Asset Management Plan 2024

Township of Ignace

November 2025

psdcitywide

This Asset Management Plan was prepared by:

Empowering your organization through advanced asset management, budgeting & GIS solutions

Key Statistics

$111m	2024 Replacement Cost of Asset Portfolio
$167k	Replacement Cost of Infrastructure Per Household
78%	Percentage of Assets in Fair or Better Condition
37%	Percentage of Assets with Assessed Condition Data
$2.5m	Annual Capital Infrastructure Deficit
20 Years	Recommended Timeframe for Eliminating Annual Infrastructure Deficit
2.3%	Target Investment Rate
0.07%	Actual Investment Rate

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1. Executive Summary

Municipal infrastructure delivers critical services that are foundational to the economic, social, and environmental health and growth of a community. The goal of asset management is to enable infrastructure to deliver an adequate level of service in the most cost-effective manner. This involves the ongoing review and update of infrastructure information and data alongside the development and implementation of asset management strategies and long-term financial planning.

1.1 Scope

This Asset Management Plan (AMP) identifies the current practices and strategies that are in place to manage public infrastructure and makes recommendations where they can be further refined. Through the implementation of sound asset management strategies, the Township of Ignace can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

This AMP includes the following asset categories:

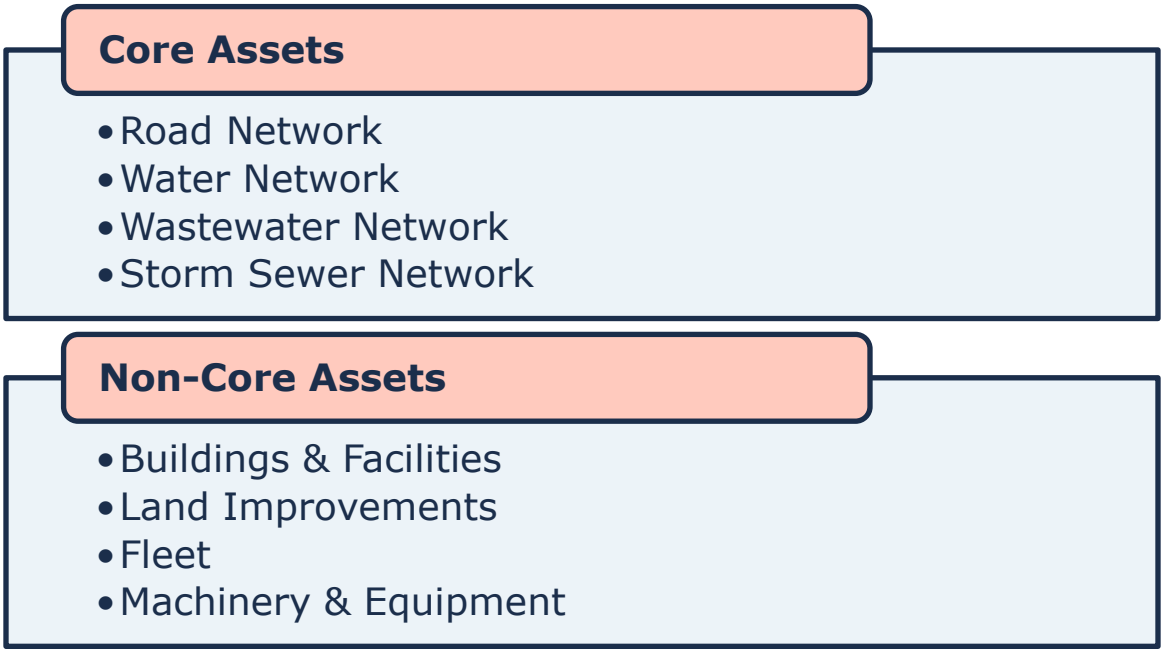

Figure 1 Core and Non-Core Asset Categories

1.2 O. Reg. 588/17 Compliance

With the development of this AMP the Township has achieved compliance with July 1, 2024, requirements under O. Reg. 588/17. This includes requirements for levels of service and inventory reporting for all asset categories. More details on compliance can be found in section *2.5.1 O. Reg. 588/17 Compliance Review*.

1.3 Findings

The overall replacement cost of the asset categories included in this AMP totals $111.1 million. 78% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 37% of assets. For the remaining 63% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP uses 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 $2.6 million. Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $77 thousand towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $2.5 million.

It is important to note that this AMP represents a snapshot in time and is based on the best and currently 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.

1.4 Funding Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics show the annual tax/rate change required to eliminate the Township's infrastructure deficit based on a 20-year plan. This is further detailed in *Section 13. Financial Strategy.*

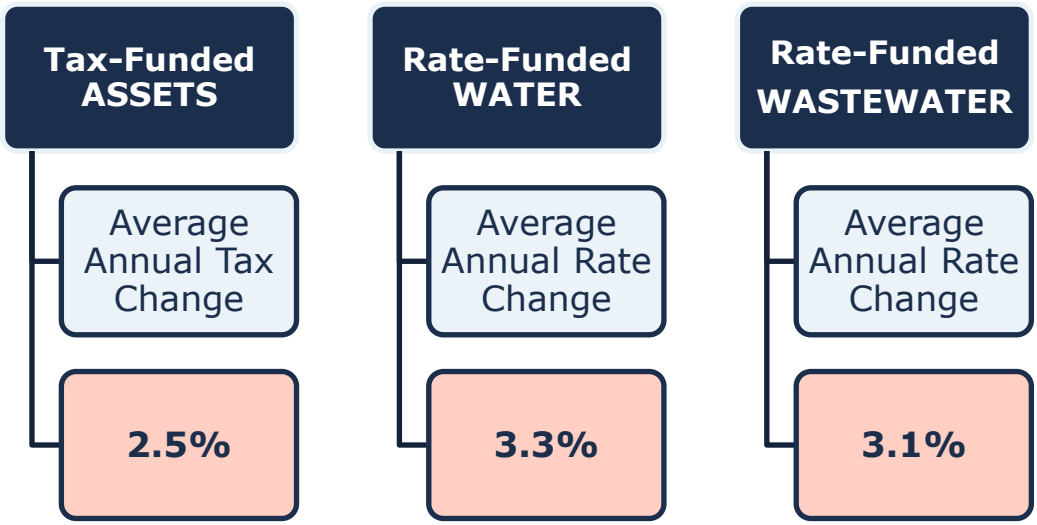

Figure 2 Proposed Tax/Rate Changes

2. Introduction & Context

2.1 Community Profile

Census Characteristic	Township of Ignace	Ontario
Population 2021	1,206	14,223,942
Population Change 2016-2021	0.3%	5.8%
Total Private Dwellings	664	5,929,250
Population Density	16.7/km^2	15.9/km^2
Land Area	72.13 km^2	892,411.76 km^2

Table 1 Township of Ignace Community Profile

The Township of Ignace is a single-tier municipality, part of the Kenora District, which is located in northwestern Ontario between the cities of Thunder Bay and Dryden.

Ignace was incorporated as a Township in 1908, primarily due to its strategic location along the transcontinental railway. This key transportation link established Ignace as an essential service and supply hub for the railway and growing forestry industry. Over time, the Township's access to vast natural resources helped it transition from a railway and forestry-based economy to a tourism-driven one, capitalizing on its abundant lakes and forests for outdoor recreational activities.

The region around the Township of Ignace is characterized by its vast wilderness areas, including dense boreal forests and numerous lakes, which are part of the Canadian Shield. This rugged and scenic landscape is ideal for outdoor activities such as fishing, hunting, and canoeing, attracting nature enthusiasts and adventure seekers. The natural environment is largely untouched, offering a serene and pristine backdrop that contrasts sharply with urban settings, making it a prime location for those looking to escape to a more tranquil, natural setting.

Economic demand in the region is primarily driven by the forestry industry, which has historically been a significant economic pillar due to the extensive forested areas. In recent years, tourism has also become a key driver of economic activity, with visitors drawn to the area for its outdoor recreational opportunities and the natural beauty of its landscapes. This has led to a growing hospitality sector, including accommodations, dining, and recreational services, catering to tourists and supporting local employment and business opportunities.

The infrastructure priorities for the Township of Ignace focus on enhancing commercial, medical, wellness, and recreational services to promote organized development. Growth is concentrated in the Settlement Area, which is fully equipped with municipal services to support denser development efficiently. The Township aims to protect key natural areas and diversify its economy, emphasizing tourism and resource management to meet current and future needs.

2.2 Climate Change

Climate change can cause severe impacts on human and natural systems around the world. The effects of climate change include increasing temperatures, higher levels of precipitation, droughts, and extreme weather events. In 2019, Canada's Changing Climate Report (CCCR 2019) was released by Environment and Climate Change Canada (ECCC).

The report revealed that between 1948 and 2016, the average temperature increase across Canada was 1.7°C; moreover, during this time period, Northern Canada experienced a 2.3°C increase. The temperature increase in Canada has doubled that of the global average. If emissions are not significantly reduced, the temperature could increase by 6.3°C in Canada by the year 2100 compared to 2005 levels. Observed precipitation changes in Canada include an increase of approximately 20% between 1948 and 2012. By the late 21st century, the projected increase could reach an additional 24%. During the summer months, some regions in Southern Canada are expected to experience periods of drought at a higher rate. Extreme weather events and climate conditions are more common across Canada. Recorded events include droughts, flooding, cold extremes, warm extremes, wildfires, and record minimum arctic sea ice extent.

The changing climate poses a significant risk to the Canadian economy, society, environment, and infrastructure. The impacts on infrastructure are often a result of climate-related extremes such as droughts, floods, higher frequency of freeze-thaw cycles, extended periods of high temperatures, high winds, and wildfires. Physical infrastructure is vulnerable to damage and increased wear when exposed to these extreme events and climate variabilities. Canadian Municipalities are faced with the responsibility to protect their local economy, citizens, environment, and physical assets.

2.2.1 Ignace Climate Profile

The Township of Ignace is located in Northwestern Ontario within the Kenora District. The Township is expected to experience notable effects of climate change which include higher average annual temperatures, an increase in total annual precipitation, and an increase in the frequency and severity of extreme events. According to Climatedata.ca – a collaboration supported by Environment and Climate Change Canada (ECCC) – the Township of Ignace may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 1.8 ºC
- Under a high emissions scenario, the annual average temperatures are projected to be 4.4 ºC by the year 2050 and 8.4 ºC by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Ignace is projected to experience an 8% increase in precipitation by the year 2080 and a 13% increase by the end of the century.

Increase in Frequency of Extreme Weather Events:

- It is expected that the frequency and severity of extreme weather events will change.

2.2.2 Integration of Climate Change and Asset Management

Asset management practices aim to deliver sustainable service delivery - the delivery of services to residents today without compromising the services and well-being of future residents. Climate change threatens sustainable service delivery by reducing the useful life of an asset and increasing the risk of asset failure. Desired levels of service can be more difficult to achieve as a result of climate change impacts such as flooding, high heat, drought, and more frequent and intense storms.

To achieve sustainable delivery of services, climate change considerations should be incorporated into asset management practices. The integration of asset management and climate change adaptation observes industry best practices and enables the development of a holistic approach to risk management.

2.3 Asset Management Overview

Municipalities are responsible for managing and maintaining a broad portfolio of infrastructure assets to deliver services to the community. The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, 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.

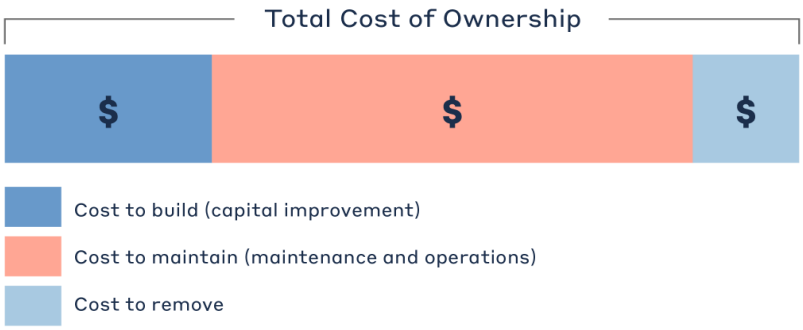

Figure 3 Total Cost of Asset Ownership

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 broader asset management program. The industry-standard approach and sequence to developing a practical asset management program begins with a Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

This industry standard, defined by the Institute of Asset Management (IAM), emphasizes the 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.

2.3.1 Foundational Asset Management Documentation

The industry-standard approach and sequence to developing a practical asset management program begins with a Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

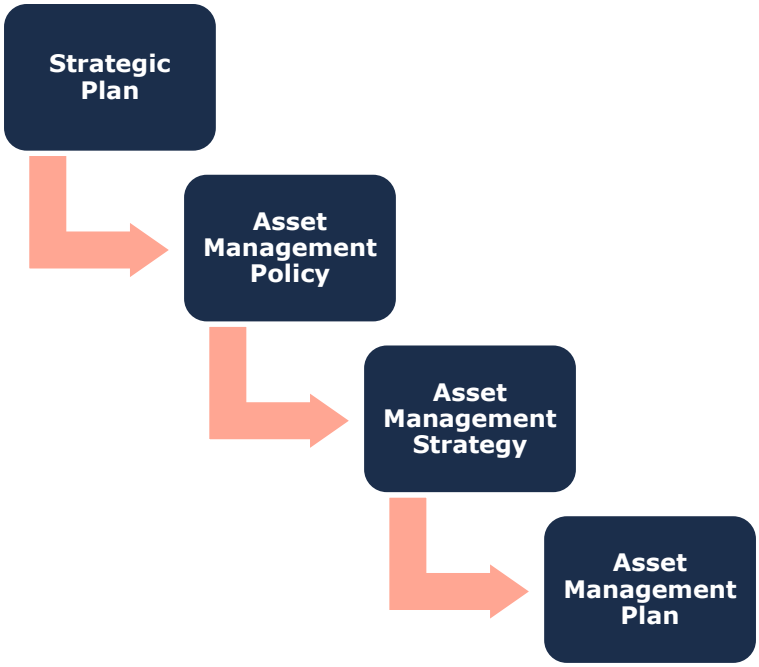

Figure 4 Foundational Asset Management Documents

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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 adopted their Strategic Asset Management Policy on October 18, 2021 (By-law 83.2021, approved by Motion #2021.10.18.230), in accordance with Ontario Regulation 588/17. The policy provides a foundation for the development and ongoing improvement of the Township's asset management program. It covers key components that define a comprehensive asset management policy:

- The policy's purpose is to ensure all Township assets are managed to meet defined service levels in an efficient, effective, and sustainable manner.
- The policy commits to integrating asset management planning with other Township plans, such as the Strategic Plan, Official Plan, Emergency Response Plan, Accessibility Plan, and annual budgets.

- Roles and responsibilities are clearly defined for Council, Department Heads, and the Administrator to ensure accountability and compliance.
- The guiding principles follow provincial standards, emphasizing long-term planning, budgeting, prioritization, transparency, environmental stewardship, and community benefits.
- The policy statements are clearly articulated, covering asset inclusion thresholds, financial and community planning, climate change adaptation, stakeholder engagement, and annual review.

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 in future revisions or as part of a separate strategic document.

Asset Management Plan

The asset management plan (AMP) presents the outcomes of the Township's asset management program and identifies the resource requirements needed to achieve a defined level of service. The AMP typically includes the following content:

- State of Infrastructure
- Asset Management Strategies
- Levels of Service
- Financial Strategies

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

The Township's last iteration of the AMP was completed in 2021. Since then, the asset inventory has undergone revisions and updates. This document is an AMP that uses the updated asset inventory and has been prepared in accordance with O. Reg. 588/17.

2.3.2 Key Concepts in Asset Management

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

Lifecycle Management Strategies

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including asset 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.

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 effect these activities will have on the lifecycle of an asset, and their cost, will enable staff to make better recommendations.

Lifecycle Activity	Cost	Typical Associated Risks
Maintenance Activities that prevent defects or deteriorations from occurring	**$**	• Balancing limited resources between planned maintenance and reactive, emergency repairs and interventions; • Diminishing returns associated with excessive maintenance activities, despite added costs; • Intervention selected may not be optimal and may not extend the useful life as expected, leading to lower payoff and potential premature asset failure;
Rehabilitation/ Renewal Activities that rectify defects or deficiencies that are already present and may be affecting asset performance	**$$$**	• Useful life may not be extended as expected; • May be costlier in the long run when assessed against full reconstruction or replacement; • Loss or disruption of service, particularly for underground assets;
Replacement/ Reconstruction Asset end-of-life activities that often involve the complete replacement of assets	**$$$$$**	• Incorrect or unsafe disposal of existing asset; • Costs associated with asset retirement obligations; • Substantial exposure to high inflation and cost overruns; • Replacements may not meet capacity needs for a larger population; • Loss or disruption of service, particularly for underground assets;

Table 2 Lifecycle Management: Typical Lifecycle Interventions

The Township's approach to lifecycle management is described within each asset category outlined in this AMP. Staff will continue to evolve and innovate current practices for developing and implementing proactive lifecycle strategies 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.

Risk & Criticality

Asset risk and criticality are essential building blocks of asset management, integral in prioritizing projects and distributing funds where they are needed most based on a variety of factors. Assets in disrepair may fail to perform their intended function, pose substantial risk to the community, lead to unplanned expenditures, and create liability for the municipality. In addition, some assets are simply more important to the community than others, based on their financial significance, their role in delivering essential services, the impact of their failure on public health and safety, and the extent to which they support a high quality of life for community stakeholders.

Risk is a product of two variables: the probability that an asset will fail, and the resulting consequences of that failure event. It can be a qualitative measurement, (i.e. low, medium, high) or quantitative measurement (i.e. 1-5), that can be used to rank assets and projects, identify appropriate lifecycle strategies, optimize short- and long-term budgets, minimize service disruptions, and maintain public health and safety.

Figure 5 Risk Equations

The approach used in this AMP relies on a quantitative measurement of risk associated with each asset. The probability and consequence of failure are each scored from 1 to 5, producing a minimum risk index of 1 for the lowest risk assets, and a maximum risk index of 25 for the highest risk assets.

Probability of Failure

Several factors can help decision-makers estimate the probability or likelihood of an asset's failure, including its condition, age, previous performance history, and exposure to extreme weather events, such as flooding and ice jams—both a growing concern for municipalities in Canada.

Consequence of Failure

Estimating criticality also requires identifying the types of consequences that the organization and community may face from an asset's failure, and the magnitude of those consequences. Consequences of asset failure will vary across the infrastructure portfolio;

the failure of some assets may result primarily in high direct financial cost but may pose limited risk to the community. Other assets may have a relatively minor financial value, but any downtime may pose significant health and safety hazards to residents.

Table 3 illustrates the various types of consequences that can be integrated in developing risk and criticality models for each asset category and segments within. We note that these consequences are common, but not exhaustive.

Type of Consequence	Description
Direct Financial	Direct financial consequences are typically measured as the replacement costs of the asset(s) affected by the failure event, including interdependent infrastructure.
Economic	Economic impacts of asset failure may include disruption to local economic activity and commerce, business closures, service disruptions, etc. Whereas direct financial impacts can be seen immediately or estimated within hours or days, economic impacts can take weeks, months and years to emerge, and may persist for even longer.
Socio-political	Socio-political impacts are more difficult to quantify and may include inconvenience to the public and key community stakeholders, adverse media coverage, and reputational damage to the community and the Municipality.
Environmental	Environmental consequences can include pollution, erosion, sedimentation, habitat damage, etc.
Public Health and Safety	Adverse health and safety impacts may include injury or death, or impeded access to critical services.
Strategic	These include the effects of an asset's failure on the community's long-term strategic objectives, including economic development, business attraction, etc.

Table 3 Risk Analysis: Types of Consequences of Failure

This AMP includes a preliminary 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.

These models have been built in Citywide Assets for continued review, updates, and refinements.

Levels of Service

A level of service (LOS) is a measure of the services that the Township is providing to the community and the nature and quality of those services. 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.

The Township measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories as applicable (Roads, Bridges & Culverts, Water, Sanitary, and Stormwater) the province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP. For non-core asset categories, each municipality may incorporate community levels of service they find useful.

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.

For core asset categories as applicable (Roads, Bridges & Culverts, Water, Sanitary, and Stormwater) the province, through O. Reg. 588/17, has also provided technical metrics that are required to be included in this AMP. For non-core asset categories, each municipality may incorporate technical levels of service they find useful.

Current and Proposed Levels of Service

This AMP focuses on measuring the current level of service provided to the community. Once current levels of service have been measured, the Township plans to establish proposed levels of service over a 10-year period, in accordance with O. Reg. 588/17, as part of the 2025 requirements.

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, and in alignment with the 2025 O.Reg requirements, the Township must identify a lifecycle management and financial strategy which allows these targets to be achieved.

2.4 Scope & Methodology

2.4.1 Asset Categories for this AMP

This asset management plan for the Township is produced in compliance with O. Reg. 588/17. The July 2024 deadline under the regulation—the second of three AMPs—requires analysis of core and non-core asset categories.

The AMP summarizes the state of the infrastructure for the Township's asset portfolio, establishes current levels of service and the associated technical and customer oriented key metrics, outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to reach sustainability for the asset categories listed below.

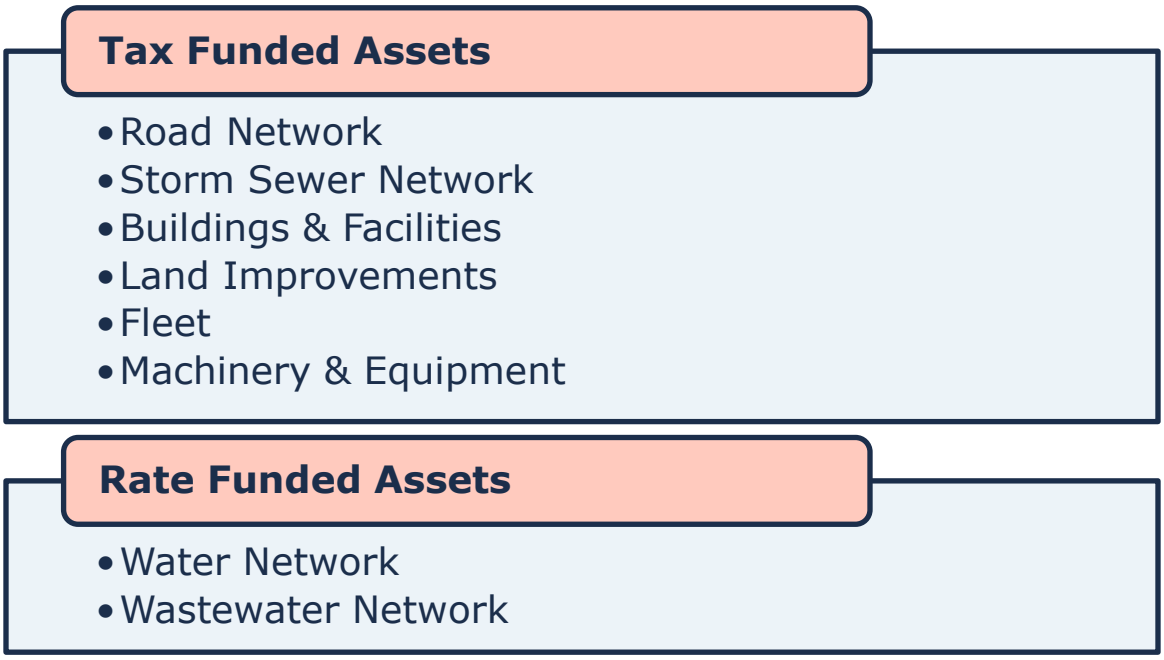


Figure 6 Tax Funded and Rate Funded Asset Categories

2.4.2 Data Effective Date

It is important to note that this plan is based on data as of **December 2024**; therefore, it represents a snapshot in time using the best available processes, data, and information at the Township. Strategic asset management planning is an ongoing and dynamic process that requires continuous data updates and dedicated data management resources.

2.4.3 Deriving Replacement Costs

There are a range of methods to determine the replacement cost of an asset, and some are more accurate and reliable than others. This AMP relies on two methodologies:

User-Defined Cost and Cost Per Unit

Based on costs provided by municipal staff which could include average costs from recent contracts; data from engineering reports and assessments; staff estimates based on knowledge and experience.

Cost Inflation / CPI Tables

Historical costs of the assets are inflated based on the Consumer Price Index or Non-Residential Building Construction Price Index.

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the Township incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.4.4 Estimated Service Life & 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:

Figure 7 Service Life Remaining Calculation

2.4.5 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:

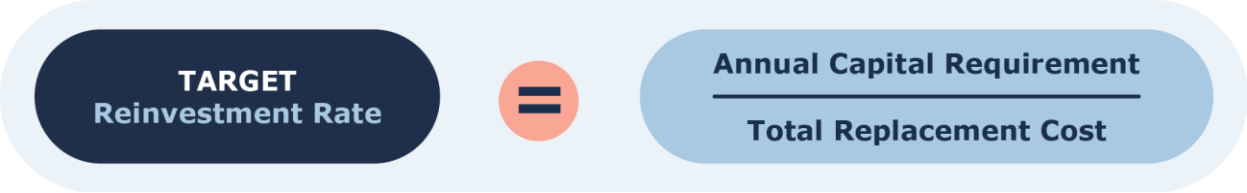


Figure 8 Target Reinvestment Rate Calculation

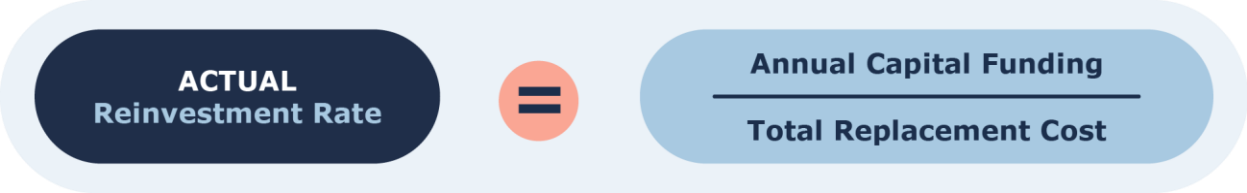


Figure 9 Actual Reinvestment Rate Calculation

2.4.6 Deriving Asset Condition

An incomplete or limited understanding of asset conditions 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 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	60-79
Fair	Requires attention	Signs of deterioration, some elements exhibit significant deficiencies	40-59
Poor	Increasing potential of affecting service	Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration	20-39
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable	0-19

Table 4 Standard Condition Rating Scale

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.

2.5 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)[1]. Along with creating better performing organizations, more liveable and sustainable communities, 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.

Figure 10 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

[1] O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure
https://www.ontario.ca/laws/regulation/170588

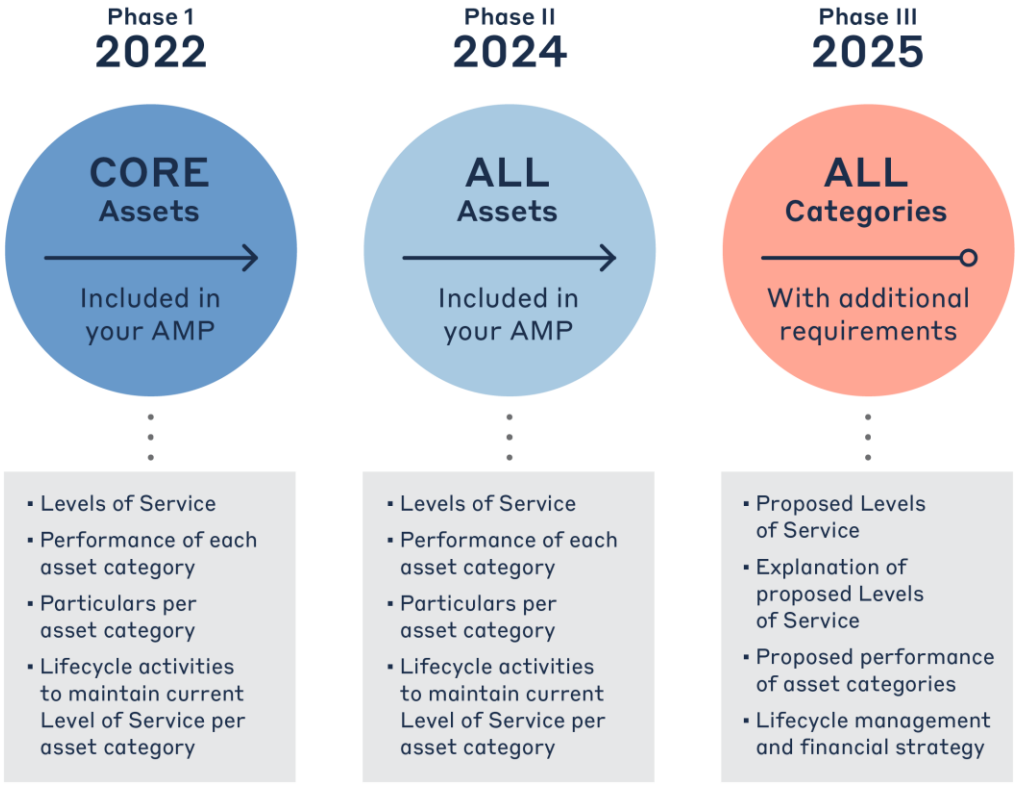


Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines

2.5.1 O. Reg. 588/17 Compliance Review

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	4.1 – 11.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	4.1 – 11.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	4.3 – 11.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	4.2 – 11.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	4.4 – 11.4	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	4.7 – 11.7	Complete

Current performance measures in each category	S.5(2), 2	4.7 – 11.7	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	4.4 – 11.4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	Appendix B	Complete
Growth assumptions	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	12.1 – 12.3	Complete

Table 5 O. Reg. 588/17 Compliance Review

3. Portfolio Overview – State of the Infrastructure

The state of the infrastructure (SOTI) summarizes the inventory, condition, age profiles, and other key performance indicators for the Township's infrastructure portfolio. These details are presented for all core and non-core asset categories.

3.1 Asset Hierarchy & Data Classification

Asset hierarchy explains the relationship between individual assets and their components, and a wider, more expansive network and system. How assets are grouped in a hierarchy structure can impact how data is interpreted. Assets were structured to support meaningful, efficient reporting and analysis. Key category details are summarized at asset segment level.

Figure 11 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The eight asset categories analyzed in this Asset Management Plan have a total current replacement cost of $111.1 million. This estimate was calculated using user-defined costing, as well as inflation of historical or original costs to current date. This estimate reflects the replacement of historical assets with similar, not necessarily identical, assets available for procurement today. Figure 12 illustrates the replacement cost of each asset category; combined at 55% of the total portfolio, the water and wastewater networks comprise the largest share of the Township's asset portfolio, followed by the road network at 20%.

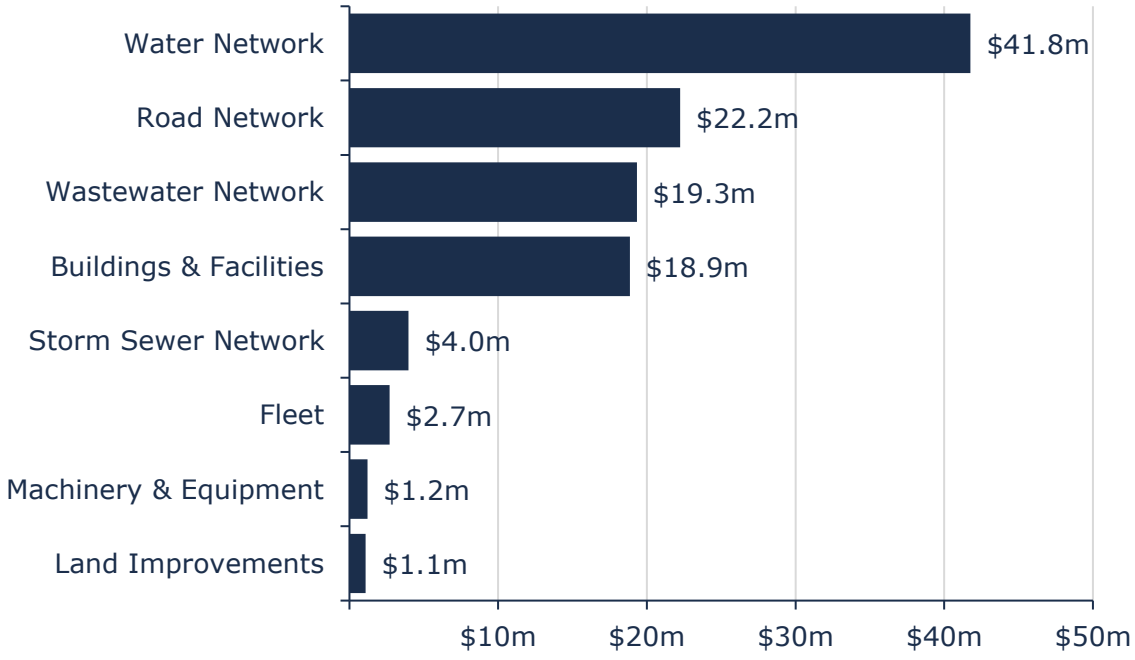


Figure 12 Current Replacement Cost by Asset Category

3.2.2 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps by comparing the target to the current reinvestment rate. To meet the existing long-term capital requirements, the Township requires an annual capital investment of $2.6 million, for a target portfolio reinvestment rate of 2.32%. Currently, annual investment from sustainable revenue sources is $77 thousand, for a current portfolio reinvestment rate of 0.07%. Target and current re-investment rates by asset category are detailed below.

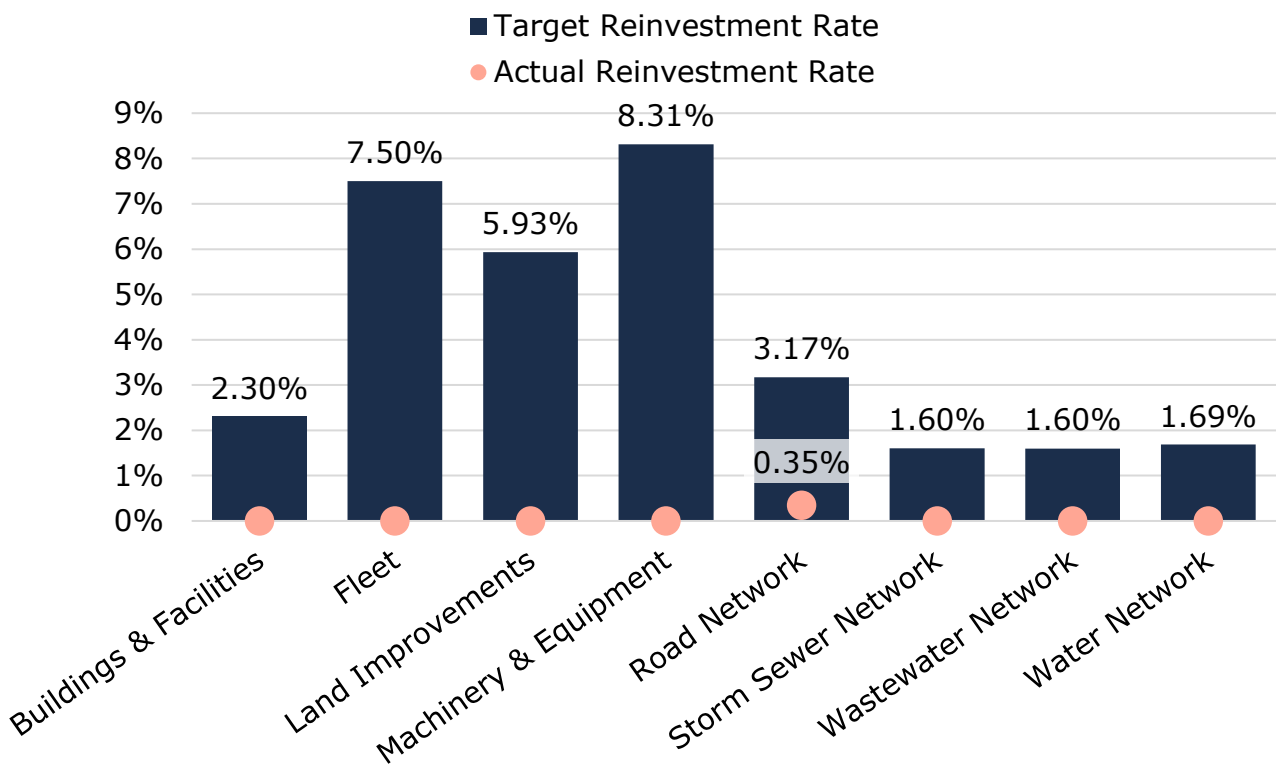


Figure 13 Current Vs. Target Reinvestment Rate

3.2.3 Condition of Asset Portfolio

Figure 14 and Figure 15 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 78% of the Township's infrastructure portfolio is in fair or better condition, with the remaining 22% in poor or worse condition. Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates for immediate intervention, including potential replacement or reconstruction.

Similarly, assets in fair condition should be monitored for disrepair over the medium term. Keeping assets in fair or better condition is typically more cost-effective than addressing assets needs when they enter the latter stages of their lifecycle or decline to a lower condition rating, e.g., poor or worse.

Condition data was available for majority of the road network, buildings & facilities, land improvements and fleet. For all remaining assets, including major infrastructure such as storm, water, and sanitary mains, age was used as an approximation of condition for these assets. Age-based condition estimations can skew data and lead to potential under- or overstatement of asset needs.

Further, when assessed condition data was available, it was projected to current year (2024). This 'projected condition' can generate lower condition ratings than those established at the time of the condition assessment. The rate of this deterioration will also depend on lifecycle curves used to project condition over time.

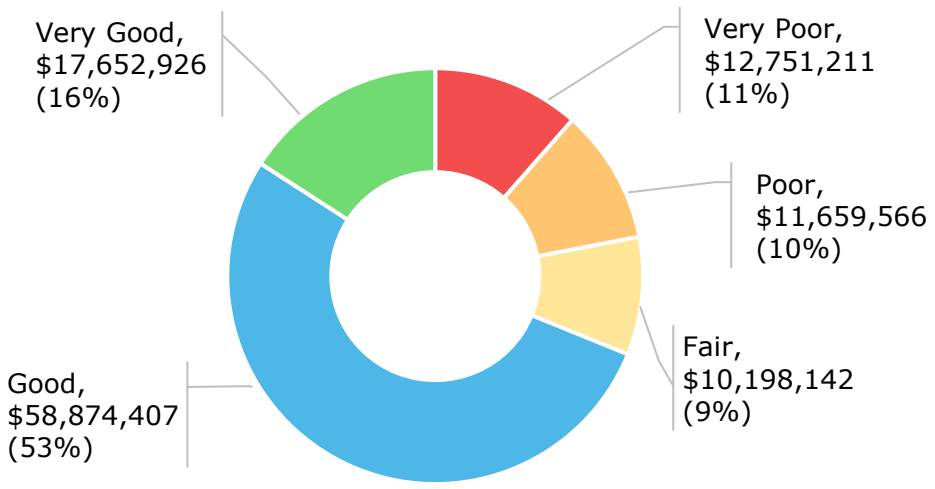


Figure 14 Asset Condition: Portfolio Overview

As further illustrated in Figure 15 at the category level, the majority of assets are in fair or better condition while most fleet assets are in poor or worse condition, based on recent condition assessments.

See Table 6 for details on how condition data was derived for each asset segment.

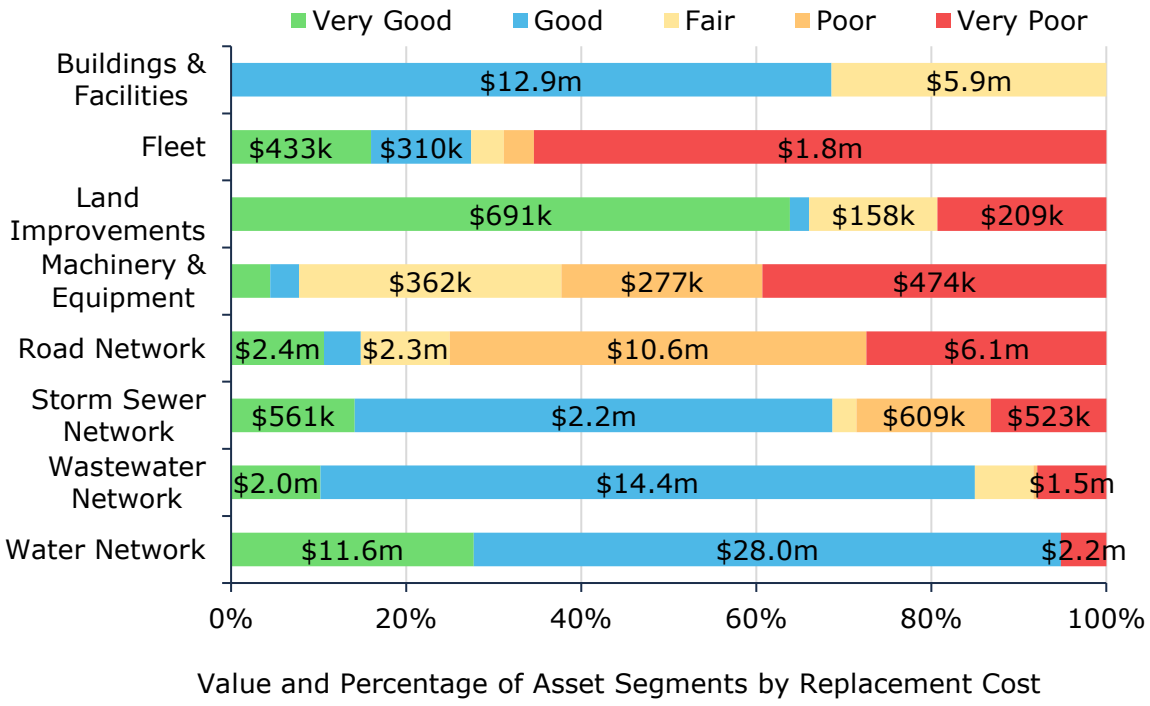


Figure 15 Asset Condition by Asset Category

As outlined previously, buildings and facilities are not componentized into their individual major elements and components. This limits the validity of current condition estimates as they are presented only at the 'parent' asset level, such as 'Fire Hall, or 'Public Works Garage'.

Source of Condition Data

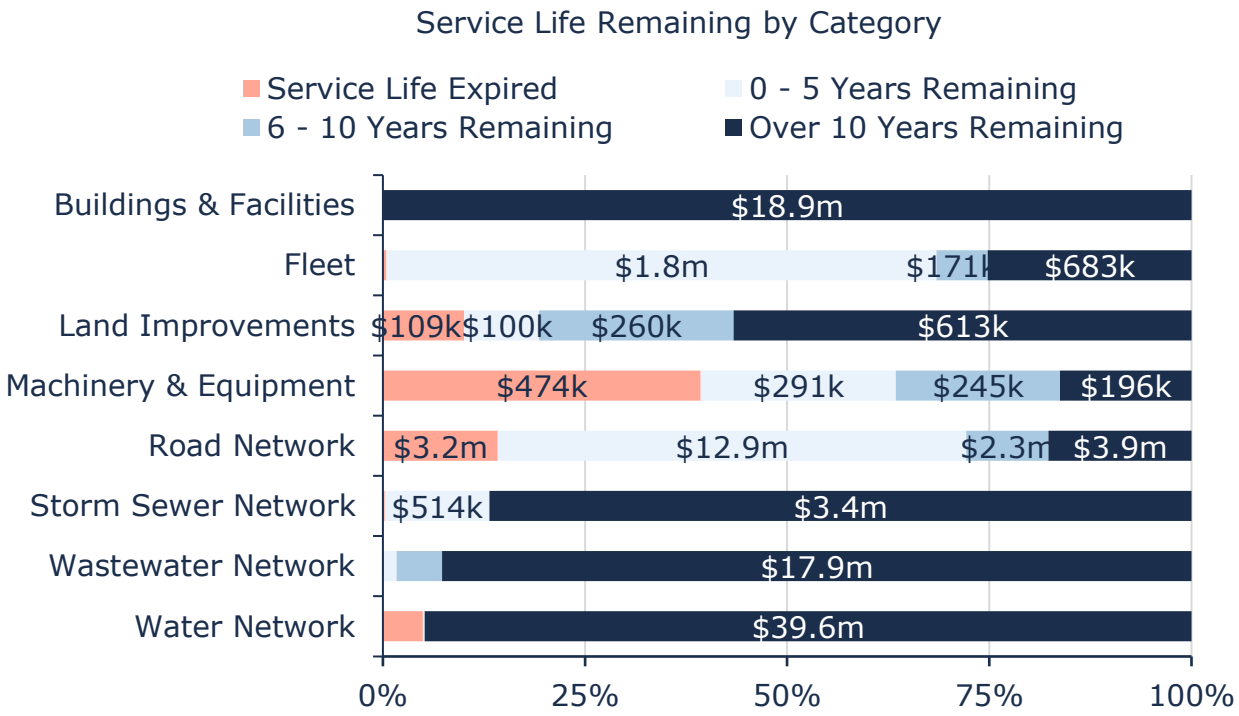
This AMP relies on assessed condition for 37% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. The table below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	Culverts Paved roads Streetlights	82%	Staff Assessments
Water Network		0%	Age-Based Condition
Wastewater Network		0%	Age-Based Condition
Storm Sewer Network		0%	Age-Based Condition
Buildings & Facilities	All	100%	Staff Assessments
Land Improvements	All	100%	Staff Assessments
Fleet	All	98%	Staff Assessments
Machinery & Equipment		0%	Age-Based Condition

Table 6 Source of Condition Data

3.2.4 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 23% of the Township's assets will require replacement within the next 10 years. More information can be found in Appendix B – 10-Year Capital Requirements. Buildings & Facilities assets were excluded from this analysis due to the nature of the assets. Building and Facilities have multiple components that have a very short service life. However, the buildings themselves are long-lasting.



3.2.5 Risk Analysis

Qualitative Risk

The qualitative risk assessment involves the documentation of risks to the delivery of services that the municipality faces given the current state of the infrastructure and asset management strategies. These risks can be understood as corporate level risks. Township staff provided information related to the following potential risks:

	Risk Type	Description
	Asset Data Confidence	As the Township's asset management program matures, the Township is gaining more confidence in their asset data. A lack of confidence in asset data can result in a lack of confidence in the results of the asset management plan and subsequently result in uncertainty in funding requirements for the future.
	Lifecycle Management Strategies	In addition to asset level risk, the Township may also face risk associated with not executing key lifecycle activities, including repairs, rehabilitation, and replacement of critical assets. These include: - missed opportunities for cost savings and increases in lifecycle costs; - deferral of vital projects, or further lending and borrowing;

	Risk Type	Description
		- accelerated asset deterioration and premature failure, which may lead to public health and safety hazards, and disruption of services to the Township's residential and commercial base; - a decline in public satisfaction with the Township's service standards and the resulting reputational damage.
	Organizational Cognizance/Capacity	While the Township has confidence in their capacity to engage in asset management practices, on-going training is needed for staff to have the knowledge and capacity to engage in informed asset management practices moving into the future.
	Infrastructure Design/Installation	Concerns with the past design and/or materials used for some types of infrastructure may result in premature deterioration. Project should consider all future impacts during the design process, such as capacity requirements for anticipated growth.
	Aging Infrastructure	The Township's current state of infrastructure shows the majority of infrastructure in moderate stages of their estimated useful lives. Ongoing infrastructure replacement should aim to maintain these moderate levels and avoid significant portions of the infrastructure reaching the end of their useful lives at the same time.
	Climate Change & Extreme Weather Events	Climate and extreme weather events have an impact on infrastructure service life as well as functionality. Examples of these impacts include accelerated degradation of road surfaces due to increase freeze/thaw cycles, minimized capacity in storm systems due to increased intensity in rainfall events, and increased use of salt to combat winter storms resulting in degradation of vehicles and equipment.
	Growth	Community growth is expected to increase considerably over the next few years. It is critical to consider growth when planning long-term infrastructure replacements to ensure infrastructure is not required to be replaced prematurely due to capacity issues.
	Infrastructure Reinvestment	Current investment levels in infrastructure must be carefully reviewed to ensure they align with lifecycle requirements and support the continued delivery of reliable services. Funding infrastructure only when resources are available, rather than through intentional and dedicated investment, places the Township at risk of falling behind on critical renewal needs. Chronic underfunding creates the potential for accelerated asset deterioration, higher long-term costs, and unavoidable reductions in service levels.

Risk Matrix

Using the risk equation and preliminary risk models, Figure 16 shows how assets across the different asset categories are stratified within a risk matrix.

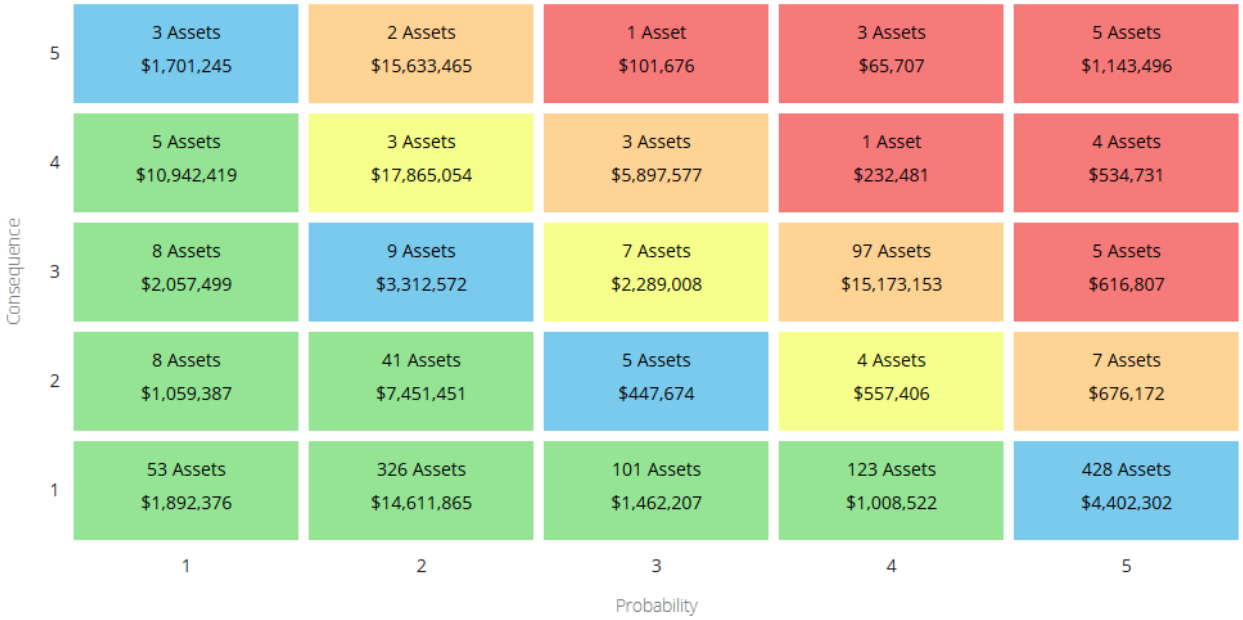


Figure 16 Risk Matrix: All Asset Categories in 2024 AMP

The analysis shows that based on current risk models, approximately 7% of the Township's assets, with a current replacement cost of approximately $7.8 million, carry a risk rating of 15 or higher (red) out of 25. Assets in this group may have a high probability of failure based on available condition data and age-based estimates and were most essential to the Township.

As new asset attribute information and condition assessment data are integrated with the asset register, asset risk ratings will evolve, resulting in a redistribution of assets within the risk matrix. Staff should also continue to calibrate risk models.

We caution that since risk ratings rely on many factors beyond an asset's physical condition or age, assets in a state of disrepair can sometimes be classified as low-risk, despite their poor condition rating. In such cases, although the probability of failure for these assets may be high, their consequence of failure ratings were determined to be low based on the attributes used and the data available.

Similarly, assets with very high condition ratings can receive a moderate to high-risk rating despite a low probability of failure. These assets may be deemed as highly critical to the Township based on their costs, economic importance, social significance, and other factors. Continued calibration of an asset's criticality and regular data updates are needed to ensure these models more accurately reflect an asset's actual risk profile.

3.2.6 Forecasted Capital Requirements

Aging assets require maintenance, rehabilitation, and replacement. Figure 17 below illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for all asset categories analyzed in this AMP over a 70-year time horizon. On average, $2.6 million is required each year to remain current with capital replacement needs for the Township's asset portfolio (red dotted line). Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise. This figure relies on age and available condition data.

The chart also illustrates a backlog of more than $5.8 million, comprising assets that remain in service beyond their estimated useful life. It is unlikely that all such assets are in a state of disrepair, requiring immediate replacements. This makes continued and expanded targeted and consistent condition assessments integral.

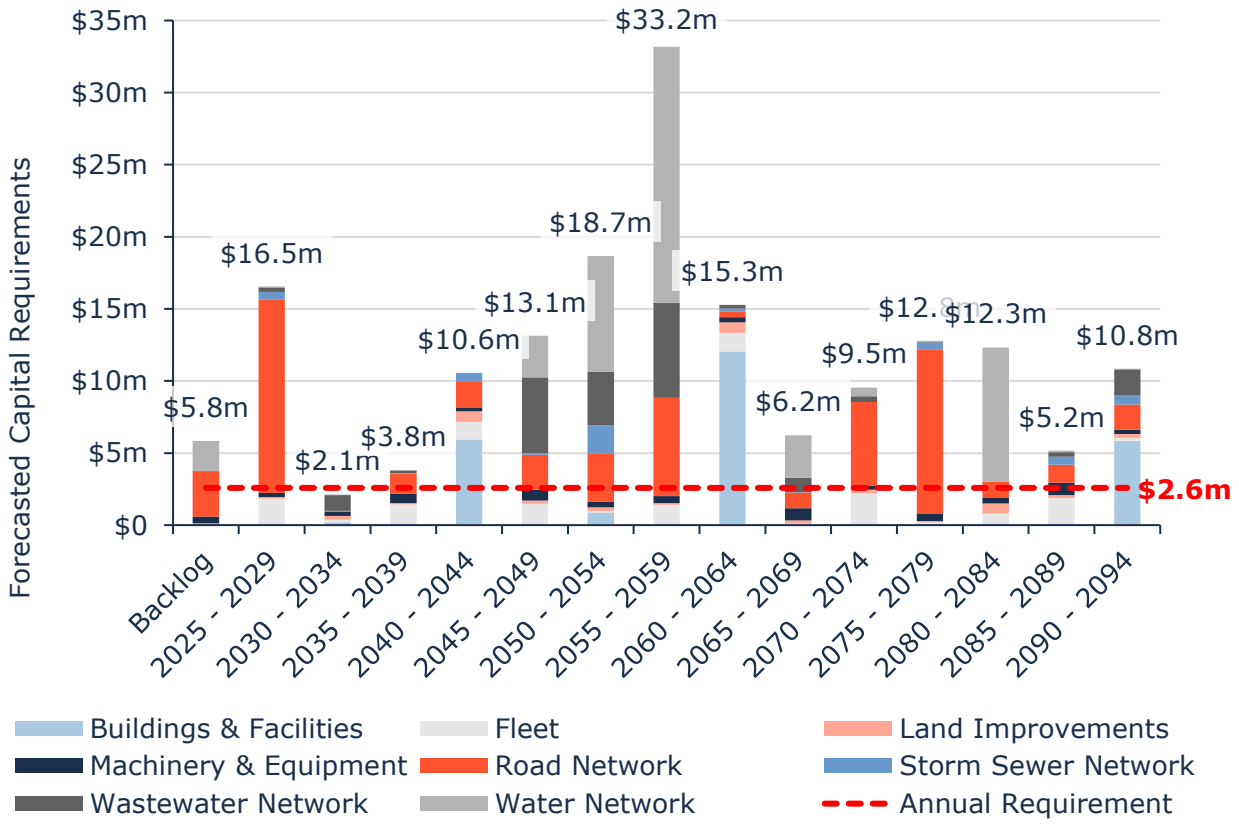


Figure 17 Capital Replacement Needs: Portfolio Overview 2025-2094

Risk frameworks, proactive lifecycle strategies, and levels of service targets can then be used to prioritize projects, continuously refine estimates for both backlogs and ongoing capital needs and help select the right treatment for each asset. In addition, more effective componentization of buildings will improve these projections, including backlog estimates.

Core Assets

Road Network

Water Network

Wastewater Network

Stormwater Network

4. Road Network

The Township's road network comprises a large proportion of its infrastructure portfolio, with a current replacement cost of more than $22 million, primarily consisting of paved roads. The Township also owns and manages other supporting infrastructure and capital assets, including sidewalks, curbs, and streetlights.

4.1 Inventory & Valuation

Table 7 summarizes the quantity and current replacement cost of the Township's various road network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Culverts	5	Assets	$2,340,348	CPI
Paved Roads	21.3	Length (km)	$18,147,742	CPI
Sidewalks	13	Quantity	$1,488,605	CPI
Signs	2	Quantity	$56,274	CPI
Streetlights	1	Quantity	$197,301	CPI
TOTAL			**$22,230,270**	

Table 7 Detailed Asset Inventory: Road Network

Figure 18 Portfolio Valuation: Road Network

4.2 Asset Condition

Figure 19 summarizes the replacement cost-weighted condition of the Township's road network. Based on a combination of field inspection data and age, 25% of assets are in fair or better condition; the remaining 75% of assets are in poor to very poor condition. Condition assessments were available for 8% of culverts, 98% of paved assets and 100% of Streetlights. based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for the remaining asset types.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 19, the majority of the Township's road network assets are in poor or very poor condition.

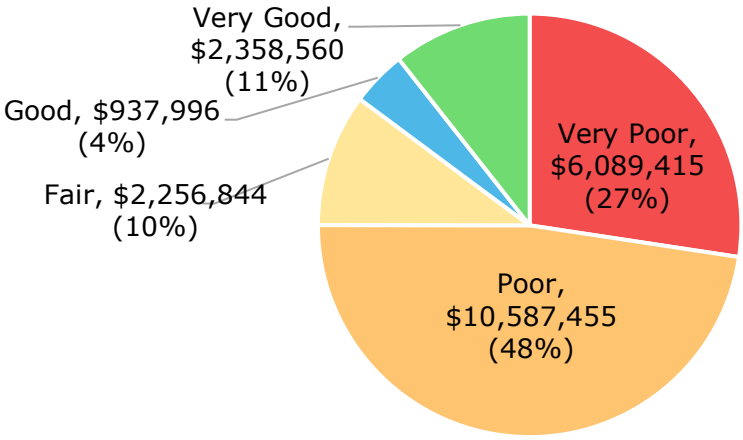


Figure 19 Asset Condition: Road Network Overall

As illustrated in Figure 20, based on condition assessments, the Township's streetlights and culverts are in fair or better condition while the majority of paved roads, signs and sidewalks are in poor or worse conditions.

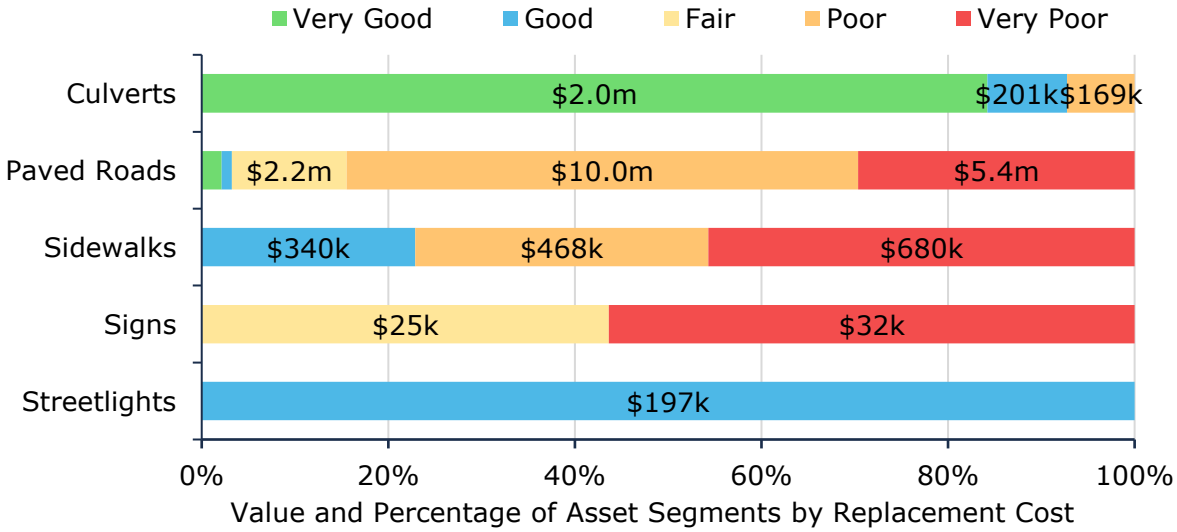


Figure 20 Asset Condition: Road Network by Segment

4.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential long-term replacement spikes.

Figure 21 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

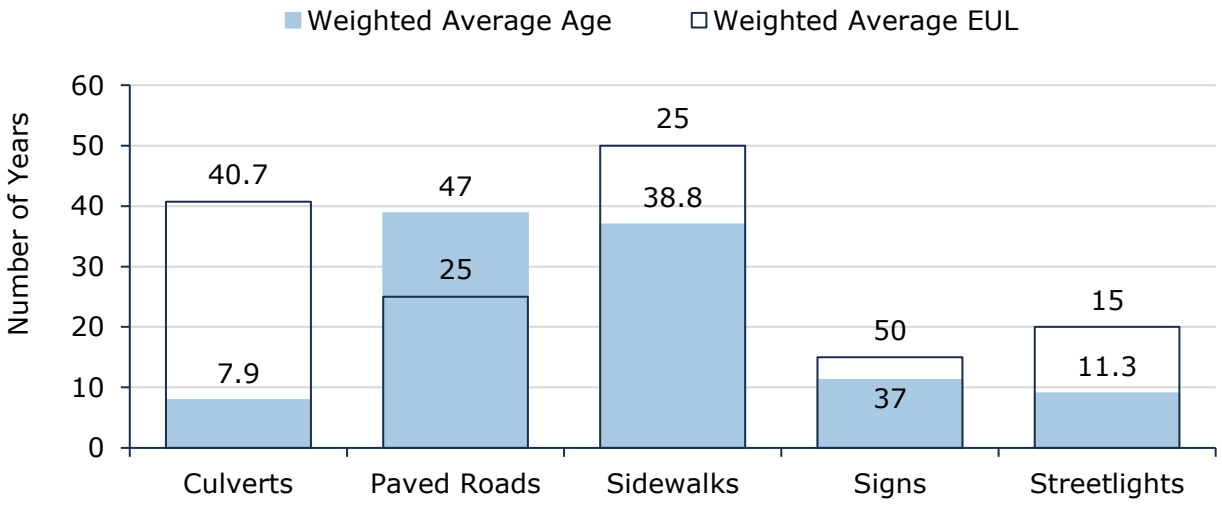


Figure 21 Estimated Useful Life vs. Asset Age: Road Network

Age analysis shows that the majority of paved roads have exceeded their expected useful life, with an average age of 47 years against a design life of 25 years. Culverts, sidewalks, signs and streetlights are in the mid stages of their estimated useful life.

Although asset age is an important measurement for long-term planning, condition assessments provide a more accurate indication of actual asset needs. Further, useful life estimates established as part of the PSAB 3150 implementation may not be accurate and may not reflect in-field asset performance.

4.4 Current Approach to Lifecycle Management

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 table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Annual winter control activities to meet Minimum Maintenance Standards including road and sidewalk plowing, snow removal and sanding
	Pothole patching is completed on an as needed basis
Rehabilitation	Road rehabilitation activities are limited and there is no formal program in place to re-surface on a regular schedule
	Township roads have exceeded original life projections and have not exhibited significant surface deterioration
Replacement	Full road reconstruction has not been required often in recent history, but is expected to increase over the next 5-10 years as most roads will approach the end of their useful life
	Most municipal roads were constructed around the same time (early 1970s) and are expected to last approximately 50 years before requiring reconstruction

Table 8 Lifecycle Management Strategy: Road Network

The following lifecycle strategies have been developed to formalize the current approach to managing the lifecycle paved roads. Instead of allowing the roads to deteriorate until replacement is required, strategic rehabilitation is expected to extend the service life of roads at a lower total cost.

Paved Roads		
Event Name	**Event Class**	**Event Trigger**
Mill & Hot Mix Overlay (Single Lift)	Rehabilitation	45 to 45 Condition
Mill & Hot Mix Overlay (Double Lift)	Rehabilitation	45 to 45 Condition

Table 9 Lifecycle Strategy: Paved Roads

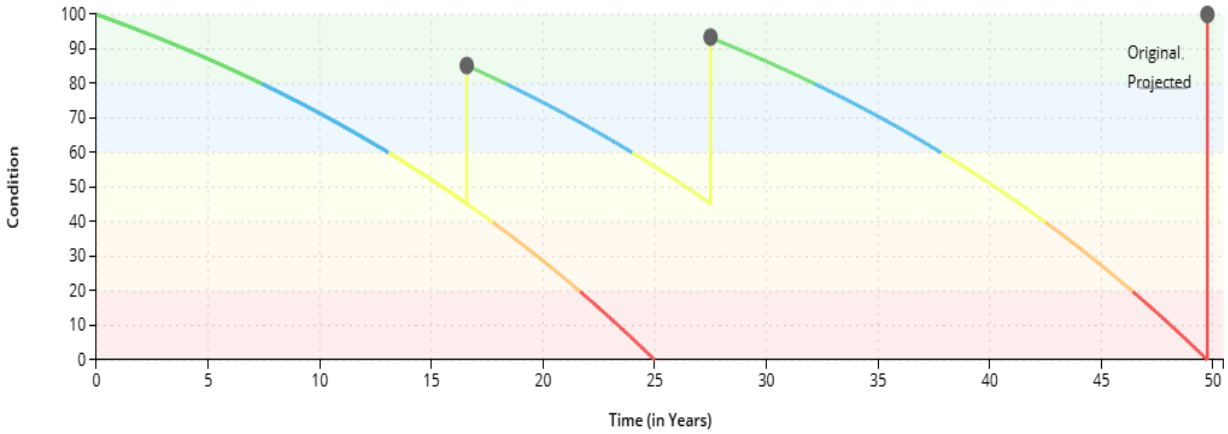


Figure 22 Lifecycle Strategy: Paved Roads

4.5 Forecasted Long-Term Replacement Needs

Figure 23 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's road network. This analysis was run until 2074 to capture at least one iteration of replacement for the longest-lived asset. The average annual requirements (red dotted line) total $705 thousand for all assets in the road network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs through the forecast period. It also shows a backlog $3.2 million, contributed to by sidewalks and mostly paved roads. These projections are based on asset replacement costs, age analysis, and condition data when available, as well as lifecycle modeling (paved roads only). They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

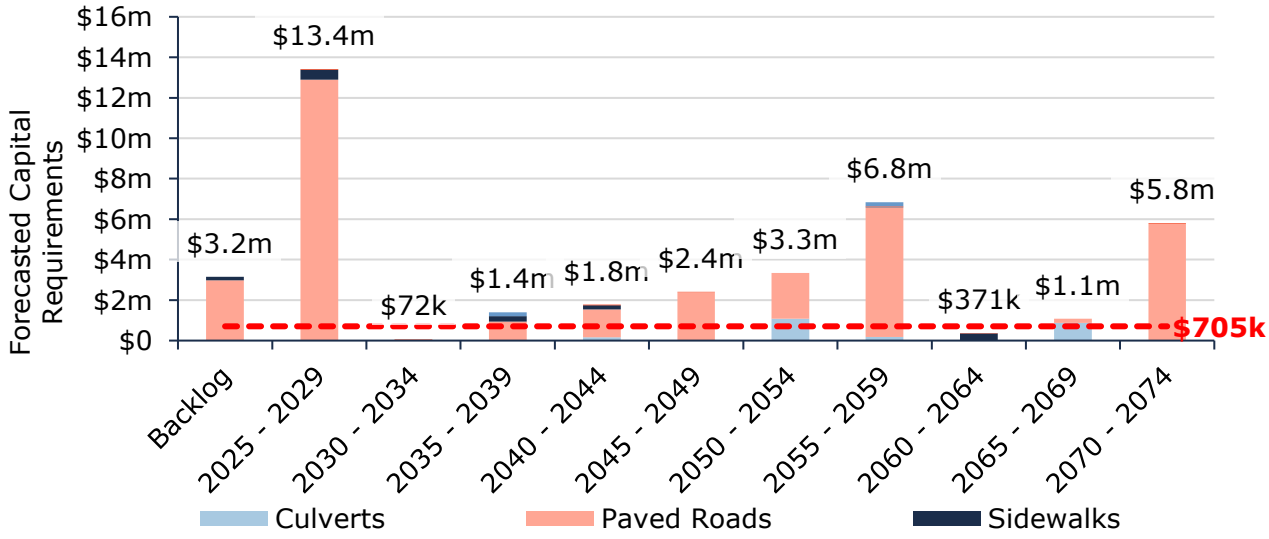


Figure 23 Forecasted Capital Replacement Needs: Road Network 2025-2074

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. Regular pavement condition assessments and a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

Tables summarizing the projected lifecycle activities (rehabilitation and replacements) that may be undertaken in the next 10 years to support current levels of service can be found in Appendix B – 10-Year Capital Requirements.

4.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, road surface material, road type, and traffic data. The risk ratings for assets missing attribute data were calculated using only condition and the remaining available data.

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

1 - 4 Very Low $2,202,032 (10%)	5 - 7 Low $1,333,439 (6%)	8 - 9 Moderate $599,949 (3%)	10 - 14 High $12,717,147 (57%)	15 - 25 Very High $5,377,703 (24%)

Figure 24 Risk Matrix: Road Network

4.7 Levels of Service

The tables that follow summarize the Township's current levels of service with respect to prescribed KPIs under Ontario Regulation 588/17, as well as any additional performance measures that the Township selected for this AMP.

4.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps of the road network in the municipality and its level of connectivity	See Appendix C

Quality	Description or images that illustrate the different levels of road class pavement condition	The following condition rating criteria describes the different levels of road class pavement condition: **Very Good:** Pavement is in excellent condition with few visible defects. Ride ability is excellent with few areas of very slight distortion. **Good:** Pavement is in good condition with accumulating slight defects. Ride ability is good with intermittent slightly rough and uneven sections. **Fair:** Pavement is in fair condition with intermittent patterns of slight to moderate defects. Ride ability is fair, and the surface is slightly rough and uneven. **Poor:** Pavement is in poor condition with frequent patterns of moderate defects. Rideability is poor, and surface is rough and uneven. **Very Poo**r: Pavement is in very poor condition with extensive severe defects. Ride ability is very poor, and surface is very rough and uneven

Table 10 O. Reg. 588/17 Community Levels of Service: Road Network

4.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
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)[2]	0
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km^2)[2]	0.68
Quality	Average pavement condition index for paved roads in the Township	21.7% (Poor)
	Average surface condition for unpaved roads in the Township (e.g. excellent, good, fair, poor)	10%
Performance	Target reinvestment rate	3.2%

Table 11 O. Reg. 588/17 Technical Levels of Service: Road Network

[2] There is insufficient data to determine the current road classification for all municipal roads. It is expected that most roads would fall under MMS class 5 and 6 although some may be class 4 roads.

5. Water Network

The Township's water network includes water mains, hydrants, meters, valves and treatment facilities, with a current replacement cost of almost $41.8 million. Potable water represents a critical portion of the services provided to the community.

5.1 Inventory & Valuation

Table 12 summarizes the quantity and current replacement cost of the Township's various water network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Hydrants	148	Assets	$1,824,000	CPI
Water Buildings	3	Meters	$17,174,000	CPI
Water Mains	20.2[3]	Length (km)	$21,778,000	CPI
Water Meters	638	Assets	$635,000	CPI
Water Valves	146	Assets	$352,000	CPI
TOTAL			**$41,763,000**	

Table 12 Detailed Asset Inventory: Water Network

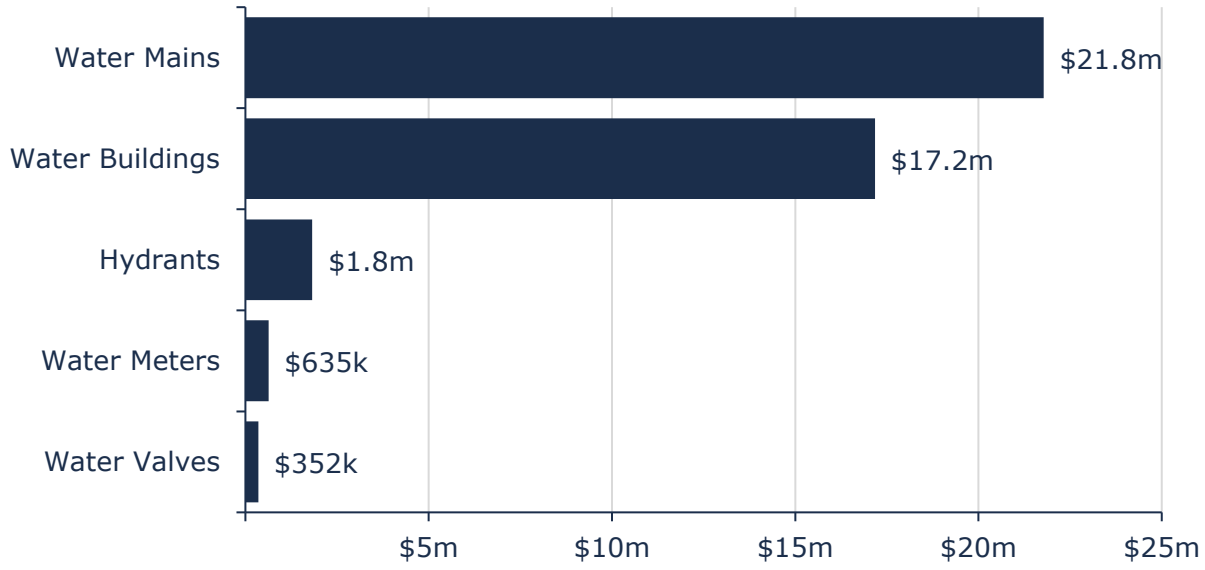


Figure 25 Portfolio Valuation: Water Network

[3] Currently this value does not account for 6 assets within the database that indicate a quantity of 1. The length(s) for each of these assets and the segmentation was not available at the time of the analysis, however the values should be determined and the correct quantity applied.

5.2 Asset Condition

Figure 26 summarizes the replacement cost-weighted condition of the Township's water network. Based solely on age, 95% of assets are in fair or better condition; the remaining 5% of assets are in poor to very poor condition. Condition assessments were not available for the water network assets. This age based condition data was projected from installation date to current year to estimate their condition today.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 26, the majority of the Township's water network assets are in fair or better condition.

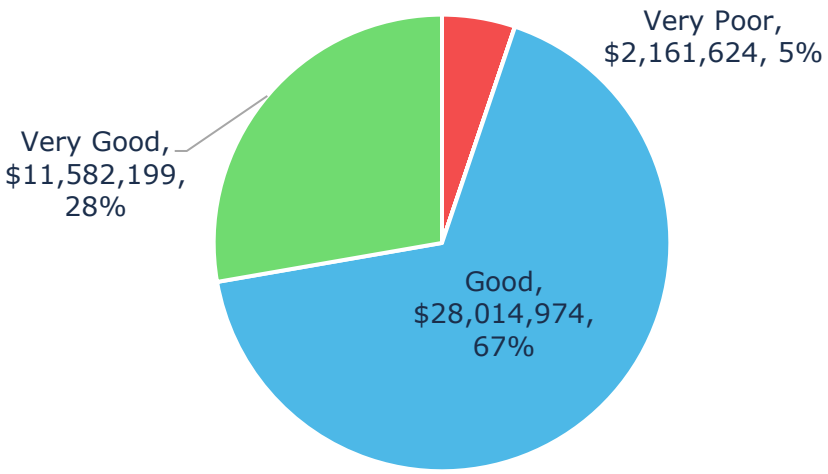


Figure 26 Asset Condition: Water Network Overall

As illustrated in Figure 27, based on age-based conditions, the majority of the Township's water mains, water meters and water facilities are in good to very good condition; however, 98% of water hydrants and 83% of water valves are in poor or worse condition.

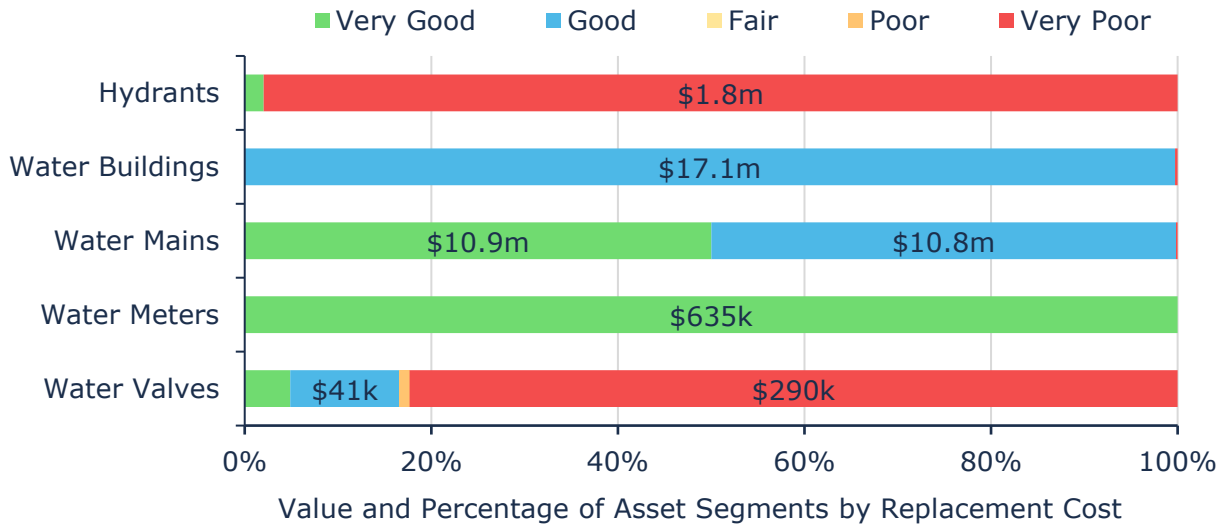


Figure 27 Asset Condition: Water Network by Segment

5.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential long-term replacement spikes.

Figure 28 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

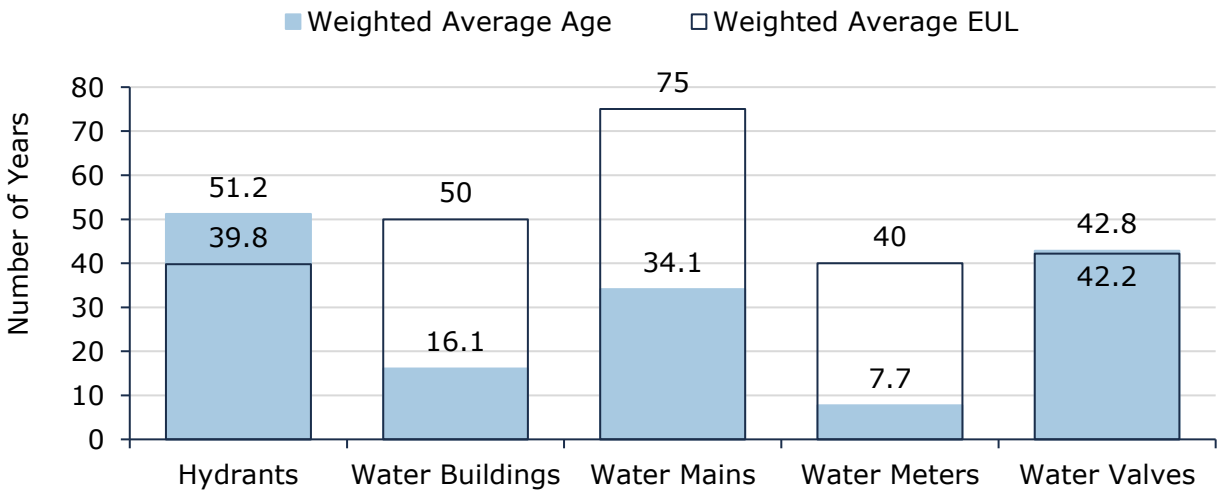


Figure 28 Estimated Useful Life vs. Asset Age: Water Network

Age analysis reveals that on average, water facilities, water mains and meters still have over half of their life expectancy remaining. Age profiles and condition assessments will help to identify mains in need of replacements and/or upgrades. Extensions to EULs for mains may also be considered based on performance history to date.

5.4 Current Approach to Lifecycle Management

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 watermain flushing is completed
	The Township owns leak detection equipment and has previously completed leak detection activities to inform maintenance and rehabilitation programs
	Aquaflow units have been installed where freezing is common
Rehabilitation/ Replacement	The Township has experienced very few main breaks historically and addresses these on a reactive basis as necessary
	Water mains are expected to be typically replaced once the assets are deemed to have reached their end-of-life
	Prioritization focuses on affordability as key indicator

Table 13 Lifecycle Management Strategy: Water Network

The following lifecycle strategy has been documented to formalize the current strategy used to manage the lifecycle of water mains.

Water Mains		
Event Name	**Event Class**	**Event Trigger**
Valve Maintenance	Maintenance	Annually
Water Main Flushing	Maintenance	Annually
Full Reconstruction	Replacement	Condition: 20

Table 14 Lifecycle Strategy: Water Mains

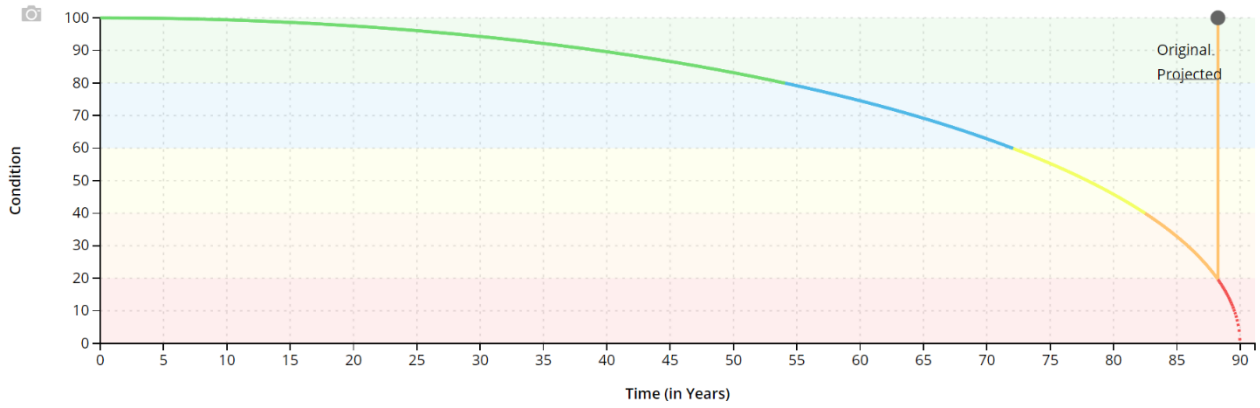


Figure 29 Lifecycle Strategy: Water Mains

5.5 Forecasted Long-Term Replacement Needs

Figure 30 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's water network. This analysis was run until 2089 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $704 thousand for all assets in the water network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. These projections are based on asset replacement costs, age analysis, and condition data when available. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

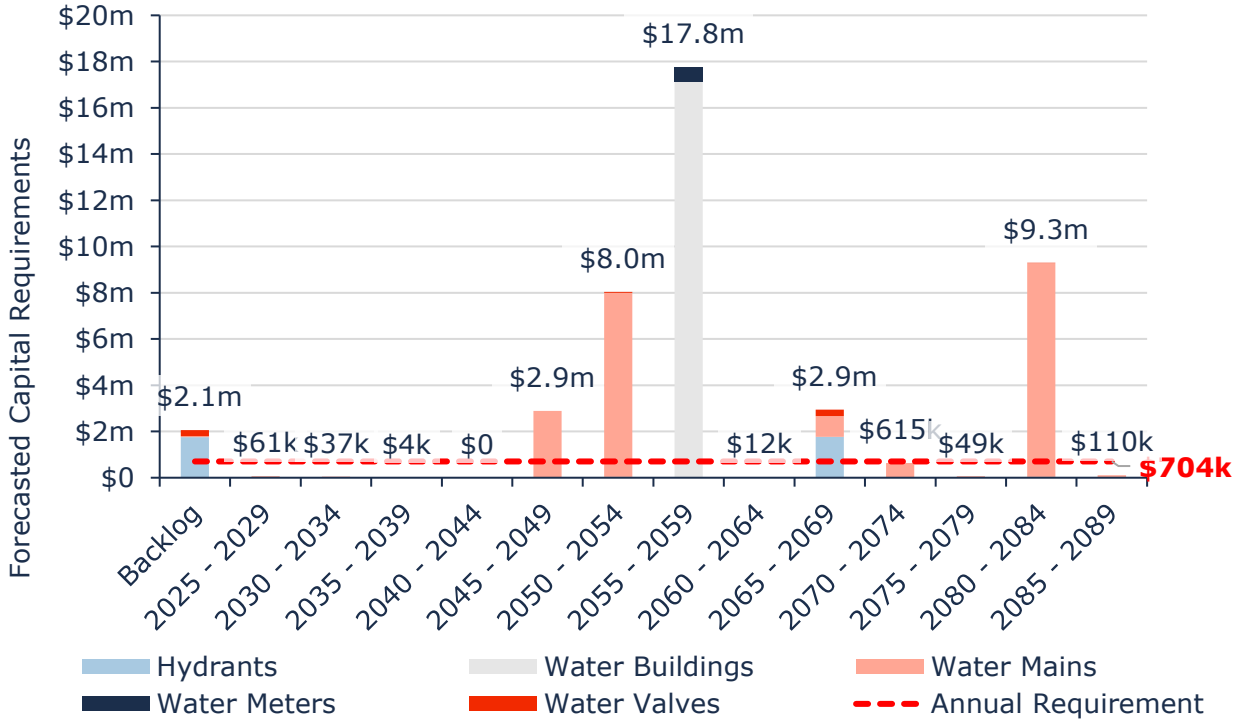


Figure 30 Forecasted Capital Replacement Needs: Water Network 2024-2089

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. Regular condition assessments and a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

Tables summarizing the projected lifecycle activities (rehabilitation and replacements) that may be undertaken in the next 10 years to support current levels of service can be found in Appendix B – 10-Year Capital Requirements.

5.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, pipe material, replacement costs, asset type, and diameter. The risk ratings for assets without useful attribute data were calculated using only condition and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality. These risk models have been built into the Township's Asset Management Database (Citywide Assets).

1 - 4 Very Low $36,967,066 (33%)	5 - 7 Low $12,431,544 (11%)	8 - 9 Moderate $19,430,098 (17%)	10 - 14 High $34,467,424 (31%)	15 - 25 Very High $7,840,120 (7%)

Figure 31 Risk Matrix: Water Network

5.7 Levels of Service

The tables that follow summarize the Township's current levels of service with respect to prescribed KPIs under Ontario Regulation 588/17 as well as any additional performance measures that the Township has selected for this AMP.

5.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps of the user groups or areas of the municipality that are connected to the municipal water system	See Appendix C
	Description, which may include maps of the user groups or areas of the municipality that have fire flow	See Appendix C
Reliability	Description of boil water advisories and service interruptions	There were no boil water advisories or major service interruptions to the water network in 2024

Table 15 O. Reg. 588/17 Community Levels of Service: Water Network

5.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties connected to the municipal water system	71%
	% of properties where fire flow is available	100%
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
	# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system	0
Performance	Capital reinvestment rate	0%

Table 16 O. Reg. 588/17 Technical Levels of Service: Water Network

6. Wastewater Network

The Wastewater network provides the essential service of wastewater collection, disposal, and treatment for the community, and has a current replacement value of $19.3 million.

6.1 Inventory & Valuation

Table 17 summarizes the quantity and current replacement cost of the Township's various wastewater network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Sanitary Mains	15.7	Length (km)	$10,483,000	CPI
Sanitary Manholes	183	Assets	$3,289,000	CPI
Wastewater Buildings	4	Assets	$5,510,000	CPI
Wastewater Equipment	4	Assets	$45,000	CPI
TOTAL			**$19,327,000**	

Table 17 Detailed Asset Inventory: Sanitary Sewer Network

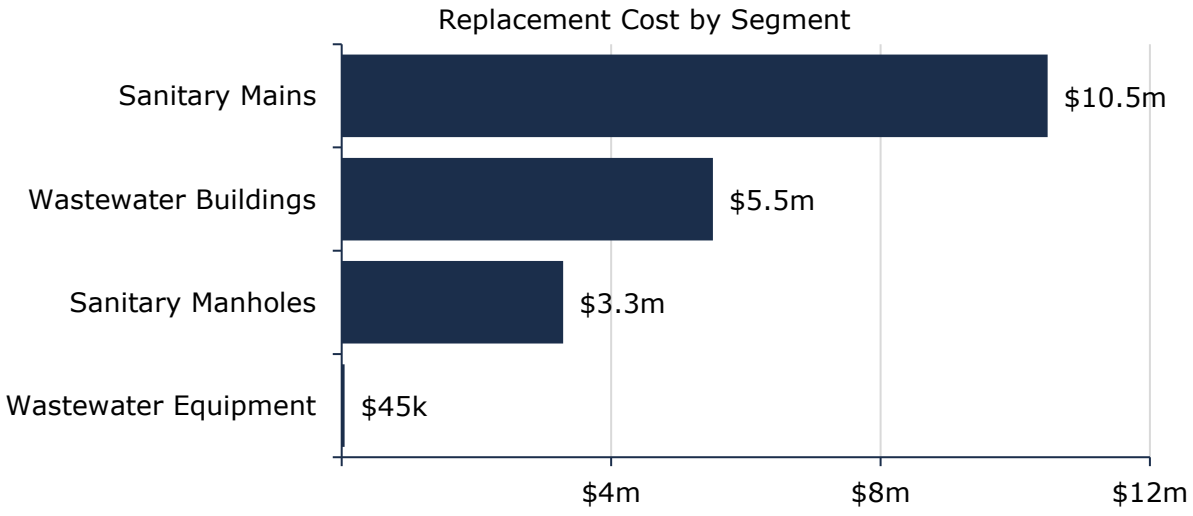


Figure 32 Portfolio Valuation: Sanitary Sewer Network

6.2 Asset Condition

Figure 33 summarizes the replacement cost-weighted condition of the Township's wastewater network. Based on age only, 92% of assets are in fair or better condition; the remaining 8% of assets are in poor to very poor condition. No condition assessments were available for the sanitary sewer network. The age based condition data was projected from installation date to current year to estimate their condition today.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 33 the majority of the Township's sanitary sewer network assets are in fair or better condition.

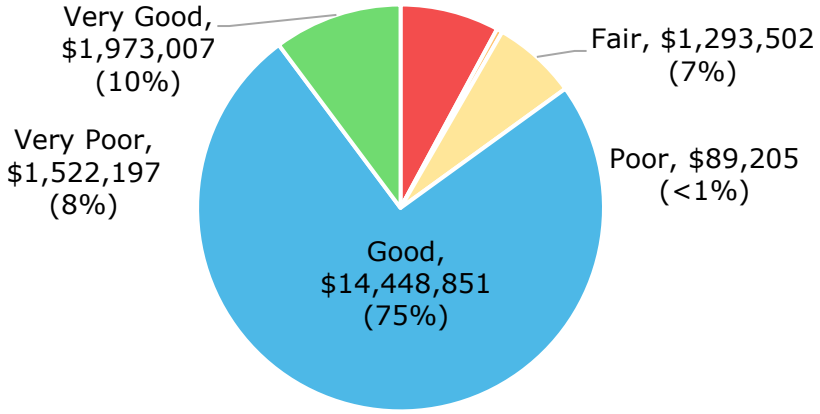


Figure 33 Asset Condition: Sanitary Sewer Network Overall

As illustrated in Figure 34, based on age-based conditions, the majority of the Township's sanitary sewer mains and wastewater facilities are in fair or better condition however, 47% of manholes and 100% of wastewater equipment are in poor or worse condition.

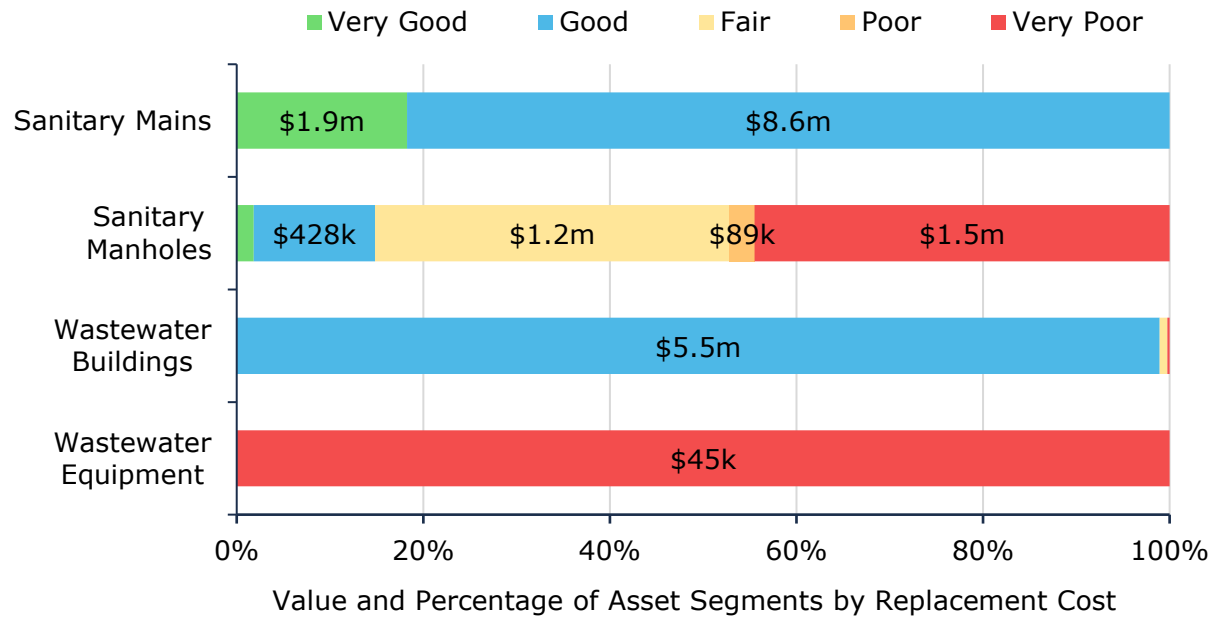


Figure 34 Asset Condition: Sanitary Sewer Network by Segment

6.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential long-term replacement spikes.

Figure 35 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

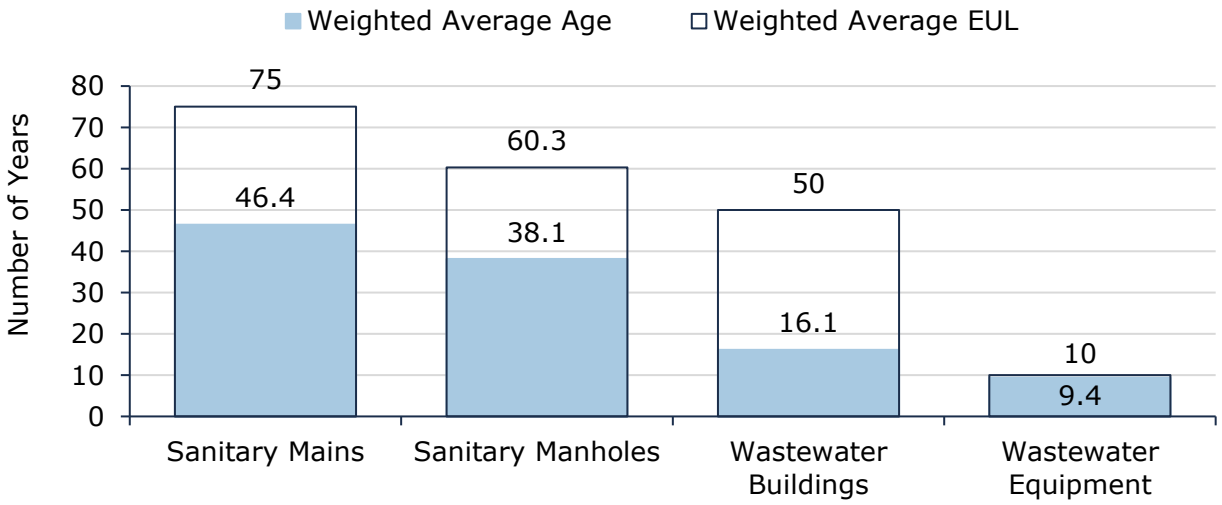


Figure 35 Estimated Useful Life vs. Asset Age: Sanitary Sewer Network

Age analysis reveals that on average, wastewater network assets have consume slightly more than half of their life expectancy. Age profiles and CCTV inspections will help to identify mains in need of replacements and/or upgrades. Extensions to EULs for mains may also be considered based on performance history to date.

6.4 Current Approach to Lifecycle Management

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 sanitary main flushing activities and cursory inspections are completed on the entire network
	Select areas (Davies and Lake Drive) require more regular flushing to mitigate the risk of service disruption
Rehabilitation/ Replacement	Trenchless re-lining activities have not been seriously explored, but may be evaluated for potential cost avoidance on pipes that are viable candidates
	In addition to age-based estimates of current asset condition staff rely on identified problem areas to determine a short-term replacement plan
	All mains will be replaced with PVC pipes which is considered the best value option available for installation

Table 18 Lifecycle Management Strategy: Wastewater Network

The following lifecycle strategy has been documented to formalize the current strategy used to manage the lifecycle of sanitary mains.

Sanitary Mains		
Event Name	**Event Class**	**Event Trigger**
CCTV Inspection	Preventative Maintenance	As Needed
Main Flushing, Rodding & Inspections	Maintenance	Annually
Manhole Inspection, Lining & Grouting	Maintenance	Annually
Full Reconstruction	Replacement	Condition: 20

Table 19 Lifecycle Strategy: Sanitary Mains

6.5 Forecasted Long-Term Replacement Needs

Figure 36 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's sanitary sewer network. This analysis was run until 2094 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $309 thousand for all assets in the sanitary sewer network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. These projections are based on asset replacement costs, age analysis, and condition data when available. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

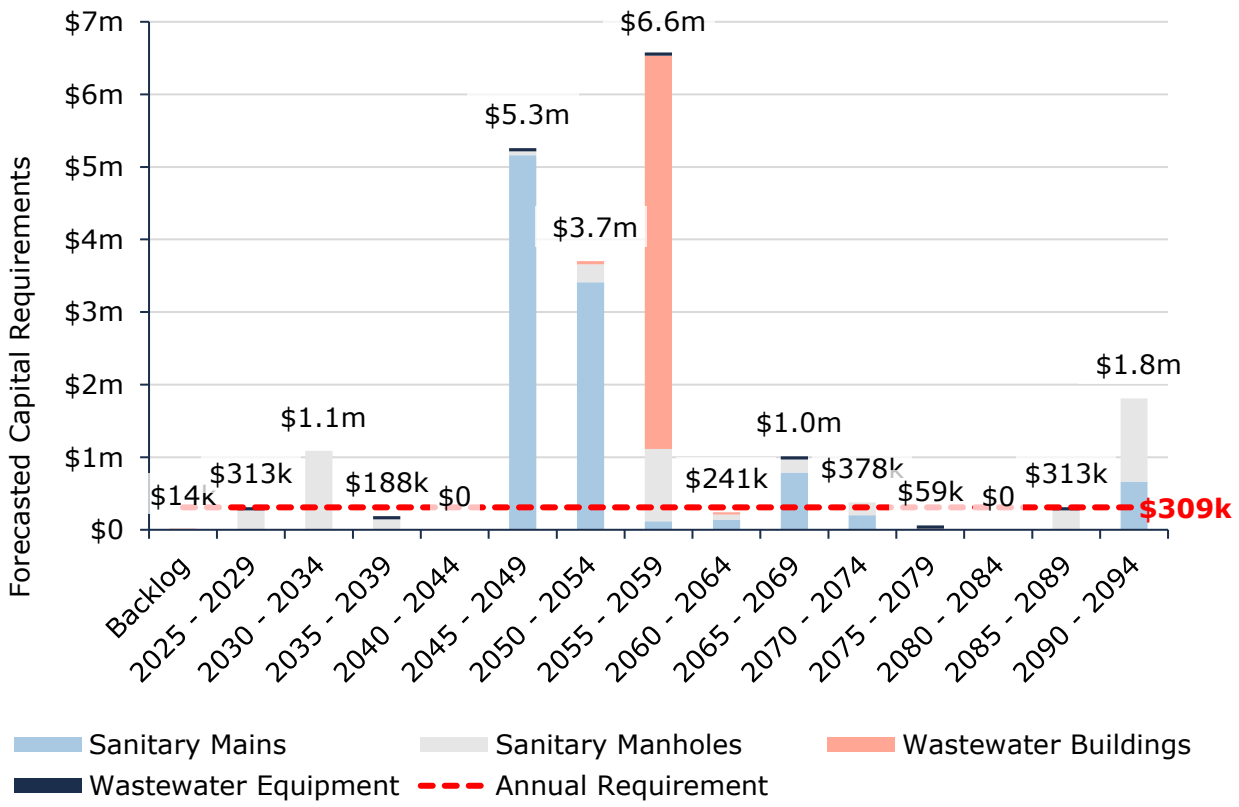


Figure 36 Forecasted Capital Replacement Needs: Sanitary Sewer Network 2025-2094

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. Regular condition assessments and a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

Tables summarizing the projected lifecycle activities (rehabilitation and replacements) that may be undertaken in the next 10 years to support current levels of service can be found in Appendix B – 10-Year Capital Requirements.

6.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, pipe diameter, replacement costs, asset type, and diameter. The risk ratings for assets without useful attribute data were calculated using only condition and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality. These risk models have been built into the Township's Asset Management Database (Citywide Assets).

1 - 4 Very Low $11,609,436 (60%)	5 - 7 Low $2,285,240 (12%)	8 - 9 Moderate - (0%)	10 - 14 High $5,432,086 (28%)	15 - 25 Very High - (0%)

Figure 37 Risk Matrix: Wastewater Network

6.7 Levels of Service

The tables that follow summarize the Township's current levels of service with respect to prescribed KPIs under Ontario Regulation 588/17 as well as any additional performance measures that the Township has selected for this AMP.

6.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	See Appendix C
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	The Township does not own any 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	The Township does not own any 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 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 into streets or back up into homes
	Description of how sanitary sewers in the municipal wastewater system are	The Township prioritizes the use of durable and resilient pipe materials to minimize stormwater infiltration into the municipal

	designed to be resilient to stormwater infiltration	wastewater system. PVC pipes exhibit a high resistance to corrosion, cracks and leaks, while allowing for high flow rates that meet system capacity needs.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	The disconnection of weeping tiles from sanitary mains and the use of sump pumps and pits as an alternative can help to reduce the chance of this occurring.

Table 20 O. Reg. 588/17 Community Levels of Service: Wastewater Network

6.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties connected to the municipal wastewater system	64%
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	0
	# 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%

Table 21 O. Reg. 588/17 Technical Levels of Service: Wastewater Network

7. Stormwater Network

The Township's Stormwater Network is comprised of sewer mains and other critical supporting capital assets. The current replacement cost of assets accounted for within the asset management system totals approximately $4 million.

7.1 Inventory & Valuation

Table 22 summarizes the quantity and current replacement cost of the Township's various stormwater network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catch Basins	45	Assets	$256,000	CPI
Drywells	208	Assets	$728,000	Cost/Unit
Storm Equipment	2	Assets	$103,000	CPI
Storm Manholes	20	Assets	$357,000	CPI
Storm Sewer Mains	3.2	Length (km)	$2,523,000	CPI
TOTAL			**$3,967,000**	

Table 22 Detailed Asset Inventory: Stormwater Network

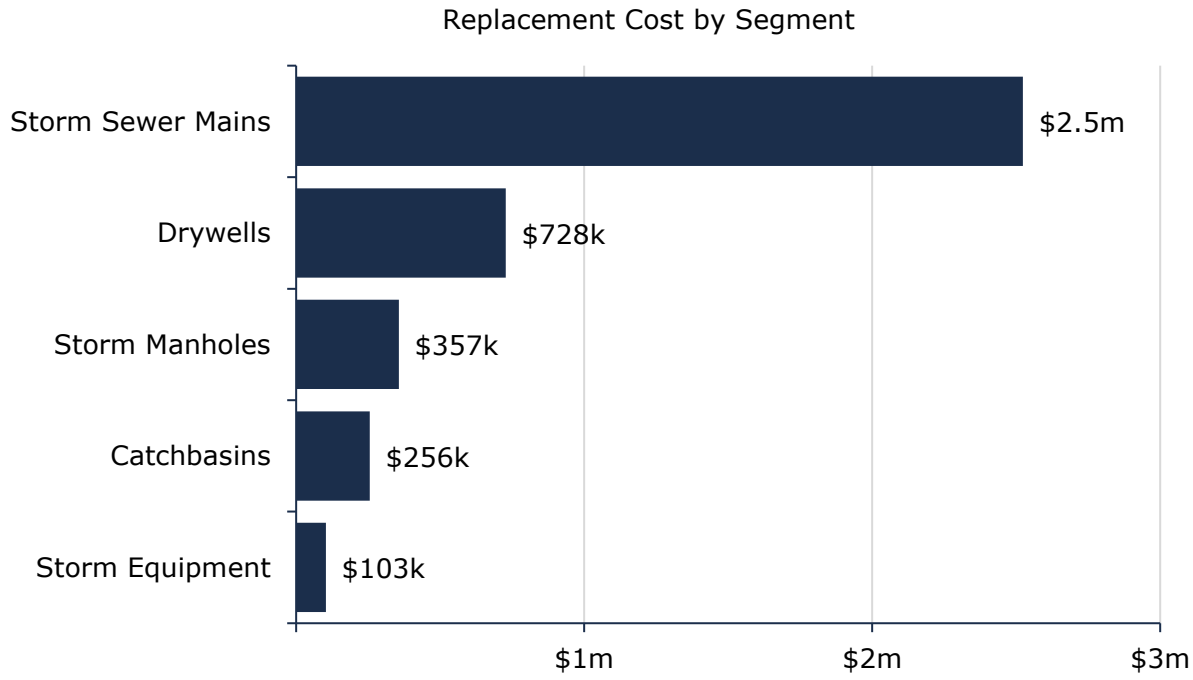


Figure 38 Portfolio Valuation: Stormwater Network

7.2 Asset Condition

Figure 39 summarizes the replacement cost-weighted condition of the Township's stormwater management assets. Based on primarily age data, approximately 29% of assets are in poor to very poor condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

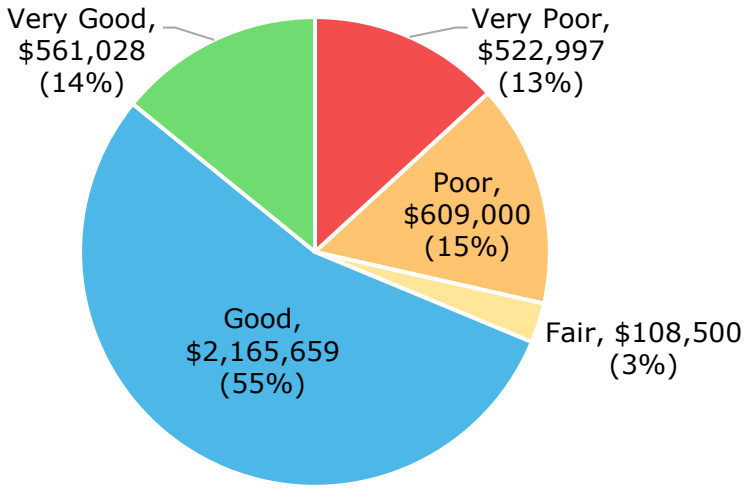


Figure 39 Asset Condition: Stormwater Network Overall

Figure 40 summarizes the mostly age-based condition of stormwater assets. The analysis illustrates that the majority of stormwater mains are in fair or better condition. However, 84% of dry wells and 100% of manholes, with a current replacement cost of $1.1 million, are in poor or worse condition.

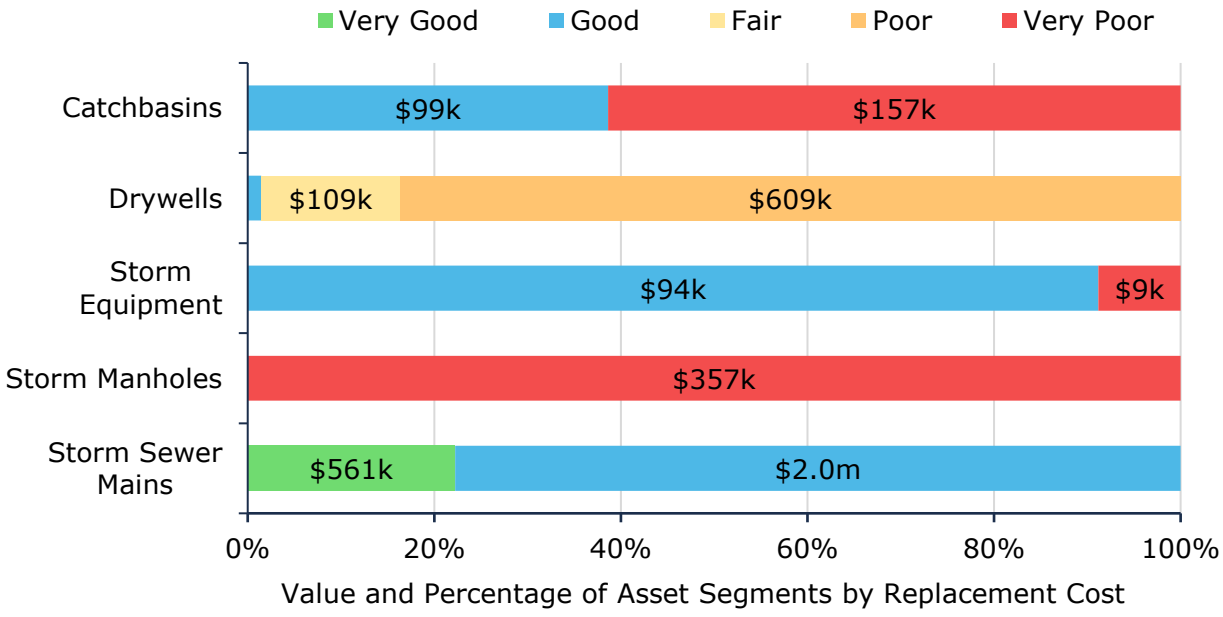


Figure 40 Asset Condition: Stormwater Network by Segment

7.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 41 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

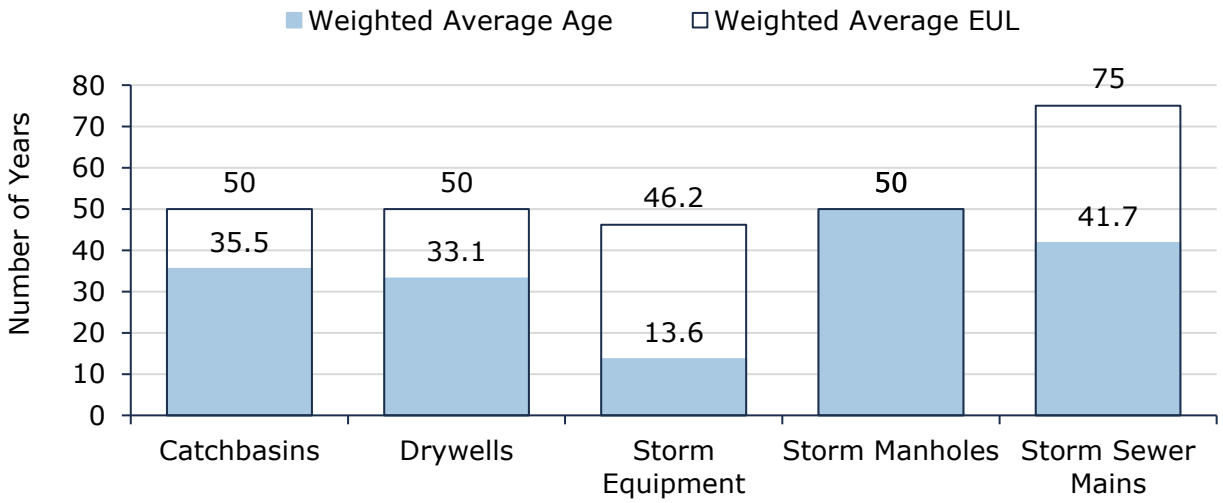


Figure 41 Estimated Useful Life vs. Asset Age: Stormwater Network

Age analysis reveals that on average, stormwater assets have consume slightly more than half of their life expectancy. Age profiles and CCTV inspections will help to identify mains in need of replacements and/or upgrades. Extensions to EULs for mains may also be considered based on performance history to date.

7.4 Current Approach to Lifecycle Management

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	Storm mains are cleaned and flushed annually to maintain flowrate and clear obstructions
	Catch basins are vacuumed annually to remove debris
Rehabilitation/ Replacement	No major rehabilitation or replacement strategies apart from end-of-life replacement

Table 23 Lifecycle Management Strategy: Stormwater Network

The following lifecycle strategy has been documented to formalize the current strategy used to manage the lifecycle of storm mains.

Stormwater Mains		
Event Name	**Event Class**	**Event Trigger**
Catch Basin Cleaning	Maintenance	Annually
CCTV Inspection	Preventative Maintenance	Reactive
Storm Sewer Flushing	Maintenance	Reactive
Full Reconstruction	Replacement	Condition: 20

Table 24 Lifecycle Strategy: Stormwater Mains

7.5 Forecasted Long-Term Replacement Needs

Figure 42 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's storm network assets. This analysis was run until 2089 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $64 thousand for all assets in the stormwater network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog $9 thousand, generally equally contributed to by storm equipment. The largest replacement spike of $2.0 million is forecasted in 2050-2054 as mains reach the end of their expected design life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

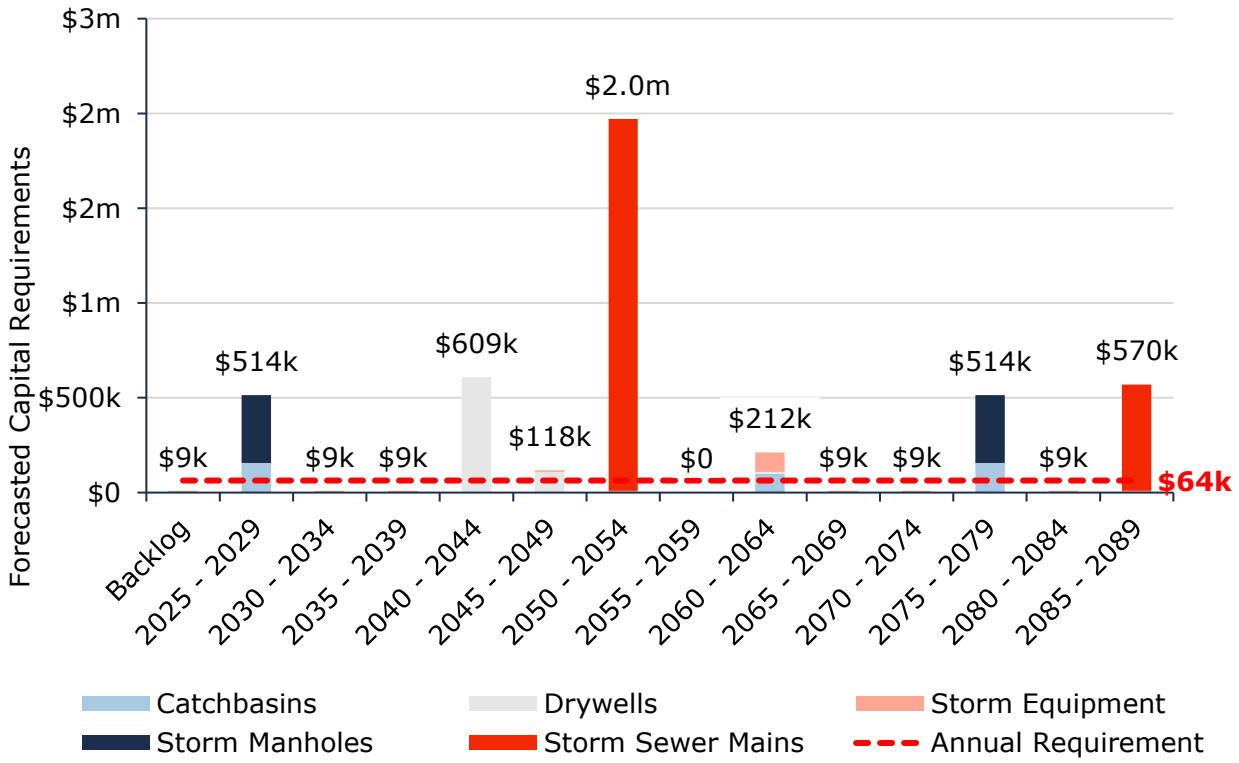


Figure 42 Forecasted Capital Replacement Needs Stormwater Network 2025-2089

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. CCTV inspections may reveal a higher or lower backlog. The inspections may also help reduce long-term projections by providing more accurate condition data for mains than age. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

Tables summarizing the projected lifecycle activities (rehabilitation and replacements) that may be undertaken in the next 10 years to support current levels of service can be found in Appendix B – 10-Year Capital Requirements.

7.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, pipe material, asset type, replacement costs and diameter. The risk ratings for assets without useful attribute data were calculated using only condition and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality. These risk models have been built into the Township's Asset Management Database (Citywide Assets).

1 - 4 Very Low $2,835,187 (71%)	5 - 7 Low $650,613 (16%)	8 - 9 Moderate $472,320 (12%)	10 - 14 High - (0%)	15 - 25 Very High $9,064 (<1%)

Figure 43 Risk Matrix: Stormwater Network

7.7 Levels of Service

The tables that follow summarize the Township's current levels of service with respect to prescribed KPIs under Ontario Regulation 588/17 as well as any additional performance measures that the Township has selected for this AMP.

7.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include map, of the user groups or areas of the Township that are protected from flooding, including the extent of protection provided by the municipal storm water network	See Appendix C

Table 25 O. Reg. 588/17 Community Levels of Service: Stormwater Network

7.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties in municipality designed to be resilient to a 100-year storm	TBD[4]
	% of the municipal stormwater management system designed to be resilient to a 5-year storm	TBD
Performance	Capital reinvestment rate	0%

Table 26 O. Reg. 588/17 Technical Levels of Service: Stormwater Network

[4] The Township does not currently have any data that provides support in determining an overall value for storm resiliency.

Non-Core Assets

Buildings & Facilities

Land Improvements

Fleet

Machinery & Equipment

8. Buildings & Facilities

The Township's buildings portfolio includes a fire hall, various administrative and public works facilities, a library, recreational assets and a municipal airport. The total current replacement of buildings is estimated at more than $18.9 million.

8.1 Inventory & Valuation

Table 27 summarizes the quantity and current replacement cost of the Township's various building and facilities assets as managed in its primary asset management register, Citywide. Within the asset management database, buildings and facilities are not componentized. The quantity listed represents the number of asset records currently available for each department.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Admin Buildings	3	Assets	$10,330,000	CPI
Airport Buildings	1	Assets	$424,000	CPI
Landfill Buildings	1	Assets	$3,000	CPI
Protection Buildings	1	Assets	$165,000	CPI
Public Works Buildings	5	Assets	$1,140,000	CPI
Recreation Buildings	4	Assets	$6,754,000	CPI
Storage Buildings	2	Assets	$35,000	CPI
TOTAL			**$18,852,000**	

Table 27 Detailed Asset Inventory: Buildings & Facilities

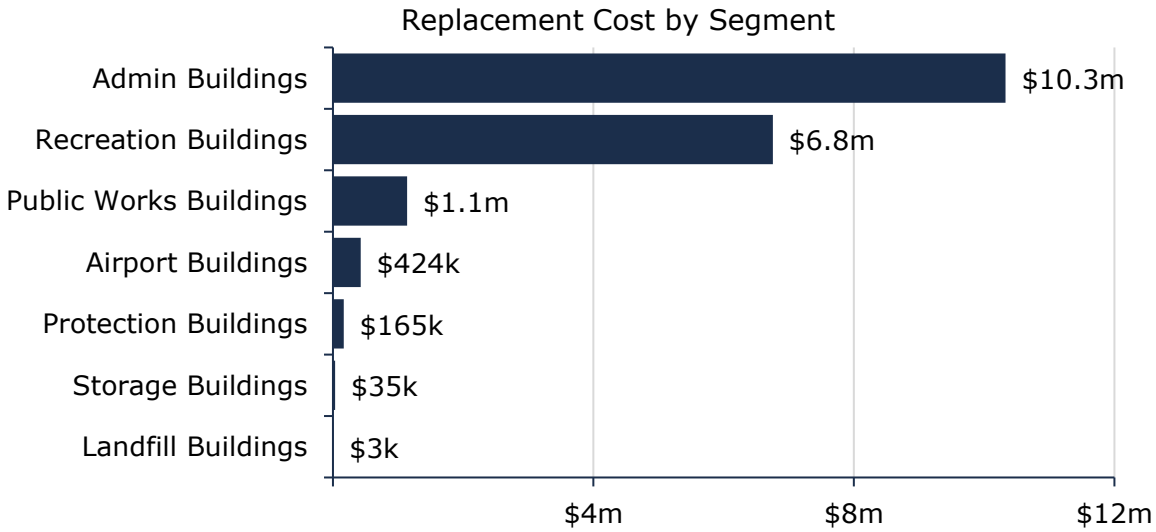


Figure 44 Portfolio Valuation: Buildings & Facilities

8.2 Asset Condition

Figure 45 summarizes the replacement cost-weighted condition of the Township's buildings portfolio. Based on staff assessments, 100% of buildings & facilities assets are in fair or better condition. Assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As buildings are not componentized, condition data is presented only at the site level, rather than at the individual element or component level within each building. This drawback is further compounded by the lack of formalized condition data, as opposed to subjective staff estimates.

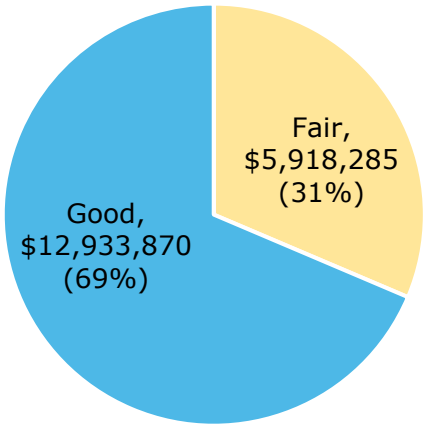


Figure 45 Asset Condition: Buildings & Facilities Overall

Figure 46 summarizes the assessed condition of buildings by each department. All the assets are in fair or better condition. However, in the absence of componentization, this data has limited value. Componentization of assets and integration of condition assessments will provide a more accurate and reliable estimation of the condition of various facilities.

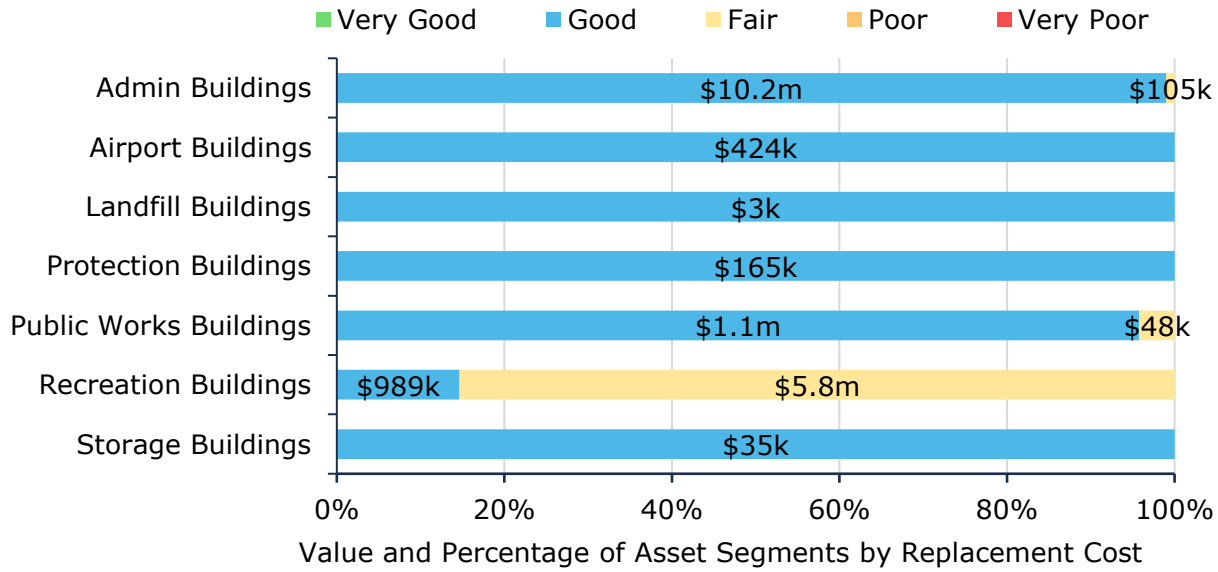


Figure 46 Asset Condition: Buildings & Facilities by Segment

8.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 47 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

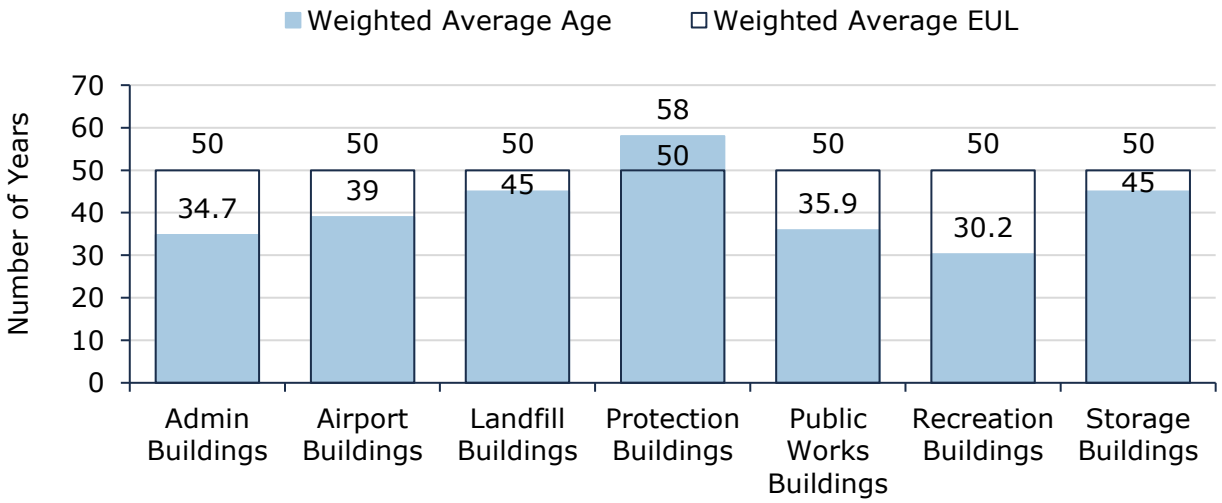


Figure 47 Estimated Useful Life vs. Asset Age: Buildings & Facilities

Age analysis reveals that, on average, buildings assets are in the later stages of their serviceable life. while the fire hall has exceeded its established useful life and remains in service. Once again, this analysis presented only at the site level, rather than at the individual element or component level. Useful and meaningful age analysis for buildings is entirely predicated on effective componentization.

8.4 Current Approach to Lifecycle Management

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.

Table 28 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Health & safety inspections are completed regularly, these inspections do not include an assessment of current asset condition
	Facility cleaning is contracted out and completed on a regular basis
Rehabilitation/ Replacement	Many buildings are beginning to reach the end of their useful life and replacement will be required
	With limited budget available for building replacement, a proactive rehabilitation strategy will need to be developed to maximize the impact of available funding

Table 28 Lifecycle Management Strategy: Buildings & Facilities

8.5 Forecasted Long-Term Replacement Needs

Figure 48 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's buildings portfolio. This analysis was run until 2064 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $434 thousand for all buildings. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Significant replacement spikes are predicted to occur between 2040 and 2044, and 2060 and 2064. These projections and estimates are based on current asset records, their replacement costs, and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

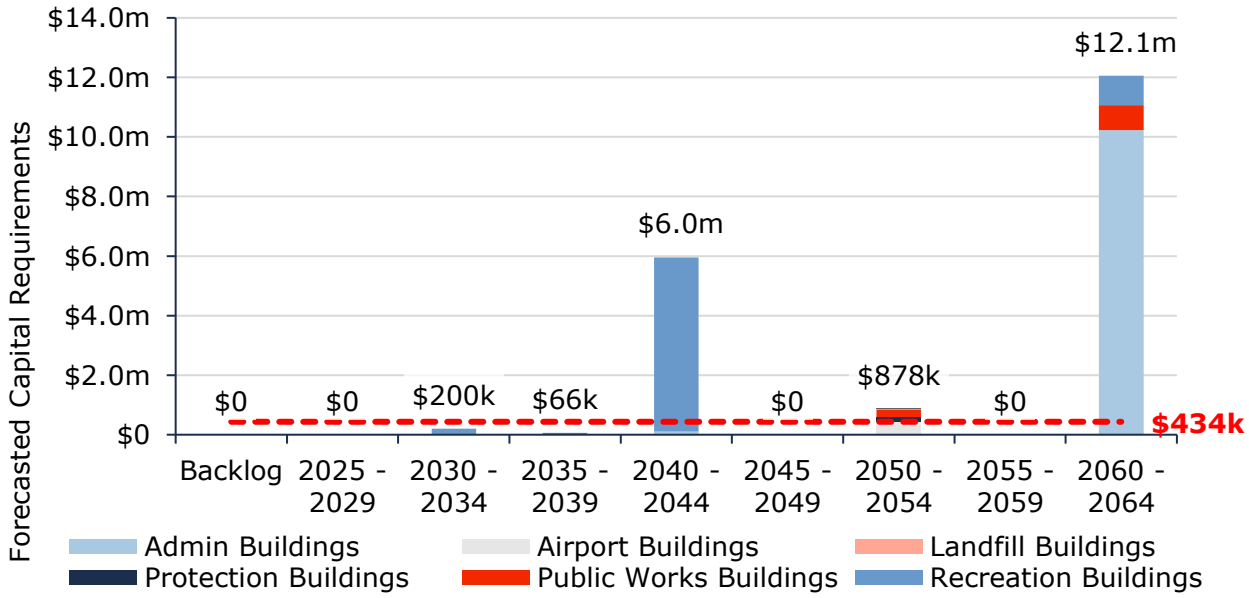


Figure 48 Forecasted Capital Replacement Needs Buildings & Facilities 2025-2064

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements. In the case of buildings and facilities, detailed componentization is necessary to develop more reliable lifecycle forecasts that reflect the needs of individual elements and components.

8.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and building department. The matrix classifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

1 - 4 Very Low $596,885 (3%)	5 - 7 Low $1,451,505 (8%)	8 - 9 Moderate $840,597 (4%)	10 - 14 High $15,963,168 (85%)	15 - 25 Very High - (0%)

Figure 49 Risk Matrix: Buildings & Facilities

8.7 Levels of Service

The tables that follow summarize the Township's current levels of service. There are no specifically prescribed KPIs under Ontario Regulation 588/17 for non-core assets, therefore the KPIs below represent performance measures that the Township has selected for this AMP.

8.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the types of facilities that the municipality operates and maintains	The Township of Ignace provides municipal facilities, community buildings, and recreational spaces that support essential services, recreation, and social activities. These assets contribute to a safe, active, and connected community

Table 29 Community Levels of Service: Buildings & Facilities

8.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average condition for buildings & facilities in the municipality	58%
Performance	Capital reinvestment rate	0%

Table 30 Technical Levels of Service: Buildings & Facilities

9. Land Improvements

The Township's parks and land improvements portfolio includes parking lots and play structures, a skate park and landscaping assets. The total current replacement of land improvements is estimated at approximately $1.1 million.

9.1 Inventory & Valuation

Table 31 summarizes the quantity and current replacement cost of the Township's various land improvement assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Landscaping	39	Assets	$24,000	User-Defined
Parking Lot	5	Assets	$604,000	CPI
Play Structure	2	Assets	$178,000	User-Defined
Recreation	1	Assets	$276,000	CPI
TOTAL			**$1,082,000**	

Table 31 Detailed Asset Inventory: Land Improvements

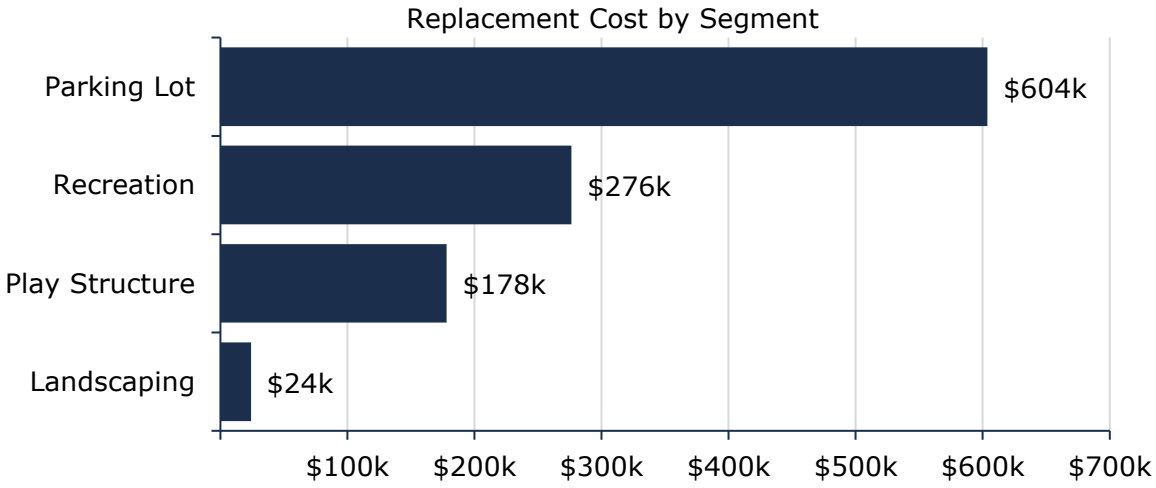


Figure 50 Portfolio Valuation: Land Improvements

9.2 Asset Condition

Figure 51 summarizes the replacement cost-weighted condition of the Township's land improvement portfolio. Based on staff estimated conditions, 81% of assets are in fair or better condition. As assets deteriorate into poor condition, they may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation

or replacement in the medium term and should be monitored for further degradation in condition.

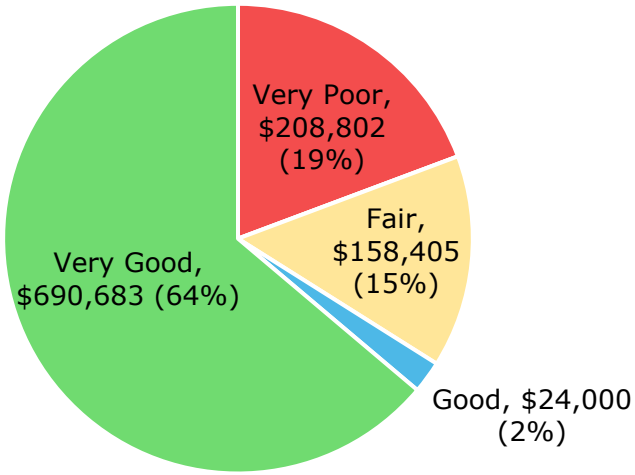


Figure 51 Asset Condition: Land Improvements Overall

Figure 52 summarizes the condition of land improvements by asset type.

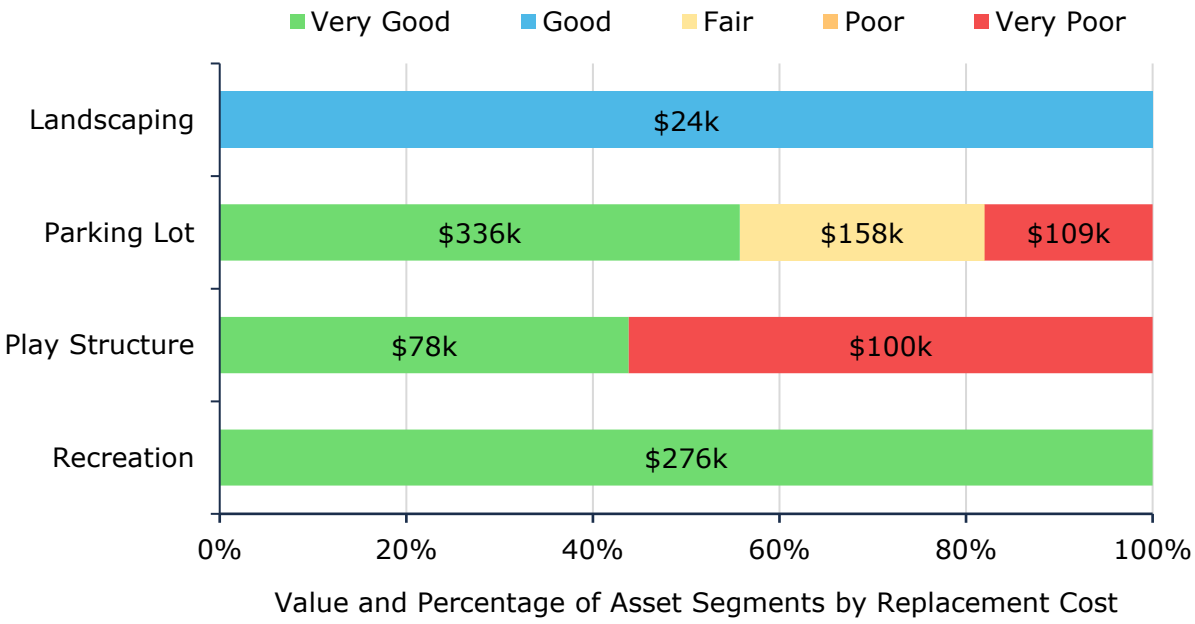


Figure 52 Asset Condition: Land Improvements by Segment

9.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 53 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

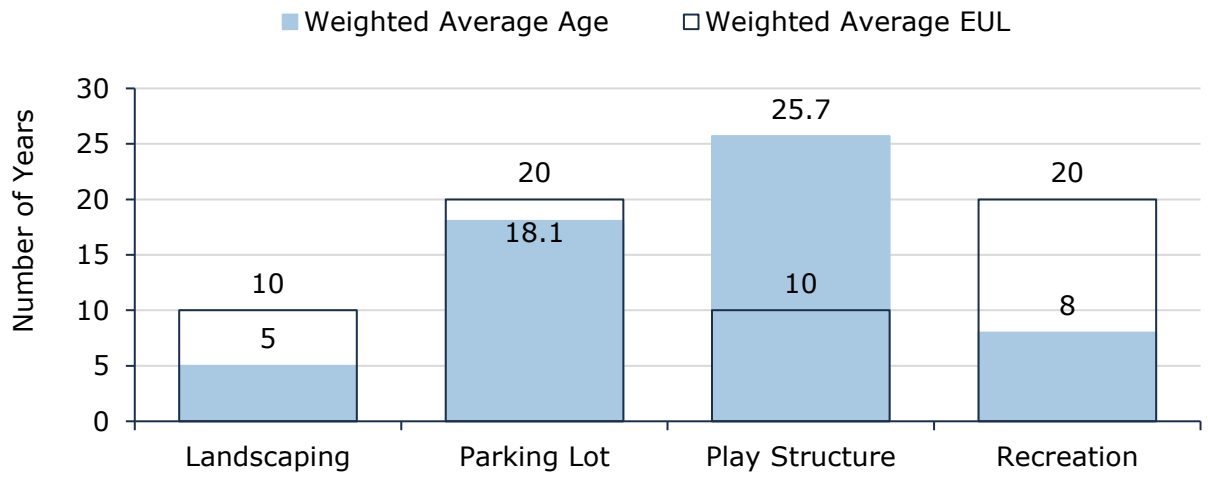


Figure 53 Estimated Useful Life vs. Asset Age: Parks & Land Improvements

Age analysis reveals that, play structure has exceeded its established useful life and remains in service while parking lot assets have almost consumed their useful life remaining.

9.4 Current Approach to Lifecycle Management

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.

Table 32 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Parking lots are maintained on an as-needed basis depending on identified pavement distresses and deficiencies
Inspections	The Township manages parks, playgrounds, and skatepark facilities through regular inspections, routine maintenance, and planned renewals. It ensures these community spaces remain safe, accessible, and sustainable over the long term.

Table 32 Lifecycle Management Strategy: Land Improvements

9.5 Forecasted Long-Term Replacement Needs

Figure 54 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's land improvements portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $64 thousand for all land improvements. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to steadily rise over the next 20-year time horizon and peaking at $715 thousand between 2040 and 2044 as assets reach the end of their useful life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

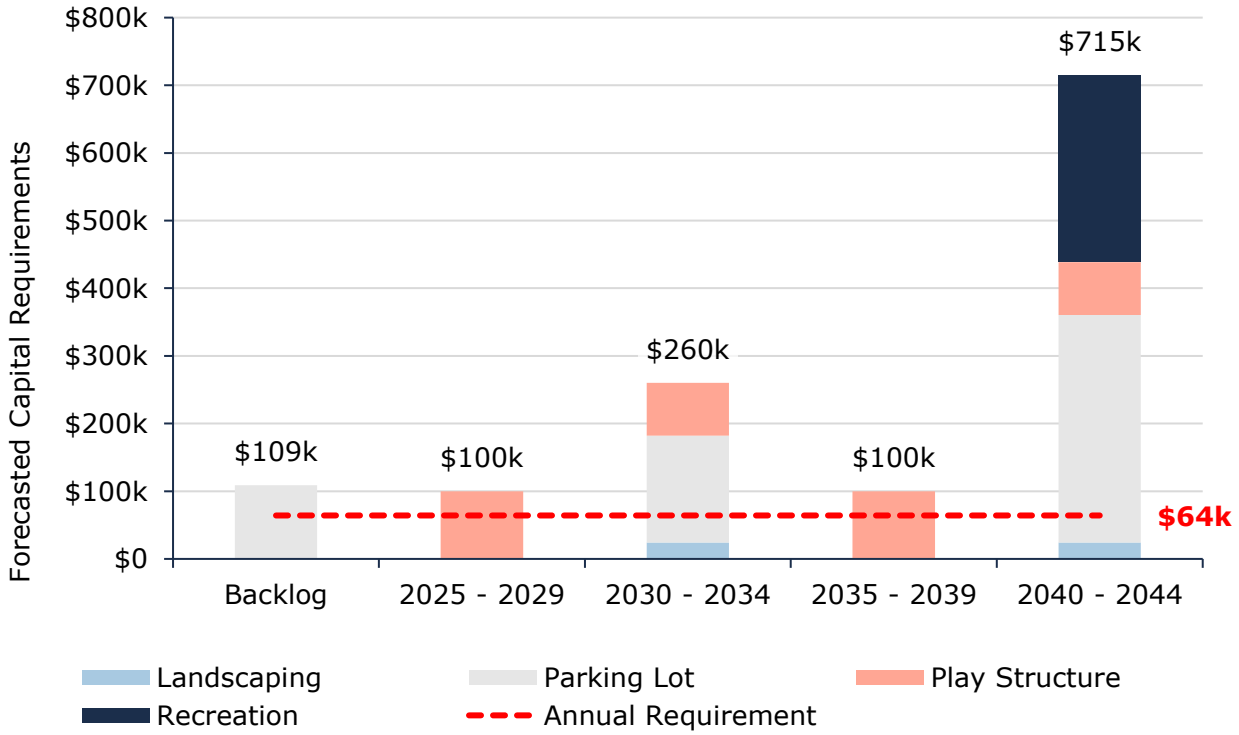


Figure 54 Forecasted Capital Replacement Needs: Parks Land Improvements 2025-2044

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

Tables summarizing the projected lifecycle activities (rehabilitation and replacements) that may be undertaken in the next 10 years to support current levels of service can be found in Appendix B – 10-Year Capital Requirements.

9.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition and replacement costs. The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

1 - 4 Very Low $102,031 (9%)	5 - 7 Low $612,652 (57%)	8 - 9 Moderate $56,729 (5%)	10 - 14 High $73,620 (7%)	15 - 25 Very High $236,858 (22%)

Figure 55 Risk Matrix: Land Improvements

9.7 Levels of Service

The tables that follow summarize the Township's current levels of service. There are no specifically prescribed KPIs under Ontario Regulation 588/17 for non-core assets, therefore the KPIs below represent performance measures that the Township has selected for this AMP.

9.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the outdoor recreational facilities that the municipality operates and maintains	The Township of Ignace provides and maintains parks, playgrounds, trails, and sports fields that provide safe and accessible spaces for residents and visitors to enjoy outdoor activities, community events, and active living.

Table 33 Community Levels of Service: Land Improvements

9.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average condition of outdoor recreation facilities and land improvements in the municipality	Good (66%)
Performance	Capital reinvestment rate	0%

Table 34 Technical Levels of Service: Land Improvements

10. Fleet

The Township's fleet portfolio includes 18 assets that support a variety of general and essential services, including public works, administration, recreation, and fire services. The total current replacement of fleet is estimated at approximately $2.7 million.

10.1 Inventory & Valuation

Table 35 summarizes the quantity and current replacement cost of the Township's various fleet assets as managed in its primary asset management register, Citywide. Public works and fire services account for the largest share of the fleet portfolio.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Fire Vehicles	2	Assets	$833,000	CPI
Public Works Vehicles	14	Assets	$1,746,000	CPI
Recreation Vehicles	2	Assets	$131,000	CPI
TOTAL			**$2,710,000**	

Table 35 Detailed Asset Inventory: Fleet

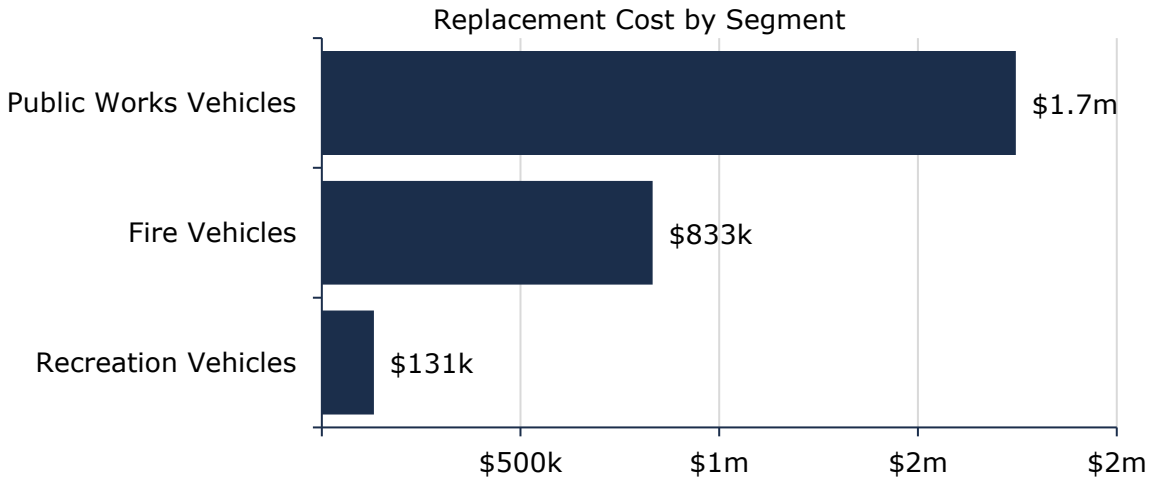


Figure 56 Portfolio Valuation: Fleet

10.2 Asset Condition

Figure 57 summarizes the replacement cost-weighted condition of the Township's fleet portfolio. Based primarily on staff estimated assessed condition data, 31% of feet assets are in fair or better condition, with the remaining 69% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be

monitored for further degradation in condition. Condition data was available for 98% of fleet assets; age was used to estimate condition for the remaining 2% of assets.

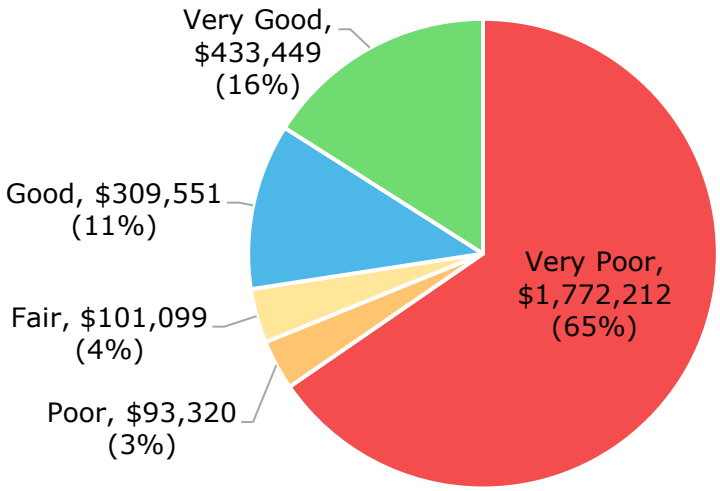


Figure 57 Asset Condition: Fleet Overall

Figure 58 summarizes the condition of fleet assets by each department. The majority of fleet assets from fire and recreation department are in poor or worse condition.

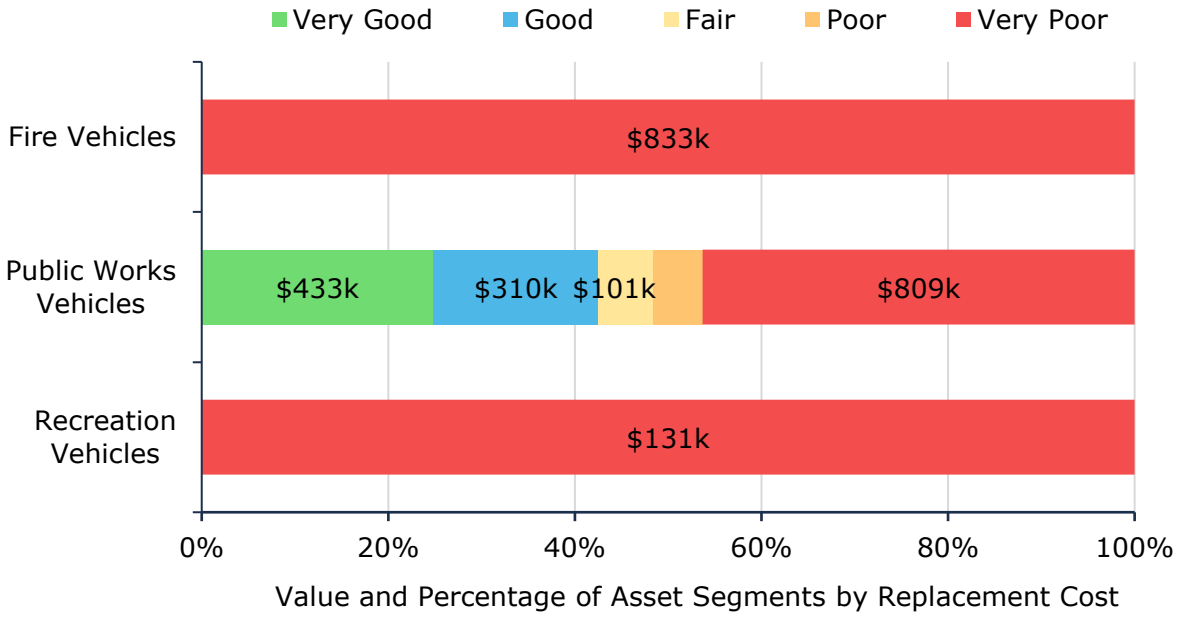


Figure 58 Asset Condition: Fleet by Segment

10.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 59 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

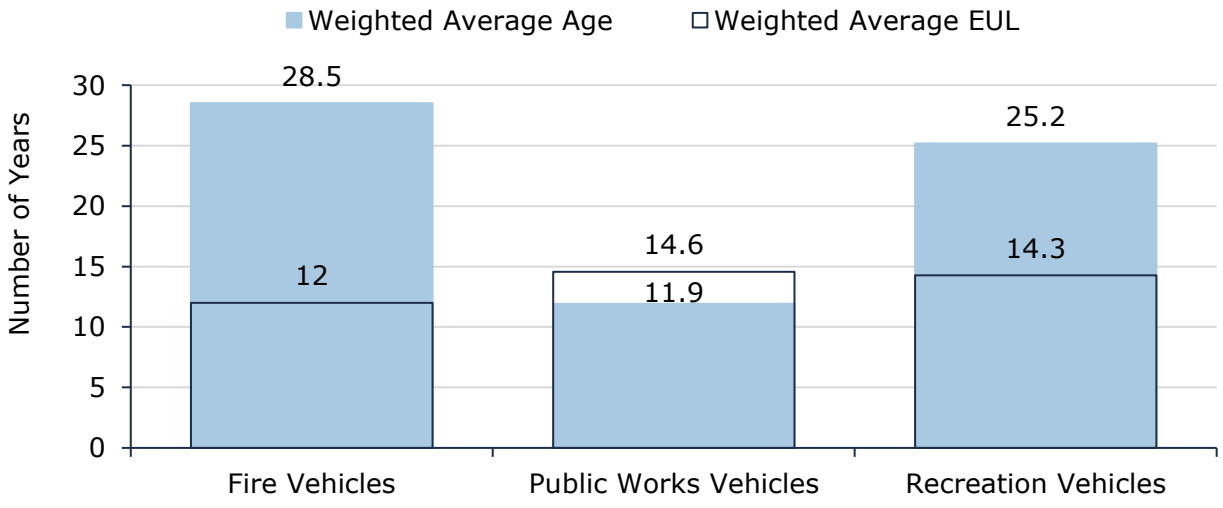


Figure 59 Estimated Useful Life vs. Asset Age: Fleet

Age analysis reveals that, on average, most fleet assets are approaching the end of their expected lives or have already exceeded their established useful lives.

10.4 Current Approach to Lifecycle Management

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
Inspection/ Maintenance/ Rehabilitation	Fire trucks undergo annual safety inspections in accordance with ministry requirements. Servicing and repairs are completed on an as-needed basis, typically in response to issues identified by vehicle operators during daily circle checks.
	Maintenance is completed on an as-needed basis according to requirements identified by vehicle operators
	Regular maintenance and upkeep is performed according to the vehicle manufacturer's suggestions
Replacement	Vehicle replacement is prioritized based on the condition of vehicles and the criticality of the services they provide.
	To plan for the future replacement of vehicles the Township has been putting money aside with the hopes to have funds available for the full cost of a replacement vehicle available when needed

Table 36 Lifecycle Management Strategy: Fleet

10.5 Forecasted Long-Term Replacement Needs

Figure 60 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's fleet portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $203 thousand for all fleet assets. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

A significant replacement need of $1.8 million is forecasted between 2025 and 2029 as fleet assets reach the end of their useful life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

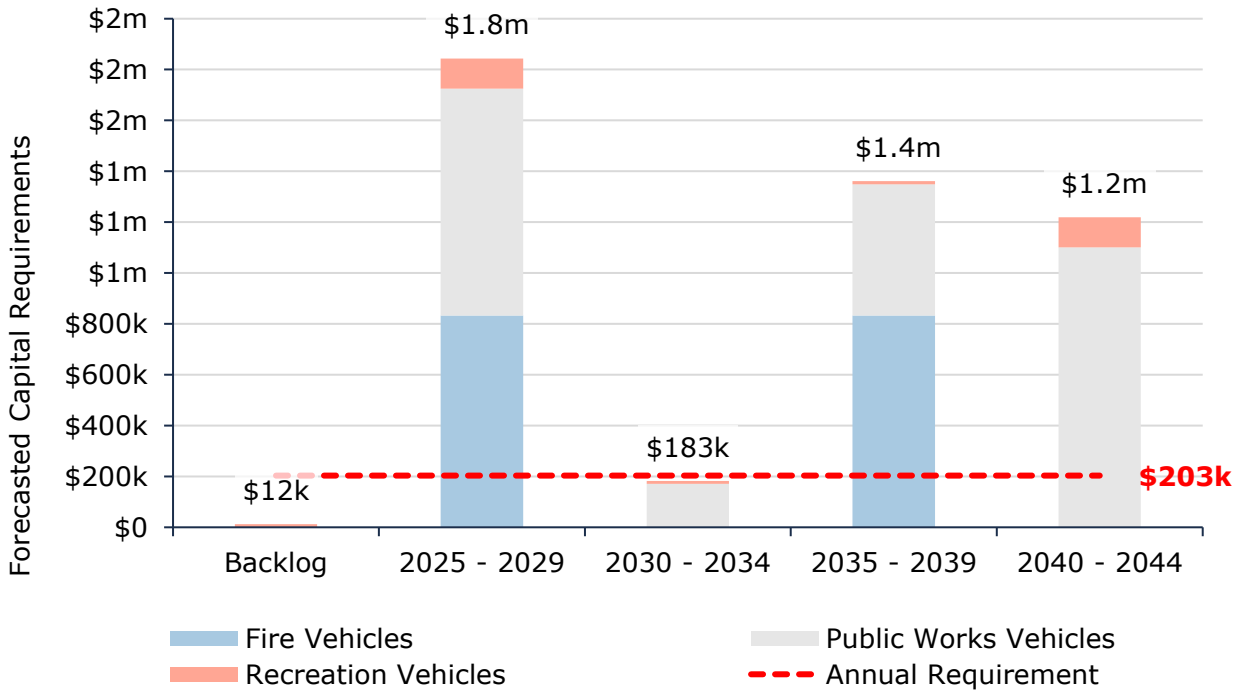


Figure 60 Forecasted Capital Replacement Needs: Fleet 2025-2044

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements. Tables summarizing the projected lifecycle activities (rehabilitation and replacements) that may be undertaken in the next 10 years to support current levels of service can be found in Appendix B – 10-Year Capital Requirements.

10.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition and replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality. These risk models have been built into the Township's Asset Management Database (Citywide Assets).

1 - 4 Very Low $493,000 (18%)	5 - 7 Low $250,000 (9%)	8 - 9 Moderate $41,629 (2%)	10 - 14 High $206,313 (8%)	15 - 25 Very High $1,718,689 (63%)

Figure 61 Risk Matrix: Feet

10.7 Levels of Service

The tables that follow summarize the Township's current levels of service. There are no specifically prescribed KPIs under Ontario Regulation 588/17 for non-core assets, therefore the KPIs below represent performance measures that the Township has selected for this AMP.

10.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the types of vehicles that the municipality operates and the services that they help to provide to the community	The Township owns and maintains a fleet portfolio comprised of assets that support fire services, public works operations and recreation facilities.

Table 37 Community Levels of Service: Fleet

10.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average condition of Fleet assets	33% (Poor)
Performance	Capital reinvestment rate	0%

Table 38 Technical Levels of Service: Fleet

11. Machinery & Equipment

The Township's Machinery & Equipment portfolio includes that support a variety of general and essential services, including recreation and fire. The total current replacement of machinery & equipment assets is estimated at approximately $1.2 million.

11.1 Inventory & Valuation

Table 39 summarizes the quantity and current replacement cost of the Township's various machinery and equipment assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Admin Equipment	4	Assets	$127,000	CPI
Fire Equipment	6	Assets	$157,000	CPI
Library Equipment	1	Assets	$331,000	CPI
Public Works Equipment	8	Assets	$542,00	User-Defined
Recreation Equipment	1	Assets	$49,000	CPI
TOTAL			**$1,206,000**	

Table 39 Detailed Asset Inventory: Machinery & Equipment

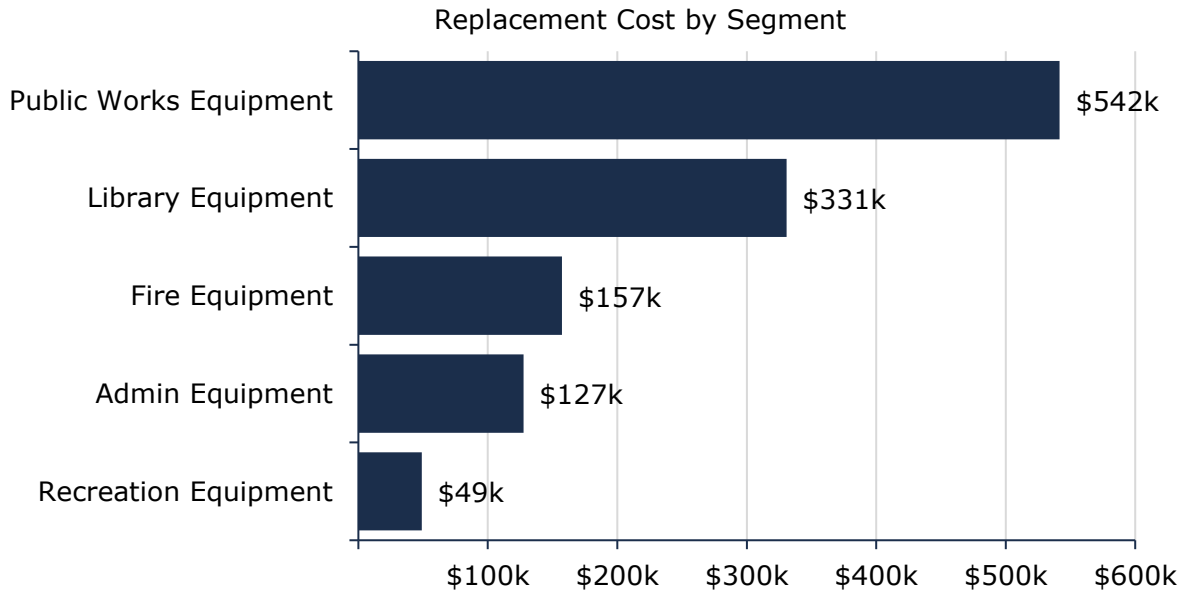


Figure 62 Portfolio Valuation: Machinery & Equipment

11.2 Asset Condition

Figure 63 summarizes the replacement cost-weighted condition of the Township's machinery and equipment portfolio. Based primarily on age data, 38% of assets are in fair or better condition; the remaining 62% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

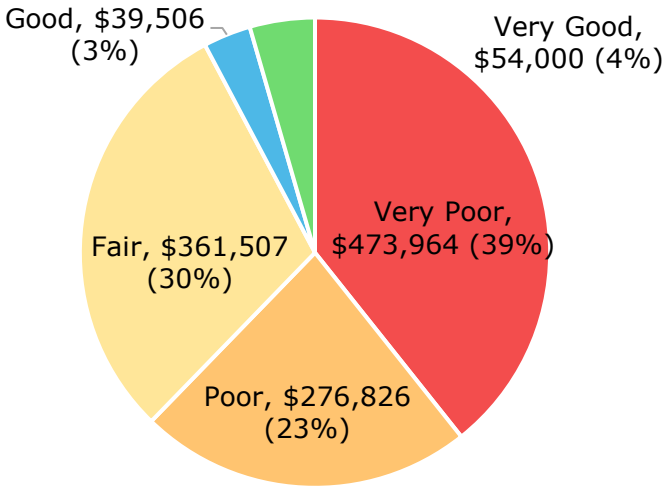


Figure 63 Asset Condition: Machinery & Equipment Overall

Figure 64 summarizes the age-based condition of machinery & equipment by each department. The majority of assets across all departments are in poor or worse condition except for recreational equipment.

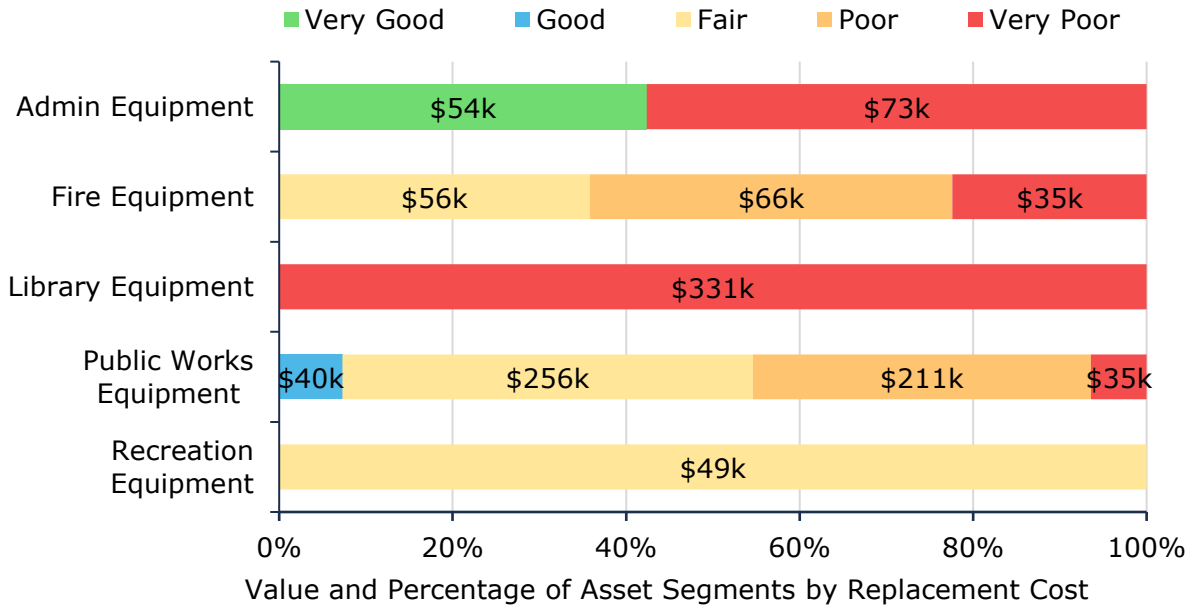


Figure 64 Asset Condition: Machinery & Equipment by Segment

11.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 65 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

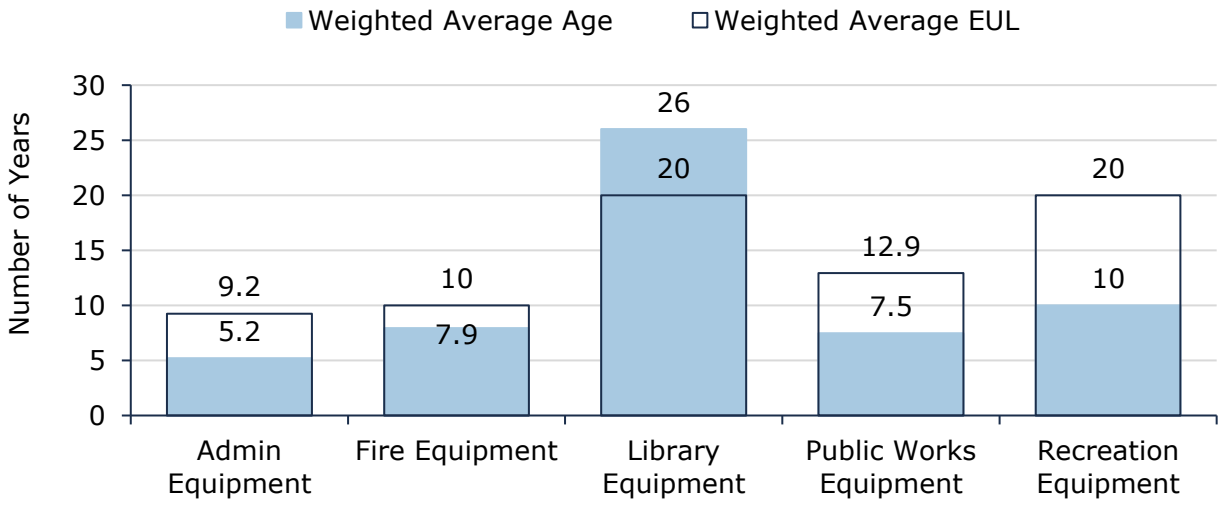


Figure 65 Estimated Useful Life vs. Asset Age: Machinery & Equipment

Age analysis reveals that, on average, most machinery and equipment assets are in the latter stages of their expected life or have exceeded their expected life.

11.4 Current Approach to Lifecycle Management

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/ Rehabilitation	Maintenance is completed on an as-needed basis according to requirements identified by staff and/or equipment operators
Replacement	Replacement occurs when assets reach the end of their expected useful life

Table 40 Lifecycle Management Strategy: Machinery & Equipment

11.5 Forecasted Long-Term Replacement Needs

Figure 66 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's machinery and equipment portfolio. This analysis was run until 2039 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $100 thousand for all machinery and equipment. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are significant over the next 15-year projection period, peaking at $670 thousand between 2035 and 2039. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

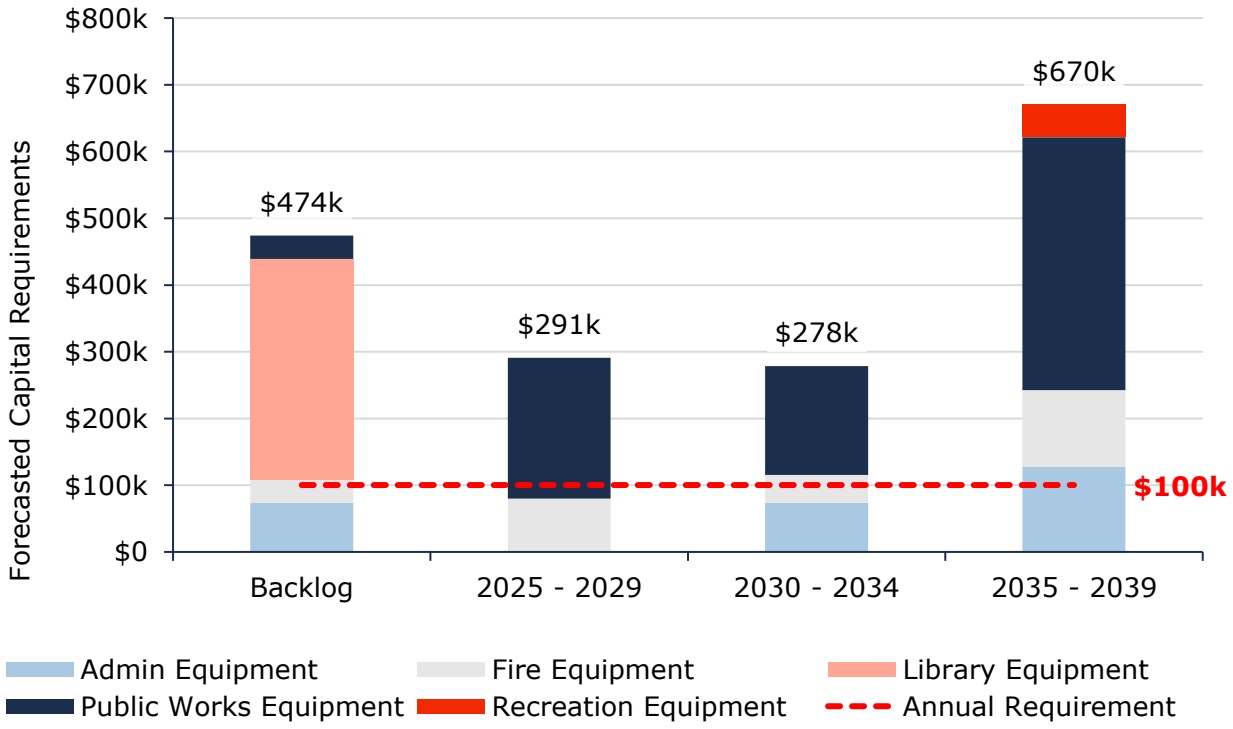


Figure 66 Forecasted Capital Replacement Needs: Machinery & Equipment 2025-2039

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

Tables summarizing the projected lifecycle activities (rehabilitation and replacements) that may be undertaken in the next 10 years to support current levels of service can be found in Appendix B – 10-Year Capital Requirements.

11.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition and replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality. These risk models have been built into the Township's Asset Management Database (Citywide Assets).

1 - 4 Very Low $292,783 (24%)	5 - 7 Low $340,124 (28%)	8 - 9 Moderate - (0%)	10 - 14 High $75,090 (6%)	15 - 25 Very High $497,806 (41%)

Figure 67 Risk Matrix: Machinery & Equipment

11.7 Levels of Service

The tables that follow summarize the Township's current levels of service. There are no specifically prescribed KPIs under Ontario Regulation 588/17 for non-core assets, therefore the KPIs below represent performance measures that the Township has selected for this AMP.

11.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the types of equipment that the municipality operates and the services that they help to provide to the community	The Township owns and maintains a variety of machinery and assets that support fire services, public works operations and recreation services for the community.

Table 41 Community Levels of Service: Machinery & Equipment

11.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average condition of equipment	32% (Poor)
Performance	Capital reinvestment rate	0%

Table 42 Technical Levels of Service: Machinery & Equipment

Strategies

Growth

Financial Strategies

12. Growth

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 plan for new infrastructure more effectively, 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.

12.1 Ignace Official Plan (November 2020)

The Township of Ignace adopted its Official Plan in November 2020. The plan establishes a long-term vision, guiding principles, and policies to manage land use, growth, and development while balancing economic opportunities with the protection of social, cultural, and environmental resources. The plan serves as a "living document" to be reviewed and updated in line with the Ontario Planning Act, ensuring it reflects evolving priorities and remains aligned with provincial policy.

The plan sets its planning horizon to 2045, providing a framework for growth and land management over a 25-year period. However, much of the growth management analysis focuses on the year 2038, based on a vacant land supply study completed in 2019. Regular reviews are required at least every 10 years, and every five years thereafter, to ensure policies remain relevant.

At the time of adoption, Ignace's population was estimated at 1,250 in 2017. Projections anticipate potential population and employment growth driven by major regional economic factors. These include increased mining activity (e.g., the Bending Lake Iron Project, Sturgeon Lake Zinc Project, and the Ring of Fire development) and the possible establishment of a Nuclear Waste Management Organization Adaptive Phased Management (APM) facility near Ignace

Population and land demand forecasts were modeled under several scenarios: Base Case, APM, Ring of Fire, and an All of the Above scenario. The analysis concluded that current settlement area lands can meet demand until 2038 under the Base Case and Ring of Fire scenarios. However, under the more intensive APM or combined scenarios, there may be a need for additional residential and employment land by 2038.

Growth will continue to focus primarily within the designated Settlement Area, supported by existing infrastructure, while rural areas will remain oriented toward resource-based and low-density residential uses.

Table 43 outlines the population trend as per Statistics Canada over the past few decades for Township of Ignace.

Year	1996	2001	2006	2011	2016	2021
Population	1,782	1,709	1,431	1,202	1,202	1,203
Population Change	-	-4.1%	-16.3%	-16.0%	0.0%	0.3%

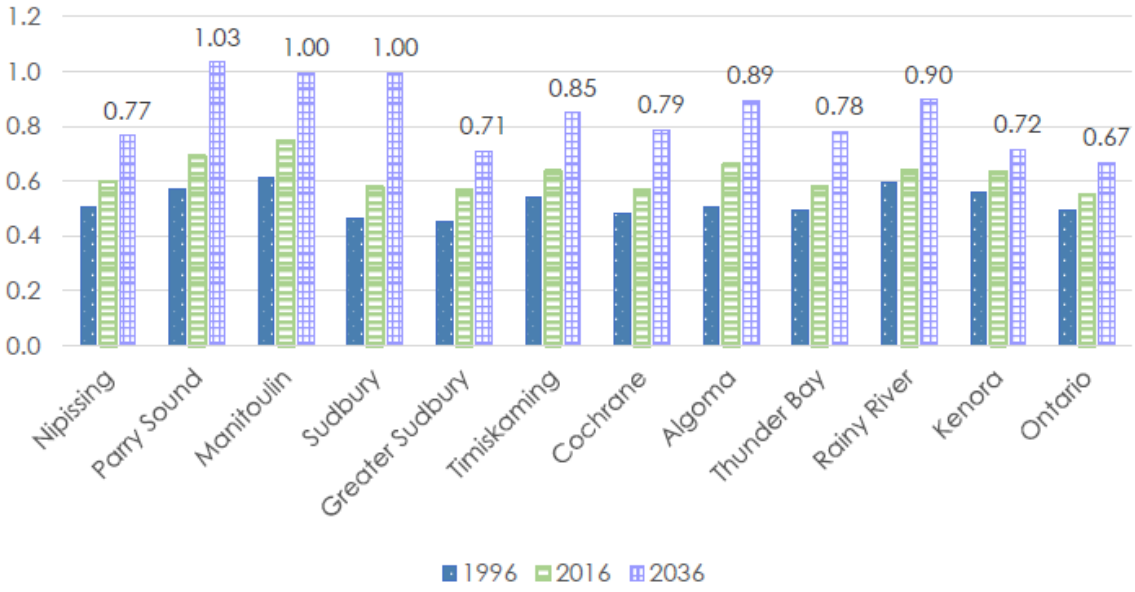
Table 43 Ignace Historical Population Trend

12.2 Regional Growth

In 2021 the Come North Conference Report was produced by FedNor and Government of Canada. The document describes short, medium, and long-term objectives for all communities in Northern Ontario as it relates to population growth.

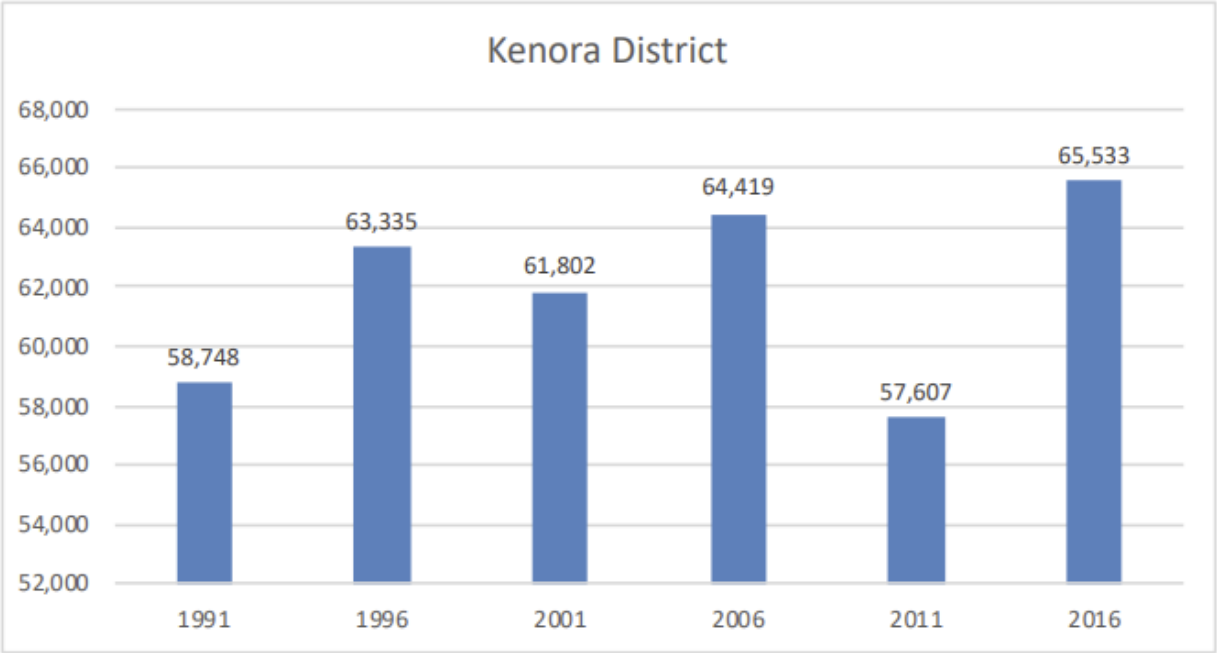
According to the report all 11 Census Districts in Northern Ontario (Nipissing, Parry Sound, Manitoulin, Sudbury, Greater Sudbury, Timiskaming, Cochrane, Algoma, Thunder Bay, Rainy River, Kenora) are currently experiencing the following trends: population decline, population aging, or labour shortages. The report highlights a risk of these communities becoming economically unsustainable unless population retention and attraction numbers improve. The risk is the result of the dependency ratio increasing. The dependency ratio is the ratio of people unable to support themselves without assistance; people between the ages of 0 and 14 and 64 and older.

The goal is to achieve a dependency ratio of 0.5. In 1996, every Census District was at or near the goal by 2016; there were no districts that were below and more than half had a ratio in excess of 0.6. The following graph displays the dependency ratio for each Census District in 1996 and 2016 along with a projected ratio for the year 2036.



The Township of Ignace is found in the Kenora District, which is expected to reach a dependency ratio of 0.72.

The population trends overall in the Kenora District are on an incline. The following graph from the 2019 Northern Projections Kenora District Human Capital Series report by the Northern Policy Institute, displays the population trends from 1991 to 2016.



The following table, found in the same report, shows population projections in the Kenora District for the years 2021 to 2041.

Year	Ages 0-19	Ages 20-64	Ages 65+	Total
2021	21,065	40,857	11,285	73,207
2026	21,353	39,857	13,351	74,561
2031	21,117	39,605	15,003	75,725
2036	21,119	40,058	15,633	76,810
2041	21,273	40,667	15,953	77,893

Table 44 Population Projections for Kenora District

The most recent census data from 2021, shows a slight increase in the population, reaching a total of 66,000, which is significantly lower than the projected population. According to census data, a significant population increase is seen in the population of 65 and older and a slight decline in the 0 to 19 and 20 to 64 age ranges; thus further increasing the dependency ratio.

12.3 Impact of Growth on Lifecycle Activities

To satisfy the O.Reg requirements for 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.

13. Financial Strategy

13.1 Financial Strategy Overview

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the Township of Ignace to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

This report develops such a financial plan by presenting several scenarios for consideration and culminating with final recommendations. As outlined below, the scenarios presented model different combinations of the following components:

1. The financial requirements for:
    a. Existing assets
    b. Existing service levels
    c. Requirements of contemplated changes in service levels (none identified for this plan)
    d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Debt
    d. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. CCBF
    b. Annual grants

Note: Periodic grants are normally not included due to Provincial requirements for firm commitments. However, if moving a specific project forward is wholly dependent on receiving a one-time grant, the replacement cost included in the financial strategy is the net of such grant being received.

If the financial plan component results in a funding shortfall, the Province requires the inclusion of a specific plan as to how the impact of the shortfall will be managed. In determining the legitimacy of a funding shortfall, the Province may evaluate a Township's approach to the following:

1. In order to reduce financial requirements, consideration has been given to revising service levels downward.
2. All asset management and financial strategies have been considered. For example:
    a. If a zero-debt policy is in place, is it warranted? If not the use of debt should be considered.

b. Do user fees reflect the cost of the applicable service? If not, increased user fees should be considered.

13.1.1 Annual Requirements & Capital Funding

Annual Requirements

The annual 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 must allocate approximately $2.6 million annually to address capital requirements for the assets included in this AMP.

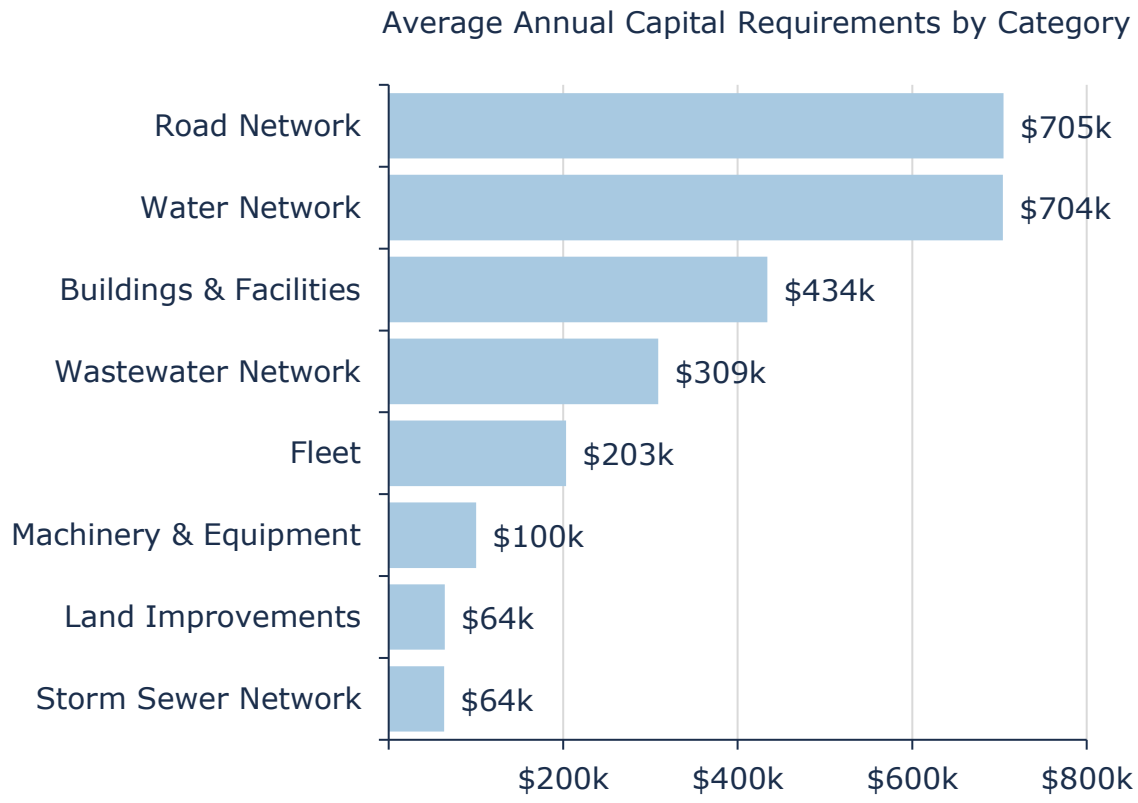


Figure 68 Average Annual Capital Requirements by Asset Category

For most asset categories the annual requirement has been calculated based on a "replacement only" scenario, in which capital costs are only incurred at the construction and replacement of each asset.

However, for the Road Network, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the Township's roads. The development of these strategies allows for a comparison of potential cost avoidance if the strategies were to be implemented. The following table compares two scenarios for the Road Network:

1. **Replacement Only Scenario**: Based on the assumption that assets deteriorate and – without regularly scheduled maintenance and rehabilitation – are replaced at the end of their service life.
2. **Lifecycle Strategy Scenario**: Based on the assumption that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required.

Asset Category	Annual Requirements (Replacement Only)	Annual Requirements (Lifecycle Strategy)	Difference
Road Network	$831,000	$705,000	$126,000

Table 45 Replacement Only vs. Lifecycle Strategies Cost Savings

The implementation of a proactive lifecycle strategy for roads leads to a potential annual cost avoidance of $126 thousand for the Road Network. This represents an overall reduction of the annual requirements by 15%. As the lifecycle strategy scenario represents the lowest cost option available to the Township, we have used these annual requirements in the development of the financial strategy.

Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $77 thousand towards capital projects per year. Given the annual capital requirement of $2.6 million, there is currently a funding gap of $2.5 million annually.

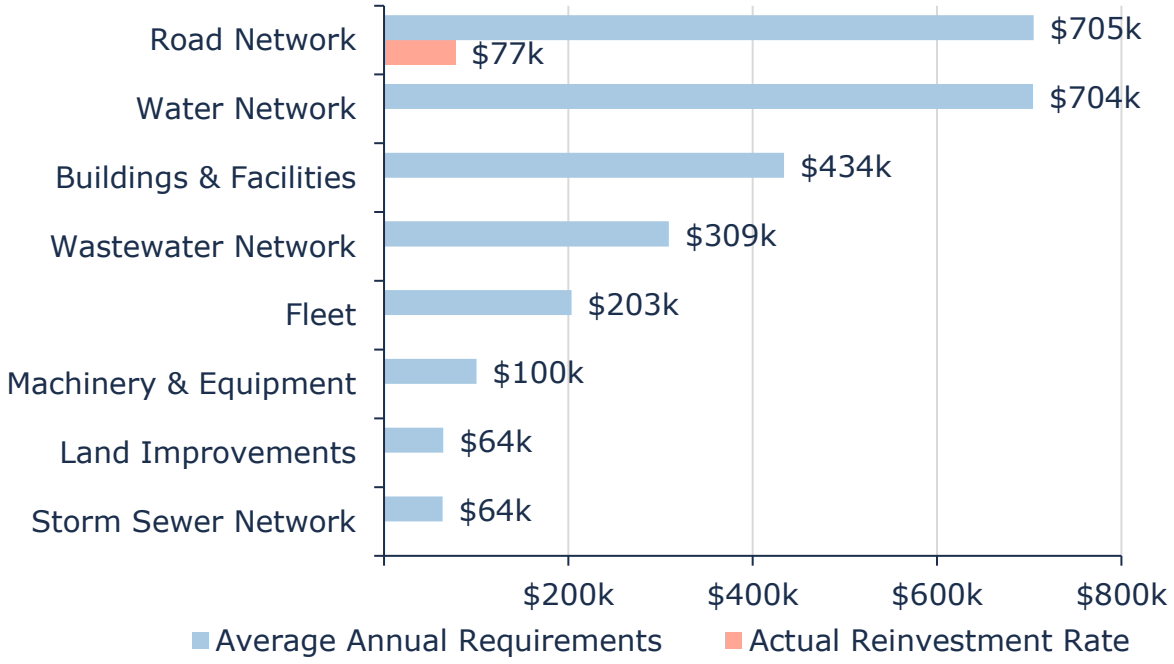


Figure 69 Annual Capital Requirements vs. Available Funding

13.2 Funding Objective

We have developed a scenario that would enable Ignace to achieve full funding within 1 to 20 years for the following assets:

1. **Tax Funded Assets:** Road Network, Stormwater Network, Buildings & Facilities, Machinery & Equipment, Land Improvements, and Fleet
2. **Rate-Funded Assets:** Water Network, Wastewater Network

Note: For the purposes of this AMP, we have excluded gravel roads since they are a perpetual maintenance asset and end of life replacement calculations do not normally apply. If gravel roads are maintained properly, they can theoretically have a limitless service life.

For each scenario developed we have included strategies, where applicable, regarding the use of cost containment and funding opportunities.

13.3 Financial Profile: Tax Funded Assets

13.3.1 Current Funding Position

The following tables show, by asset category, Ignace's average annual asset investment requirements, current funding positions, and funding increases required to achieve full funding on assets funded by taxes.

Asset Category	Avg. Annual Require-ment	Annual Funding Available				
		Taxes	CCBF	OCIF	Total Available	Annual Deficit
Road Network	705,000	-	77,000	-	77,000	628,000
Stormwater Network	64,000	-	-	-	-	64,000
Buildings & Facilities	434,000	-	-	-	-	434,000
Land Improvements	64,000	-	-	-	-	64,000
Machinery & Equipment	100,000	-	-	-	-	100,000
Fleet	203,000	-	-	-	-	203,000
Total	**1,570,000**	**-**	**77,000**	**-**	**77,000**	**1,493,000**

Table 46 Annual Funding Available for Tax Funded Assets

The average annual investment requirement for the above categories is $1.6 million. Annual revenue currently allocated to these assets for capital purposes is $77 thousand leaving an annual deficit of $1.5 million. Put differently, these infrastructure categories are currently funded at 4.9% of their long-term requirements.

13.3.2 Full Funding Requirements

In 2025, the Township of Ignace budgeted annual tax revenues of $2.35 million. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Road Network	26.7%
Stormwater Network	2.7%
Buildings & Facilities	18.5%
Land Improvements	2.7%
Fleet	8.6%
Machinery & Equipment	4.3%
Total	**63.5%**

Table 47 Full Funding Tax Increases for Tax Funded Categories

The Township of Ignace currently carries no debt for tax-funded assets. It is recommended to monitor changes in debt as existing obligations are retired. The table below outlines four potential approaches, in five-year intervals, to move toward a fully funded (100%) position over time.

Tax Increases Without Capturing Changes				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	1,493,000	1,493,000	1,493,000	1,493,000
Change in Debt Costs	-	-	-	-
Resulting Infrastructure Deficit:	**1,493,000**	**1,493,000**	**1,493,000**	**1,493,000**
Tax Increase Required	63.5%	63.5%	63.5%	63.5%
Annually:	**10.4%**	**5.1%**	**3.4%**	**2.5%**

Table 48 Annual Tax Increase Requirements without Debt Reallocation

13.4 Financial Profile: Rate Funded Assets

13.4.1 Current Funding Position

The following tables show, by asset category, Ignace's average annual asset investment requirements, current funding positions, and funding increases required to achieve full funding on assets funded by rates.

Asset Category	Avg. Annual Require-ment	Annual Funding Available			Annual Deficit
		Rates	To Operations	Total Available	
Water Network	704,000	640,000	-640,000	-	704,000
Wastewater Network	309,000	299,000	-299,000	-	309,000
Total	**1,013,000**	**939,000**	**-939,000**	**-**	**1,013,000**

Table 49 Annual Funding Available for Rate Funded Assets

The average annual investment required for these asset categories is approximately $1.0 million. At present, there is no dedicated annual capital budget allocation for these assets, resulting in a funding shortfall of $1.0 million each year. In other words, these infrastructure categories are currently funded at 0% of their long-term.

13.4.2 Full Funding Requirements

In 2025, Ignace budgeted annual water revenues of $634 thousand and annual wastewater revenues of $299 thousand. As illustrated in the table below, without consideration of any other sources of revenue, full funding would require the following changes over time:

Asset Category	Rate Change Required for Full Funding
Water Network	110.1%
Wastewater Network	103.3%

Table 50 Full Funding Rate Increases for Rate Funded Categories

In the following tables, we have expanded the above scenario to present multiple options. Due to the significant increases required, we have provided phase-in options of up to 20 years. The scenarios consider the reallocation of debt values as the debts are paid off.

Water Network Rate Increases				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	704,040	704,040	704,040	704,040
Decrease in Debt Payments	**0**	**-5,561**	**-131,536**	**-131,536**
Resulting Infrastructure Deficit:	**704,040**	**698,479**	**572,504**	**572,504**
Rate Increase Required	110.1%	109.2%	89.5%	89.5%
Annually:	**16.1%**	**7.7%**	**4.4%**	**3.3%**

Table 51 Annual Rate Increase Requirements: Water Network

Wastewater Network Rate Increases				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	309,081	309,081	309,081	309,081
Decrease in Debt Payments	**0**	**0**	**0**	**-59,055**
Resulting Infrastructure Deficit:	**309,081**	**309,081**	**309,081**	**250,026**
Rate Increase Required	103.3%	103.3%	103.3%	83.5%
Annually:	**15.3%**	**7.4%**	**4.9%**	**3.1%**

Table 52 Annual Rate Increase Requirements: Wastewater Network

13.5 Financial Strategy Recommendations

13.5.1 Tax Funded Assets

Considering all the above information, we recommend the 20-year option. This involves full funding being achieved over 20 years by:

a) increasing tax revenues by 2.5% each year for the next 20 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
b) allocating the current CCBF contributions and revenue as outlined.
c) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.
d) Current data shows a pent-up investment demand of $3.2 million for the Road Network and $474 thousand for Machinery & Equipment.

13.5.2 Rate-Funded Assets

Considering all of the above information, we recommend the 20-year option that includes debt cost reallocations. This involves full funding being achieved over 20 years by:

a) when realized, reallocating the debt cost reductions of $132,000 for water services and $59,000 for wastewater services to the applicable infrastructure deficit.
b) increasing rate revenues by 3.3% for water services and 3.1% for wastewater services each year for the next 20 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
c) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. This periodic funding should not be incorporated into an AMP unless there are firm commitments in place.
2. This strategy does not currently consider OCIF funding, as the funding is currently being withheld for the past 4 years pending the completion of an audit. These funds could not be considered for this analysis and report. Once the audit is completed and the OCIF funding distributed, this will have a significant impact on the current and future analysis of funding levels.
3. We realize that raising tax revenues and user rates for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.
4. Any increase in taxes and rates required for operations would be in addition to the above recommendations.

Although this option achieves full funding on an annual basis in 20 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available.

Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

13.6 Use of Debt

Debt can be strategically utilized as a funding source within the long-term financial plan. The benefits of leveraging debt for infrastructure planning include:

a) the ability to stabilize tax & user rates when dealing with variable and sometimes uncontrollable factors
b) equitable distribution of the cost/benefits of infrastructure over its useful life
c) a secure source of funding
d) flexibility in cash flow management

Debt management policies and procedures with limitations and monitoring practices should be considered when reviewing debt as a funding option.

The following table outlines how the Township of Ignace has historically used debt to invest in the listed asset categories. At present, there is $1.4 million in outstanding debt related to the rate-funded assets included in this AMP, with corresponding annual principal and interest payments of $191,000. There is currently no debt associated with the tax-funded assets covered by this plan and therefore they are not included in the table.

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2020	2021	2022	2023	2024
Water Network	63,672	-	-	-	-	-
Wastewater Network	1,312,627	-	-	-	-	-
Total Rate Funded:	**1,376,299**	-	-	-	-	-

Table 53 Use of Debt 2020-2024

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	2026	2027	2028	2029	2030	2035
Water Network	131,536	131,536	131,536	131,536	131,536	131,536	125,975
Wastewater Network	59,055	59,055	59,055	59,055	59,055	59,055	59,055
Total Rate Funded:	**190,591**	**190,591**	**190,591**	**190,591**	**190,591**	**190,591**	**185,030**

Table 54 Summary of Principal and Interest Payments

The revenue options outlined in this plan allow the Township of Ignace to fully fund its long-term infrastructure requirements without further use of debt.

13.7 Use of Reserves

13.7.1 Available Reserves

Reserves play a critical role in long-term financial planning. The benefits of having reserves available for infrastructure planning include:

a) the ability to stabilize tax rates when dealing with variable and sometimes uncontrollable factors
b) financing one-time or short-term investments
c) accumulating the funding for significant future infrastructure investments
d) managing the use of debt
e) normalizing infrastructure funding requirement

By asset category, the table below outlines the details of the reserves currently available to Ignace.

Asset Category	Balance at December 31, 2024
Road Network	-
Stormwater Network	-
Buildings & Facilities	6,000
Land Improvements	-
Fleet	-
Machinery & Equipment	-
Total Tax Funded:	**6,000**
Water Network	2,000
Wastewater Network	12,500
Total Rate Funded:	**14,500**

Table 55 Current Reserves Balances

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Township should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should take into account when determining their capital reserve requirements include:

a) breadth of services provided
b) age and condition of infrastructure
c) use and level of debt
d) economic conditions and outlook
e) internal reserve and debt policies.

These reserves are available for use by applicable asset categories during the phase-in period to full funding. This coupled with the Township's judicious use of debt in the past, allows the scenarios to assume that, if required, available reserves and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term.

13.8 Recommendations and Key Considerations

Financial Strategies

- **Implement Strategic Capital Allocation**
  Currently, the Township does not dedicate funding to capital on an annual basis; instead, projects are funded only after operational costs are met. This approach limits predictability and sustainability. Future budgets should adopt a deliberate capital funding strategy, including direct allocations or contributions to dedicated reserves, ensuring all asset categories receive targeted reinvestment. By implementing the recommendations in this Asset Management Plan, the Township can begin to reduce the infrastructure deficit and build the financial capacity to sustain long-term infrastructure needs.
- **Leverage NWMO Revenues for Long-Term Sustainability**
  The Township's agreement with the Nuclear Waste Management Organization (NWMO) provides a significant and sustained revenue stream. To maximize the long-term benefits, these funds should be strategically directed toward infrastructure renewal and sustainability. This will strengthen the Township's financial position, address critical infrastructure challenges, and ensure that future generations benefit from this opportunity.
- **Plan for Service Level Integration under O. Reg. 588/17**
  By 2025, Ontario Regulation 588/17 will require the Township to integrate proposed levels of service for all asset categories into its asset management plan. Future planning should account for how these service levels will impact reserve balances and overall financial sustainability.

Growth Considerations

- **Strategic Consideration of Growth and Infrastructure Investment**
  The Township of Ignace is anticipating significant community growth over the coming years. This growth will place added demand on municipal services and infrastructure, requiring careful long-term planning to ensure assets are not replaced prematurely or outgrown before the end of their lifecycle. In addition, the Township's partnership with the Nuclear Waste Management Organization (NWMO) provides a unique and sustained financial opportunity. By strategically aligning this investment with the anticipated growth, Ignace can strengthen its infrastructure, support future capacity needs, and ensure that the community remains sustainable and resilient for generations to come.

Data Management and Governance

- **Codify Roles and Responsibilities**
  Define clear responsibilities for the upkeep of the asset register (Citywide), supporting datasets, and asset management plans. A formal data management and governance strategy may be required, supported by dedicated resources where necessary.
- **Integrate Critical Asset Data**
  Ensure that condition and attribute data from across departments is consistently shared with the asset management lead and regularly integrated into the asset register.
- **Conduct Regular Data Audits**
  Perform semi-annual audits or data gap analyses to evaluate the completeness, accuracy, currency, and validity of the asset inventory.

Strengthening Asset Management Through Better Asset Data

- **Componentize Building and Facility Data**
  Break down buildings and facilities using the Uniformat II Code during condition assessments. Utilize PSD data templates for efficient and consistent input into Citywide.
- **Refine Lifecycle and Risk Profiles**
  Continuously review lifecycle events, treatment triggers, and risk factors to ensure capital planning reflects actual asset performance and service demands.
- **Update Replacement Costs Regularly**
  Revise replacement costs using recent project data, invoices, and studies while accounting for market fluctuations. Priority should be placed on undervalued categories, with formal assessments considered for buildings and facilities.
- **Implement Repeatable Condition Assessment Protocols**
  Develop simple, consistent processes for conducting condition assessments, enabling more reliable data and clearer insight into asset performance.
- **Align Useful Life Estimates with Actual Performance**
  Review and update useful life assumptions in the TCA policy to reflect real-world asset performance, using Citywide's capabilities to support more accurate reporting

Lifecycle Planning

- **Dedicate Capital Funding for Condition Assessments**
  Establish consistent funding for condition assessment programs, with priority given to high-criticality assets across all categories. Reliable condition data is essential for accurately estimating annual investment needs and refining infrastructure backlog projections.
- **Broaden the Definition of Criticality**
  Assess asset criticality not only by financial value or replacement cost, but also by the asset's role in delivering essential services, supporting economic activity, and sustaining residents' quality of life.
- **Regularly Update Lifecycle Models**
  Continuously review lifecycle events, treatment timing, and costs, ensuring lifecycle models in Citywide remain current and aligned with actual asset performance.
- **Componentize Buildings for Accurate Forecasting**
  Break down buildings into major components to enable more accurate forecasting of future renewal requirements and long-term capital needs.

Risk Models and Levels of Service

- **Refine Risk Models with Updated Data**
  Leverage Citywide risk models across all asset groups, updating them as new attribute and condition data becomes available to improve accuracy in project prioritization.
- **Incorporate Climate Change and Vulnerability Attributes**
  Collect and integrate data on climate-related risks, including past asset failures, flooding proximity, and other vulnerabilities, to refine asset risk profiles and guide decision-making.
- **Centralize Performance Data for Service Level Calibration**
  Track and consolidate asset performance information to support the calibration of service levels in advance of O. Reg. 588/17 requirements.
- **Monitor Local, Regional, and Environmental Trends**
  Observe factors such as population growth, extreme weather events, economic conditions, and local tax base changes to anticipate infrastructure demand and adjust service level targets as needed

Appendices

Appendix A – Infrastructure Report Card

Appendix B – 10-Year Capital Requirements

Appendix C – Level of Service Images

Appendix A – Infrastructure Report Card

Asset Category	Replacement Cost	Asset Condition	Financial Capacity	
Road Network	**$22,230,000**	**Poor (30%)**	Annual Requirement:	$705,000
			Funding Available:	$77,000
			Annual Deficit:	**$628,000**
Water Network	**$41,763,000**	**Good (75%)**	Annual Requirement:	$704,000
			Funding Available:	$-
			Annual Deficit:	**$704,000**
Wastewater Network	**$19,327,000**	**Good (68%)**	Annual Requirement:	$309,000
			Funding Available:	$-
			Annual Deficit:	**$309,000**
Storm Sewer Network	**$3,967,000**	**Good (62%)**	Annual Requirement:	$64,000
			Funding Available:	$-
			Annual Deficit:	**$64,000**
Buildings & Facilities	**$18,852,000**	**Fair (58%)**	Annual Requirement:	$434,000
			Funding Available:	$-
			Annual Deficit:	**$434,000**
Land Improvements	**$1,082,000**	**Good (66%)**	Annual Requirement:	$64,000
			Funding Available:	$-
			Annual Deficit:	**$64,000**
Fleet	**$2,710,000**	**Poor (33%)**	Annual Requirement:	$203,000
			Funding Available:	$-
			Annual Deficit:	**$203,000**
Machinery & Equipment	**$1,206,000**	**Poor (32%)**	Annual Requirement:	$100,000
			Funding Available:	$-
			Annual Deficit:	**$100,000**
Overall	**$111,136,000**	**Good (60%)**	Annual Requirement:	$2,583,000
			Funding Available:	$77,000
			Annual Deficit:	**$2,506,000**

Appendix B – 10-Year Capital Requirements

The tables below summarize the projected cost of lifecycle activities (rehabilitation and replacements) that may be undertaken over the next 10 years to support current levels of service.

These projections are generated in Citywide and rely on the data available in the asset register. Assessed condition data and replacement costs were used to assist in forecasting replacement needs for roads. For all remaining assets, only age was used to determine forthcoming replacement needs.

The projections can be different from actual capital forecasts. Consistent data updates, particularly condition, replacement costs, and regular upkeep of lifecycle models, will improve the alignment between the system generated expenditure requirements, and the Township's capital expenditure forecasts.

Road Network

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Culverts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Paved Roads	$3.0m	$2.7m	$188k	$0	$5.8m	$4.1m	$0	$0	$48k	$0	$0
Sidewalks	$180k	$0	$0	$0	$500k	$0	$0	$0	$0	$0	$0
Signs	$0	$0	$0	$32k	$0	$0	$0	$25k	$0	$0	$0
Streetlights	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$3.2m**	**$2.7m**	**$188k**	**$32k**	**$6.3m**	**$4.1m**	**$0**	**$25k**	**$48k**	**$0**	**$0**

Table 56 System Generated 10-Year Capital Replacement Forecast: Road Network

Water Network

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Hydrants	$1.7m	$0	$0	$12k	$0	$0	$0	$25k	$0	$0	$0
Water Buildings	$0	$0	$0	$0	$0	$45k	$0	$0	$0	$0	$0
Water Mains	$40k	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Meters	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Valves	$273k	$0	$0	$4k	$0	$0	$0	$12k	$0	$0	$0
Total	**$2.1m**	**$0**	**$0**	**$16k**	**$0**	**$45k**	**$0**	**$37k**	**$0**	**$0**	**$0**

Table 57 System Generated 10-Year Capital Replacement Forecast: Water Network

Wastewater Network

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Sanitary Mains	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sanitary Manholes	$0	$0	$0	$0	$0	$268k	$0	$89k	$357k	$535k	$107k
Wastewater Buildings	$14k	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Equipment	$0	$18k	$27k	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$14k**	**$18k**	**$27k**	**$0**	**$0**	**$268k**	**$0**	**$89k**	**$357k**	**$535k**	**$107k**

Table 58 System Generated 10-Year Capital Replacement Forecast: Wastewater Network

Stormwater Network

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catchbasins	$0	$100k	$0	$33k	$0	$24k	$0	$0	$0	$0	$0
Drywells	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storm Equipment	$9k	$0	$0	$0	$0	$0	$0	$0	$9k	$0	$0
Storm Manholes	$0	$357k	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storm Sewer Mains	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$9k**	**$457k**	**$0**	**$33k**	**$0**	**$24k**	**$0**	**$0**	**$9k**	**$0**	**$0**

Table 59 System Generated 10-Year Capital Replacement Forecast: Stormwater Network

Buildings & Facilities

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Admin Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Airport Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Landfill Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Protection Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Public Works Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recreation Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$200k	$0
Storage Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$200k**	**$0**

Table 60 System Generated 10-Year Capital Replacement Forecast: Buildings & Facilities

Note: These projections are generated in Citywide and rely on the data available in the asset register. As assessed condition data was not available for many buildings assets, age was used to determine forthcoming replacement needs. Buildings and facilities often contain thousands of assets, each with its own estimated useful life. Currently, however, as the Township's buildings are not fully componentized, there are only 41 assets in the register. Over time, with improved and effective componentization, the alignment between the system generated expenditure requirements, and the Township's capital expenditure forecasts will also increase.

Land Improvements

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Landscaping	$0	$0	$0	$0	$0	$0	$0	$0	$24k	$0	$0
Parking Lot	$109k	$0	$0	$0	$0	$0	$0	$0	$0	$158k	$0
Play Structure	$0	$100k	$0	$0	$0	$0	$0	$0	$0	$0	$78k
Recreation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$109k**	**$100k**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$24k**	**$158k**	**$78k**

Table 61 System Generated 10-Year Capital Replacement Forecast: Land Improvements

Fleet

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fire Vehicles	$0	$833k	$0	$0	$0	$0	$0	$0	$0	$0	$0
Public Works Vehicles	$0	$42k	$95k	$714k	$42k	$0	$10k	$0	$101k	$60k	$0
Recreation Vehicles	$12k	$0	$0	$119k	$0	$0	$0	$0	$12k	$0	$0
Total	**$12k**	**$874k**	**$95k**	**$833k**	**$42k**	**$0**	**$10k**	**$0**	**$113k**	**$60k**	**$0**

Table 62 System Generated 10-Year Capital Replacement Forecast: Fleet

Machinery & Equipment

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Admin Equipment	$73k	$0	$0	$0	$0	$0	$73k	$0	$0	$0	$0
Fire Equipment	$35k	$0	$0	$0	$66k	$14k	$42k	$0	$0	$0	$0
Library Equipment	$331k	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Public Works Equipment	$35k	$0	$0	$26k	$185k	$0	$163k	$0	$0	$0	$0
Recreation Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$474k**	**$0**	**$0**	**$26k**	**$251k**	**$14k**	**$278k**	**$0**	**$0**	**$0**	**$0**

Table 63 System Generated 10-Year Capital Replacement Forecast: Machinery & Equipment

Appendix C – Level of Service Maps

Road Network

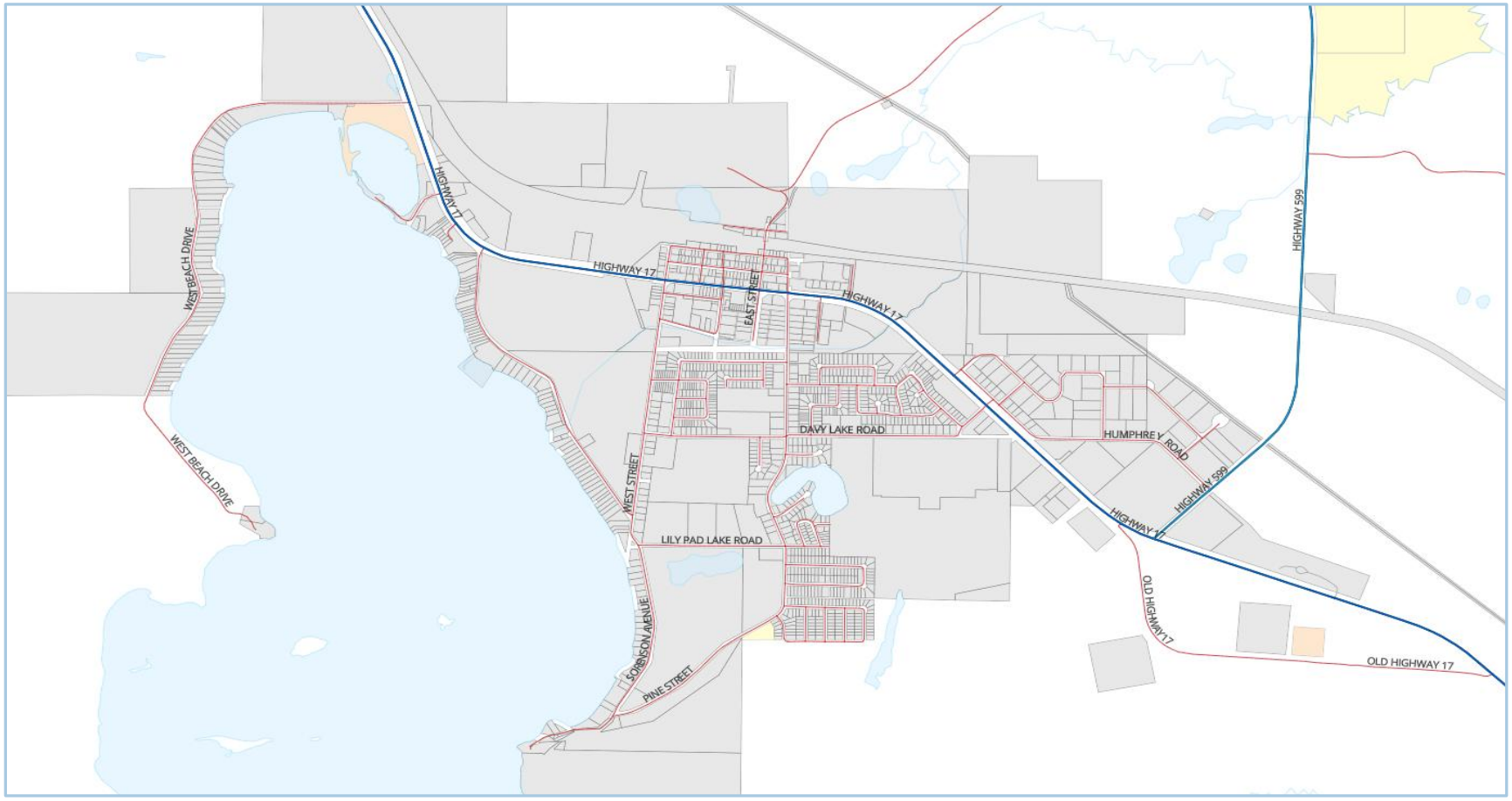


Figure 70: Road Network

Water Network

Water Mains

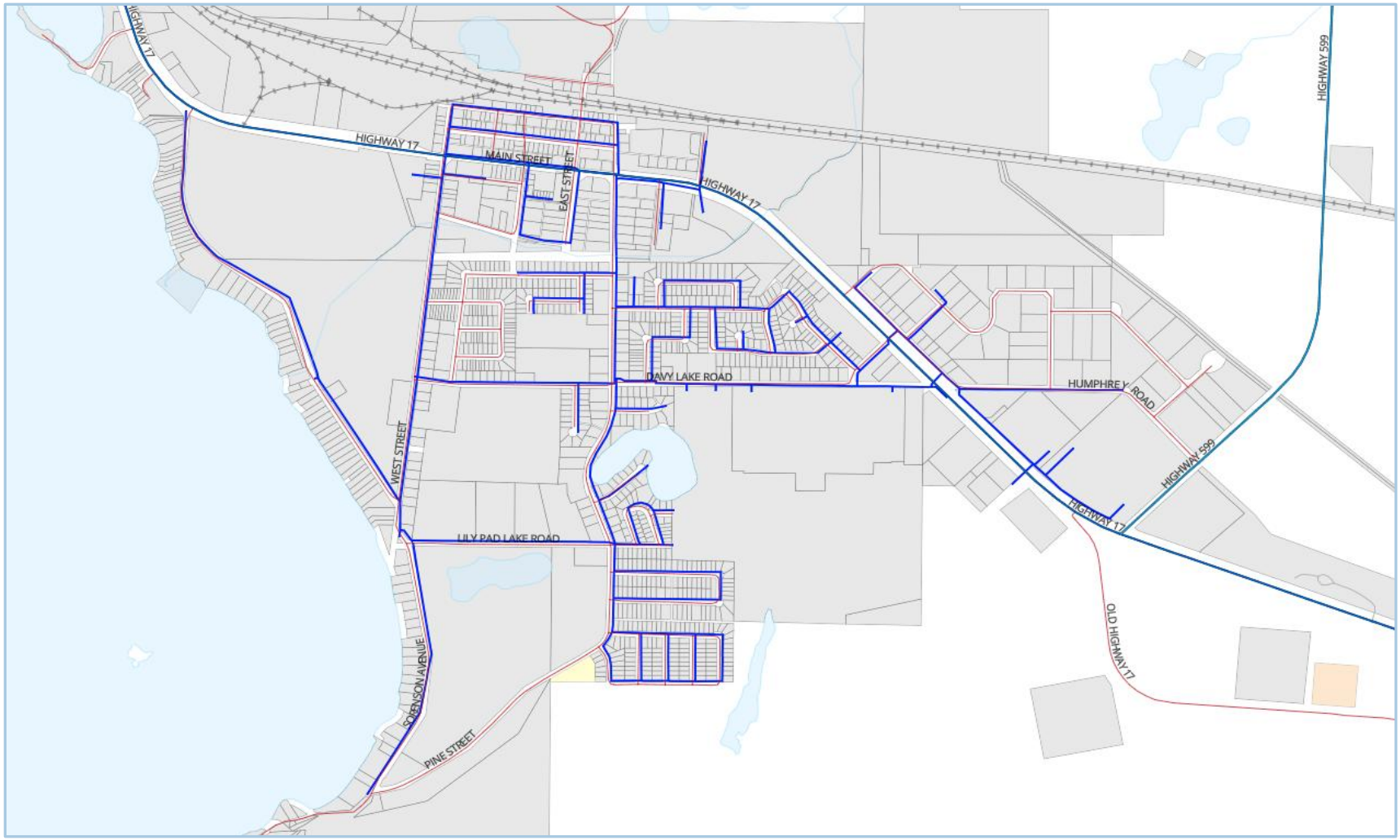


Figure 71:Water Network: Water Mains

Fire Flow Regulated Hydrants

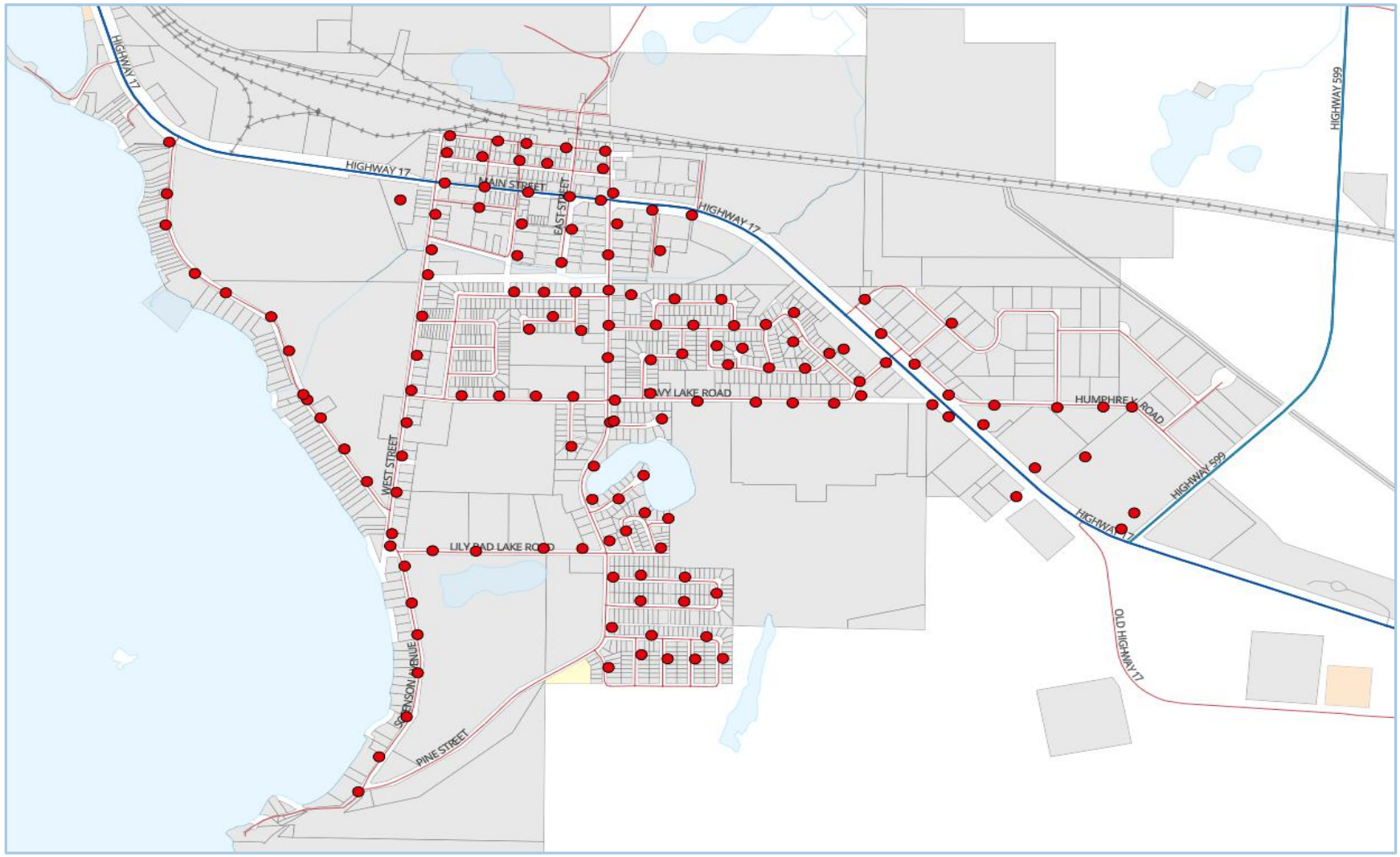


Figure 72: Water Network: Hydrants

Wastewater Network

Sanitary Pipes

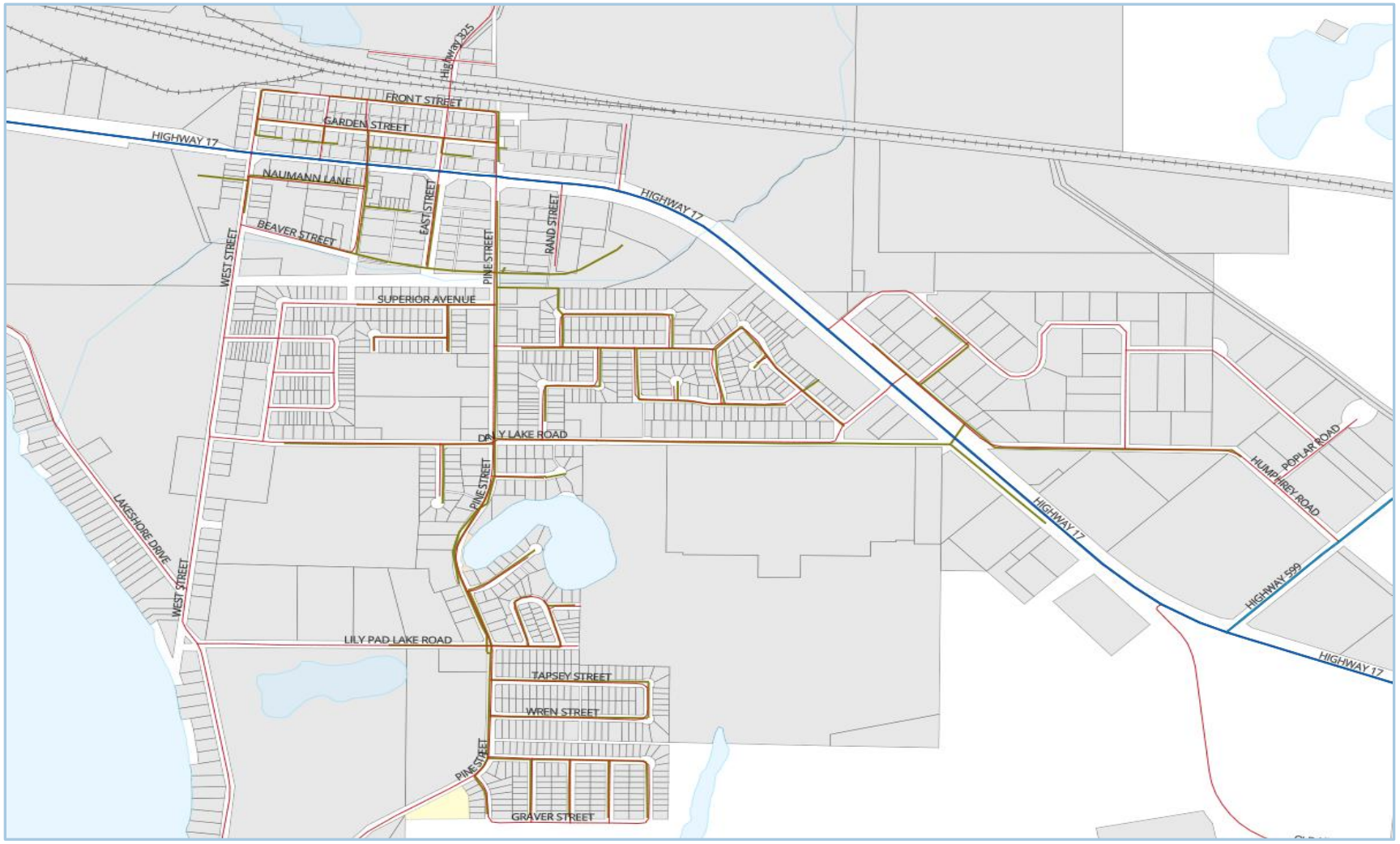


Figure 73: Wastewater Network

Storm Network

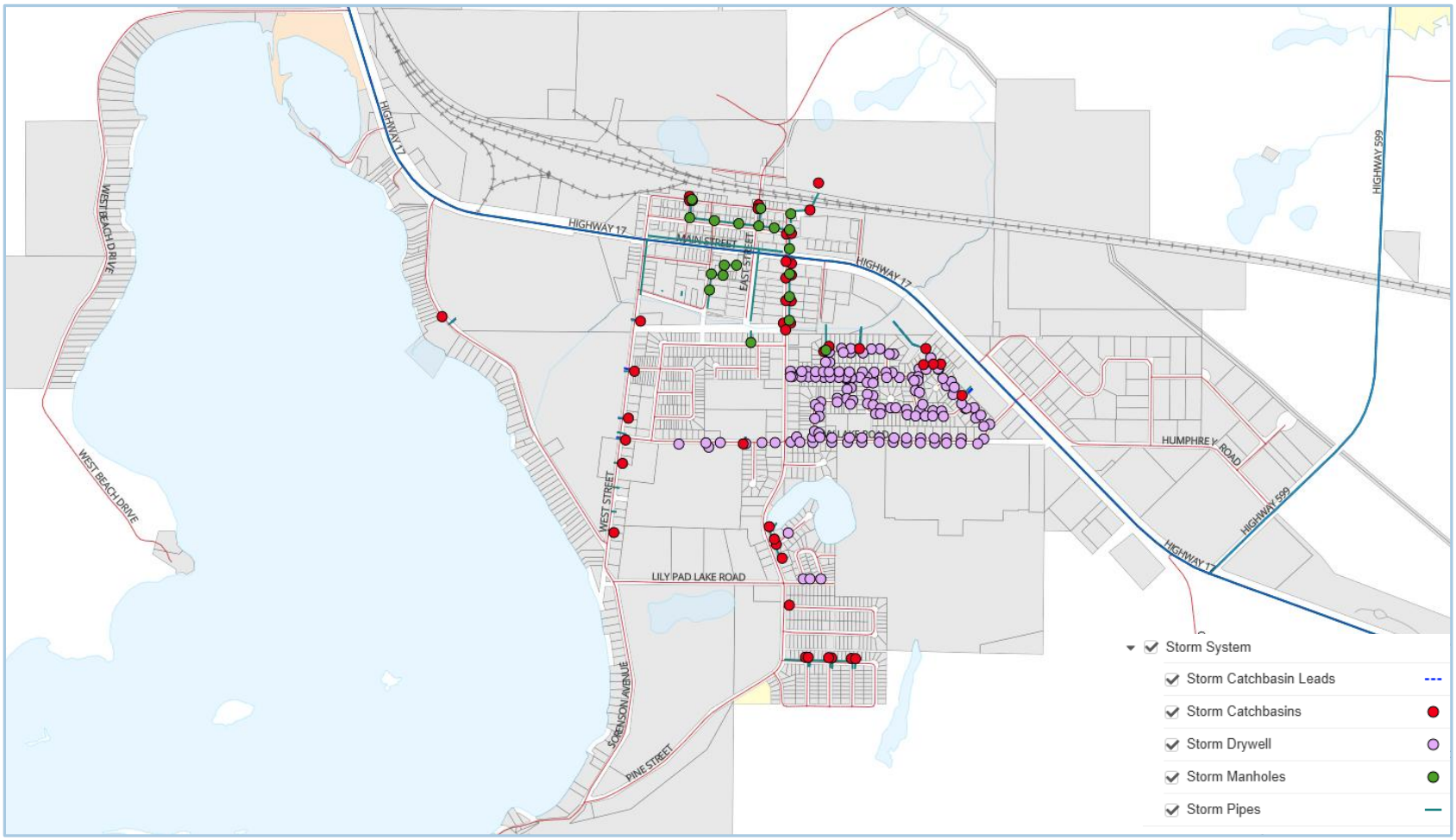


Figure 74: Stormwater Network 1 of 4

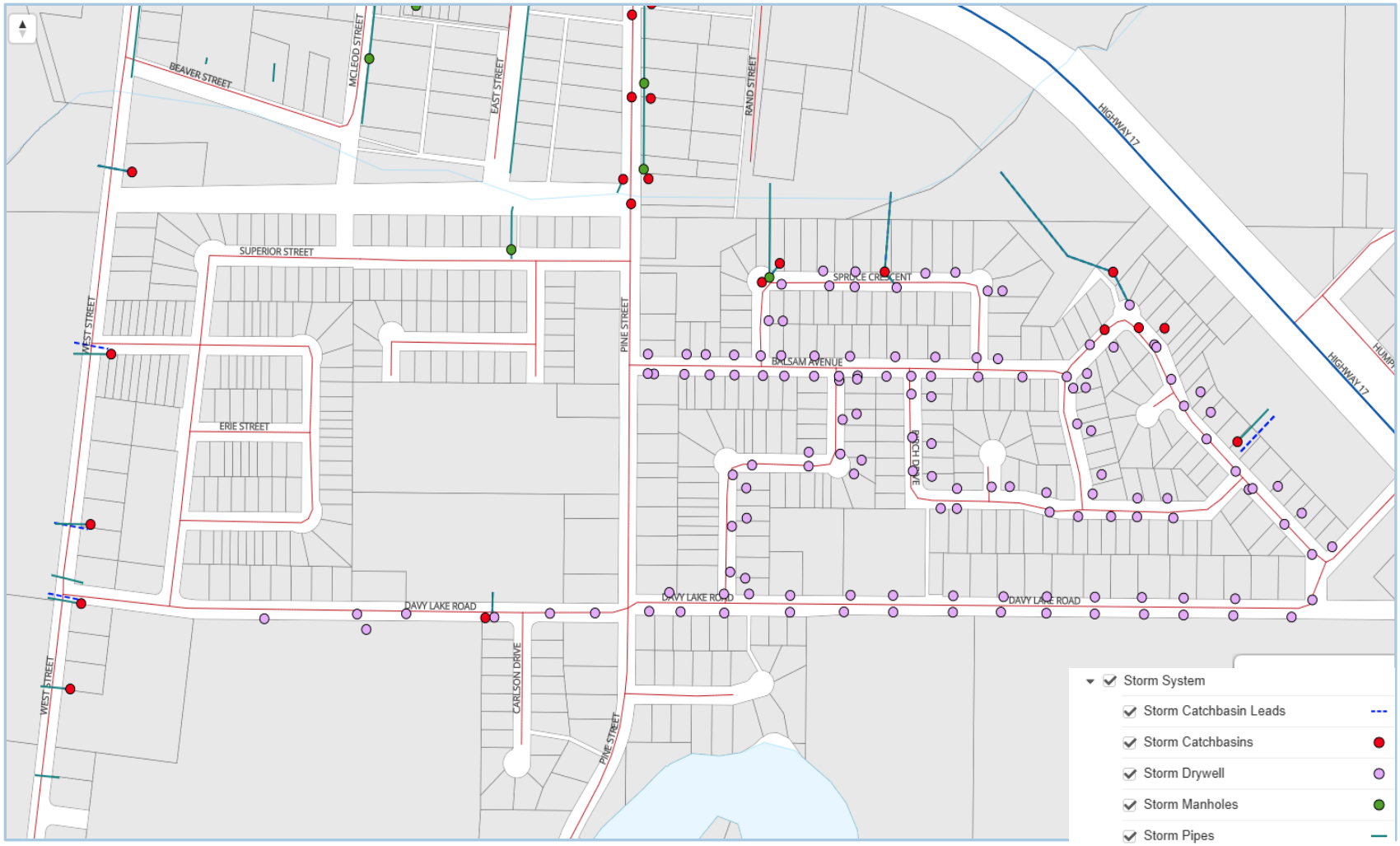


Figure 75: Stormwater Network 2 of 4

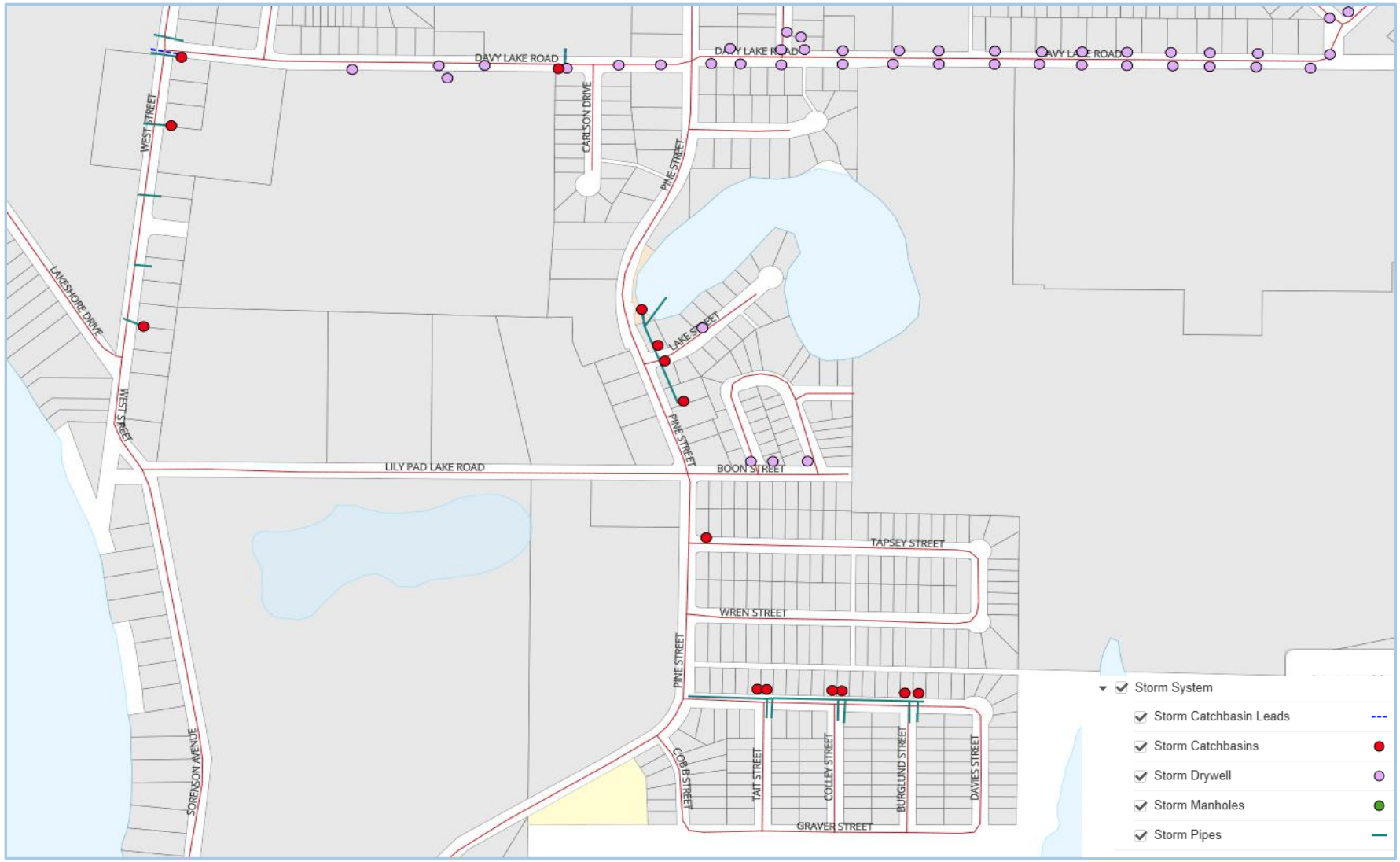


Figure 76: Stormwater Network 3 of 4

Figure 77: Stormwater Network 4 of 4