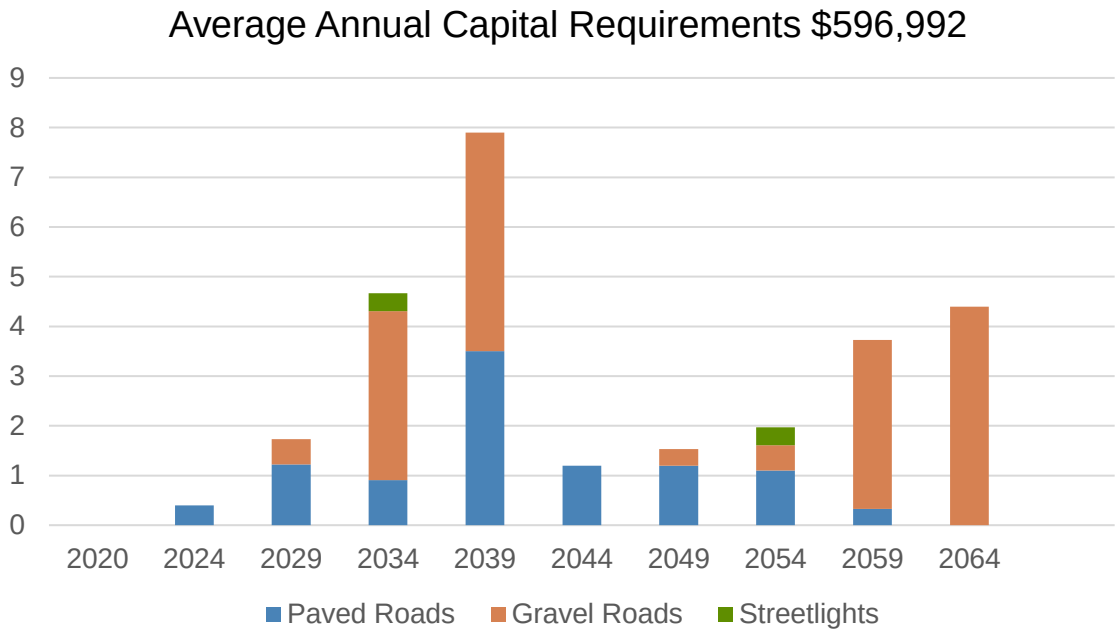
The following table further expands on the Township's current approach to lifecycle management:

Activity Type	Description of Current Strategy
Maintenance	Most lifecycle activities are reactive due to limited resources and capacity **All Roads:** Snowplowing and sanding in winter months **Paved Roads:** Asphalt patching as needed **Gravel Roads:** Re-gravelling as needed; reviewing dust control measure to determine most effective application measures
Rehabilitation	Road re-surfacing isn't common, but is coordinated with water/sewer projects to reduce costs when possible When there is no money available for water/sewer projects, the cost of road work is too high to justify Previous contractors have quoted $1 million to do a kilometre of re-surfacing; would like to try and do a kilometre per year The high costs for equipment, mobilization and accommodations for contractors pose challenges to a more regular re-surfacing strategy
Replacement	Planning is year-to-year, but there often isn't money available for a capital program

Forecasted Capital Requirements

Based on the lifecycle strategies identified previously for Paved Roads, and assuming the end-of-life replacement of all other assets in this category, the following graph forecasts capital requirements for the Road Network.

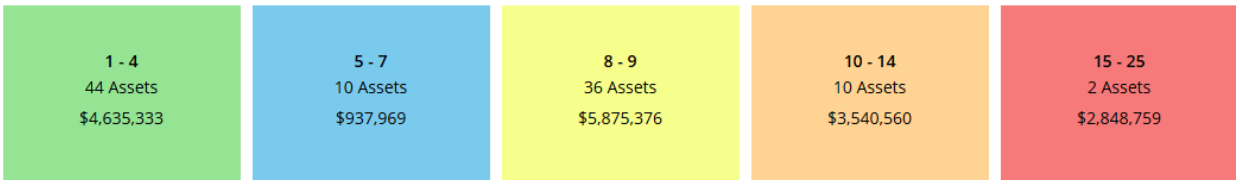
The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs to meet future capital needs.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.1.5 Risk & Criticality

The following risk rating provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.



The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. A high-level risk model was developed for the purposes of the previous AMP which is relevant and ongoing in this AMP. The Municipal team will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

4.1.6 Levels of Service

The following tables identify the Township's current level of service for the Road Network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Road Network.

Service Attribute	Qualitative Description	Current Level of Service
Scope	Description, which may include maps, of the road network in the Township and its level of connectivity	See Appendix B
Quality	Description or images that illustrate the different levels of road class pavement condition	Very Good – Pavement is in excellent condition with few visible defects. Riding quality is very smooth with not more than a few areas of very slight distortion. Good – Pavement is in good condition with accumulating slight defects and distortions. Riding quality is smooth with intermittent slightly rough and uneven sections. Fair – Pavement is in fair condition with intermittent patterns of slight to moderate defects. Riding quality is comfortable with intermittent bumps or depressions. Poor – Pavement is in poor condition with frequent patterns of moderate defects. Riding quality is uncomfortable, and surface is rough and uneven. Very Poor – Pavement is in very poor condition with extensive severe defects. Riding quality is very uncomfortable, and surface is very rough and uneven.

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the Road Network.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km^2)	0
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km^2)	0.13
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km^2)	0.11
Quality	Average pavement condition index (PCI) for paved roads in the Township	47 – Fair
	Average surface condition for unpaved roads in the Township (e.g. very good, good, fair, poor)	Fair
Performance	Capital reinvestment rate	0.67%

4.1.7 AM Development Plan

Asset Inventory/Data Refinement

- **Ongoing** – This is an ongoing process for all asset categories.

Lifecycle Management Strategies

- **Develop a Long-Term Capital Plan** – Increased capital costs are expected for paved roads over the next 5-10 years due to their relatively poor condition and age. Staff will need to identify high priority roads, determine project timelines and revenue sources to meet projected capital requirements.

Levels of Service

- **Measure Current Levels of Service** – This AMP contains a basic measurement of the Township's current levels of service according to the metrics established in O. Reg. 588/17. Staff will continue to measure the current levels of service according to these metrics to allow for trend analysis that informs long-term planning.
- **Identify Additional LOS Metrics** – Staff may identify additional LOS metrics that would inform both short and long-term asset management planning. See Appendix E for examples.
- **Identify Proposed Levels of Service** - Working towards identifying proposed levels of service as per O. Reg. 588/17 and identifying the strategies that are required to close any gaps between current and proposed levels of service.

4.2 Bridges & Culverts

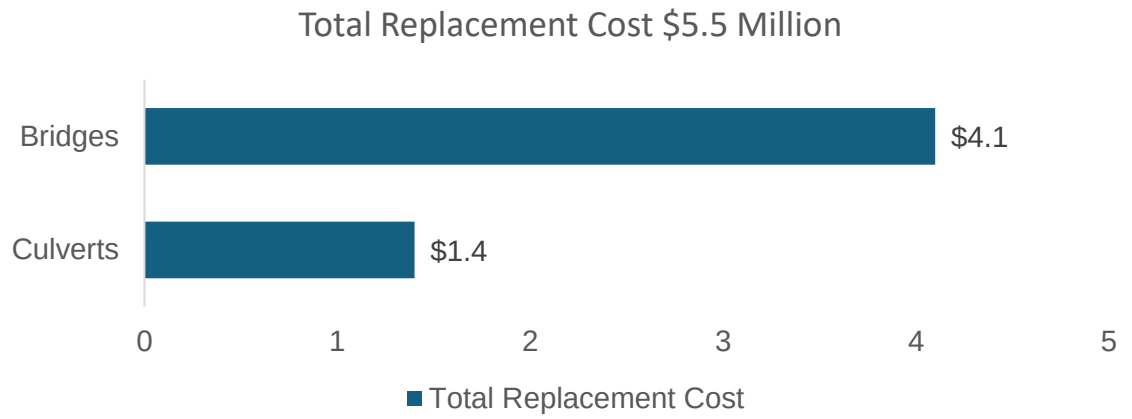
Bridges & Culverts are a critical component of the Township's transportation network. They facilitate the movement of passenger vehicles, trucks, pedestrians and cyclists. All bridge and structural culverts (>=3m in span) are subject to biennial inspections as per the Ontario Bridge Inspection Manual (OSIM).

The Township's Bridges & Culverts are maintained by the Public Works Department.

4.2.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Bridges & Culverts inventory.

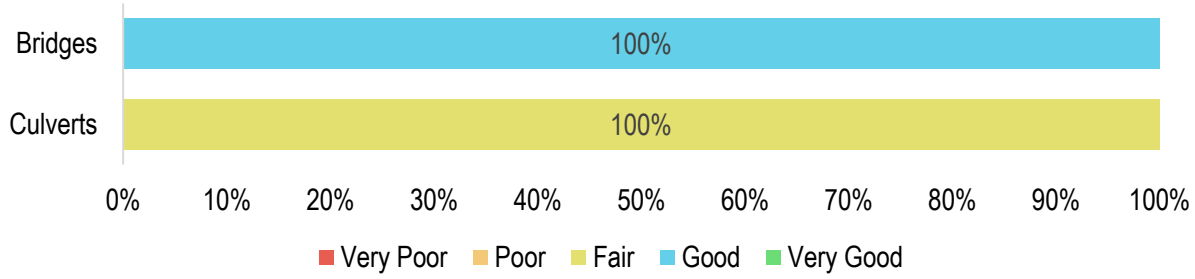
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Jackfish Creek Bridge	1	Unit Cost Inflated	$4,102,429
Roundhouse Road Culverts	1	Unit Cost Inflated	$1,435,850
Total			**$5,538,279**



4.2.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Jackfish Creek Bridge	75%	Good	100% Assessed
Roundhouse Road Culverts	66%	Fair	100% Assessed
	70%	**Good**	**100% Assessed**



Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

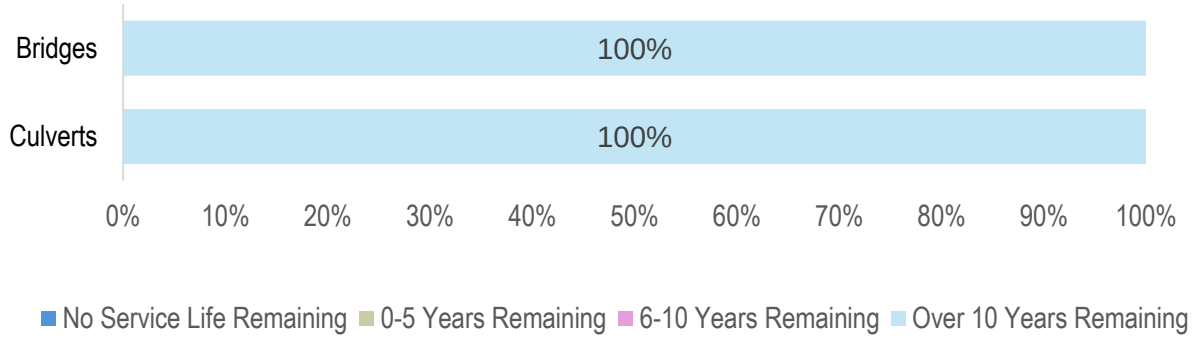
- OSIM Inspections completed every two years as per provincial regulation by a licensed engineer
- Bridge Condition Index (BCI) ratings provided for each structure
- Staff visually inspect structures throughout the year and note any major issues that require attention

4.2.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Bridges & Culverts assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Jackfish Creek Bridge	50 Years	30.2	37.4
Roundhouse Road Culverts	50 Years	47.5	26.3
		38.1	**31.8**



Each asset's Estimated Useful Life (EUL) to be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.2.4 Lifecycle Management Strategy

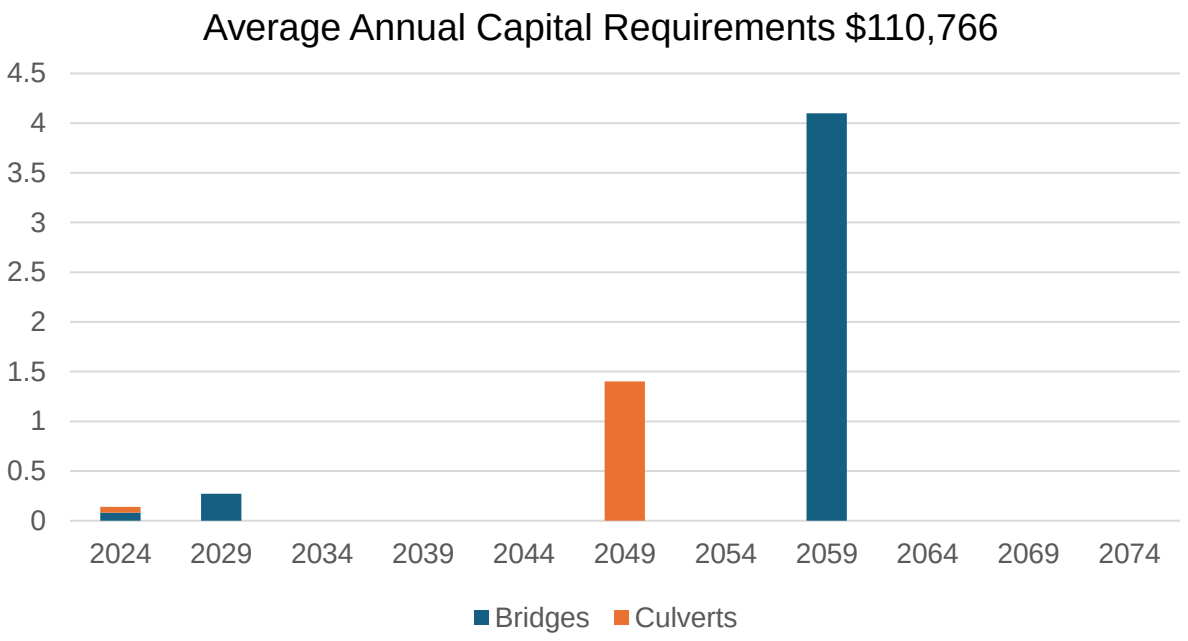
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Minor repairs and cleaning are completed as needed
Rehabilitation	Structures are generally in good condition and minimal rehabilitation work is required
Replacement	No major cost requirements expected in the near term

Forecasted Capital Requirements

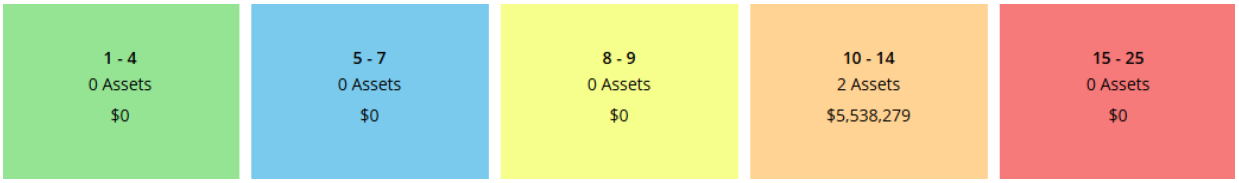
The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.2.5 Risk & Criticality

The following risk rating provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.



Critical Assets

The identification of critical assets will allow the Township to determine appropriate risk mitigation strategies and treatment options. This may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. A high-level risk model was developed for the purposes of the previous AMP which is relevant and ongoing in this AMP. Township staff will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

4.2.6 Levels of Service

The following tables identify the Township's current level of service for the Bridges & Culverts. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Bridges & Culverts.

Service Attribute	Qualitative Description	Current Level of Service (2023)
Scope	Description of the traffic that is supported by municipal bridges (e.g. heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Municipal bridges form a key component of the Township's transportation network. There are no load or dimensional restrictions on any structures. Traffic that is supported by municipal bridges includes heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians and cyclists.
Quality	Description or images of the condition of bridges and how this would affect use of the bridges	See Appendix B
	Description or images of the condition of culverts and how this would affect use of the culverts	See Appendix B

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the Bridges & Culverts.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of bridges and structural culverts in the Township with loading or dimensional restrictions	0%
Quality	Average bridge condition index value for bridges in the Township	75%
	Average bridge condition index value for structural culverts in the Township	66%
Performance	Capital reinvestment rate	

4.2.7 AM Development Plan

Levels of Service

- **Measure Current Levels of Service** – This AMP contains a basic measurement of the Township's current levels of service according to the metrics established in O. Reg. 588/17. Staff will continue to measure the current levels of service according to these metrics to allow for trend analysis that informs long-term planning.

- **Identify Additional LOS Metrics** – Staff may identify additional LOS metrics that would inform both short and long-term asset management planning. See Appendix E for examples.

- **Identify Proposed Levels of Service** – Working towards identifying proposed levels of service as per O. Reg. 588/17 and identifying the strategies that are required to close any gaps between current and proposed levels of service.

4.3 Stormwater Network

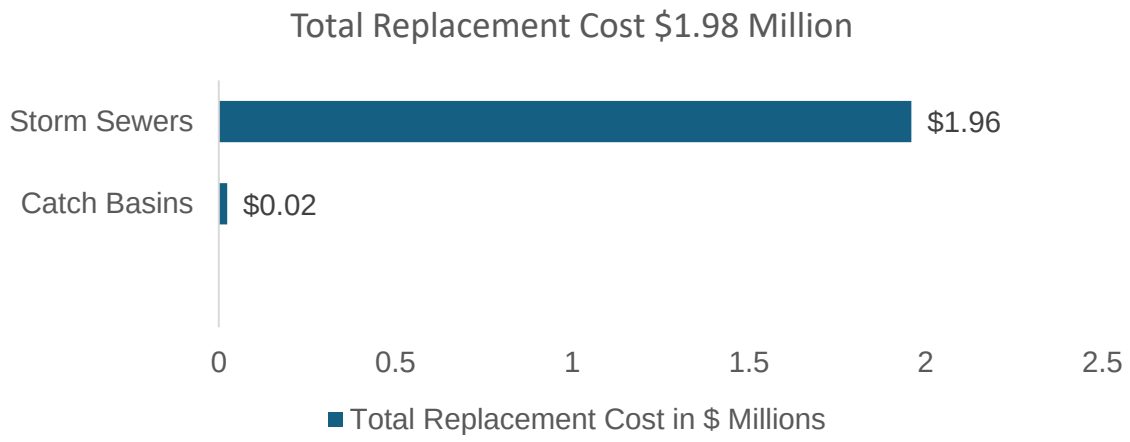
The Township is responsible for the maintenance of a Stormwater Network consisting of 2.1 kilometres of storm sewer mains, catch basins, and open ditches.

The Stormwater Network is maintained throughout the year by the Public Works Department.

4.3.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Stormwater Network inventory.

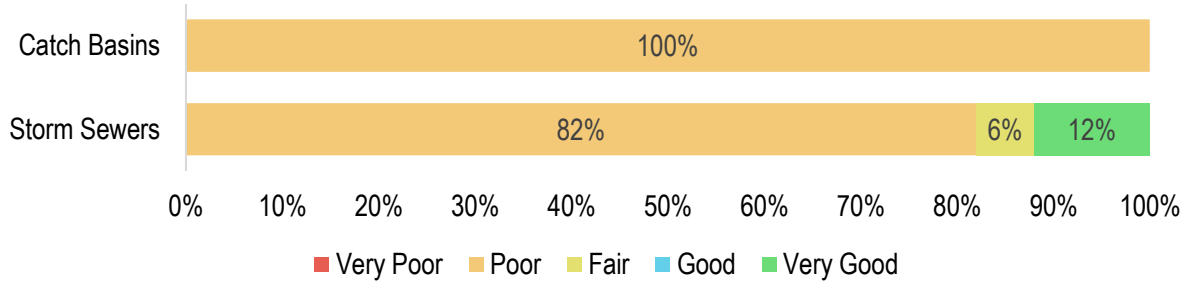
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Catch Basins	2	Cost/Unit Inflated	$23,900
Storm Sewers	2,132 metres	Cost/Unit Inflated	$1,955,062
		Total	**$1,978,962**



4.3.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Catch Basins	22%	Poor	Age-based
Storm Sewers	38%	Poor	Age-based
	38%	**Poor**	**Age-based**



To ensure that the Township's Stormwater Network continues to provide an acceptable level of service, the Township will monitor the average condition of all assets. As the average condition declines, staff will re-evaluate the lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Stormwater Network.

Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

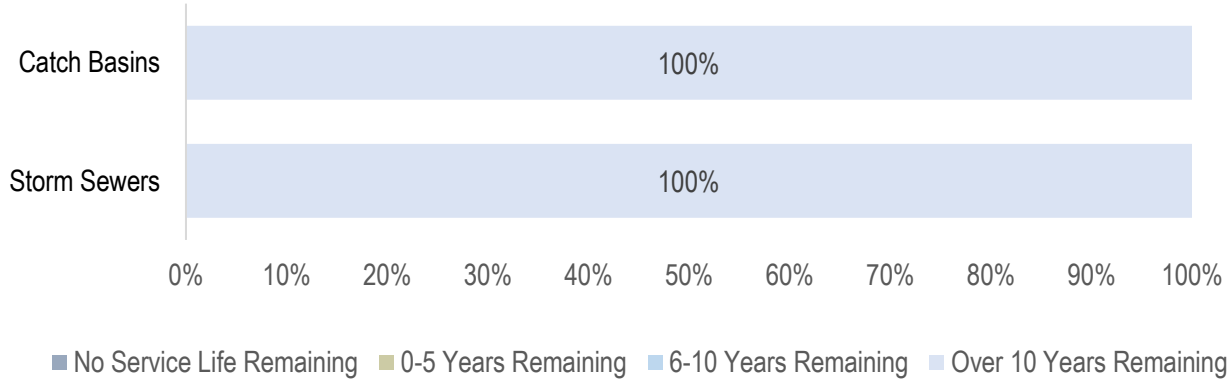
- Constructed infrastructure is limited, and the stormwater network consists mainly of open ditches instead of sewers
- No formal condition assessment strategies in place for the stormwater network

4.3.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Stormwater Network assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset segment is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Catch Basins	60 Years	48.0	12.0
Storm Sewers	75 Years	47.2	27.8
Total		**47.2**	**27.6**



Each asset's Estimated Useful Life will be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.3.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

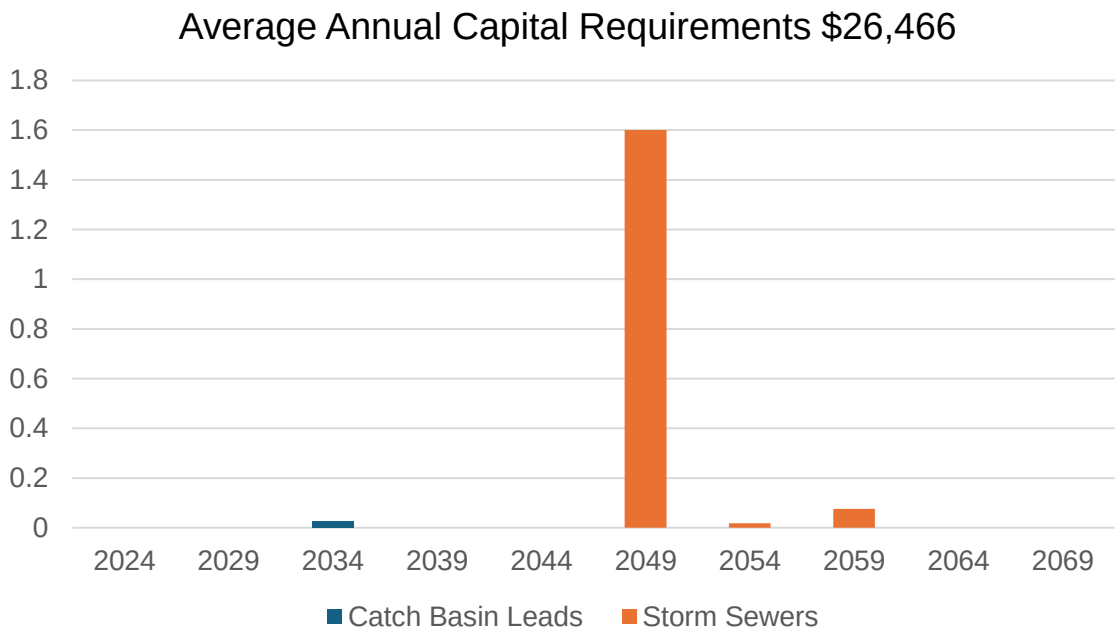
The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Few operations and maintenance activities, but operational issues are addressed on an as-needed basis
Rehabilitation /Replacement	Recently replaced a section of culverts that were causing operational issues (partial blockages and corrosion); all new culverts have been upsized to 3 feet pipe diameter where they were previously smaller

Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for the Stormwater Network.

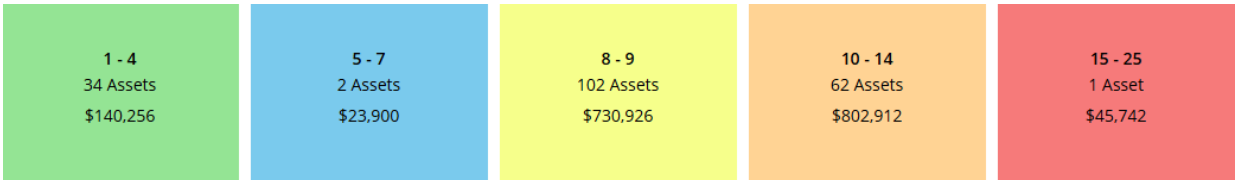
The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.3.5 Risk & Criticality

The following risk rating provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.



The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. A high-level risk model was developed for the purposes of the previous AMP which is relevant and ongoing in this AMP. Township staff will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

4.3.6 Levels of Service

The following tables identify the Township's current levels of service for the Stormwater Network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Stormwater Network.

Service Attribute	Qualitative Description	Current Level of Service
Scope	Description, which may include maps, of the user groups or areas of the Township that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system	See Appendix B

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the Stormwater Network.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of properties in the Township resilient to a 100-year storm (35 total properties in flood zone)	95%
	% of the municipal stormwater management system resilient to a 5-year storm (Assumption based on minimum design standards for existing storm sewers and expected protection provided by open ditch system)	100%
Performance	Capital reinvestment rate	

4.3.7 AM Development Plan

Asset Inventory/Data Refinement

- **Ongoing -** The Township will continue to update the asset inventory records when additional information becomes available or assets are replaced.

Lifecycle Management Strategies

- **Identify Proactive Lifecycle Management Strategy** – Most storm sewers were built in the 1970s and capital/operating needs have been minimal to date. Storm sewer replacement isn't expected for at least another 27 years according to estimated useful life. While short-term capital costs are minimal, Township staff identified that there are few maintenance programs in place and needs are only addressed when issues arise. To extend asset lifecycle and ensure the stormwater network functions to its full capacity, staff will review preventative maintenance strategies (e.g. inspection, cleaning, debris removal) as needed.

Levels of Service

- **Measure Current Levels of Service** – This AMP contains a basic measurement of the Township's current levels of service according to the metrics established in O. Reg. 588/17. Staff will continue to measure the current levels of service according to these metrics to allow for trend analysis that informs long-term planning.
- **Identify Additional LOS Metrics** – Staff may identify additional LOS metrics that would inform both short and long-term asset management planning. See Appendix E for examples.
- **Identify Proposed Levels of Service** - Working towards identifying proposed levels of service as per O. Reg. 588/17 and identifying the strategies that are required to close any gaps between current and proposed levels of service.

4.4 Buildings & Facilities

The Township of Hornepayne owns and maintains several buildings and recreation facilities that provide key services to the community. These include:

- an airport to provide air transportation services
- an arena and curling club to provide recreation services
- a municipal office building and fire hall to provide municipal and emergency services
- public works buildings to support the delivery of public works and operations

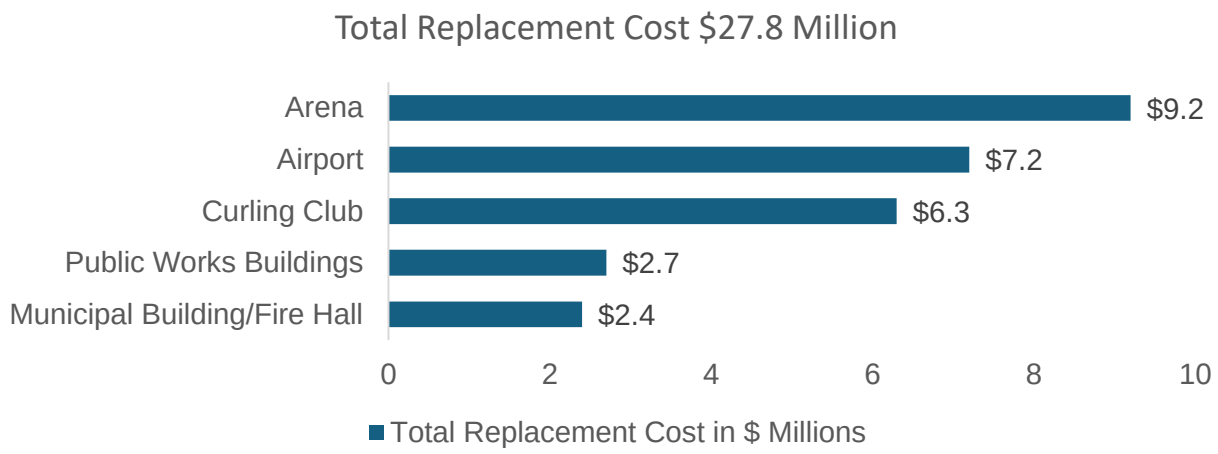
Note that buildings that are utilized to provide services in the Water Network and Sanitary Sewer Network are included in their own sections within this AMP.

Building assets were broken into component parts (e.g. foundation, roofing, HVAC, flooring, etcetera) which were then added to the asset inventory database during the 2023 condition assessment project. This project also provided condition ratings, estimated remaining useful life, and replacement costs by component.

4.4.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Buildings & Facilities inventory. Building assets were broken into component parts (e.g. foundation, roofing, HVAC, flooring, etcetera) in 2023.

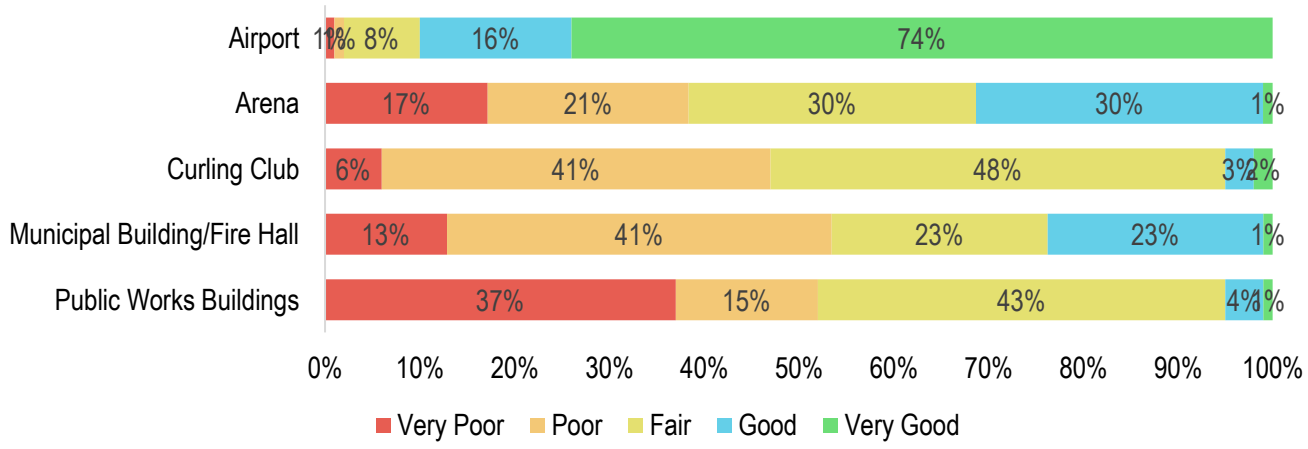
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Airport	2	Cost/Unit Inflated	$7,197,020
Arena	1	Cost/Unit Inflated	$9,249,026
Curling Club	1	Cost/Unit Inflated	$6,317,432
Municipal Building/Fire Hall	2	Cost/Unit Inflated	$2,367,630
Public Works Buildings	3	Cost/Unit Inflated	$2,716,894
Total			**$27,848,002**



4.4.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Airport	56%	Fair	100% Assessed
Arena	54%	Fair	100% Assessed
Curling Club	48%	Fair	100% Assessed
Municipal Building/Fire Hall	43%	Fair	100% Assessed
Public Works Buildings	37%	Poor	100% Assessed
	47%	**Fair**	**100% Assessed**



To ensure that the Township's Buildings & Facilities continue to provide an acceptable level of service, the Township will monitor the average condition of all assets. If the average condition declines, staff will re-evaluate the lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Buildings & Facilities.

Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

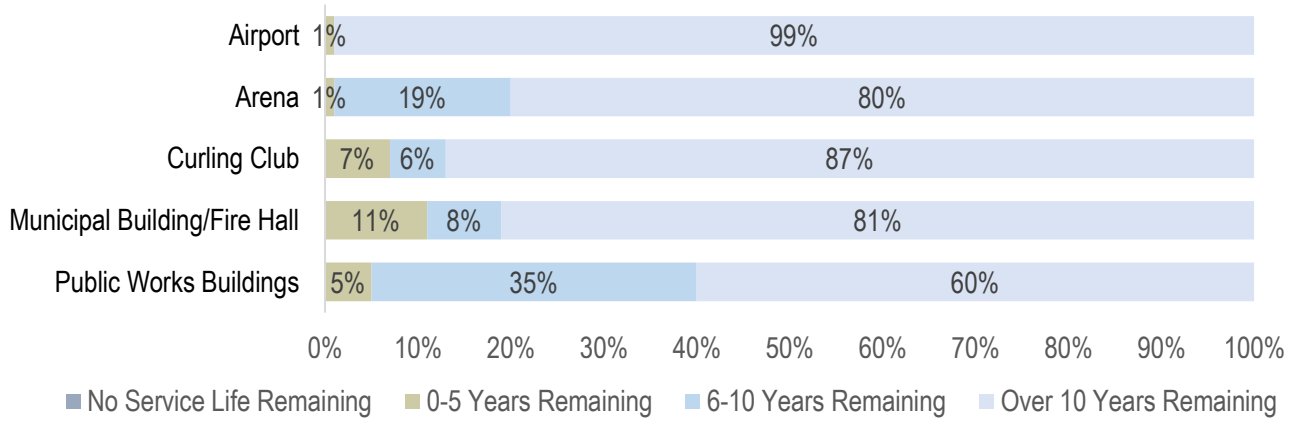
- Building condition assessments were conducted on all municipal buildings in June, 2023 by certified professionals of Accent Building Sciences Inc.
- Specific building components, such as HVAC systems, are inspected as part of a service contract on a regular schedule by professional contractors who specialize in these types of components. Repairs are completed as needed.

4.4.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Buildings & Facilities component assets has been assigned according to an assessment by a professional engineer and based on established industry standards. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Airport	10-60 years	19.7	18.3
Arena	10-75 years	22.8	18.0
Curling Club	10-75 years	27.1	16.5
Municipal Building/Fire Hall	10-75 years	26.3	13.6
Public Works Buildings	10-75 years	27.0	12.1
Total		**25.0**	**15.6**



Each asset's Estimated Useful Life will be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.4.4 Lifecycle Management Strategy

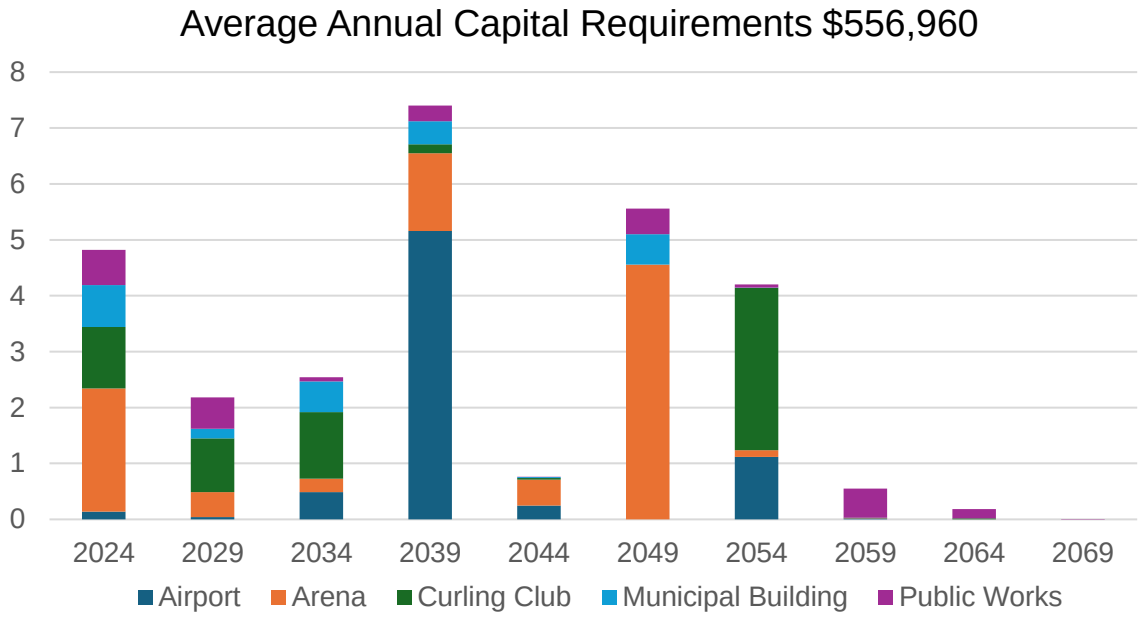
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Staff members identify deficiencies and repairs needed are arranged and completed
	Specific building components, such as HVAC systems, are inspected as part of a service contract on a regular schedule by professional contractors who specialize in these types of components. Repairs are completed as needed.
Replacement	Building components are replaced as needed. Full replacement of building assets is not anticipated, although renovations in some buildings may be arranged.

Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.



The projected cost of lifecycle activities that will need to be undertaken over e next 10 years to maintain the current level of service can be found in Appendix A.

4.4.5 Risk & Criticality

The following risk rating provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
104 Assets	136 Assets	127 Assets	199 Assets	27 Assets
$826,477	$6,284,790	$3,492,543	$10,636,102	$6,608,090

The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. A high-level risk model was developed for the purposes of the previous AMP which is relevant and ongoing in this AMP. The Municipal team will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

4.4.6 Levels of Service

The following tables identify the Township's current level of service for buildings and facilities. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following tables outlines the qualitative descriptions that determine the community levels of service provided by the buildings and facilities.

Service Attribute	Qualitative Description	Current Level of Service (2023)
Scope	Adequate number of municipal buildings for staff to use while providing municipal services and for public to access recreation services	See table in section 4.4.1
Quality	Providing facilities in a state of good repair	66% of building asset components in Fair or better condition

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the buildings.

Service Attribute	Technical Metric	Current LOS (2023)
Quality	Average building condition index value for buildings and facilities in the Township	47% - Fair

4.4.7 AMP Development Plan

Asset Inventory/Data Refinement

- **Update Inventory Data** – As repairs and replacements of building components occur, the asset inventory will continue to be updated to reflect the changes.

- **Review Replacement Costs** – The replacement costs developed for Buildings in this AMP are based on the estimates provided by the professional engineer from Accent Building Sciences Inc. (ABSI). These replacement costs will be reviewed annually and updated to reflect current costs.

Levels of Service

- **Identify Proposed Levels of Service Metrics** - Township working towards identifying proposed levels of service to be provided by facilities by July 1, 2025 according to O. Reg. 588/17. See Appendix E for examples.

4.5 Machinery & Equipment

In order to maintain a high quality of public infrastructure and support the delivery of core and non-core services, municipalities own and employ various types of machinery and equipment. These include:

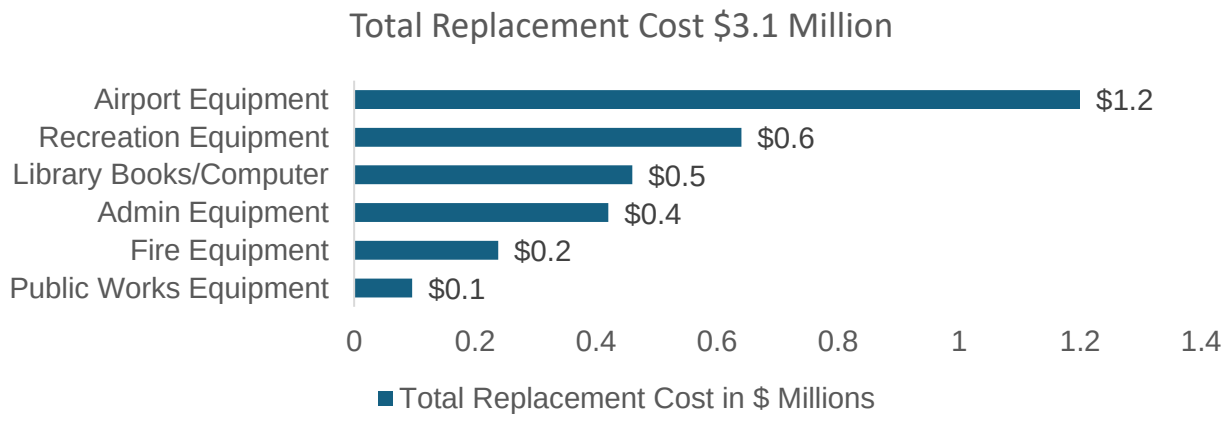
- Printers, servers, computers and software to support administrative services
- Fuel and runway lighting systems at the airport
- Fire equipment including bunker suits, radios, cylinders and compressors to support the delivery of emergency services
- Library books for public loan
- Public works equipment including trailers, tractors, a steamer and fuel tanks
- Recreation equipment including chillers, ice-resurfacer and fitness equipment

Keeping machinery and equipment in an adequate state of repair is important to maintain a high level of service.

4.5.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Machinery & Equipment inventory.

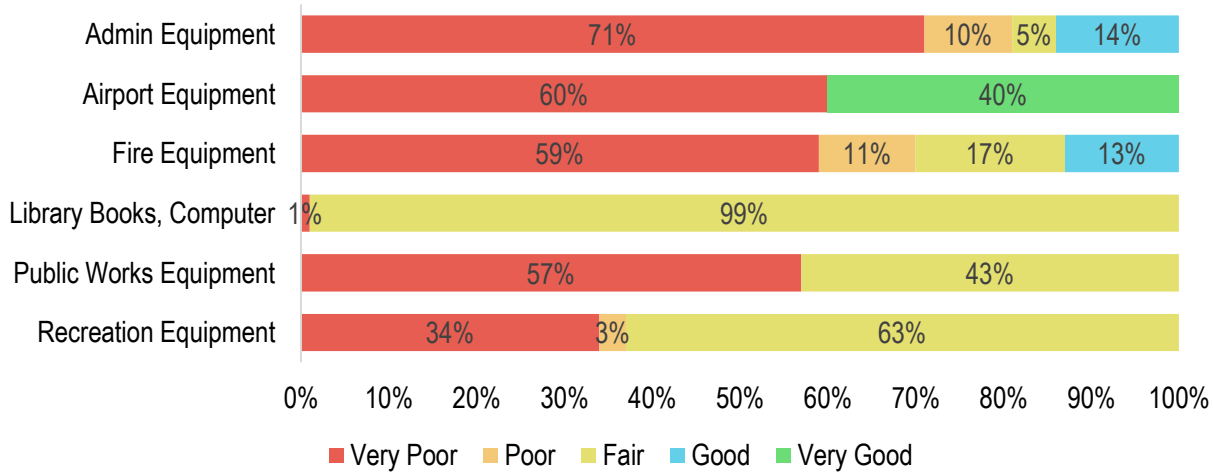
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Admin Equipment	25	CPI Tables	$422,548
Airport Equipment	3	CPI Tables	$1,233,315
Fire Equipment	57	CPI Tables	$238,277
Library Books, Computer	2	CPI Tables	$464,293
Public Works Equipment	6	CPI Tables	$96,050
Recreation Equipment	16	CPI Tables	$636,461
		Total	**$3,090,944**



4.5.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment of Machinery & Equipment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Admin Equipment	19%	Very Poor	24% Assessed
Airport Equipment	33%	Poor	25% Assessed
Fire Equipment	37%	Poor	51% Assessed
Library Books, Computer	45%	Fair	100% Assessed
Public Work Equipment	18%	Very Poor	Age-Based
Recreation Equipment	47%	Fair	66% Assessed
	29%	**Poor**	**46% Assessed**



To ensure that the Township's Machinery & Equipment assets continue to provide an acceptable level of service, the Township will monitor the average condition of all assets. If the average condition declines, staff will re-evaluate the lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Machinery & Equipment.

Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

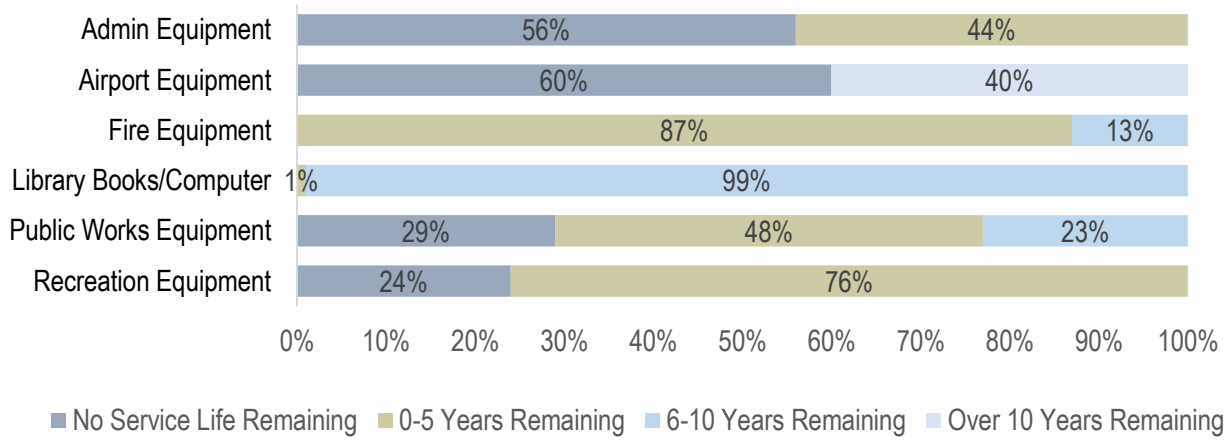
- Airport runway lights inspected monthly by staff; airport charging outlets and fuel system inspected annually by contractor/engineer
- Fire Department (Protection Services) equipment is tested and inspected by trained staff technician
- Mowers are checked by staff for safe operating daily when used in the summer
- Heavy Public Works equipment (e.g. grader, loader) are inspected by staff daily when used and annually as required
- Recreation equipment – refrigeration equipment (chiller, etc), dehumidifier, ice resurfacer inspected, maintained and repaired by contractor as part of maintenance contract
- Recreation equipment – other equipment such as exercise equipment, floor scrubber, hot water tanks inspected by staff

4.5.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Machinery & Equipment assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Admin Equipment	5-10 years	7.9	-2.4
Airport Equipment	20 years	18.8	-1.3
Fire Equipment	10 years	10.3	3.6
Library Books, Computer	10 years	11.1	7.2
Public Works Equipment	5-20 years	8.4	2.4
Recreation Equipment	5-10 years	13.2	1.7
		10.5	**2.4**



Each asset's Estimated Useful Life will be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service for each asset type.

4.5.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

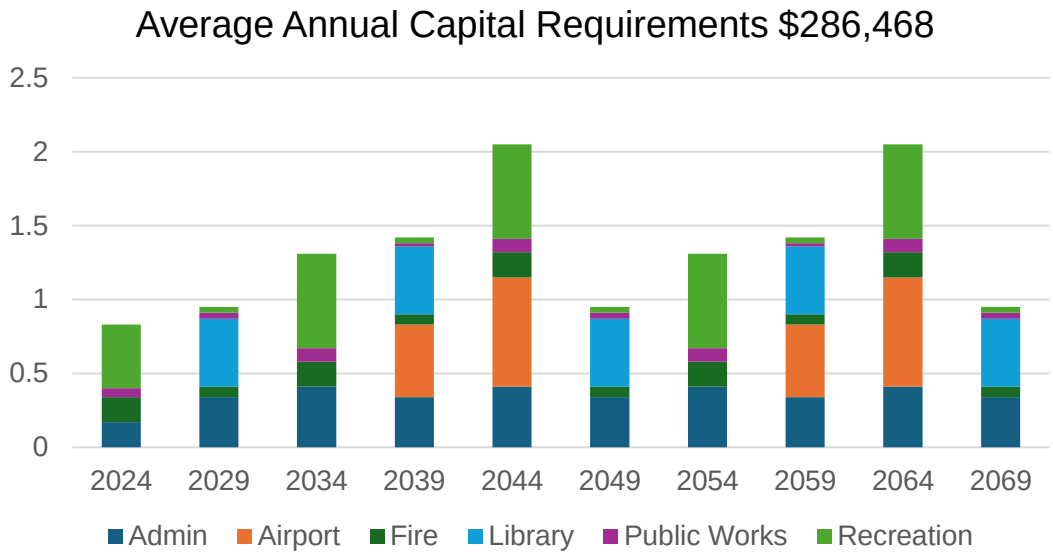
The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Mowers checked before each use with repairs completed as needed Operators of heavy equipment (graders, loaders, etcetera) check equipment before each use to identify deficiencies needing repair; annual safety inspections may lead to required repairs Service contract on refrigeration equipment and ice resurfacer (arena, curling rink) to maintain and inspect equipment on a regular schedule; repairs as needed
Replacement	Replacement of machinery & equipment is completed as needed Any replacement projects would be based on condition, any capacity concerns and the availability of funding

Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for Machinery & Equipment.

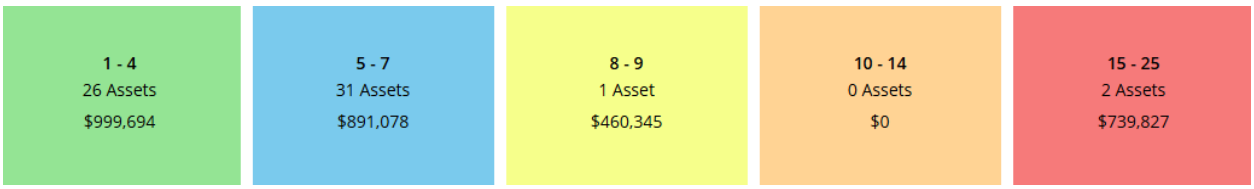
The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.5.5 Risk & Criticality

The following risk rating provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.



The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. A high-level risk model was developed for the purposes of the previous AMP which is relevant and ongoing in this AMP. The Municipal team will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

4.5.6 Levels of Service

The following tables identify the Township's current level of service for Machinery & Equipment assets. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Machinery & Equipment.

Service Attribute	Qualitative Description	Current Level of Service (2023)
Scope	Sufficient number and types of equipment to enable staff to perform duties to provide services to the community	Admin Equipment (Asset Qty 25) Airport Equipment (Asset Qty 3) Fire Equipment (Asset Qty 57) Library Books/Computer (Asset Qty 2) Public Works Equipment (Asset Qty 6) Recreation Equipment (Asset Qty 16)
Quality	Assets are in state of good repair so that machinery & equipment are available when needed	50% of machinery & equipment assets are in Fair or better condition

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the Machinery & Equipment.

Service Attribute	Technical Metric	Current LOS (2023)
Quality	Average condition value for machinery and equipment in the Township	29% - Poor
Performance	Capital reinvestment rate	

4.5.7 AMP Development Plan

Asset Inventory/Data Refinement

- **Update Asset Inventory** – As assets are upgraded or replaced, the asset inventory will be updated to reflect the changes and provide the most accurate information to base future capital decisions.

- **Review and Update Replacement Costs** – The replacement costs developed for Machinery & Equipment in this AMP are almost entirely based on the inflation of historical costs. Equipment replaced more recently will reflect more accurate replacement costs for that type of equipment. Replacement costs will be updated according to the best available information on the cost to replace the asset in today's value.

Condition Assessment Strategies

- **Condition Assessment Strategy** - Staff completed a cursory review of older equipment condition to inform the development of the AMP (46% assessed). The Township will look at process for implementing regular condition assessment procedures for all equipment to better inform short- and long-term capital requirements

- **Review Backlog Assets** - Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Levels of Service

- **Identify Proposed Levels of Service Metrics** - Township working towards identifying proposed levels of service provided by machinery and equipment by July 1, 2025 according to O. Reg. 588/17. See Appendix E for examples.

4.6 Vehicles

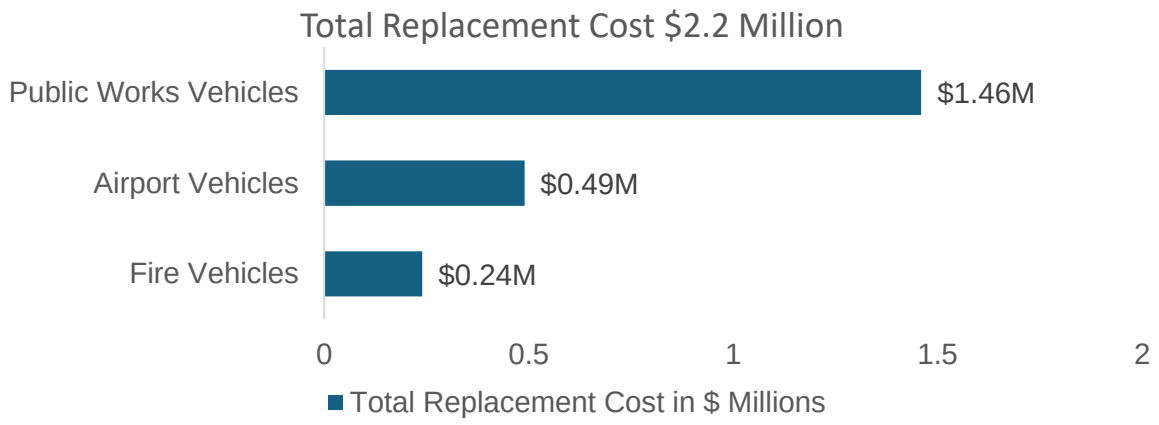
Vehicles allow staff to efficiently deliver municipal services and personnel. Municipal vehicles are used to support several service areas, including:

- A loader with snowblower at the airport
- Fire truck and a rescue vehicle to provide emergency services
- Heavy and light-duty trucks, an excavator, backhoes and sanders to support public works

4.6.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Vehicles inventory.

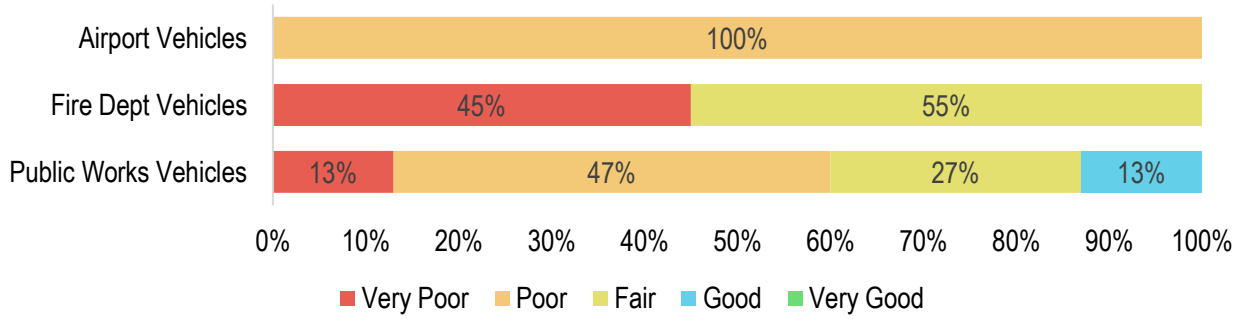
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Airport Vehicles	1	CPI Tables	$494,195
Fire Vehicles	2	CPI Tables	$244,867
Public Works Vehicles	11	CPI Tables	$1,458,475
		Total	**$2,197,537**



4.6.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. Vehicles are inspected annually, with condition ratings to be added to the asset inventory records. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Airport Vehicles	23%	Poor	100% Assessed
Fire Vehicles	29%	Poor	100% Assessed
Public Works Vehicles	24%	Poor	45% Assessed
	25%	**Poor**	**63% Assessed**



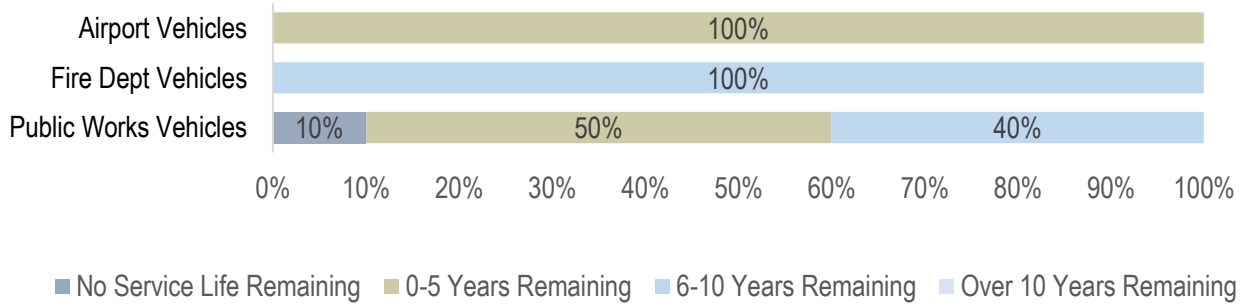
To ensure that the Township's Vehicles continue to provide an acceptable level of service, the Township will monitor the average condition of all assets. If the average condition declines, staff will re-evaluate the lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Vehicles.

4.6.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Vehicles assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Airport Vehicles	15 years	26.9	3.4
Fire Vehicles	15 years	30.3	6.3
Public Works Vehicles	5-15 years	15.9	1.5
		19.3	**2.5**



Each asset's Estimated Useful Life will be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.6.4 Lifecycle Management Strategy

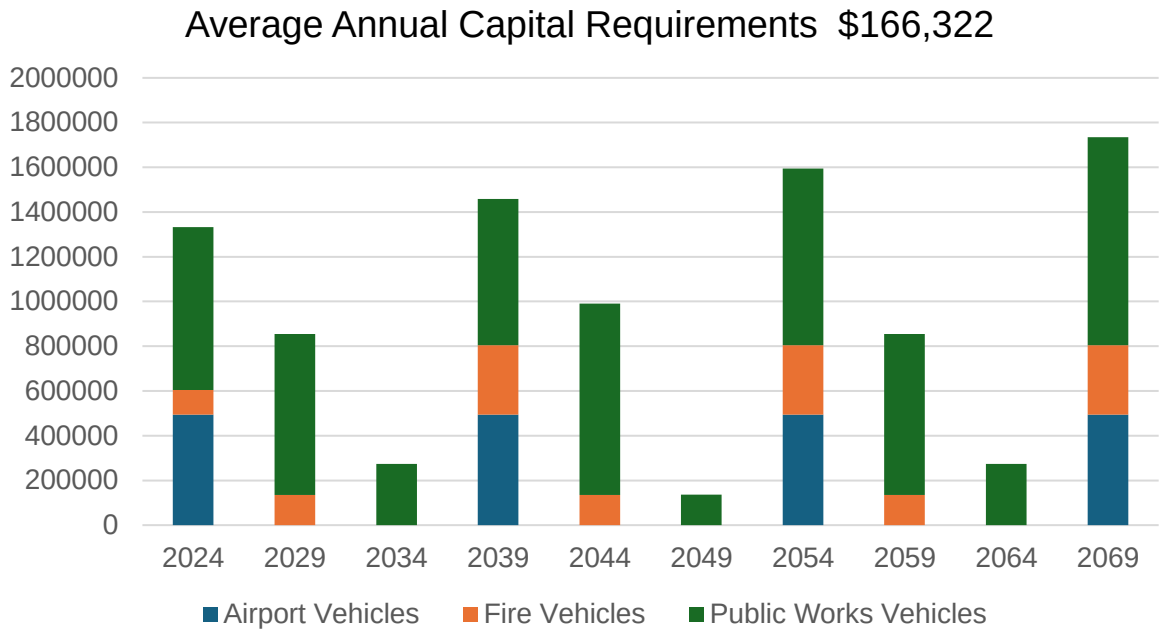
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Annual safety inspections are completed as required by legislation and to ensure vehicles are working properly and safe to operate. Regular maintenance performed such as oil changes, greasing, tightening belts and components, engine tune-ups, brake work, tire rotation, hose inspection and replacement, radiator maintenance. Other maintenance as required.
Replacement	Vehicles are replaced as their age and/or condition require replacement, and based on capital funding available. A more formal replacement strategy may be developed to ensure that the Township's vehicles continue to be available for use.

Forecasted Capital Requirements

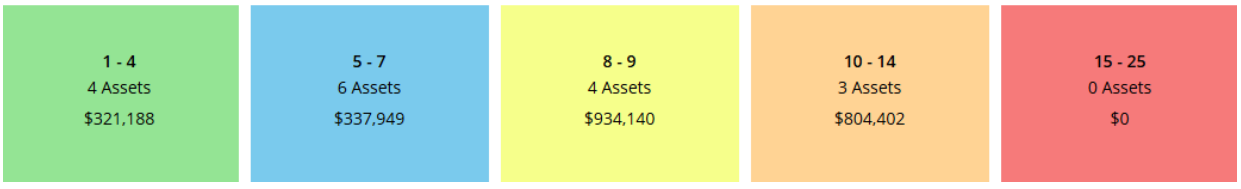
The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.6.5 Risk & Criticality

The following risk rating provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.



The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. The Municipal team will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

4.6.6 Levels of Service

The following tables identify the Township's current level of service for Vehicles. These include the community and technical level of service measures that the Township has selected for this AMP in accordance with the requirements of O. Reg. 588/17.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Vehicles.

Service Attribute	Qualitative Description	Current Level of Service (2023)
Capacity	Enough vehicles for staff to perform duties in a timely manner	See table in Section 4.6.1
Quality / Reliability	Vehicles in a satisfactory condition to allow staff to perform duties	33% of vehicles are in Fair or better condition

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the Vehicles.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of vehicles inspected annually	100%
Quality	Average condition rating for vehicles in the Township	25% - Poor

4.6.7 AM Development Plan

Asset Inventory/Data Refinement

- **Review Replacement Costs -** The replacement costs developed for Vehicles in this AMP are entirely based on the inflation of historical costs. Replacement costs should be updated according to the best available information on the cost to replace the asset in today's value. More recent purchases provide a better estimate of future replacement costs for that type of vehicle. Replacement costs will be reviewed and updated annually.

Levels of Service

Identify Proposed Levels of Service Metrics – Staff working towards identifying the proposed levels of service provided by vehicles for the next iteration of the asset management plan by July 1, 2025 according to O. Reg. 588/17.

4.7 Land Improvements

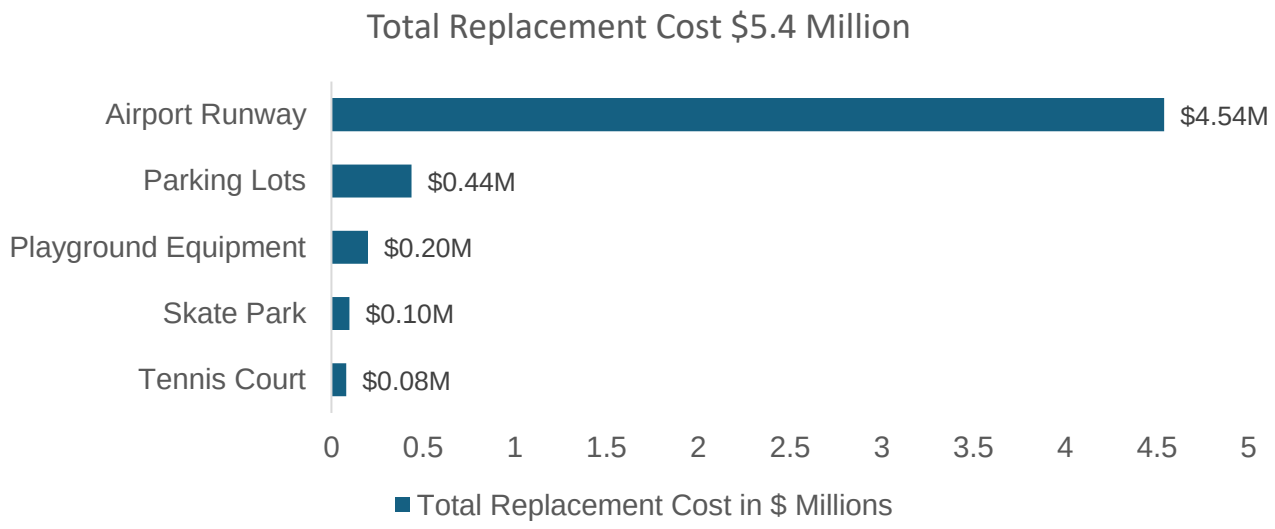
The Township of Hornepayne owns and maintains a number of assets that are considered Land Improvements. This category includes:

- Airport runway
- Parking lots
- Playground equipment, a tennis court and skate park

4.7.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Land Improvements inventory.

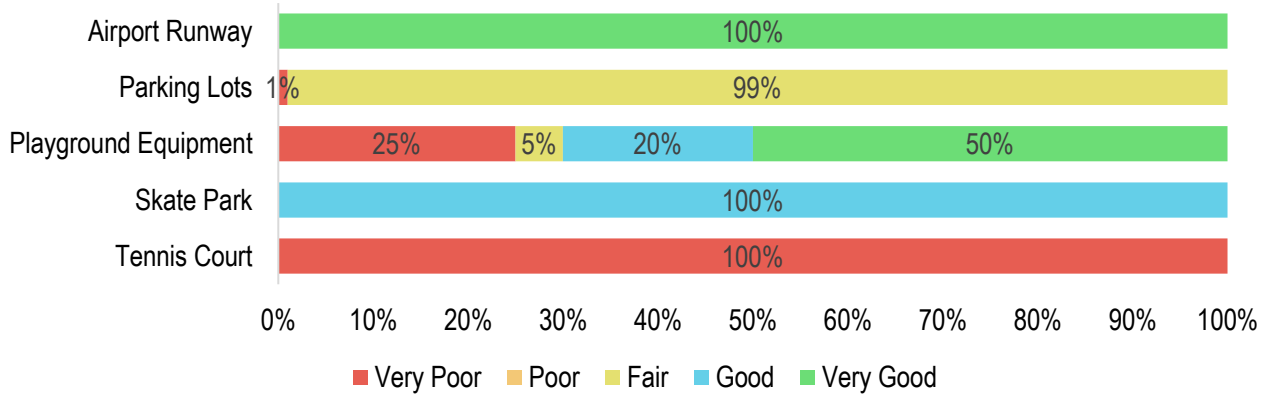
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Airport Runway	1	CPI Tables	$4,542,586
Parking Lots	12	CPI Tables	$436,396
Playground Equipment	3	CPI Tables	$199,824
Skate Park	1	CPI Tables	$97,663
Tennis Court	1	CPI Tables	$81,081
		Total	**$5,357,550**



4.7.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Airport Runway	92%	Very Good	Age-based
Parking Lots	36%	Poor	100% Assessed
Playground Equipment	57%	Fair	100% Assessed
Skate Park	73%	Good	Age-based
Tennis Court	22%	Poor	100% Assessed
	29%	**Poor**	**11% Assessed**



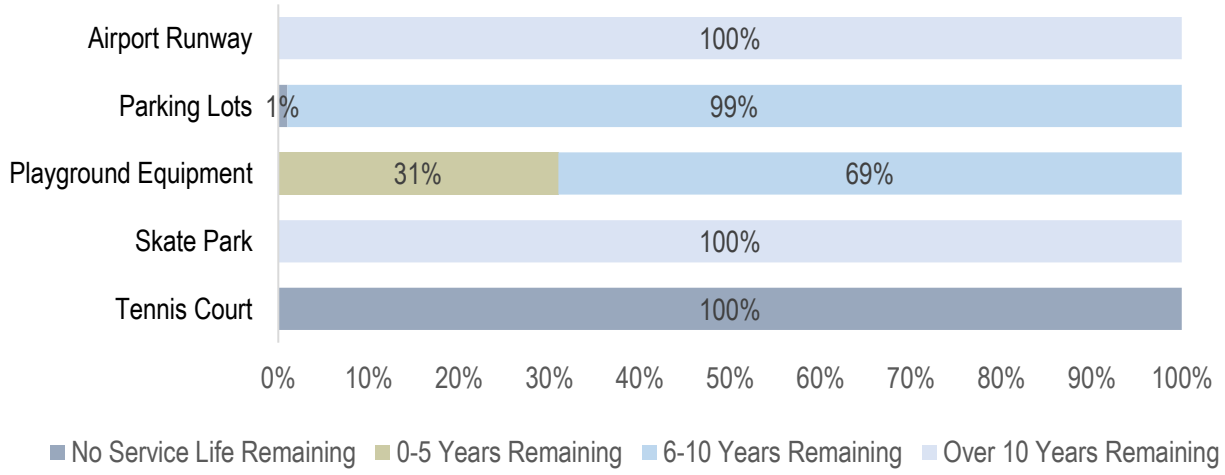
To ensure that the Township's Land Improvements continue to provide an acceptable level of service, the Township will monitor the average condition of all assets. If the average condition declines, staff will re-evaluate the lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Land Improvements.

4.7.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Land Improvements assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Airport Runway	20 years	1.7	18.8
Parking Lots	25 years	45.8	8.0
Playground Equipment	10 years	7.3	6.3
Skate Park	20 years	5.3	14.7
Tennis Court	10 years	23.5	-1.1
		39.5	**9.3**



Each asset's Estimated Useful Life will be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.7.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

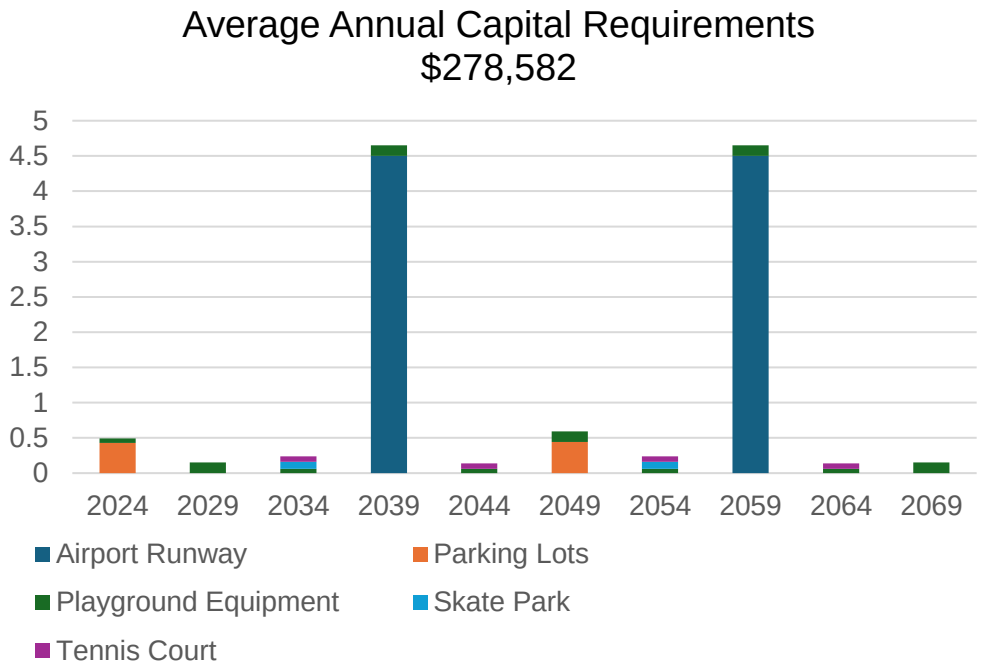
The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	**Airport** runway and apron plowed and sanded in winter months, as required, and swept in the spring to remove winter sand.
	Parking lots are plowed and sanded in winter months, and swept in the spring to remove winter sand. Crack seal and pothole repairs performed as needed.
	Playground equipment inspected by staff daily during summer season (May to October) for safety concerns and immediate repairs needed. Monthly major inspections completed by senior staff to ensure any defects are identified and addressed.
	Grass is mowed on municipal properties and parks approximately once every two weeks in summer months, or as needed depending on growth.
Replacement	**Airport runway** – recently replaced
	Playground equipment – replaced as equipment condition deteriorates and as funding is available

Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for Land Improvements.

The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.7.5 Risk & Criticality

The following risk rating provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.

Airport Runway

Other – Parking Lots, Playground Equipment, Skate Park, Tennis Court

The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. The Township team will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

4.7.6 Levels of Service

The following tables identify the Township's current level of service for the Land Improvements assets. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Land Improvements.

Service Attribute	Qualitative Description	Current Level of Service (2023)
Scope	Providing adequate parks and recreation equipment for public use	Playground equipment (3), skate park, tennis court, multi-use trail
Quality	Providing equipment and recreation areas in a state of good repair	97.5% of land improvement assets in Fair or better condition

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the Land Improvements.

Service Attribute	Technical Metric	Current LOS (2023)
Quality	Average condition rating for land improvement assets in the Township	85% - Very Good

4.7.7 AM Development Plan

Asset Inventory/Data Refinement

- **Review Replacement Costs -** The replacement costs developed for Land Improvements in this AMP are mainly based on the inflation of historical costs. The airport runway was recently replaced, so current replacement costs are based on the recent project. Replacement costs should be updated according to the best available information on the cost to replace the asset in today's value, and will be reviewed and updated annually.

Levels of Service

- **Identify Proposed Levels of Service Metrics -** Working towards identifying proposed levels of service provided by land improvements by July 1, 2025 according to O. Reg. 588/17.

4.8 Waste Disposal

The Township of Hornepayne owns and maintains several assets used in waste collection and disposal services provided to the community. These include:

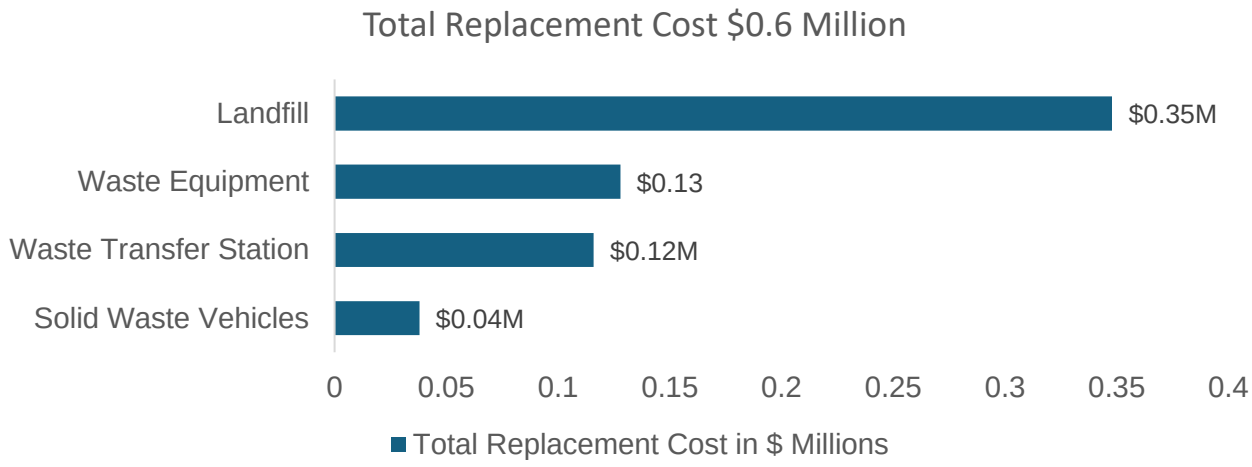
- A landfill site and waste transfer station
- A landfill compactor and additional equipment

While the overall operation of the Landfill Site and Transfer Station are under the purview of the Public Works Department, a contractor is responsible for providing the service.

4.8.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Waste Disposal inventory.

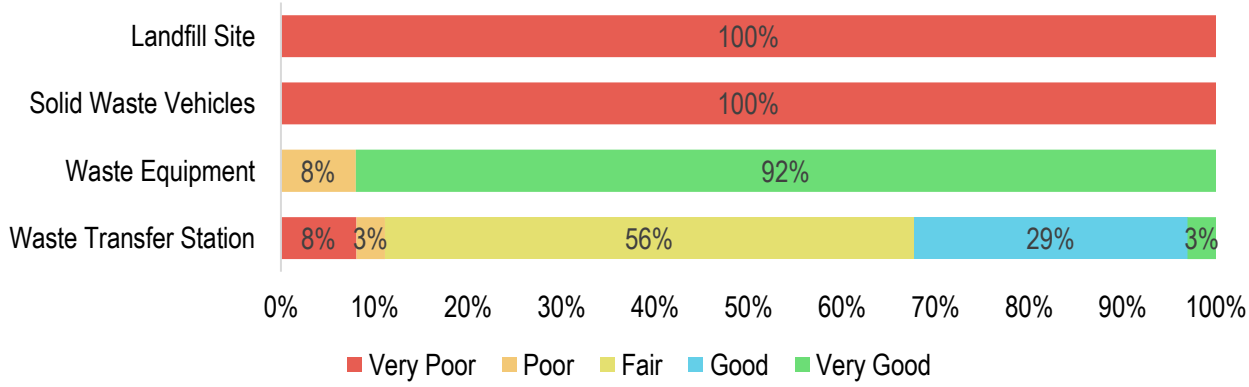
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Landfill Site	1	CPI Tables	$347,944
Solid Waste Vehicles	1	CPI Tables	$38,352
Waste Equipment	2	CPI Tables	$127,617
Waste Transfer Station	1	Unit Cost Inflated	$116,039
		Total	**$629,952**



4.8.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Landfill Site	5%	Very Poor	Age-based
Solid Waste Vehicles	0%	Very Poor	Age-based
Waste Equipment	61%	Good	92% Assessed
Waste Transfer Station	51%	Fair	100% Assessed
	46%	**Fair**	**39% Assessed**



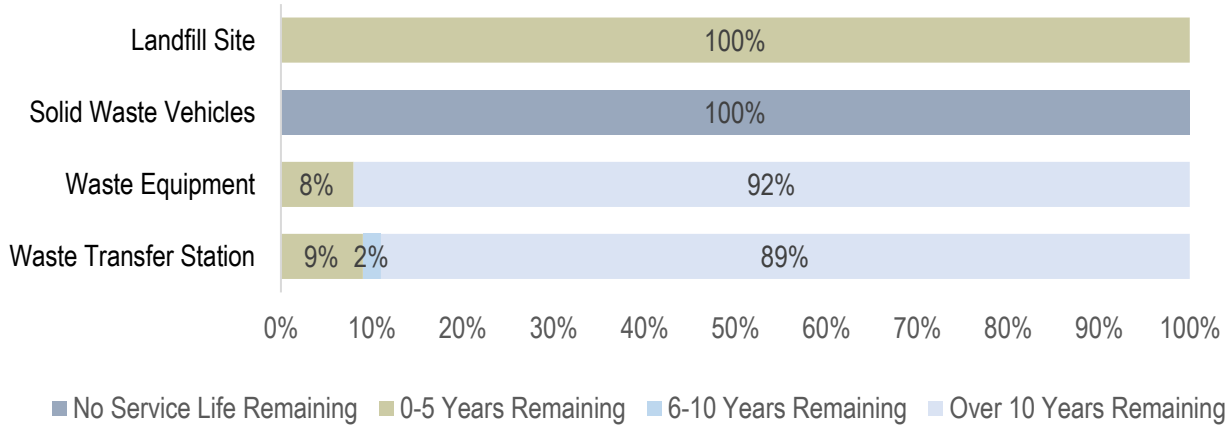
The waste transfer station was assessed during the 2023 condition assessment project. To ensure that the Township's Waste Disposal assets continue to provide an acceptable level of service, the Township will monitor the average condition of all assets. If the average condition declines, staff will re-evaluate the lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Waste Disposal assets.

4.8.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Waste Disposal assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Landfill Site	20 years	22.0	0.5
Solid Waste Vehicles	15 years	21.7	-6.7
Waste Equipment	10-30 years	14.4	13.0
Waste Transfer Station	10-50 years	22.4	16.3
		22.1	**14.4**



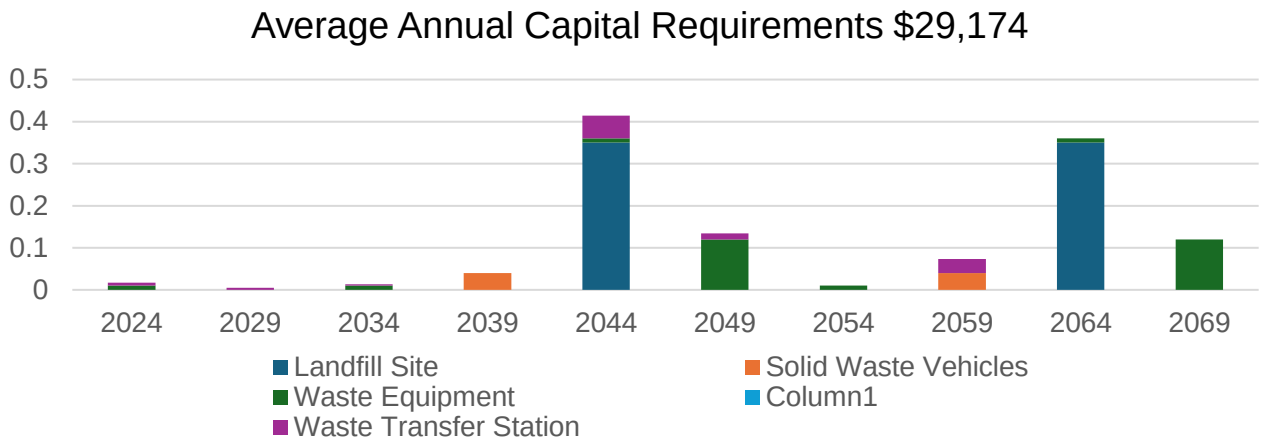
Each asset's Estimated Useful Life will be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.8.4 Lifecycle Management Strategy

Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for the Waste Disposal assets.

The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.8.5 Risk & Criticality

The following risk rating provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.

The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. The Township team will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

4.8.6 Levels of Service

The following tables identify the Township's current level of service for the Waste Disposal assets. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Waste Disposal assets.

Service Attribute	Qualitative Description	Current LOS (2023)
Capacity/ Availability	Community members have good access to waste collection services and facilities	Weekly collection of regular household waste through curbside collection Landfill site available for deposits on Tuesday, Thursday to Sunday
Reliability	Facilities and equipment are in a state of good repair	35% of landfill facilities and equipment are in Fair or better condition

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the Waste Disposal.

Service Attribute	Technical Metric	Current LOS (2023)
Capacity/ Availability	# of complaints regarding waste collection or access to landfill site	No complaints
Reliability	Average condition rating for waste disposal assets in the Township	46% - Fair

4.8.7 AM Development Plan

Asset Inventory/Data Refinement

- **Review Replacement Costs -** Replacement costs will be reviewed annually and updated according to the best available information on the cost to replace the asset in today's value.

Levels of Service

- **Identify Proposed Levels of Service Metrics** - Working towards identifying proposed levels of service provided by waste disposal assets by July 1, 2025 according to O. Reg. 588/17.

5 Analysis of Rate-funded Assets

Key Insights

Rate-funded assets are valued at $64.8 million

49% of rate-funded assets are in fair or better condition

The average annual capital requirement to sustain the current level of service for rate-funded assets is approximately $1.4 million

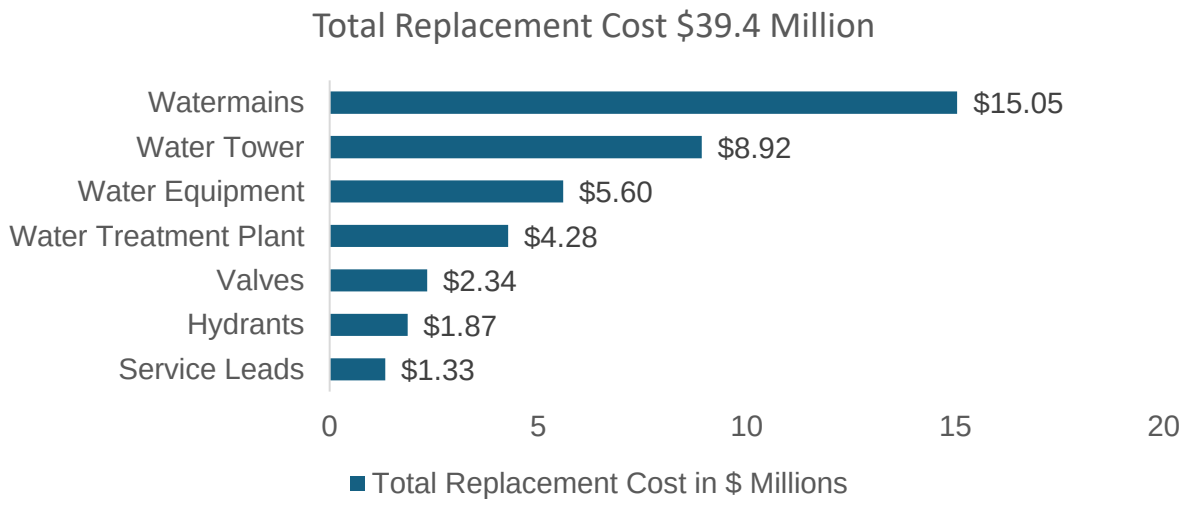
5.1 Water Network

The Township of Hornepayne owns a water treatment and distribution system with operations being handled by the Ontario Clean Water Agency (OCWA). The Water Network includes 13 kilometres of watermains, 4.5 kilometres of service leads, a water tower and a water treatment plant, in addition to other supporting linear and non-linear infrastructure.

5.1.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Water Network inventory.

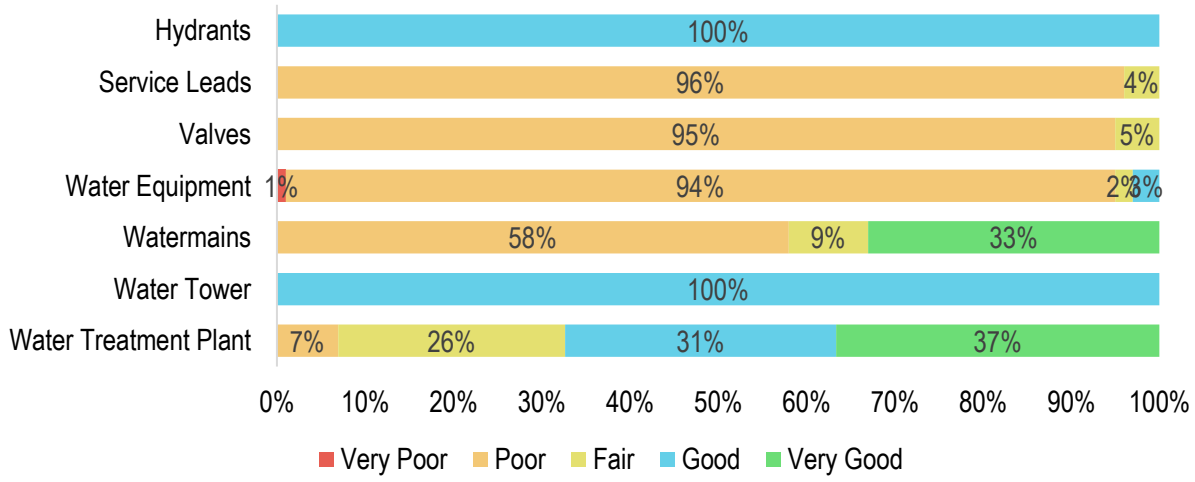
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Hydrants	66	Cost/Unit	$1,869,863
Service Leads	4,505 metres	Cost/Unit	$1,326,983
Valves	678	Cost/Unit	$2,343,890
Water Equipment	5	CPI Tables	$5,603,638
Watermains	13,145 metres	Cost/Unit	$15,046,402
Water Tower	1	CPI Tables	$8,925,097
Water Treatment Plant	1	Cost/Unit	$4,283,983
			$39,399,856



5.1.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Hydrants	78%	Good	Age-based
Service Leads	25%	Poor	Age-based
Valves	25%	Poor	Age-based
Water Equipment	39%	Poor	Age-based
Watermains	45%	Fair	Age-based
Water Tower	60%	Good	Age-based
Water Treatment Plant	63%	Good	100% Assessed
	49%	**Fair**	



To ensure that the Township's Water Network continues to provide an acceptable level of service, the Township will monitor the average condition of all assets. If the average condition declines, staff will re-evaluate the lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Water Network.

Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

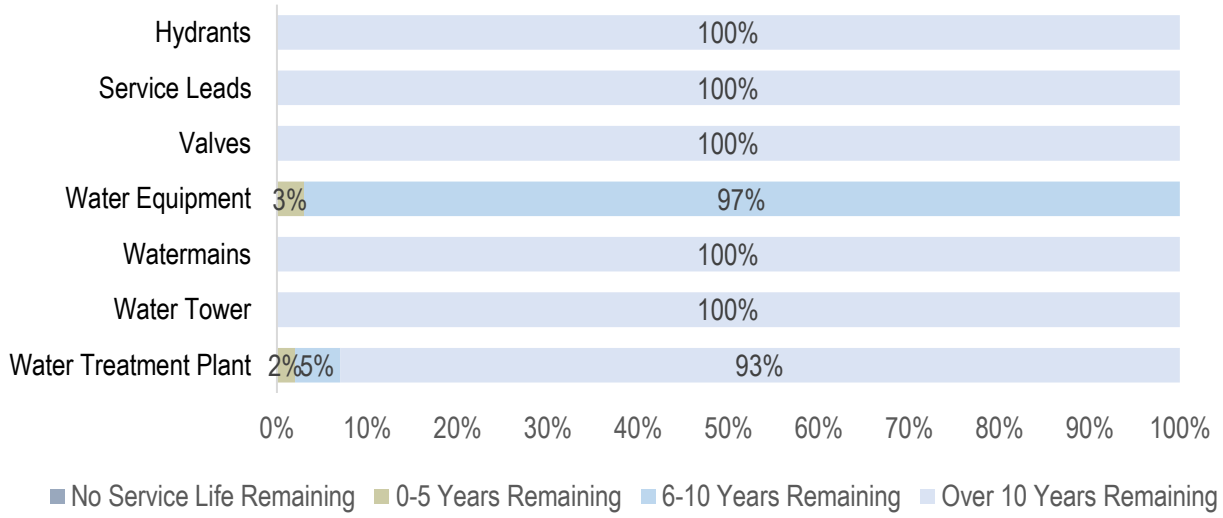
- OCWA operates the municipal water network and is responsible for inspecting network infrastructure on a regular basis, including linear and plant infrastructure assets as part of the maintenance contract
- The Township receives quarterly reports on system condition and capacity from OCWA and is in contact with them daily
- Condition assessment of the Water Treatment Plant building was conducted during the 2023 condition assessment project. This project included a breakdown into component assets (e.g. foundation, roofing, HVAC, flooring, etcetera) which were added to the asset inventory database. The project also provided condition ratings, estimated remaining useful life and replacement costs by component.

5.1.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Water Network assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Hydrants	40	9.1	30.9
Service Leads	60	46.8	13.2
Valves	60	46.8	13.2
Water Equipment	10-20	8.8	5.2
Watermains	75	46.7	28.3
Water Tower	50	18.1	19.4
Water Treatment Plant	10-75	15.3	22.2
		45.2	**22.1**



Each asset's Estimated Useful Life will be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service for each asset type.

5.1.4 Lifecycle Management Strategy

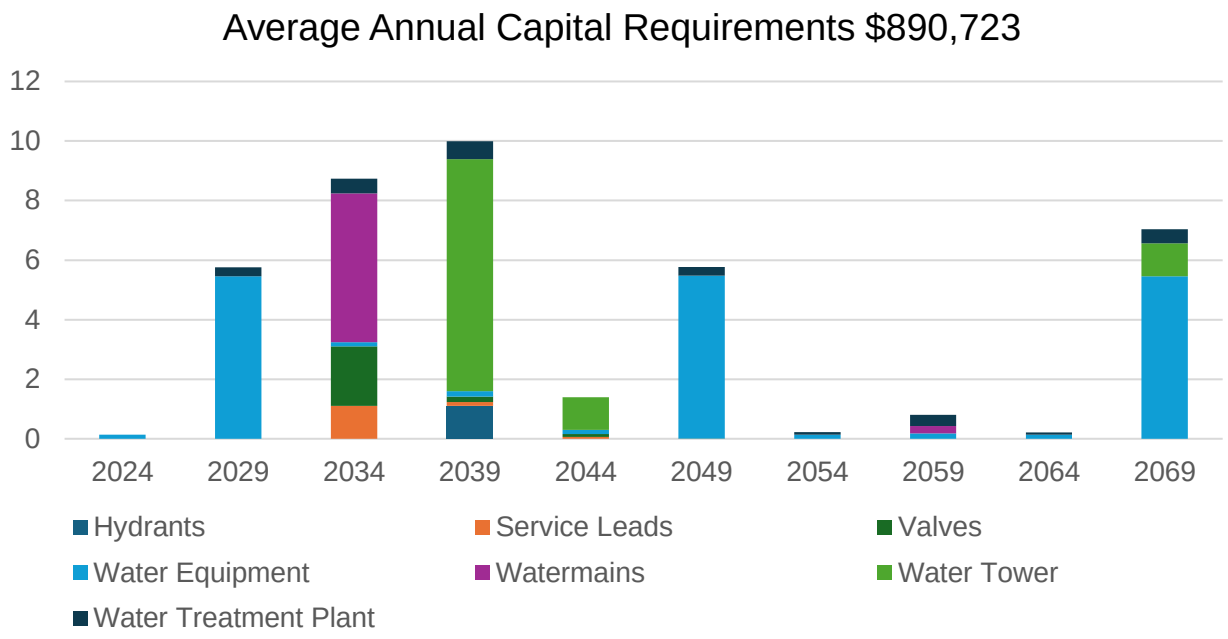
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Flushing is completed twice per year on the entire network (Spring & Fall). Valve turning and leak detection completed as part of preventative maintenance activity to ensure proper valve functioning.
Rehabilitation /Replacement	OCWA creates a 10-year capital plan, although it is subject to change depending on the level of funding available. Water Treatment Plant is relatively new; water tower upgrade completed in 2019. Curb stops and main valves may require replacement soon (~50% are predicted to be non-operational) and both service and main leaks have become a recurring operational concern. Grant application has been submitted to replace chlorine disinfection system with UV disinfection system to achieve regulatory compliance.

Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

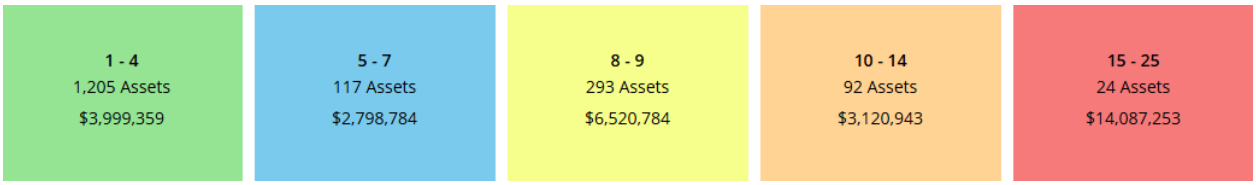
5.1.5 Risk & Criticality

The following risk ratings provides a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.

Water Treatment Plant (by components)

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
23 Assets	31 Assets	19 Assets	10 Assets	2 Assets
$1,704,048	$766,560	$758,230	$888,997	$166,148

Other Segments – Hydrants, Service Leads, Valves, Water Equipment, Watermains, Water Tower



The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. A high-level risk model was developed for the purposes of the previous AMP which is relevant and ongoing in this AMP. The Township team will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

Critical Assets

The identification of critical assets will allow the Township to determine appropriate risk mitigation strategies and treatment options. This may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

5.1.6 Levels of Service

The following tables identify the Township's current level of service for the Water Network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Water Network.

Service Attribute	Qualitative Description	Current Level of Service (2023)
Scope	Description, which may include maps, of the user groups or areas of the Township that are connected to the municipal water system	See Appendix B
	Description, which may include maps, of the user groups or areas of the Township that have fire flow	See Appendix B
Reliability	Description of boil water advisories and service interruptions	Maintenance and rehabilitation of our water systems can lead to temporary disruptions. The length of the interruption would

	depend on the nature of the maintenance or rehabilitation. Water main breaks may require several blocks to be turned off during the time of repair, approximately 4-8 hours, and sufficient notice is provided to all directly affected. Water hydrant flushing will cause pressure drop in areas and could lead to colour changes in the water. Valve exercising program can lead to short events of low flow or no flow lasting 1-3 minutes.

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the Water Network.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of properties connected to the municipal water system	67%
	% of properties where fire flow is available	97%
Reliability	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0.0
	# of connection-days per year where water is not available due to watermain breaks compared to the total number of properties connected to the municipal water system	0.0
Performance	Capital reinvestment rate	0.93%

5.1.7 AMP Development Plan

Asset Inventory/Data Refinement

- **Review Replacement Costs –** Unit costs have been reviewed and applied to all linear water infrastructure. Non-linear infrastructure such as equipment rely on the inflation of historical costs. The Water Treatment Plant building was broken down into component assets during the building condition assessment project in 2023, which included estimated replacement costs. These costs will be reviewed annually and updated according to the best available information on the cost to replace the asset in today's value.

Lifecycle Management Strategies

- **Long-Term Capital Plan / Asset Condition Assessments** - Similar to other sub-surface infrastructure, most of the Water Network was built around the same time (1970s). While capital costs are expected to be minimal in the short-term (5 years), capital costs are projected to increase when more substantial rehabilitation and/or replacement of water infrastructure is required. To ensure that money is available to meet future replacement requirements, a reserve contribution strategy will be explored.

Levels of Service

- **Measure Current Levels of Service** – This AMP contains a basic measurement of the Township's current level of service according to the metrics established in O. Reg. 588/17. Staff will continue to measure the current level of service according to these metrics to allow for trend analysis that informs long-term planning.
- **Identify Additional LOS Metrics** – Staff may identify additional LOS metrics that would inform both short and long-term asset management planning. See Appendix E for examples.
- **Identify Proposed Levels of Service** – Staff working towards identifying proposed levels of service as per O. Reg. 588/17 and identifying the strategies that are required to close any gaps between current and proposed levels of service.

5.2 Sanitary Sewer Network

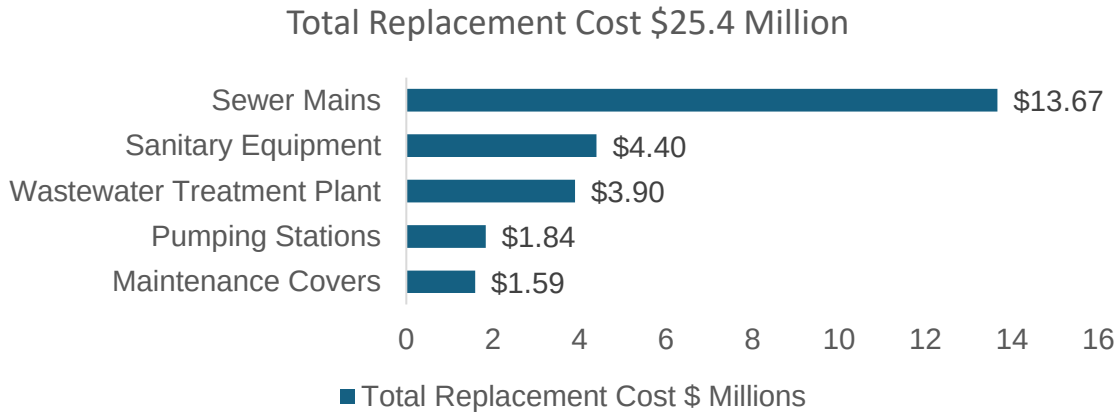
The Township of Hornepayne owns a sanitary sewer network including a wastewater collection system (11.6 km of sewer mains) consisting of primarily gravity mains, a handful of force mains, and 6 pumping stations, in addition to other supporting linear and non-linear infrastructure. The Sewage Treatment Plant was constructed in 1988 and is a Class 1 plant which consists of 2 aeration ponds that are used for primary treatment.

The sanitary sewer collection and wastewater treatment system operations are handled by the Ontario Clean Water Agency (OCWA).

5.2.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Sanitary Sewer Network inventory.

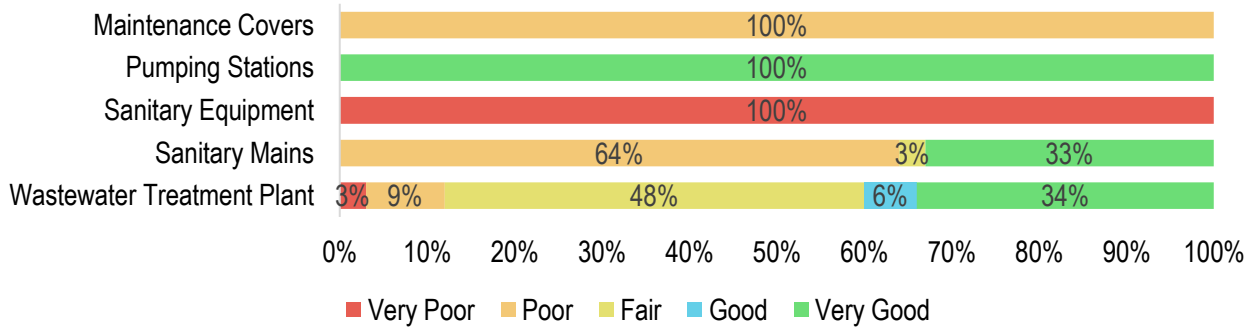
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Maintenance Covers	137	Cost/Unit Inflated	$1,589,063
Pumping Stations	6	CPI Tables	$1,841,578
Sanitary Equipment	7	CPI Tables	$4,418,570
Sanitary Sewer Mains	11,593 metres	Cost/Unit Inflated	$13,673,754
Wastewater Treatment Plant	1	Cost/Unit Inflated	$3,898,394
		Total	**$25,421,359**



5.2.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Maintenance Covers	24%	Poor	Age-based
Pumping Stations	86%	Very Good	Age-based
Sanitary Equipment	0%	Very Poor	Age-based
Sanitary Mains	58%	Fair	Age-based
Wastewater Treatment Plant	63%	Good	100% Assessed
Total	**49%**	**Fair**	**15% Assessed**



To ensure that the Township's Sanitary Sewer Network continues to provide an acceptable level of service, the Township will monitor the average condition of all assets. If the average condition declines, staff will re-evaluate the lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Sanitary Sewer Network.

Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

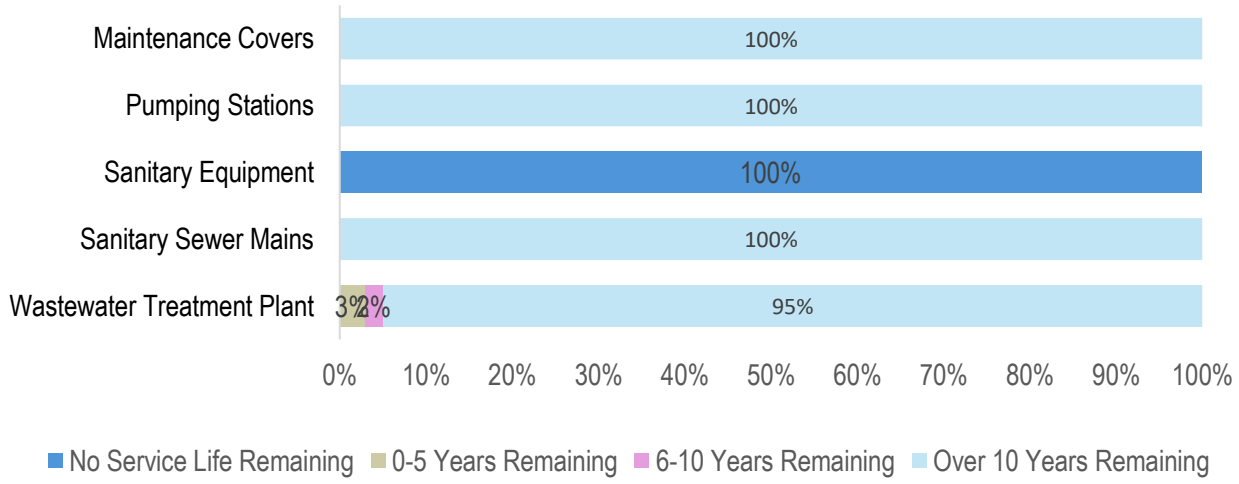
- OCWA operates the municipal sanitary sewer network and is responsible for inspecting network infrastructure on a regular basis, including the Wastewater Treatment Plant and sewage collection system
- The wastewater treatment plant is assessed regularly by operators; the building was assessed in 2023 during the condition assessment project, which included a breakdown into component assets (e.g. foundation, roofing, HVAC, flooring, etcetera) that were added to the asset inventory database
- Assessments of sanitary sewer mains through CCTV inspection are being scheduled

5.2.3 Estimated Useful Life & Average Age

The Estimated Useful Life for Sanitary Sewer Network assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Maintenance Covers	60	47.3	12.7
Pumping Stations	50	6.8	43.2
Sanitary Equipment	20	49.0	-29.0
Sanitary Sewer Mains	75	46.8	28.1
Wastewater Treatment Plant	10-75	20.6	22.0
		41.1	**22.0**



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

5.2.4 Lifecycle Management Strategy

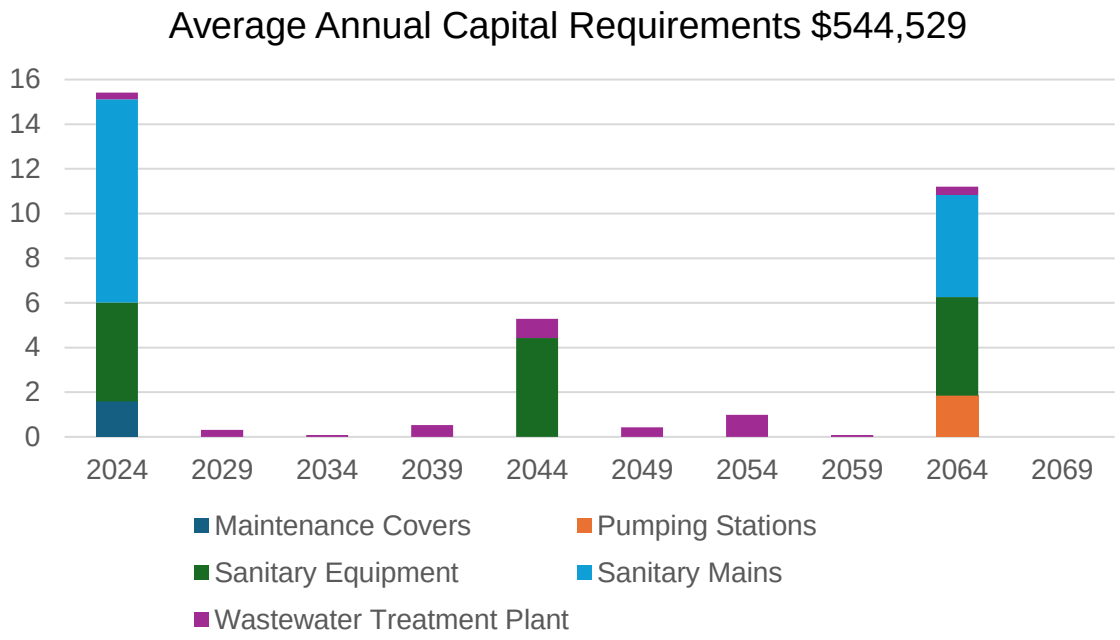
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	OCWA maintains a Work Management System (WMS) which is a comprehensive computer-based maintenance program that is based on a proactive, preventative approach. This includes running checks, weekly, monthly and annual maintenance, as required.
Rehabilitation	Trenchless re-lining has been discussed to address leaking; options are under evaluation CCTV inspections are required before a proactive renewal strategy can be determined
Replacement	Wastewater Treatment Plant is ~49 years old, and was assessed and divided into component assets during 2023 building condition assessment project. OCWA creates a 10-year capital plan, although it is subject to change depending on the level of funding available. Future replacements will be coordinated with road/water projects whenever feasible.

Forecasted Capital Requirements

The following graph forecasts long-term capital requirements based on the inventory as it is today and the anticipated schedule of asset replacement. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs.

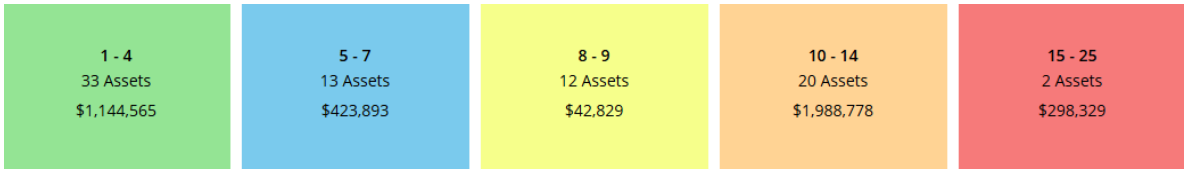


The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

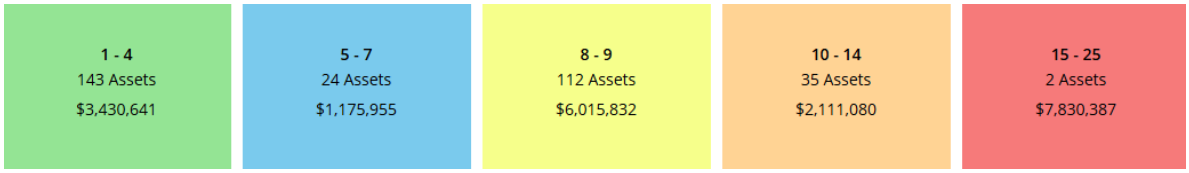
5.2.5 Risk & Criticality

The following risk ratings provide a visual representation of the degree of risk associated with the assets within this asset category. See Appendix C for the criteria used to determine the risk rating of each asset.

Wastewater Treatment Plant Building (by components)



Other Segments – Maintenance Covers, Pumping Stations, Sanitary Equipment, Sewer Mains



The above risk rating provides a high-level overview of the level of risk present according to the criteria outlined in Appendix C. A high-level risk model was developed for the purposes of the previous AMP which is relevant and ongoing in this AMP. The Township staff will periodically review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

Critical Assets

The identification of critical assets will allow the Township to determine appropriate risk mitigation strategies and treatment options. This may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

5.2.6 Levels of Service

The following tables identify the Township's current level of service for the Sanitary Sewer Network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Sanitary Sewer Network.

Service Attribute	Qualitative Description	Current Level of Service
Scope	Description, which may include maps, of the of the user groups or areas of the Township that are connected to the municipal wastewater system	See Appendix B
Reliability	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	No combined sewers
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	No combined sewers

	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 can enter into sanitary sewers due to cracks in sanitary mains or through indirect connections (e.g. weeping tiles). In the case of heavy rainfall events, sanitary sewers may experience a volume of water and sewage that exceeds its designed capacity. In some cases, this can cause water and/or sewage to overflow backup into homes. The disconnection of weeping tiles from sanitary mains and the use of sump pumps and pits directing stormwater to the storm drain system can help to reduce the chance of this occurring.
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	The Township follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers. These standards have been determined with consideration of the minimization of sewage overflows and backups.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	Effluent refers to water pollution that is discharged from a wastewater treatment plant, and may include suspended solids, total phosphorous and biological oxygen demand. The Environmental Compliance Approval (ECA) identifies the effluent criteria for municipal wastewater treatment plants.

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical levels of service provided by the Sanitary Sewer Network.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of properties connected to the municipal wastewater system	66%
Reliability	# 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	n/a
	# of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system	0
	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0
Performance	Capital reinvestment rate	0.45%

5.2.7 AMP Development Plan

Asset Inventory/Data Refinement

- **Review Replacement Costs –** Unit costs have been reviewed and applied to all linear sanitary infrastructure. Non-linear infrastructure, including pumping stations and equipment, rely on the inflation of historical costs. The sewage treatment plant building was componentized during the building condition assessment in 2023, which included estimated replacement costs of components. These costs will be reviewed annually and updated according to the best available information on the cost to replace the asset in today's value.

Levels of Service

- **Measure Current Levels of Service** – This AMP contains a basic measurement of the Township's current level of service according to the metrics established in O. Reg. 588/17. Staff will continue to measure the current level of service according to these metrics to allow for trend analysis that informs long-term planning.

- **Identify Additional LOS Metrics** – Staff may identify additional LOS metrics that would inform both short and long-term asset management planning. See Appendix E for examples.

- **Identify Proposed Levels of Service** – Staff working towards identifying proposed levels of service as per O. Reg. 588/17 and identifying the strategies that are required to close any gaps between current and proposed levels of service

6 Impacts of Growth

Key Insights

- Understanding the key drivers of growth and demand will allow the Township to more effectively plan for new infrastructure, and the upgrade or disposal of existing infrastructure

- Long-term growth planning will depend on the evolving local economy and size of labour force

- The costs of growth should be considered in long-term funding strategies that are designed to maintain the current level of service

6.1 Description of Growth Assumptions

The demand for infrastructure and services will change over time based on a combination of internal and external factors. Understanding the key drivers of growth and demand will allow the Township to more effectively plan for new infrastructure, and the upgrade or disposal of existing infrastructure. Increases or decreases in demand can affect what assets are needed and what level of service meets the needs of the community.

6.1.1 Housing Needs and Demand Study (2019)

A Housing Needs and Demand Study was prepared in 2019 in coordination with SHS Consulting. (https://www.townshipofhornpayne.ca/UserFiles/Servers/Server_12408788/Image/2019-528-1%20-%20Additional%20Document%20-%20Housing%20Needs%20and%20Demand%20Study%20-%20SHS%20Consulting%20Inc.pdf)

The purpose of this study was to identify the current need for housing Hornepayne and forecast future demand for affordable housing.

Three population forecasts were developed (low, moderate, and high growth). The likelihood of these scenarios is heavily dependent on an evolving economy and the availability of jobs. Each scenario represents different growth assumptions that must be accounted for in long-term planning.

Year	Low Growth	Medium Growth	High Growth
2016	-	980	-
2021	939	961	1250
2026	898	958	1275
2031	852	963	1253
2036	825	1005	1282
2041	800	1015	1289
% Change 2016-2041	**-18.4%**	**+3.6%**	**+31.5%**

Under the Low Growth scenario, a shrinking population will lead to a diminished tax base and an increasing burden on the remaining population to fund infrastructure requirements. The disposal of assets or a reduction of level of service would need to be considered.

Under the Medium Growth scenario, population growth would be minimal but steadily increasing. There may be a need for additional infrastructure to support growth, but requirements would likely be minimal.

Under the High Growth scenario, population would see rapid initial growth before plateauing. A population increase to this extent would likely require the expansion of infrastructure services and immediate planning is required.

6.1.2 Hornepayne Housing Corporation (HHC)

The Township of Hornepayne is committed to improving the local housing stock and ensuring that sufficient housing is available to support the community's needs and demands.

In 2021, the Township established a Municipal Services Corporation (MSC), under the authority of the Municipal Act, called the Hornepayne Housing Corporation (HHC). The HHC aims to support the delivery of certain housing service to current and future residents. (https://www.townshipofhornepayne.ca/living-here/housing)

6.1.3 Workforce Development Issues in Hornepayne (2019)

In 2019, a report on Workforce Development issues in Hornepayne was prepared by the Hornepayne Economic Development Corporation.
https://www.townshipofhornepayne.ca/UserFiles/Servers/Server_12408788/Image/Workforce%20Development%20Issues.pdf

The goal of the report was to identify the trends which have an impact on local labour markets and recognize how they will continue to affect Hornepayne's workforce.

The following changes in labour force size were identified based on data provided by Statistics Canada, with 2021 data subsequently added:

Year	Total Pop. 15 Years and Older	In the Labour Force	Not in the Labour Force
2006	950	690	260
2011	835	617	218
2016	800	565	240
2021	795	485	305
Net Change (2006-2021)	-155	-205	+45

For information on the comparability of the 2021 Census labour force status data with those of the Labour Force Survey, see Appendix 2.11 of the Dictionary, Census of Population, 2021 - https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/Page.cfm?Lang=E&DGUIDlist=2021A00053557096&GENDERlist=1,2,3&STATISTIClist=1&HEADERlist=0

6.2 Impact of Growth on Lifecycle Activities

By July 1, 2025, the Township's asset management plan must include a discussion of how the assumptions regarding future changes in population and economic activity informed the preparation of the lifecycle management and financial strategy.

Planning for forecasted population growth may require the expansion of existing infrastructure and services. As growth-related assets are constructed or acquired, they should be integrated into the Township's AMP. While the addition of residential units will add to the existing assessment base and offset some of the costs associated with growth, the Township will need to review the lifecycle costs of growth-related infrastructure. These costs should be considered in long-term funding strategies that are designed to, at a minimum, maintain the current level of service.

7 Financial Strategy

Key Insights

The Township is committing money towards capital projects and operational activities annually through the budgeting process.

This section is to be updated in 2025 to meet the regulation deadline for proposed levels of service and related lifecycle management and financial strategy.

Appendices

Key Insights

Appendix A identifies projected 10-year capital requirements for each asset category

Appendix B includes several photographs and maps that have been used to visualize the current level of service

Appendix C identifies the criteria used to calculate risk for each asset category

Appendix D provides the Condition Assessment Strategy

Appendix E provides examples of key performance indicators that may be considered in the further development of the levels of service framework

Appendix A: 10-Year Capital Requirement

The following tables identify the capital cost requirements for each of the next 10 years to meet projected capital requirements and maintain the current level of service.

Road Network											
Asset Segment	Backlog	Event Cost	2025	2026	2027	2028	2029	2030	2031	2032	2033
Paved Roads	$0	$1,015,648	$0	$0	$0	$150,699	$0	$0	$128,376	$651,157	$85,416
Gravel Roads	$8,672,319	$10,137,434	$0	$0	$0	$0	$316,676	$0	$0	$1,148,439	$0
Streetlights	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$8,672,319	$11,153,082	$0	$0	$0	$150,699	$316,676	$0	$128,376	$1,799,596	$85,416

Bridges & Culverts											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Bridges	$0	$83,000	$0	$0	$0	$0	$270,000	$0	$0	$0	$0
Culverts	$0	$61,500	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$144,500	$0	$0	$0	$0	$270,000	$0	$0	$0	$0

Stormwater Network											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Catch Basins	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storm Sewers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Buildings & Facilities											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Airport	$0	$83,757	$11,025	$5,744	$31,691	$5,128	$2,564	$13,589	$0	$13,128	$8,205
Arena	$0	$1,643,994	$215,120	$61,536	$0	$246,839	$0	$231,596	$3,077	$173,841	$41,537
Curling Club	$0	$565,891	$148,200	$99,586	$31,282	$264,222	$21,025	$17,692	$1,538	$17,948	$897,405
Municipal Building/Fire Hall	$0	$350,206	$168,711	$115,688	$71,279	$39,845	$1,538	$117,713	$0	$0	$50,459
Public Works Buildings	$0	$485,973	$38,268	$6,154	$27,691	$256	$11,795	$0	$0	$0	$570,693
	$0	$3,129,821	$581,324	$288,708	$161,943	$556,290	$36,922	$380,590	$4,615	$204,917	$1,568,299

Machinery & Equipment											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Admin Equipment	$236,774	$44,689	$43,323	$20,478	$58,297	$0	$221,798	$43,323	$20,478	$58,297	$0
Airport Equipment	$739,827	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fire Equipment	$0	$119,866	$20,606	$25,569	$0	$0	$40,578	$7,007	$24,651	$0	$0
Library Books, Computer	$0	$0	$0	$460,345	$0	$0	$0	$0	$0	$0	$0
Public Works Equipment	$28,367	$26,476	$18,987	$0	$0	$19,167	$18,558	$0	$0	$0	$22,040
Recreation Equipment	$209,039	$8,374	$9,788	$44,169	$0	$365,091	$0	$9,788	$33,119	$0	$0
	$1,214,007	$199,405	$92,704	$550,561	$58,297	$384,258	$280,934	$60,118	$78,248	$58,297	$22,040

Appendix A: 10-Year Capital Requirement

The following tables identify the capital cost requirements for each of the next 10 years to meet projected capital requirements and maintain the current level of service.

Vehicles											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Airport Vehicles	$0	$0	$0	$0	$494,195	$0	$0	$0	$0	$0	$0
Fire Vehicles	$200,142	$110,065	$0	$0	$0	$0	$0	$134,802	$0	$0	$0
Public Works Vehicles	$148,300	$0	$89,737	$35,068	$602,926	$0	$0	$443,067	$86,231	$0	$190,083
	$348,442	$110,065	$89,737	$35,068	$1,097,121	$0	$0	$577,869	$86,231	$0	$190,083

Land Improvements											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Airport Runway	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Parking Lots	$3,409	$0	$0	$0	$0	$0	$0	$0	$0	$421,871	$0
Playground Equipment	$0	$51,215	$0	$0	$0	$0	$0	$0	$39,228	$99,149	$0
Skate Park	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Tennis Court	$81,081	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$84,490	$51,215	$0	$0	$0	$0	$0	$0	$39,228	$521,020	$0

Waste Disposal											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Landfill Site	$347,944	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Solid Waste Vehicles	$38,352	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Waste Equipment	$0	$0	$0	$0	$10,362	$0	$0	$0	$0	$0	$0
Waste Transfer Station	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,539
	$386,296	$0	$0	$0	$10,362	$0	$0	$0	$0	$0	$9,539

Water Network											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Hydrants	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Service Leads	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Valves	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Equipment	$0	$30,548	$0	$0	$0	$115,221	$0	$5,276,852	$181,017	$0	$0
Watermains	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Tower	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Treatment Plant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$30,548	$0	$0	$0	$115,221	$0	$5,276,852	$181,017	$0	$0

Sanitary Sewer Network											
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Maintenance Covers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pumping Stations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sanitary Equipment	$4,418,570	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sanitary Mains	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Treatment Plant	$0	$228,683	$0	$15,384	$4,102	$49,537	$513	$35,126	$264,401	$22,307	$1,282
	$4,418,570	$228,683	$0	$15,384	$4,102	$49,537	$513	$35,126	$264,401	$22,307	$1,282

Appendix B: Level of Service Maps & Images

Township of Hornepayne
Roundhouse Road Culvert

23-0942
June 13, 2023

Picture 3 – West Elevation

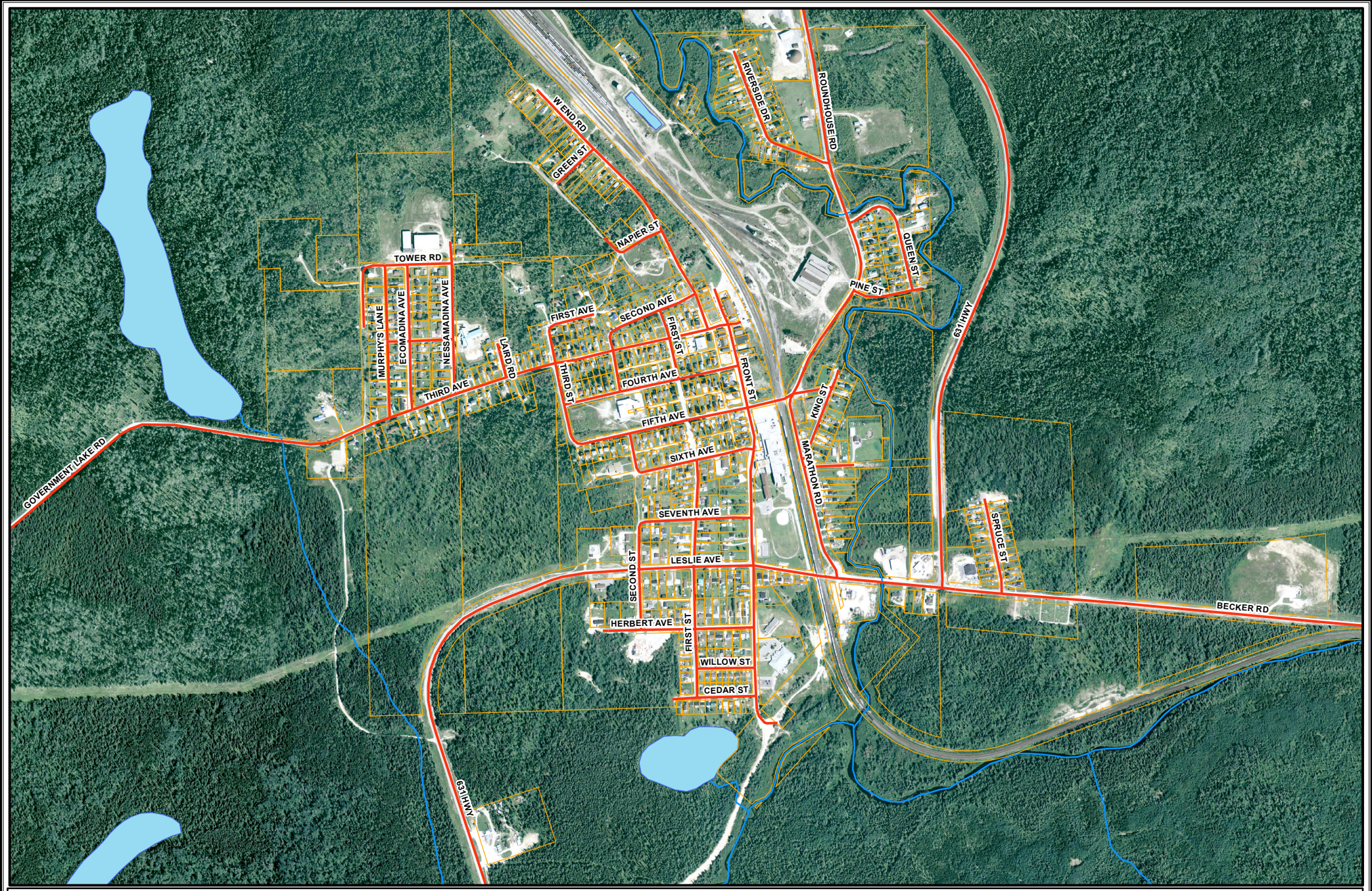
Picture 4 – East Elevation

TULLOCH
ENGINEERING

Picture 3 – South Elevation

Picture 4 – North Elevation

TULLOCH
ENGINEERING



Legend

- Hornepayne Roads
- Parcel
- Lakes
- Rivers

07/05/2020

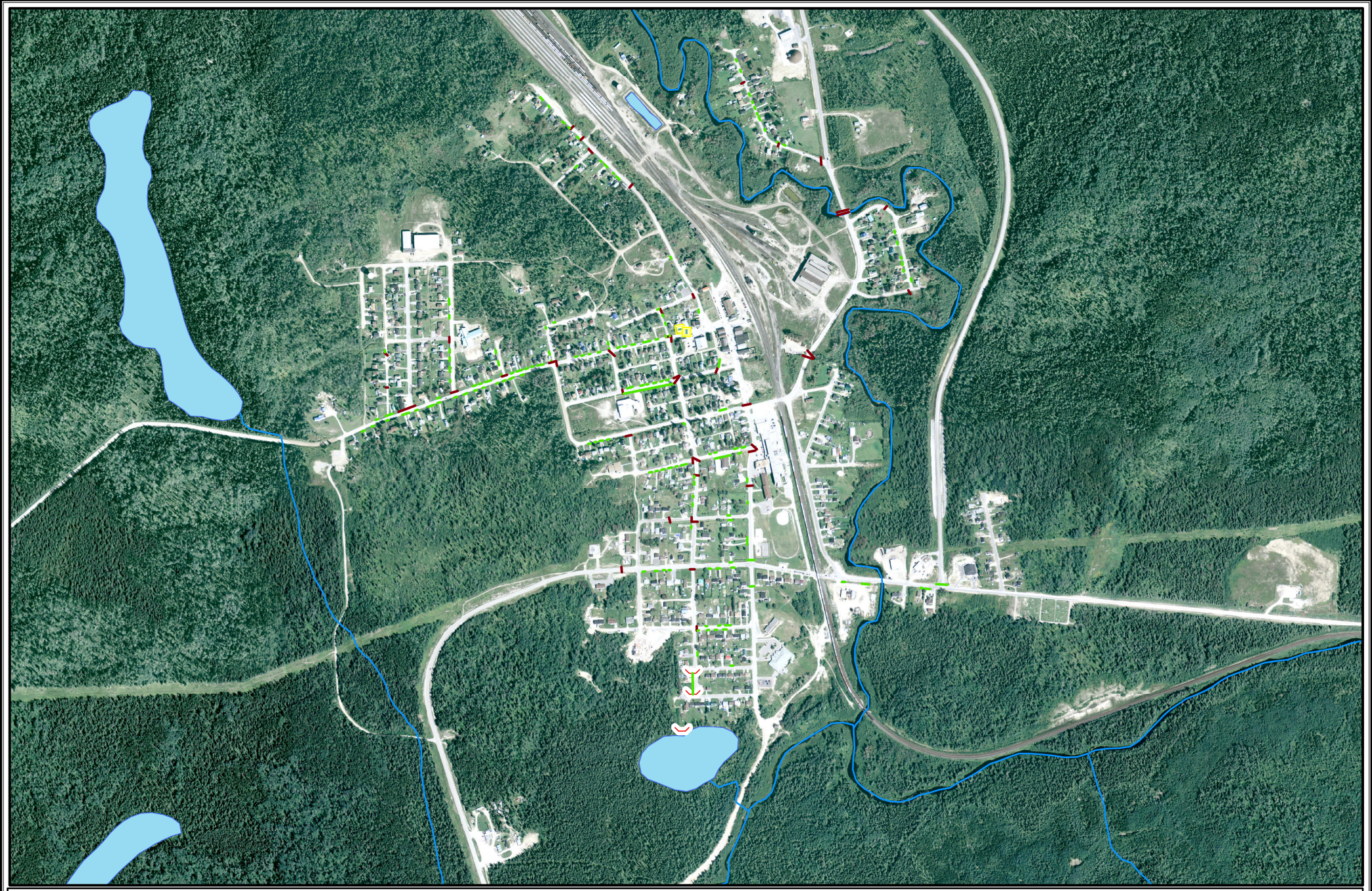
Hornepayne Road Network
Township of Hornepayne

0 100 200 400 600

Meters

NITGC
NORTHERN INFORMATION TECHNOLOGY AND GEOMATICS COOPERATIVE

N W E S



Legend

Culvert
- Cross
- Driveway

IOStructType
- OtherIOStructure
- Catch Basin

07/05/2020

Hornepayne Storm Network
Township of Hornepayne

0 100 200 400 600
Meters

NITGC
NORTHERN INFORMATION TECHNOLOGY AND GEOMATICS COOPERATIVE

N W E S

Legend

- Service Lead
- Bend
- Cap
- Cross
- Reducer
- Tee
- Hydrant
- WTP
- Tank
- Reservoir
- Production Well
- Pump Station
- Intake
- < 12 " (300 mm) diameter
- > 12" (300 mm) diameter
- Unknown diameter

07/05/2020

Hornepayne Water Network
Township of Hornepayne

0 87.5 175 350 525

Meters

NITGC

NORTHERN INFORMATION TECHNOLOGY AND GEOMATICS COOPERATIVE

N W E S

Legend

- Sanitary
- Pumping Station
- Sanitary, Chamber
- Sanitary, MH
- Bend
- Coupling
- Elbow_11.25D
- Elbow_22.5D
- Elbow_45D
- Endcap
- Sanitary, Force Main
- Sanitary, Gravity

07/05/2020

Hornepayne Sewer Network
Township of Hornepayne

0 87.5 175 350 525

Meters

NITGC
NORTHERN INFORMATION TECHNOLOGY AND GEOMATICS COOPERATIVE

N W E S

Appendix C: Risk Rating Criteria

Probability of Failure

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Probability of Failure Score
Road Network (Roads)	Condition	100%	80 - 100	1
Bridges & Culverts			60 - 79	2
Stormwater Network (Mains)			40 - 59	3
Sanitary Sewer Network (Mains)			20 - 39	4
Water Network (Mains)			0 - 19	5
Water Network (Water Tower)				
Vehicles				
Machinery & Equipment				
Land Improvements				
Buildings & Facilities	Condition	100%	4.1 - 5.0	1
(by component)			3.1 - 4.0	2
			2.1 - 3.0	3
			1.1 - 2.0	4
			0 - 1.0	5

Consequence of Failure

Asset Category	Risk Criteria	Value/Range	Consequence of Failure Score
Road Network (Roads)	Road Class (100%)	Collector	4
		Local/Street	2
Bridges & Culverts	Replacement Cost (100%)	$2,000,000+	5
		$1,000,000 - $2,000,000	4
		$500,000 - $1,000,000	3
		$250,000 - $500,000	2
		$0 - $250,000	1
Stormwater Network (Mains)	Pipe Size (mm) (100%)	900mm+	5
		600mm - 900mm	4
		450mm - 600mm	3
		300mm - 450mm	2
		0mm - 300mm	1
Sanitary Sewer Network (Mains)	Pipe Diameter (70%)	500mm+	5
		400mm - 500mm	4
		250mm - 400mm	3
		150mm - 250mm	2
		100mm - 150mm	1
	Sewer Type (30%)	FM	4
		OVFLW	3
		GRAV	2
Water Network (Mains)	Pipe Size (mm) (100%)	300mm	5
		250mm	4
		200mm	3
		150mm	2
		100mm	1
Water Network (Water Tower, Hydrants)	Replacement Cost (100%)	$1,000,000+	5
		$500,000 - $1,000,000	4
		$250,000 - $500,000	3
		$100,000 - $250,000	2
		$0 - $100,000	1
Vehicles	Replacement Cost (100%)	$1,000,000+	5
		$500,000 - $1,000,000	4
		$250,000 - $500,000	3
		$100,000 - $250,000	2
		$0 - $100,000	1
Machinery & Equipment	Replacement Cost (100%)	$1,000,000+	5
		$500,000 - $1,000,000	4
		$250,000 - $500,000	3
		$100,000 - $250,000	2
		$0 - $100,000	1
Land Improvements	Replacement Cost (100%)	$1,000,000+	5
		$500,000 - $1,000,000	4
		$250,000 - $500,000	3
		$100,000 - $250,000	2
		$0 - $100,000	1

Consequence of Failure

Asset Category	Risk Criteria	Value/Range	Consequence of Failure Score
Buildings & Facilities (by component)	Replacement Cost (60%)	$75,000 - $100,000	5
		$50,000 - $75,000	4
		$30,000 - $50,000	3
		$10,000 - $30,000	2
		$0 - $10,000	1
	Level 2 - Component Group (25%)	Severe	5
		Major	4
		Moderate	3
		Minor	2
		Insignificant	1
	ABSI Project Prioritization (15%)	Consequences of Failure	5
		Health & Safety	5
		Energy Savings	3
		Environmental	3
		Part of Strategic Plan	3
		Accessibility Issues	2

Appendix D

Township of Hornepayne

Asset Management
Condition Assessment Strategy

September, 2023

Background

Municipal infrastructure provides the foundation for the economic, social and environmental health and growth of a community through the delivery of critical services. The goal of asset management is to deliver an adequate level of service in the most cost-effective manner. The asset management program is developed with the goal of balancing costs, opportunities and risks against the desired performance of assets to achieve the Township's levels of service objectives.

The Corporation of the Township of Hornepayne's ("Township of Hornepayne" or "Township") infrastructure systems support a range of municipal services that enable the quality of life experience by residents, businesses, visitors to our community, and other stakeholders.

The development of this Condition Assessment Strategy was a recommendation in the 2020 Asset Management Plan, and is a further step in the ongoing advancement of the Township's asset management program. This project has been facilitated by a grant approved by the Federation of Canadian Municipalities (FCM) through their Municipal Asset Management Program (MAMP). The project also included conducting condition assessments on the Township's facilities, and provided current condition ratings of componentized assets, recommended interventions (install, repair, replace) with photos and estimated costs for facilities assets.

Purpose

The information contained herein will ultimately be incorporated into the asset management plan being prepared for July 1, 2024, as per the deadline for all municipal assets in Ontario Regulation 588/17.

This strategy has been developed in cooperation with Council and staff of the Township of Hornepayne, and relates to those assets currently owned and maintained by the Township and used in providing services to the community. The condition assessment strategy will be applied as current assets are maintained, rehabilitated or replaced, and as new assets are acquired.

Role of Asset Condition Data

The goal of collecting asset condition data is to ensure that data is available to inform maintenance and renewal programs required to meet the desired levels of service. Assessed condition is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions, and is a key variable in the determination of an asset's probability of failure. An incomplete or limited understanding of asset condition can mislead long-term planning and decision-making.

Accurate and reliable condition data allows municipal staff to:

- ✓ determine the estimated remaining service life of assets;
- ✓ identify the most cost-effective approach to asset deterioration, whether it involves extending the life of the asset through remedial efforts or determining that replacement is required to avoid asset failure.

In addition to the optimization of lifecycle management strategies, asset condition data also impacts the Township's risk management and financial strategies. Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life.

Guidelines for Condition Assessment

Whether completed by external consultants or internal staff, condition assessments should be completed in a structured and repeatable fashion, according to consistent and objective assessment criteria. Without proper guidelines for the completion of condition assessments, there can be little confidence in the validity of condition data and asset management strategies based on this data.

Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating criteria, in a format that can be used for asset management decision-making. In some cases, internal staff may have sufficient expertise or training to complete condition assessments, however, staff capacity is limited. In other cases, external consultants may need to be engaged to complete detailed technical assessments of infrastructure.

Condition Assessment Ratings

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Township's asset portfolio. The table below outlines the condition rating system used by the Township to determine asset condition.

This rating system is aligned with the Canadian Core Public Infrastructure Survey which is used to develop the Canada Infrastructure Report Card. When assessed condition is not available, service life remaining is used to approximate asset condition.

Condition	Description	Criteria	Service Life Remaining (%)
Very Good	Fit for the future	Well maintained, good condition, new or recently rehabilitated	80-100
Good	Adequate for now	Acceptable, generally approaching mid-stage of expected service life	60-80
Fair	Requires attention	Signs of deterioration, some elements exhibit significant deficiencies	40-60
Poor	Increasing potential of affecting service	Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration	20-40
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable	0-20

Developing a Condition Assessment Schedule

Condition assessments and general data collection can be both time-consuming and resource-intensive. As it is not an effective strategy to collect assessed condition data across the entire asset inventory, the goal is to prioritize the collection of assessed condition data based on the anticipated value of this data in decision-making.

All of the various types of municipal assets are considered, with the aim to find the balance of assessment cost to benefits achieved in performing the assessments.

The Township's assets are organized in the following asset categories:

- Bridges & Culverts
- Road Network
- Storm Water Network
- Sanitary Sewer Network
- Water Network
- Buildings
- Machinery & Equipment
- Vehicles
- Land Improvements
- Waste Disposal

Criteria for Consideration When Identifying Assets to be Assessed

Several factors were identified as important to consider when determining which assets to assess and setting the assessment schedules.

1. Is there legislation requiring a condition assessment/inspection? Examples of legislation regarding infrastructure assets include:
    - DWQMS – Drinking Water Quality Management Standard;
    - SDWA – Safe Drinking Water Act;
    - TSSA – Technical Standards and Safety Authority;
    - MMS – Minimum Maintenance Standards – Road Network;
    - Our own By-laws/policies.
2. Are there reporting requirements regarding legislated inspections?
    - Completed inspections can help to fulfill reporting requirements.
3. How often are the inspections required/recommended?
    - Manufacturer recommendations should be identified;
    - Assessment should be accelerated on deteriorating assets.
4. How often are inspections being done now?
    - Appropriateness – confirm how frequently to perform the inspection.

5. What are the risks of not doing inspections? Or doing inspections less frequently?
    - Identify the probability of failure.
    - Identify the consequence of failure if not inspected.
6. Can the assessment be done by municipal staff or are outside contractors required?
    - Does Municipal staff have the training/certification to complete the assessment?
    - Does Municipal staff have the capacity/time to complete the assessment?
7. Is the cost of assessment reasonable or prohibitive?
    - Does the cost of the inspection outweigh the benefit of the data it would provide?
    - Is it labour or time intensive?
8. Are there grants available to help cover inspection costs?
    - Where possible, delay inspection until there is funding to help mitigate the cost;
    - Where possible, include inspection costs as part of a capital project.
9. Is there a collaborative opportunity with nearby communities to achieve savings when arranging condition assessments?
    - When engaging outside consultants who may have to travel to the community from larger centres – collaborating can bring a larger contract to the consultant and encourage cost savings for each community involved.
10. Is the Township receiving public input regarding this asset?
    - Where possible, use information received from service requests, comments, public concerns, surveys, public consultation.

Informing Asset Maintenance Schedules and Inventory Records

All new assets are added to the inventory records as they are acquired or at a minimum once per calendar year. The asset maintenance schedule of new acquisitions will be determined by the manager of the department managing the assets, and related lifecycle events (assessments, routine maintenance, preventative maintenance) will be added to the asset inventory records to assist with department scheduling and planning.

Assessment and maintenance schedules for existing assets will be reviewed by department managers once per calendar year, and any needed adjustments to the schedules/lifecycle events will be adjusted in the asset inventory records.

Other than scheduled assessments, information on asset performance can also be obtained from public or staff input. Service requests, comments, concerns, surveys and public submissions will be reviewed by the department manager, who will determine the actions to be taken in that situation.

As condition assessments are completed (or at a minimum once per calendar year), the results will be added to the relevant asset's inventory record, as part of the process of keeping the

inventory records updated. Any required repairs will be completed as they are identified (if feasible), or added to the relevant department's list of maintenance/repairs to be scheduled.

An Action Plan has been prepared to identify steps to update assessment and maintenance data for existing assets in the inventory records.

The final step includes the incorporation of the Condition Assessment Strategy details into the draft asset management plan being prepared for July 1, 2024.

Action Plan			
Task		**Who is responsible**	**Schedule**
1.	Assemble condition assessment information for current assets, including: - schedule of assessments being done/planned - reports/results for completed assessments	Asset Management Coordinator with the assistance of department staff/managers	In Progress Complete by Nov. 20, 2023
2.	Update asset inventory records with results from completed condition assessments: - determine gaps in inventory records for assessments already done - input results that are outstanding	Asset Management Coordinator	Identify data gaps by Nov. 30, 2023 Input results to inventory records by Dec. 31, 2023
3.	Assemble lifecycle events for current assets, including: - schedule of maintenance activities planned (routine maintenance, preventative maintenance) with related costs	Asset Management Coordinator with the assistance of department staff/managers	In Progress Complete by Dec. 11, 2023
4.	Update asset inventory records with lifecycle event details	Asset Management Coordinator	Input results to inventory records by Dec. 31, 2023
5.	Incorporate Condition Assessment Strategy details into Asset Management Plan	Asset Management Coordinator	Add to draft AMP by Apr. 30, 2024

Appendix E: Level of Service Metrics (Examples)

Road Network, Bridges & Culverts

Indicator	KPI (Reported Annually)
Strategic	• Percentage of total reinvestment compared to asset replacement value • Completion of strategic plan objectives (related to right-of-way)
Financial Indicators	• Annual revenues compared to annual expenditures • Annual replacement value depreciation compared to annual expenditures • Cost per capita for roads, and bridges & culverts • Maintenance cost per square metre • Revenue required to maintain annual network growth • Total cost of borrowing vs. total cost of service
Tactical	• Overall Bridge Condition Index (BCI) as a percentage of desired BCI • Percentage of road network rehabilitated/reconstructed • Percentage of paved road lane km rated as poor to very poor • Percentage of bridges and large culverts rated as poor to very poor • Percentage of asset class value spent on O&M • Percentage of signage that pass reflectivity test. The remaining should be replaced
Operational Indicators	• Percentage of roads inspected within the last five years • Percentage of bridges and large culverts inspected within the last two years • Operating costs for paved lane per km • Operating costs for bridge and large culverts per square metre • Percentage of customer requests with a 24-hour response rate • Service requests for streetlight repair completed within x hours • Annual inspection and maintenance of all x stop signs

Water, Sanitary and Storm Sewer Networks

Indicator	KPI (Reported Annually)
Strategic	• Percentage of total reinvestment compared to asset replacement value • Completion of strategic plan objectives (related water / sanitary / storm)
Financial Indicators	• Annual revenues compared to annual expenditures • Annual replacement value depreciation compared to annual expenditures • Total cost of borrowing compared to total cost of service • Revenue required to maintain annual network growth • Lost revenue from system outages
Tactical	• Percentage of water / sanitary / storm network rehabilitated / reconstructed • Overall water / sanitary / storm network condition index as a percentage of desired condition index • Annual adjustment in condition indexes • Annual percentage of growth in water / sanitary / storm network • Percentage of mains where the condition is rated poor or critical for each network • Percentage of water / sanitary / storm network replacement value spent on operations and maintenance
Operational Indicators	• Percentage of water / sanitary / storm network inspected • Operating costs for the collection of wastewater per kilometre of main • Number of wastewater main backups per 100 kilometres of main • Operating costs for stormwater management (collection, treatment, and disposal) per kilometre of drainage system. • Operating costs for the distribution/ transmission of drinking water per kilometre of water distribution pipe • Number of days when a boil water advisory issued by the medical officer of health, applicable to a municipal water supply, was in effect • Number of watermain breaks per 100 kilometres of water distribution pipe in a year • Number of customer requests received annually per water / sanitary / storm networks • Percentage of customer requests responded to within 24 hours per water / sanitary / storm network

Buildings & Facilities

Indicator	KPI (Reported Annually)
Strategic	• Percentage of total reinvestment compared to asset replacement value • Completion of strategic plan objectives (related to buildings and facilities)
Financial Indicators	• Annual revenues compared to annual expenditures • Annual replacement value depreciation compared to annual expenditures • Revenue required to meet growth related demand • Repair and maintenance costs per square metre Energy, utility and water cost per square metre
Tactical	• Percentage of component value replaced • Overall facility condition index as a percentage of desired condition index • Annual adjustment in condition indexes • Annual percentage of new facilities (square metre) • Percent of facilities rated poor or critical • Percentage of facilities replacement value spent on operations and maintenance Increase facility utilization rate by [x] percent by 2025. • *Utilization Rate = Occupied Space / Facility Usable Area*
Operational Indicators	• [x] sq. ft. of facilities per full-time employee (or equivalent), i.e. maintenance staff • Percentage of facilities inspected within the last five years • Number/type of service requests • Percentage of customer requests responded to within 24 hours

Fleet & Equipment

Indicator	KPI (Reported Annually)
Strategic	• Percentage of total reinvestment compared to asset replacement value • Completion of strategic plan objectives (related to fleet and equipment)
Financial Indicators	• Annual revenues compared to annual expenditures • Annual replacement value depreciation compared to annual expenditures • Revenue required to maintain annual network growth • Total cost of borrowing vs. total cost of service
Tactical	• Percentage of all vehicles replaced • Average age of fleet vehicles • Percent of vehicles rated poor or critical • Percentage of fleet replacement value spent on operations and maintenance
Operational Indicators	• Average downtime per fleet category • Average utilization per fleet category and/or each vehicle • Ratio of preventative maintenance repairs vs. reactive repairs • Percent of vehicles that received preventative maintenance • Number/type of service requests • Percentage of customer requests responded to within 24 hours