# Asset Management Plan

Township of Wellington North



This Asset Management Program was prepared by:



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

# **Key Statistics**

\$652.9m	2023 Replacement Cost of Asset Portfolio
\$135k	2021 Replacement Cost of Infrastructure Per Household
57%	Percentage of Assets in Fair or Better Condition
32%	Percentage of Assets with Assessed Condition Data
\$10.7m	Annual Capital Infrastructure Deficit
20 Years	Recommended Timeframe for Eliminating Annual Infrastructure Deficit
2.9%	Target Reinvestment Rate
1.25%	Actual Reinvestment Rate

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# **Executive Summary**

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

# Scope

This 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 can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.



This AMP includes the following asset categories:

With the development of this AMP the Township has achieved compliance with O. Reg. 588/17 to the extent of the requirements that must be completed by July 1, 2024. There are additional requirements concerning proposed levels of service and growth that must be met by July 1, 2025.

# Findings

The overall replacement cost of the asset categories included in this AMP totals \$652.9 million. 57% of all assets analysed in this AMP are in fair or better condition and assessed condition data was available for 32% of assets. For the remaining 68% 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 bridges) 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 \$18.9 million. Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately \$8.2 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of \$10.7 million.

It is important to note that this AMP represents a snapshot in time and is based on the best available processes, data, and information at the Township. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.



Annual Increase Per Household

# Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax/rate change required to eliminate the Township's infrastructure deficit based on a 20-year plan:



Recommendations to guide continuous refinement of the Township's asset management program. These include:

- Review data to update and maintain a complete and accurate dataset
- Develop a condition assessment strategy with a regular schedule
- Review and update lifecycle management strategies
- Development and regularly review short- and long-term plans to meet capital requirements
- Measure current levels of service and identify sustainable proposed levels of service

# 1 Introduction & Context

# Key Insights

- 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 Township's asset management policy provides clear direction to staff on their roles and responsibilities regarding asset management
- An asset management plan is a living document that should be updated regularly to inform long-term planning
- Ontario Regulation 588/17 outlines several key milestones and requirements for asset management plans in Ontario between July 1, 2022 and 2025

# 1.1 Wellington North Community Profile

Census Characteristic	Township of Wellington North	Ontario
Population 2021	12,431	14,223,942
Population Change 2016-2021	+4.3%	+5.8%
Total Private Dwellings	4,793	5,929,250
Population Density	23.6/km <sup>2</sup>	15.9/km <sup>2</sup>
Land Area	526.31 km <sup>2</sup>	892,411.76 km²

The Township of Wellington North is a municipality in Wellington County in Southwestern Ontario. The Township is in a primarily rural area, featuring picturesque landscapes and numerous small communities. The Township of Wellington North includes the communities of Arthur, Mount Forest, Conn, Damascus, Gordonville, Kenilworth, and Monck.

In 1999, the former townships of Arthur and West Luther, along with the village of Arthur and the town of Mount Forest, amalgamated to form the Township of Wellington North. The Township boasts a variety of outdoor recreational amenities and cultural sites, including several parks, trails, and conservation areas.

The Township offers an abundance of beautiful natural areas ideal for recreation and exploration. Wellington North also has a strong commitment to the agricultural and manufacturing industries, which have been a significant part of the local economy for many years.

Wellington North has experienced modest population growth over the past 20 years. Approximately 22% of the population is above the age of 65, which is just above the demographics for Ontario as a whole.

The Township generates a total revenue of \$15 million from taxes and rates and has an annual capital budget of \$9 million as of 2023. Infrastructure priorities within the municipality include maintaining municipal facilities, enhancing recreation and cultural services, and ensuring effective public works.

# 1.2 An Overview of Asset Management

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% derives from operations and maintenance. This AMP focuses its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.



These costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of 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.

### 1.2.1 Asset Management Policy

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

The Township adopted Policy No. 009-19 "Strategic Asset Management Policy" on June 24<sup>th</sup>, 2019 in accordance with Ontario Regulation 588/17.

The objectives of the policy include:

- Formalizing the Township's practices associated with management of capital assets.
- Communicating asset management principles and approach to stakeholders.
- Reviewing processes and outline responsibilities for asset management.
- Committing the Township to support the implementation of asset management methods.

## 1.2.2 Asset Management Strategy

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

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

## 1.2.3 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.

# 1.3 Key Concepts in Asset Management

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

#### 1.3.1 Lifecycle Management Strategies

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

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

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

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

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

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

#### 1.3.2 Risk Management Strategies

Municipalities generally take a 'worst-first' approach to infrastructure spending. Rather than prioritizing assets based on their importance to service delivery, assets in the worst condition are fixed first, regardless of their criticality. However, not all assets are created equal. Some are more important than others, and their failure or disrepair poses more risk to the community than that of others. For example, a road with a high volume of traffic that provides access to critical services poses a higher risk than a low volume rural road. These high-value assets should receive funding before others.

By identifying the various impacts of asset failure and the likelihood that it will fail, risk management strategies can identify critical assets, and determine where maintenance efforts, and spending, should be focused.

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

## 1.3.3 Levels of Service

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

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

#### Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories (roads, bridges and culverts, water, wastewater, 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, the Township has determined the qualitative descriptions that will be used to determine the community level of service provided. These descriptions can be found in the Levels of Service subsection within each asset category.

#### 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 (roads, bridges and culverts, water, wastewater, stormwater) the Province, through O. Reg. 588/17, has provided technical metrics that are required to be included in this AMP. For non-core asset categories, the Township has determined the technical metrics that will be used to determine the technical level of service provided. These metrics can be found in the Levels of Service subsection within each asset category.

#### 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.

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 prior to July 2025, the Township must identify a lifecycle management and financial strategy which allows these targets to be achieved.

# 1.4 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.

#### 1.4.1 Wellington North Climate Profile

The Township of Wellington North 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 Wellington North may experience the following trends:

#### Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 5.7°C.
- Under a high emissions scenario, the annual average temperatures are projected to increase by 8.2°C by the year 2050 and over 12.1°C by the end of the century.

#### Increase in Total Annual Precipitation:

• Under a high emissions scenario, Wellington North is projected to experience a 12% increase in precipitation by the year 2050 and an 16% 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.
- In some areas, extreme weather events will occur with greater frequency and severity than others especially those on or near the many bodies of water in the area.

#### 1.4.2 Integration 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 wellbeing 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.

In order to achieve the 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.

# 1.5 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). Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

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

Requirement		2022	2024	2025
Asset Management Policy	•		•	
Asset Management Plans		•	٠	٠
State of infrastructure for core assets		•		
State of infrastructure for all assets			•	•
Current levels of service for core assets		•		
Current levels of service for all assets			•	
Proposed levels of service for all assets				•
Lifecycle costs associated with current levels of service		•	٠	
Lifecycle costs associated with proposed levels of service				٠
Growth impacts		•	٠	٠
Financial strategy				•

#### 1.5.1 O. Reg. 588/17 Compliance Review

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

Requirement	O. Reg. Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	4.1.1 - 5.2.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	4.1.1 - 5.2.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	4.1.2 - 5.2.2	Complete
Condition of core assets in each category	S.5(2), 3(iv)	4.1.2 - 5.2.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	4.1.2 - 5.2.2	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	4.1.5 - 5.2.5	Complete
Current performance measures in each category	S.5(2), 2	4.1.5- 5.2.5	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	4.1.3 - 5.2.3	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	Appendix A	Complete
Growth assumptions	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	6.1-6.2	Complete

# 2 Scope and Methodology

# Key Insights

- This asset management plan includes 9 asset categories and is divided between tax-funded and rate-funded categories
- The source and recency of replacement costs impacts the accuracy and reliability of asset portfolio valuation
- Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life

# 2.1 Asset Categories Included in this AMP

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

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 performance indicators (KPIs), outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to reach sustainability for the asset categories listed below.

Asset Category	Source of Funding
Road Network	Tax Levy
Bridges & Culverts	Tax Levy
Storm System	Tax Levy
Buildings	Tax Levy
Vehicles	Tax Levy
Machinery & Equipment	Tax Levy
Land Improvements	Tax Levy
Water Network	User Rates
Sanitary System	User Rates

# 2.2 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/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 cost of the asset is inflated based on 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.

# 2.3 Estimated Useful Life and Service Life Remaining

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

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

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

# 2.4 Reinvestment Rate

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

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

Target Reinvestment Rate =  $\frac{\text{Annual Capital Requirement}}{\text{Total Replacement Cost}}$ 

Actual Reinvestment Rate =  $\frac{\text{Annual Supervised}}{\text{Total Replacement Cost}}$ 

# 2.5 Deriving Asset Condition

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

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

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

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. Appendix D includes additional information on the role of asset condition data and provides basic guidelines for the development of a condition assessment program.

# **3** Portfolio Overview

# Key Insights

- The total replacement cost of the Township's asset portfolio is \$653 million
- The Township's target re-investment rate is 2.9%, and the actual re-investment rate is 1.25%, contributing to an expanding infrastructure deficit
- 57% of all assets are in fair or better condition
- Average annual capital requirements total \$18.9 million per year across all assets

# 3.1 Total Replacement Cost of Asset Portfolio

The asset categories analyzed in this AMP have a total replacement cost of \$653 million based on inventory data from 2022. This total was determined based on a combination of user-defined costs and historical cost inflation. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today.



Total Current Replacement Cost: \$652,951,703

# 3.2 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. To meet the long-term replacement needs, the Township should be allocating approximately \$18.9 million annually, for a target reinvestment rate of 2.9%. Actual annual spending on infrastructure totals approximately \$8.2 million, for an actual reinvestment rate of 1.25%.



# 3.3 Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 57% of assets in Wellington North are in fair or better condition. This estimate relies on both age-based and field condition data.



This AMP relies on assessed condition data for 32% of assets; for the remaining portfolio, 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	% of Assets with Assessed Condition	Source of Condition Data
Road Network	Paved Roads	100%	2023 Road Needs Study
Bridges &	Bridges	100%	2023 OSIM Report
Culverts	Culverts	100%	2023 OSIM Report
Storm System	All	0%	Age-Based
Buildings	All	0%	Age-Based
Machinery & Equipment	All	0%	Age-Based
Vehicles	All	0%	Age-Based
Land Improvements	All	0%	Age-Based
Water Network	All	0%	Age-Based
Sanitary System	All	0%	Age-Based

# 3.4 Forecasted Capital Requirements

The development of a long-term capital forecast should include both asset rehabilitation and replacement requirements. With the development of assetspecific lifecycle strategies that include the timing and cost of future capital events, the Township can produce an accurate long-term capital forecast. The following graph identifies capital requirements over the next 70 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



# **4** Analysis of Tax-funded Assets

# Key Insights

- Tax-funded assets are valued at \$466 million
- 39% of tax-funded assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for tax-funded assets is approximately \$15.5 million
- Critical assets should be evaluated to determine appropriate risk mitigation activities and treatment options

# 4.1 Road Network

The road network is a critical component of the provision of safe and efficient transportation services and represents the highest value asset category in the Township's asset portfolio. It includes all municipally owned and maintained roadways in addition to supporting roadside infrastructure including sidewalks, traffic lights and streetlights.

The state of the infrastructure for the road network is summarized in the following table.

Replacement Condition		Financial Ca	pacity
		Annual Requirement:	\$11.6 million
\$295 million	Very Poor (17%)	Funding Available:	\$4.1 million
		Annual Deficit:	\$7.5 million

#### 4.1.1 Asset Inventory & Costs

The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Township's road network inventory.

Asset Segment	Quantity <sup>1</sup>	Replacement Cost	Annual Capital Requirement
Rural Roads	340,000 m	\$177,635,000	\$5,931,000
Sidewalks	37,000 m	\$8,588,000	\$239,000
Streetlights	1,923	\$17,511,000	\$2,189,000
Traffic Lights	6	\$2,200,000	\$245,000
Urban Roads	50,000 m	\$88,566,000	\$2,990,000
Tota	al	\$294,500,000	\$11,593,000



Current Replacement Cost

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

<sup>&</sup>lt;sup>1</sup> Quantities listed for the Road Network are based on the 2023 Road Needs Study and may differ from the Citywide inventory. Staff are working towards aligning the Citywide inventory with the Road Needs Study.

### 4.1.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Rural Roads	48%	Fair	100% Assessed
Sidewalks	99%	Very Good	Age-Based
Streetlights	61%	Good	Age-Based
Traffic Lights	31%	Poor	Age-Based
Urban Roads	83%	Very Good	100% Assessed
Average	69%	Good	100% Assessed

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



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

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

#### Current Approach to Condition Assessment

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

- Internal assessments are performed on road assets annually to ensure timely identification of maintenance needs.
- Road Needs Studies are completed every 5 years by external contractors. The latest Road Needs Study was completed in December 2023.

In this AMP the following rating criteria is used to determine the current condition of road segments and forecast future capital requirements:

Condition	Rating
Very Good	8-10
Good	7-8
Fair	6-7
Poor	5-6
Very Poor	0-5

### 4.1.3 Lifecycle Management Strategy

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

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

Activity Type	Description of Current Strategy
Operations & Maintenance	Maintenance activities include inspections, cleaning, minor repairs and vegetation management
	Inspections are conducted monthly, while cleaning and minor repairs are performed bi-annually.
	Maintenance is triggered by visual inspections identifying issues such as cracks, potholes, or safety hazards.
Rehabilitation	Rehabilitation activities include resurfacing, structural repairs, and upgrading outdated systems.
	Rehabilitation is trigged by a pavement condition index (PCI) below 5, or structural assessment indicating deterioration. Urban area rehabilitation is also coordinated with other infrastructure replacement (sewers and watermains).
Replacement	Replacement is considered when an asset's condition has deteriorated significantly, and rehabilitation is no longer cost-effective.

#### Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 55 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

#### 4.1.4 Risk & Criticality

#### Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.


This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the road network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)

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

# Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

#### **Organizational Capacity**



Both short- and long-term planning requires the regular collection of infrastructure data to support asset management decision-making. Staff find it a continuous challenge to dedicate resources and time towards data collection and condition assessments to ensure that road condition and asset attribute data is regularly reviewed and updated.

#### **Capital Funding Strategies**



The current level of financial reinvestment does not sufficiently address maintenance and capital rehabilitation requirements to ensure roads remain in an adequate state of repair and achieve their intended service life. Major projects are grant dependant.

# 4.1.5 Levels of Service

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

# Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity	See Appendix B
Quality	Description or images that illustrate the different levels of road class pavement condition	The Township completed a Road Management Study in December 2023 in coordination with Triton Engineering Services Limited. Every road section received a surface condition rating (1-10). 10 = New 9 = No distress 8 = Minor distress/joints opening 7 = Moderate distress/majority of centerline opening/misc. random cracking 6 = Moderate-severe distress/open joints/some wheel track issues 5 = Severe distress/wheel track failure/no area without distress 0 to 4 = Significant distress/deformation/edge damage

# Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS (2022)
	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km <sup>2</sup> )	0.027
Scope	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km <sup>2</sup> )	0.019
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km <sup>2</sup> )	1.43
	Average pavement condition index for paved roads in the municipality	11%
Quality	Average surface condition for unpaved roads in the municipality (e.g. excellent, good, fair, poor)	Very Poor
Performance	Capital reinvestment rate	1.4%

# 4.1.6 Recommendations

# Asset Inventory

- Review sidewalk inventory to determine whether all municipal assets within these asset segments have been accounted for.
- Review Road Network inventory to ensure that the asset inventory is reflective of what is included in the most recent 2023 Road Needs Study. Inventory consolidation between the two data sets will be required in order to ensure Citywide data is as accurate as possible.

# Condition Assessment Strategies

• The last comprehensive assessment of the road network was completed in 2023. Continue completing updated assessment of all roads every 5 years and uploading condition information to Citywide.

# Lifecycle Management Strategies

• Evaluate the efficacy of the Township's lifecycle management strategies at regular intervals to determine the impact cost, condition and risk.

## **Risk Management Strategies**

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

# Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that the Township believes to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.2 Bridges & Culverts

Bridges and culverts represent a critical portion of the transportation services provided to the community. The Transportation Division is responsible for the maintenance of all bridges and culverts located across municipal roads with the goal of keeping structures in an adequate state of repair and minimizing service disruptions.

The state of the infrastructure for bridges and culverts is summarized in the following table.

Replacement Cost	Condition	Financial Capacity	
\$36.3 million	Good (72%)	Annual Requirement:	\$781,000
		Funding Available:	\$202,000
		Annual Deficit:	\$579,000

# 4.2.1 Asset Inventory & Costs

The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Township's bridges and culverts inventory.

Asset Segment	Quantity <sup>2</sup>	Replacement Cost	Annual Capital Requirement
Bridges	27	\$19,365,000	\$426,000
Culverts	76	\$16,914,00	\$356,000
Total		\$36,279,000	\$781,000



Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

<sup>&</sup>lt;sup>2</sup> Quantities for Bridges and Culverts are taken from the 2023 Bridge Inspection Report and may differ from the Citywide inventory. Staff are working towards aligning the Citywide inventory with the Bridge Inspection Report.

# 4.2.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Bridges	70%	Good	100% Assessed
Culverts	73%	Good	100% Assessed
Average	72%	Good	100% Assessed

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



Value and Percentage of Assets by Replacement Cost

The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



To ensure that the Municipality's Bridges & Culverts continue to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation, and replacement activities is required to increase the overall condition of the bridges and culverts.

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

# Current Approach to Condition Assessment

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

- Condition assessments of all bridges and culverts are reviewed every 2 years, with a new report completed every 5 in accordance with the Ontario Structure Inspection Manual (OSIM).
- The latest OSIM inspection was completed in 2023.

In this AMP, the following rating criteria is used to determine the current condition of bridges and culverts and forecast future capital requirements:

Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

# 4.2.3 Lifecycle Management Strategy

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

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

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation and Replacement	All lifecycle activities are driven by the results of mandated structural inspections competed according to the Ontario Structure Inspection Manual (OSIM)
Inspection	The most recent OSIM inspection report was completed in 2023 by BM Ross. All bridges with spans greater than 3 meters are reviewed every 2 years, and the OSIM reported is updated every 5 years.

# Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 55 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

# 4.2.4 Risk & Criticality

# Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.



This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of bridges and culverts are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include assetspecific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

# Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

#### **Climate Change & Extreme Events**



#### **Capital Funding Strategies**



Municipal budget is limited. Major capital rehabilitation and replacement projects are often entirely dependant on the availability of grant funding opportunities. When grants are not available, rehabilitation and replacement projects may be deferred.

# 4.2.5 Levels of Service

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

## Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
	Description of the traffic that is	The Township's bridges and culverts support motor vehicles, including heavy vehicles and emergency vehicles, apart from the following 3 structures which have load limits:
Scope	supported by municipal bridges (e.g. heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Structure 9 (Sideroad 3 East) Structure 21 (Sideroad 8 East) Structure 38 (Sideroad 3)
		The Township has plans to replace structure 9 in 2024.
		Two bridges in Mount Forest have sidewalks integrated into their decks to accommodate pedestrians.
		Appendix B provides a breakdown of the Bridge Condition Index (BCI) range for the
Quality	Description or images of the condition of bridges and culverts	Township's bridges. The BCI value breakdown is as follows:
	and how this would affect use of the bridges and culverts	90-100: Excellent 75-89: Good 40-74: Fair 0-39: Poor

# Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by bridges and culverts.

Service Attribute	Technical Metric	Current LOS (2022)
Scono	% of bridges in the Township with loading or dimensional restrictions	3%
Scope	% of single-lane bridges	13%
Quality	Average bridge condition index value for bridges in the Township	70%
Quality	Average bridge condition index value for structural culverts in the Township	73%
Performance	% of bridges and culvert assets in state of good repair (fair or better)	91%

# 4.2.6 Recommendations

### Data Review/Validation

• Continue to review and validate inventory data, assessed condition data and replacement costs for all bridges and structural culverts upon the completion of OSIM review every 2 years, and report every 5 years.

# Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

# Lifecycle Management Strategies

• The Township should work towards identifying projected capital rehabilitation and renewal costs for bridges and culverts and integrating these costs into long-term planning.

# Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that the Township believe to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.3 Storm System

The Township is responsible for owning and maintaining a storm system of storm sewer mains, catch basins and manholes.

The Township also owns five Stormwater Management Facilities in Mount Forest, and one Stormwater Management Facility in Arthur, which are not presently in the Citywide system.

Staff are working towards improving the accuracy and reliability of their storm system inventory to assist with long-term asset management planning.

The state of the infrastructure for the storm system is summarized in the following table.

Replacement Cost	Condition	Financial Capacity	
\$74 million	Fair (53%)	Annual Requirement:	\$276,000
		Funding Available:	\$0
		Annual Deficit:	\$276,000

# 4.3.1 Asset Inventory & Costs

The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Township's stormwater network inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Catch Basins	1,091	\$5,237,000	\$75,000
Manholes	463	\$4,081,000	\$58,000
Storm Mains	51,700 m	\$64,700,000	\$143,000
Total		\$74,018,000	\$276,000



Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

# 4.3.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Catch Basins	56%	Fair	Age-Based
Manholes	52%	Fair	Age-Based
Storm Mains	51%	Fair	Age-Based
Average	53%	Fair	Age-Based

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



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

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

# Current Approach to Condition Assessment

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

- Stormwater mains are assessed by external contractors when investigation work is being completed for a reconstruction project.
- Stormwater management ponds are inspected twice a year. For the remainder of the storm system assets, there is no formal inspection process or condition rating in place.

In this AMP the following rating criteria is used to determine the current condition of the storm system and forecast future capital requirements:

Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

# 4.3.3 Lifecycle Management Strategy

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

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

Activity Type	Description of Current Strategy
	Maintenance includes inspections, cleaning, minor repairs, and vegetation management
Maintenance	Storm structures are cleaned annually in the spring
	Storm Water Management ponds are inspected twice a year
Rehabilitation	Rehabilitation activities include trenchless re-lining, structural
	repairs, and upgrading outdated systems
	Rehabilitation programs are initiated when defects are observed
	by structural assessments, or during full reconstruction projects
Replacement	Replacement is considered when an asset's condition has
	deteriorated significantly, or the asset has failed. Assets nearing
	their end of life, or incurring frequent and costly repairs are
	prioritized for replacement

# Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 60 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

# 4.3.4 Risk & Criticality

# Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.



This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the stormwater network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Pipe Material	Pipe Diameter (Operational)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include assetspecific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

# Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

#### Aging Infrastructure

A significant portion of the storm system has reached the end of its useful life or is exceeding its useful life. As assets age, they will not perform as efficiently and may lead to increased maintenance costs.

#### **Capital Funding Strategies**



Major capital rehabilitation and replacement projects are often entirely dependant on the availability of grant funding opportunities as municipal funding is limited. When grants are not available, rehabilitation and replacement projects may be deferred. The cost of construction has also increased significantly, causing further strain to capital funding strategies.

#### **Climate Change & Extreme Events**



Climate change and extreme weather events have resulted in a change in 100-year storm data, requiring different design thresholds for storm systems. Some of the older portions of the storm system are not designed to meet these new thresholds.

# 4.3.5 Levels of Service

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

## Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
Scope	Description, which may include map, of the user groups or areas of the municipality that are protected from flooding, including the extent of protection provided by the municipal stormwater system	See Appendix B

### Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS (2022)
Scono	% of properties in municipality resilient to a 100-year storm	TBD <sup>3</sup>
Scope	% of the municipal stormwater management system resilient to a 5-year storm	TBD <sup>3</sup>
Performance	% of the storm system that is in good or very good condition	10%
Performance	% of the storm system that is in poor or very poor condition	6% <sup>4</sup>

<sup>&</sup>lt;sup>3</sup> The Township does not currently have data available to determine this technical metric.

<sup>&</sup>lt;sup>4</sup> Storm system condition ratings are based on Citywide inventory and largely use age-based condition.

# 4.3.6 Recommendations

# Asset Inventory

• The Township's stormwater network inventory remains at a basic level of maturity and staff do not have a high level of confidence in its accuracy or reliability. The development of a comprehensive inventory of the stormwater network should be priority.

# Condition Assessment Strategies

• The development of a comprehensive inventory should be accompanied by a system-wide assessment of the condition of all assets in the stormwater network through CCTV inspections.

### **Risk Management Strategies**

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

### Lifecycle Management Strategies

• Document and review lifecycle management strategies for the stormwater network on a regular basis to achieve the lowest total cost of ownership while maintaining adequate service levels.

### Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.4 Buildings

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

- Fire halls
- Pools and aquatics centers
- Public works garages and storage sheds
- Arenas and community centres

The state of the infrastructure for the buildings is summarized in the following table.

Annual Requirement: \$723,0 \$32 million Fair (40%) Funding Available: \$21,0	Replacement Cost	Condition	Financial Capa	acity
\$32 million Fair (40%) Funding Available: \$21,0			Annual Requirement:	\$723,000
	\$32 million	Fair (40%)	Funding Available:	\$21,000
Annual Deficit: \$702,0			Annual Deficit:	\$702,000

# 4.4.1 Asset Inventory & Costs

The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Township's buildings inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Cemetery	2	\$195,000	\$4,000
Fire	2	\$2,090,000	\$42,000
General Government	10	\$1,881,000	\$63,000
Recreation & Culture	22	\$27,230,000	\$594,000
Transportation Services	4	\$1,032,000	\$21,000
Total		\$32,429,000	\$723,000



Total Current Replacement Cost: \$32,429,075

Current Replacement Cost

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

# 4.4.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Cemetery	10%	Very Poor	Age-Based
Fire	45%	Fair	Age-Based
General Government	13%	Very Poor	Age-Based
Recreation & Culture	43%	Fair	Age-Based
Transportation Services	17%	Very Poor	Age-Based
Average	40%	Fair	Age-Based

The graph below visually illustrates the average condition for each asset segment on a very good to very poor.



The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



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

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

## Current Approach to Condition Assessment

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

• Detailed structural assessments are completed every 5 years on the Township's Arenas by external contractors. This includes an assessment of each facility's general condition, required repairs and recommended upgrades

In this AMP the following rating criteria is used to determine the current condition of buildings and forecast future capital requirements:

Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

# 4.4.3 Lifecycle Management Strategy

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

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation	Municipal buildings are subject to regular inspections to identify health & safety requirements as well as structural deficiencies that require additional attention
Replacement	As a supplement to the knowledge and expertise of municipal staff the Township regularly works with contractors to complete Facility Needs Assessment Studies on the Township's Arena's
	Assessments and maintenance costs are used to determine whether replacement or rehabilitation is appropriate

# Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 50 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

# 4.4.4 Risk & Criticality

# Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.



This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of buildings and facilities are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-

specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

### Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:



#### **Climate Change & Extreme Events**

Asset deterioration is accelerated due to extreme temperature changes, which in some cases can cause unexpected failures. These events make long-term planning difficult and can result in a lower level of service

#### Capital Funding Strategies



Major capital rehabilitation and replacement projects are often entirely dependant on the availability of grant funding opportunities. When grants are not available, rehabilitation and replacement projects may be deferred. An annual capital funding strategy could reduce dependency on grant funding and help prevent deferral of capital works.

# 4.4.5 Levels of Service

The following tables identify the Township's current level of service for the buildings assets. These metrics include the technical and community level of service metrics performance measures that the Township has selected for this AMP.

# Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
Accessibility & Reliability	List of facilities that meet accessibilities standards and any work that has been undertaken to achieve alignment	100% of Wellington North's buildings and facilities meet accessibility standards.
Performance	Description of monthly and annual facilities inspection process	Facility assets are inspected for public health and safety monthly. Fire and Pest Control Inspections are completed in a regular monthly cycle.

# Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS (2022)
Scope	Annual operations & maintenance cost / # of municipal facilities	\$5,357
	Annual capital reinvestment rate	0.06%
Performance	% of facilities that are in good or very good condition	38%
	% of facilities that are in poor or very poor condition	57%

# 4.4.6 Recommendations

### Asset Inventory

• Staff should work towards a component-based inventory of all facilities to allow for component-based lifecycle planning.

### Replacement Costs

• Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

# Condition Assessment Strategies

• The Township should implement regular condition assessments for all facilities to better inform short- and long-term capital requirements.

### **Risk Management Strategies**

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

# Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.5 Vehicles

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

- plow trucks for winter control activities
- fire rescue vehicles to provide emergency services
- pick-up trucks to support the maintenance of the transportation network and recreation department

The state of the infrastructure for the vehicles is summarized in the following table.

Replacement Cost	Condition	Financial Capacity	
\$16 million Fair (40%)		Annual Requirement:	\$1.7 million
	Fair (40%)	Funding Available:	\$122,000
		Annual Deficit:	\$1.5 million

# 4.5.1 Asset Inventory & Costs

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

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Cemetery Vehicles	2	\$19,000	\$2,000
Fire Vehicles	12	\$2,932,000	\$293,000
General Government Vehicles	2	\$88,000	\$9,000
Public Works Vehicles	45	\$13,506,000	\$1,330,000
Recreation & Culture Vehicles	8	\$211,000	\$21,000
		\$16,756,000	\$1,655,000
#### Total Current Replacement Cost: \$16,755,750



Current Replacement Cost

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 4.5.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Cemetery Vehicles	15%	Very Poor	Age-Based
Fire Vehicles	17%	Very Poor	Age-Based
General Government Vehicles	83%	Very Good	Age-Based
Public Works Vehicles	44%	Fair	Age-Based
Recreation & Culture Vehicles	60%	Good	Age-Based
	40%	Fair	Age-Based

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



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

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

## Current Approach to Condition Assessment

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

- Staff complete regular visual inspections of vehicles to ensure they are in state of adequate repair prior to operation
- Yearly safety inspections are completed on heavy-duty vehicles by external contractors

In this AMP the following rating criteria is used to determine the current condition of vehicles and forecast future capital requirements:

Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

## 4.5.3 Lifecycle Management Strategy

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

Activity Type	Description of Current Strategy
	Visual inspections and routine maintenance are completed daily
Maintenance / Rehabilitation	Heavy-Duty vehicles undergo a yearly detailed safety inspection
Reliabilitation	Rehabilitation activities include oil changes, routine sand blasting and painting, and washing
Vehicle replacements are based on the Township's 10-YearCapital Expenditure Project and recommendations from RoReplacementNeeds Study	
	Vehicle age, kilometres and annual repair costs are taken into consideration when determining appropriate treatment options

#### Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 25 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

## 4.5.4 Risk & Criticality

#### Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.



This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of vehicles are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)

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

#### Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

#### **Climate Change & Extreme Events**



Asset deterioration is accelerated due to extreme weather, which in some cases can cause unexpected failures. Freeze-thaw cycles, ice jams, and surface flooding from extreme rainfall have been experienced by the Township in recent years. These events lead to more wear and tear on the Township's vehicles and can result in a lower level of service.

## 4.5.5 Levels of Service

The following tables identify the Township's current level of service for the vehicles. These metrics include the technical and community level of service metrics performance measures that the Township has selected for this AMP.

#### Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
Performance	Description of the Fleet Management and Safety Program	Routine visual inspections and maintenance is completed daily on vehicles prior to use including checking lights, wipers, tire pressure and oil levels. Heavy-duty vehicles are inspected annually for safety by external contractors. If any deficiencies are noted during regular daily inspections, a safety inspection is initiated.

#### Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS (2022)
Scono	% of heavy-duty vehicles inspected annually	100%
Scope	Annual capital reinvestment rate	0.73%
Performance	% of fire vehicles that are in good or very good condition	16%
	% of fire vehicles that are in poor or very poor condition	74%
	% of other vehicles that are in good or very good condition	40%
	% of other vehicles that are in poor or very poor condition	48%

## 4.5.6 Recommendations

#### Replacement Costs

• Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

#### Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk equipment.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

#### Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

#### Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.6 Machinery & Equipment

In order to maintain the high quality of public infrastructure and support the delivery of core services, Township staff own and employ various types of machinery and equipment. This includes:

- Fire equipment to support the delivery of emergency services
- Snow blades to provide winter control activities
- Office furniture and equipment to support general government activities

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

The state of the infrastructure for the machinery and equipment is summarized in the following table.

Replacement Cost	Condition	Financial Capa	acity
		Annual Requirement:	\$414,000
\$9.9 million	Poor (21%)	Funding Available:	\$469,000
		Annual Deficit:	-\$55,190

## 4.6.1 Asset Inventory & Costs

The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Township's machinery and equipment inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Cemetery Equipment	4	\$83,000	\$1,000
Environmental Services	1	\$29,000	\$6,000
Fire Equipment	195	\$1,332,000	\$125,000
General Government Equipment	29	\$6,881,000	\$173,000
Public Works Equipment	9	\$147,000	\$16,000
Recreation & Culture Equipment	29	\$1,426,000	\$94,000
Total	267	\$9,899,000	\$414,000





Current Replacement Cost

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

# 4.6.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Cemetery Equipment	83%	Very Good	Age-Based
Environmental Services	78%	Good	Age-Based
Fire Equipment	40%	Fair	Age-Based
General Government Equipment	2%	Very Poor	Age-Based
Public Works Equipment	71%	Good	Age-Based
Recreation & Culture Equipment	81%	Very Good	Age-Based
Average	21%	Poor	Age-Based

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



■ Weighted Average Age □ Weighted Average EUL

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

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

### Current Approach to Condition Assessment

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

- Staff complete regular visual inspections of machinery and equipment to ensure they are in state of adequate repair
- Parks and recreation equipment is inspected monthly by Township staff for safety

In this AMP the following rating criteria is used to determine the current condition of machinery and equipment and forecast future capital requirements:

Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

## 4.6.3 Lifecycle Management Strategy

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

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

Activity Type	Description of Current Strategy
	Maintenance program varies by department
	Fire Protection Services equipment is subject to a much more
Maintenance/	rigorous inspection and maintenance program compared to
Rehabilitation	most other departments
	Rehabilitation activities include minor repairs and servicing
	requirements
Poplacomont	Assets nearing failure or incurring costly repairs are prioritized
Replacement	for replacement

## Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 75 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

## 4.6.4 Risk & Criticality

#### Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.



This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of machinery and equipment are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)

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

#### Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:



#### Growth

Population and employment growth will increase the demand on municipal services and potentially decrease the lifecycle of certain assets. As the population continues to grow, the Township must continue to evaluate growth needs.

## 4.6.5 Levels of Service

The following tables identify the Township's current level of service for machinery & equipment. These metrics include the technical and community level of service metrics performance measures that the Township has selected for this AMP.

#### Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
		Equipment operators are required to have a valid DZ licence.
	Description of licencing	
renormance	requirements for operators	Training on the use of specialized equipment is provided on an as-needed basis.

### Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the machinery & equipment.

Service Attribute	Technical Metric	Current LOS (2022)
Scope	Annual capital reinvestment rate	4.7%
Performance	% of fire equipment that is in good or very good condition	36%
	% of fire equipment that is in poor or very poor condition	52%
	% of other machinery & equipment that is in good or very good condition	18%
	% of other machinery & equipment that is in poor or very poor condition	81%

## 4.6.6 Recommendations

#### Replacement Costs

• All replacement costs used in this AMP were based on the inflation of historical costs. These costs should be evaluated to determine their accuracy and reliability. Replacement costs should be updated according to the best available information on the cost to replace the asset in today's value.

## Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk equipment.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

#### Risk Management Strategies

• Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.

• Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

#### Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.7 Land Improvements

The Township of Wellington North owns a small number of assets that are considered land improvements. This category includes:

- Ball diamonds and soccer pitches
- Parks and playgrounds
- Miscellaneous landscaping and other assets

The state of the infrastructure for the land improvements is summarized in the following table.

Replacement Cost	Condition	Financial Cap	acity
\$2.5 million	Very Poor (10%)	Annual Requirement:	\$81,000
		Funding Available:	\$328,000
		Annual Deficit:	-\$247,000

## 4.7.1 Asset Inventory & Costs

The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Township's land improvements inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
General Government	2	\$158,000	\$2,000
Recreation & Culture	15	\$2,311,000	\$78,000
Total		\$2,469,000	\$81,000



Total Current Replacement Cost: \$2,469,028

Current Replacement Cost

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 4.7.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
General Government	0%	Very Poor	Age-Based
Recreation & Culture	10%	Very Poor	Age-Based
Average	10%	Very Poor	Age-Based

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



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

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

## Current Approach to Condition Assessment

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

- Staff complete regular visual inspections of land improvements assets to ensure they are in state of adequate repair
- Parks are inspected monthly during their peak season, May-September, by internal staff to identify safety concerns and deficiencies

In this AMP the following rating criteria is used to determine the current condition of land improvements and forecast future capital requirements:

Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

# 4.7.3 Lifecycle Management Strategy

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

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

Activity Type	Description of Current Strategy
Maintenance & Rehabilitation	The Land improvements asset category includes several unique asset types and lifecycle requirements are dealt with on a case- by-case basis
Replacement	Assets with an expected service life nearing its end or those incurring frequent and costly repairs are prioritized for replacement.

## Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 25 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

## 4.7.4 Risk & Criticality

#### Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.



This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of land improvements are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-

specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

#### Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

#### Asset Data & Information



There is a lack of confidence in the available inventory data and condition data. Staff should prioritize data refinement efforts to increase the accuracy and reliability of asset data and information. Once completed staff can confidently develop data-driven strategies to address infrastructure needs.

#### Lifecycle Management Strategies



The current lifecycle management strategy for Land Improvements is considered more reactive than proactive. It is a challenge to find the right balance between maintenance, capital rehabilitation, and the replacement of assets.

## 4.7.5 Levels of Service

The following tables identify the Township's current level of service for the land improvements. These metrics include the technical and community level of service metrics performance measures that the Township has selected for this AMP.

#### Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
Scope	Description, which may include maps, of municipal parks and their proximity to the surrounding community	Appendix B
Performance	Description of the parks inspection process and timelines for inspections	Parks are inspected monthly during the summer months, from May to September, by internal staff to identify any safety concerns or deficiencies

#### Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS (2022)
Scope	Square meters of outdoor recreation facility space	209,262 m <sup>2</sup>
	# of safety concerns reported	1 <sup>5</sup>
	Annual capital reinvestment rate	13%
Performance	% of land improvements that are in good or very good condition	11%
	% of land improvements that are in poor or very poor condition	89%

## 4.7.6 Recommendations

#### Replacement Costs

• All replacement costs used in this AMP were based on the inflation of historical costs. These costs should be evaluated to determine their accuracy and reliability. Replacement costs should be updated according to the best available information on the cost to replace the asset in today's value.

#### Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk assets.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

<sup>&</sup>lt;sup>5</sup> The large play structure at Hutchingson Park has been identified as in need of replacement. Frost has lifted the structure and paint is peeling from it, the structure is between 30 and 40 years old. Township staff have identified this in their capital project forecast for replacement.

#### Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

### Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# **5** Analysis of Rate-funded Assets

# Key Insights

- Rate-funded assets are valued at \$187 million
- 64% of rate-funded assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for rate-funded assets is approximately \$3.4 million
- Critical assets should be evaluated to determine appropriate risk mitigation activities and treatment options

# 5.1 Water Network

The water services provided by the Township includes assets such as the following:

- Water Distribution System
- Hydrants, valves, and other various water system equipment

The state of the infrastructure for the water network is summarized in the following table:

Replacement Cost	Condition	Financial Cap	pacity
\$88.5 million	Fair (56%)	Annual Requirement:	\$1.7 million
		Funding Available:	\$1.0 million
		Annual Deficit:	\$661,000

## 5.1.1 Asset Inventory & Costs

The table below includes the quantity, replacement cost method, and annual capital requirements of each asset segment in the Township's water network inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Hydrants	333	\$2,231,000	\$30,000
Valves	584	\$2,042,000	\$27,000
Water Equipment	26	\$10,382,000	\$549,000
Watermains	59,000 m	\$73,864,000	\$1,060,000
Total		\$88,518,000	\$1,666,000



Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 5.1.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Hydrants	61%	Good	Age-Based
Valves	62%	Good	Age-Based
Water Equipment	13%	Very Poor	Age-Based
Watermains	60%	Fair	Age-Based
Average	55%	Fair	Age-Based

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



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

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

## Current Approach to Condition Assessment

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

- Staff primarily rely on the age, material, size and failure history of water mains to determine the projected condition of water mains. Watermain condition is assessed whenever uncovered.
- Leak detection is completed annually by external contractors, with each area surveyed every 3 years.

ConditionRatingVery Good80-100Good60-80Fair40-60Poor20-40Very Poor0-20

In this AMP the following rating criteria is used to determine the current condition of water network assets and forecast future capital requirements:

## 5.1.3 Lifecycle Management Strategy

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

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

Activity Type	Description of Current Strategy	
Maintenance	Hydrant inspections are completed annually, and water tower inspections are completed every 3 years	
	Main valve turning and leak detection is completed every 3 years	
Rehabilitation	Trenchless re-lining of water mains presents significant challenges and is not always a viable option	
Replacement	In the absence of mid-lifecycle rehabilitative events, most mains are simply maintained with the goal of full replacement once it reaches its end-of-life	
	Replacement activities are considered when an asset's condition has deteriorated significantly, and rehabilitation is no longer cost- effective	

#### Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 70 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

## 5.1.4 Risk & Criticality

#### Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.



This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the water network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Pipe Material	Pipe Diameter (Operational)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-

specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

#### Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

#### **Climate Change & Extreme Events**



Heat waves, dry conditions and lack of precipitation can cause an increase in water usage which can impact the life expectancy of infrastructure. Extreme cold events can negatively impact water assets such as watermains and services by way of watermain breaks and frozen services as a result of deep frost. The Township may also become more reliant on generator power if extreme storms and winds cause power outages.

#### Capital Funding Strategies



The Township has a Water and Sewer Financial Plan which is completed every 5 years however, the rapid current and projected growth in the community will expedite the need for upgraded and new infrastructure. This will cause the Township to rely on grants or other sources of funding for completion.

#### Growth



The water System can not accommodate the projected growth in the community. To support the anticipated growth, the water storage and supply will have to increase. The Township is in the process of completing an Environmental Assessment for water supply and storage in Arthur.

# 5.1.5 Levels of Service

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

### Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
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 B
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow	See Appendix B
Reliability	Description of boil water advisories and service interruptions	No Boil Water Advisories were issued for 2022
	Description of unplanned service interruptions due to watermain breaks	A total of 5 watermain breaks occurred in Arthur and Mount Forest in 2022. 4/5 of these breaks were due to reconstruction activities, and all were repaired within the same day. A very brief service interruption of no more than one hour occurred due to each these breaks.
## Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS (2022)
Scope	% of properties connected to the municipal water system	66%
	% of properties where fire flow is available	66%
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	% of the water system that is in good or very good condition	62%
	% of the water system that is in poor or very poor condition	21%

## 5.1.6 Recommendations

## Replacement Costs

• Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

### Condition Assessment Strategies

• Identify condition assessment strategies for high value and high-risk water network assets.

#### Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

#### Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 5.2 Sanitary System

The sanitary system owned and operated by the town includes assets such as:

- The Arthur Wastewater Treatment Plant and Pumping Station
- The Mount Forest Wastewater Treatment Plant
- The sanitary collection system
- Manholes and various sanitary equipment

The state of the infrastructure for the sanitary system is summarized in the following table.

Replacement Cost	Condition	Financial Capacity	
\$98 million		Annual Requirement:	\$1.7 million
	Fair (46%)	Funding Available:	\$1.9 million
		Annual Deficit:	-\$243,000

## 5.2.1 Asset Inventory & Costs

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

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Manholes	666	\$3,859,000	\$51,000
Sanitary Collection	22	\$19,657,000	\$421,000
Sanitary Equipment	13	\$17,580,000	\$416,000
Sanitary Forcemains	6,746 m	\$8,904,000	\$127,000
Sanitary Mains	49,320 m \$48,083,000		\$691,000
Total		\$98,083,000	\$1,706,000



Each asset's replacement cost should be reviewed periodically to determine whether

adjustments are needed to more accurate represent realistic capital requirements.

## 5.2.2 Asset Condition & Age

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

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source	
Manholes	47%	Fair	Age-Based	
Sanitary Collection	38%	Fair	Age-Based	
Sanitary Equipment	71%	Good	Age-Based	
Sanitary Forcemains	33%	Poor	Age-Based	
Sanitary Mains	43%	Fair	Age-Based	
Average	46%	Fair	Age-Based	

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



The graph below illustrates the weighted average age compared to the weighted average estimated useful life for each asset segment.



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

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

## Current Approach to Condition Assessment

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

- CCTV inspections are completed for sanitary mains on an as needed basis
- Sanitary sewer manhole inspections take place annually, with each manhole being assessed every 3 years

In this AMP the following rating criteria is used to determine the current condition of sanitary system assets and forecast future capital requirements:

Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

## 5.2.3 Lifecycle Management Strategy

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

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

Activity Type	Description of Current Strategy
	Main flushing is completed annually with 100% of the network
Maintonanco	flushed every 3 years.
Maintenance	Manholes are inspected annually with 100% of the manholes
	being inspected every 3 years.
Dobabilitation	Rehabilitation programs are initiated as required when defects
Reliabilitation	are observed during inspections.
	Replacement is considered when as asset's condition has
	deteriorated significantly, and rehabilitation is no longer cost-
Poplacomont	effective, or in coordination with full road reconstruction
Replacement	projects.
	Assets nearing the end of their service life and those incurring
	frequent and costly repairs are prioritized for replacement.

#### Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Township should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 70 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



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

## 5.2.4 Risk & Criticality

#### Risk Matrix

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.



This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the sanitary network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)		
Condition	Replacement Cost (Financial)		
Pipe Material	Pipe Diameter (Operational)		

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

### Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:



#### **Climate Change & Extreme Events**

Extreme rainfall and flooding can result in storm water entering the sanitary sewer system by way of inflow and infiltration. This puts excess stress on equipment such as pumps and treatment equipment in the Sanitary System.

#### Growth



The Sanitary system is not designed to withstand the expected growth in the community. Wastewater capacity will need to increase in order to support projected growth. The Township has designed phase two of the expansion of the Arthur Wastewater Treatment Plant to increase system capacity.

#### **Capital Funding Strategies**



The Township has a Water and Sewer Financial Plan that is completed every 5 years however, the rapid current and projected growth will expedite the need for upgraded and new infrastructure and will rely on grants and other sources of funding for completion.

## 5.2.5 Levels of Service

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

#### Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS (2022)
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 B
	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
Reliability	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	Stormwater can enter into sanitary sewers due to inflow through manhole covers, and infiltration through sanitary pipe joints and crack permitting ground water into the system.

Service Attribute	Qualitative Description	Current LOS (2022)
	to overflow into streets or backup into homes	
-	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	The Township has new sanitary sewer services designed and engineered according to the Municipal Servicing Standard.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	The Mount Forest and Arthur Wastewater Treatment Plants (WWTP) both use sand filtration, UV treatment, chemical phosphorous removal, and extended aeration. Treated effluent from the Arthur WWTP discharges to the Conestogo River, and Mount Forest WWTP discharges to the Saugeen River.

## Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS (2022)
Scope	% of properties connected to the municipal wastewater system	64%
	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	N/A
Reliability	# 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 -	% of the wastewater system that is in good or very good condition	39%
	% of the wastewater system that is in poor or very poor condition	50%

## 5.2.6 Recommendations

## Condition Assessment Strategies

• Identify condition assessment strategies for high value and high-risk sanitary system network assets.

### Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

### Lifecycle Management Strategies

- A trenchless re-lining strategy is expected to extend the service life of sanitary mains at a lower total cost of ownership and should be implemented to extend the life of infrastructure at the lowest total cost of ownership.
- Evaluate the efficacy of the Township's lifecycle management strategies at regular intervals to determine the impact cost, condition and risk.

#### Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 6 Impacts of Growth

# Key Insights

- Understanding the key drivers of growth and demand will allow the Township to more effectively plan for new infrastructure, and the upgrade or disposal of existing infrastructure
- Moderate population and employment growth is expected
- The costs of growth should be considered in long-term funding strategies that are designed to maintain the current level of service

# 6.1 Description of Growth Assumptions

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

## 6.1.1 Growth Management Action Plan Background Report (WSP 2024)

The Growth Management Action Plan for the Township of Wellington North aims to strategically address the increasing demands of the Township's population and economy. The plan involves various components and initiatives to ensure sustainable development. The report has indicated the following items of note:

- Population growth in the Township of Wellington North has been driven primarily by net migration, with the population increasing from 11,600 in 2001 to 13,900 in 2024. The Township's population has grown at an annual rate of 1.5% since 2016, compared to 0.4% between 2001 and 2016, and this growth has been accompanied by significant housing development, averaging 194 new units annually from 2021 to 2023. Additionally, demographic trends indicate an aging population, with the share of residents aged 75 and older increasing from 8% in 2001 to 10% in 2021.
- The County of Wellington's Municipal Comprehensive Review (M.C.R.) documents, concluded that Mount Forest and Arthur have sufficient urban land for housing and employment growth until 2051, but there is an identified need to re-designate 81 hectares of future development lands for residential use in Wellington North and acknowledged a surplus of 40 hectares of Employment Area lands.
- Based on the Urban Land Needs Municipal Comprehensive Review Municipal Servicing Analysis, Wellington North has sufficient water and wastewater servicing capacity to accommodate near-term growth, with plans to expand the wastewater treatment plant capacity in Arthur within the next two to four years. While Mount Forest is projected to have adequate water capacity over the long term, it will need additional wastewater capacity to support future growth.

The following table outlines the projected population growth expected for the Township:

Year	2021	2024	2026	2031
Total Population	12,800	13,800	14,700	16,200
Urban Area	8,000	9,100	10,200	11,500
Rural Area	4,800	4,700	4,500	4,700

The population of Wellington North is expected to reach 16,200 by 2031. This growth correlates to a 26.5% increase from 2021 to 2031, representing a large increase on service and asset demands.

# 6.2 Impact of Growth on Lifecycle Activities

As per O.Reg 588/17, prior to July 1, 2025, the Township's asset management plan must include a discussion of how the assumptions regarding future changes in population and economic activity informed the preparation of the lifecycle management and financial strategy. The official plan for Wellington North has indicated the vision statement as fostering healthy change and growth. The Township will ensure the sewage treatment, waste disposal services, water supply services, stormwater management, transport pathways, utilities and emergency services are planned and developed to provide for the growth targets outlined in the Official Plan. The commitment to growth in these areas will be completed in a matter that maintains or enhances the natural environment and assets of the Township.

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

# 7 Financial Strategy

# Key Insights

- The Township is committing approximately \$8,189,000 towards capital projects per year from sustainable revenue sources
- Given the annual capital requirement of \$18,896,000, there is currently a funding gap of \$10,707,000 annually
- For tax-funded assets, we recommend increasing tax revenues by 3.9% each year for the next 20 years to achieve a sustainable level of funding
- For the sanitary system, we recommend increasing rate revenues by 0% annually for the next 20 years to achieve a sustainable level of funding
- For the water network, we recommend increasing rate revenues by 1.3% annually for the next 20 years to achieve a sustainable level of funding

# 7.1 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 Wellington North 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. Reserves
  - d. Debt
- 3. Use of non-traditional sources of municipal funds:
  - a. Reallocated budgets
  - b. Partnerships
  - c. Procurement methods
- 4. Use of Senior Government Funds:
  - a. Gas tax
  - 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.

# 7.1.1 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 \$18.9 million annually to address capital requirements for the assets included in this AMP.



Total Average Annual Capital Requirements \$18,895,000

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 and bridges and culverts, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the Township's roads and bridges and culverts respectively.

- 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.

## Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately \$8,189,000 towards capital projects per year from sustainable revenue sources. Given the annual capital requirement of \$18,895,000, there is currently a funding gap of \$10,706,000 annually.



#### Annual Requirements & Capital Funding Available

# 7.2 Funding Objective

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

- 1. **Tax Funded Assets:** Road Network, Storm System, Bridges & Culverts, Buildings, Machinery & Equipment, Land Improvements, Vehicles
- 2. Rate-Funded Assets: Water Network, Sanitary System

**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.

## 7.3 Financial Profile: Tax Funded Assets

## 7.3.1 Current Funding Position

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

Accet Category	Avg. Annual	nual Annual Funding Available				Annual
Assel Calegoly	Requirement	Taxes	Gas Tax	OCIF	Total Available	Deficit
Road Network	\$11,593,000	\$1,773,625	\$340,000	\$1,979,171	\$4,092,796	\$7,500,204
Storm System	\$276,000	-	-	-	\$0	\$276,000
Bridges & Culverts	\$781,000	\$201,583	-	-	\$201,583	\$579,417
Buildings	\$723,000	\$21,331	-	-	\$21,331	\$701,669
Machinery & Equipment	\$414,000	\$469,190	-	_	\$469,190	-\$55,190
Land Improvements	\$81,000	\$327,932	-	-	\$327,932	-\$246,932
Vehicles	\$1,655,000	\$121,653	-	-	\$121,653	\$1,533,347
	\$15,523,000	\$2,915,296	\$340,000	\$1,979,171	\$5,234,484	\$10,288,516

The average annual investment requirement for the above categories is \$15,523,000. Annual revenue currently allocated to these assets for capital purposes is \$5,234,484 leaving an annual deficit of \$10,288,516. Put differently, these infrastructure categories are currently funded at 33.7% of their long-term requirements

## 7.3.2 Full Funding Requirements

In 2023, Township of Wellington North has annual tax revenues of \$9,011,968. 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	83.2%
Storm System	3.1%
Bridges & Culverts	6.4%
Buildings & Facilities	7.8%
Machinery & Equipment	-0.6%
Land Improvements	-2.7%
Vehicles	17.0%
	114.2%

Our recommendations include capturing the above changes and allocating them to the infrastructure deficit outlined above. The table below outlines this concept and presents several options:

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	10,289,000	10,289,000	10,289,000	10,289,000
Change in Debt Costs	N/A	N/A	N/A	N/A
Change in OCIF Grants	N/A	N/A	N/A	N/A
Resulting Infrastructure Deficit	10,289,000	10,289,000	10,289,000	10,289,000
Tax Increase Required	114.2%	114.2%	114.2%	114.2%
Annually	16.5%	8.0%	5.3%	3.9%

## 7.3.3 Financial Strategy Recommendations

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 3.9% 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 gas tax and OCIF revenue as outlined previously.
- c) Should the scheduled OCIF grant increase, the Township should reduce the annual tax increase by an amount equal to the grant increase as it occurs.
- d) Reallocating appropriate revenue from categories in a surplus position to those in a deficit position
- e) 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. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment<sup>6</sup>.
- 2. We realize that raising tax revenues by the amounts recommended above 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.

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. Current data shows a pent-up investment demand of \$71.7 million for the Road network, \$4.4 million for the Buildings, \$1.7 million for Land Improvements, \$7 million for Machinery & Equipment, and \$6.5 million for Vehicles.

<sup>&</sup>lt;sup>6</sup> The Township should take advantage of all available grant funding programs and transfers from other levels of government. While OCIF has historically been considered a sustainable source of funding, the program is currently undergoing review by the provincial government. Depending on the outcome of this review, there may be changes that impact its availability.

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.

# 7.4 Financial Profile: Rate Funded Assets

## 7.4.1 Current Funding Position

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

Assat	Ava Annual	Α	Annual Funding Available							
Category	Requirement	Rates	To Operations	OCIF	Total Available	Deficit				
Water Network	\$1,666,000	\$2,351,869	-\$1,346,633	0	\$1,005,236	\$660,764				
Sanitary System	\$1,706,000	\$3,443,802	-\$1,494,644	0	\$1,949,158	-\$243,158				
	\$3,372,000	\$5,795,671	-\$2,841,277	0	\$2,954,394	\$417,606				

The average annual investment requirement for the above categories is \$3,372,000. Annual revenue currently allocated to these assets for capital purposes is \$2,954,000 leaving an annual deficit of \$418,000. Put differently, these infrastructure categories are currently funded at 88% of their long-term requirements.

## 7.4.2 Full Funding Requirements

In 2023, Wellington North had annual sanitary revenues of \$3,444,000 and annual water revenues of \$2,352,000. 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	Tax Change Required for Full Funding
Water Network	28.1%
Sanitary Network	-7.1%

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:

		Water N	letwork					
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	\$660,764	\$660,764	\$660,764	\$660,764	-\$243,158	-\$243,158	-\$243,158	-\$243,158
Rate Increase Required	28.1%	28.1%	28.1%	28.1%	-7.1%	-7.1%	-7.1%	-7.1%
Annually:	5.1%	2.6%	1.7%	1.3%	-1.5%	-0.8%	-0.5%	-0.4%

## 7.4.3 Financial Strategy Recommendations

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) increasing rate revenues by 0% for the sanitary system and 1.3% for the water network each year for the next 20 years.
- b) These rate revenue increase are 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. We realize that raising rate revenues 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.
- 3. Any increase in 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. Current data shows a pent-up investment demand of \$5.8 million for the water network and \$4.1 million for the sanitary system.

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

# 7.5 Use of Debt

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a \$1M project financed at  $3.0\%^7$  over 15 years would result in a 26% premium or \$260,000 of increased costs due to interest

<sup>&</sup>lt;sup>7</sup> Current municipal Infrastructure Ontario rates for 15-year money is 3.2%.

Interest	_	Nur	nber of Ye	ars Financ	ed	
Rate	5	10	15	20	25	30
7.0%	22%	42%	65%	89%	115%	142%
6.5%	20%	39%	60%	82%	105%	130%
6.0%	19%	36%	54%	74%	96%	118%
5.5%	17%	33%	49%	67%	86%	106%
5.0%	15%	30%	45%	60%	77%	95%
4.5%	14%	26%	40%	54%	69%	84%
4.0%	12%	23%	35%	47%	60%	73%
3.5%	11%	20%	30%	41%	52%	63%
3.0%	9%	17%	26%	34%	44%	53%
2.5%	8%	14%	21%	28%	36%	43%
2.0%	6%	11%	17%	22%	28%	34%
1.5%	5%	8%	12%	16%	21%	25%
1.0%	3%	6%	8%	11%	14%	16%
0.5%	2%	3%	4%	5%	7%	8%
0.0%	0%	0%	0%	0%	0%	0%

payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

It should be noted that current interest rates are near all-time lows. Sustainable funding models that include debt need to incorporate the risk of rising interest rates. The following graph shows where historical lending rates have been:



A change in 15-year rates from 3% to 6% would change the premium from 26% to 54%. Such a change would have a significant impact on a financial plan.

The following tables outline how Wellington Noth has historically used debt for investing in the asset categories as listed. There is currently no outstanding debt for the assets covered by this AMP

Assot Catagory	Current Dobt Outstanding	Use of Debt in the Last Five Years							
Assel Calegory	Current Debt Outstanding	2018	2019	2020	2021	2022			
Road Network	0	0	0	0	0	0			
Stormwater Network	0	0	0	0	0	0			
Bridges & Culverts	0	0	0	0	0	0			
Buildings & Facilities	0	300	200	100	0	0			
Machinery & Equipment	0	0	0	0	0	0			
Land Improvements	0	0	0	0	0	0			
Vehicles	0	0	0	0	0	0			
Total Tax Funded:	0	300	200	100	0	0			
Water Network	0	0	0	0	0	0			
Sanitary Network	0	0	0	0	0	0			
Total Rate Funded:	0	0	0	0	0	0			

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

# 7.6 Use of Reserves

## 7.6.1 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 Wellington North.

Asset Category	Balance on December 31, 2022
Road Network	688,125
Storm System	60,105
Bridges & Culverts	122,627
Buildings & Facilities	638,202
Machinery & Equipment	561,923
Land Improvements	72,834
Vehicles	27,760
Total Tax Funded:	2,171,577
Water Network	5,464,400
Sanitary System	2,065,296
Total Rate Funded:	7,539,696

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 Wellington North'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.

## 7.6.2 Recommendation

In 2025, Ontario Regulation 588/17 will require Wellington North to integrate proposed levels of service for all asset categories in its asset management plan update. We recommend that future planning should reflect adjustments to service levels and their impacts on reserve balances.

# **8** Appendices

# Key Insights

- Appendix A identifies projected 10-year capital requirements for each asset category
- Appendix B includes several maps that have been used to visualize the current level of service
- Appendix C identifies the criteria used to calculate risk for each asset category
- Appendix D provides additional guidance on the development of a condition assessment program
- Appendix E provides a list of all assets with a risk rating of very high

# Appendix A: 10-Year Capital Requirements

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

	Road Network												
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
Rural Roads	\$56.6m	\$2.3m	\$1.7m	\$2.2m	\$5.8m	\$5.8m	\$6.3m	\$6.7m	\$7.0m	\$7.3m	\$7.7m		
Sidewalks	\$0	\$210k	\$210k	\$221k	\$351k	\$0	\$243k	\$255k	\$281k	\$295k	\$310k		
Streetlights	\$0	\$6k	\$6k	\$6k	\$6k	\$26k	\$6k	\$6k	\$6k	\$26k	\$0		
Traffic Lights	\$800k	\$0	\$0	\$400k	\$600k	\$0	\$0	\$200k	\$200k	\$800k	\$0		
Urban Roads	\$14.2m	\$2.3m	\$3.5m	\$3.2m	\$0	\$0	\$885k	\$0	\$273k	\$0	\$763k		
	\$71.7m	\$4.8m	\$5.4m	\$6.0m	\$6.8m	\$5.8m	\$7.4m	\$7.2m	\$7.8m	\$8.4m	\$8.8m		

Bridges & Culverts												
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
Bridges	\$0	\$682k	\$373k	\$448k	\$554k	\$312k	\$762k	\$966k	\$352k	\$990k	\$580k	
Culverts	\$0	\$105k	\$414k	\$379k	\$314k	\$599k	\$243k	\$34k	\$648k	\$110k	\$580k	
	\$0	\$787k	\$787k	\$827k	\$868k	\$911k	\$1.0m	\$1.0m	\$1.0m	\$1.1m	\$1.2m	

Storm System											
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Catch Basins	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$155k	\$0	\$0
Manholes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$127k	\$0	\$44k
Storm Mains	\$0	\$29k	\$0	\$0	\$0	\$0	\$0	\$0	\$2.3m	\$0	\$0
	\$0	\$29k	\$0	<b>\$0</b>	\$0	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	\$2.6m	<b>\$0</b>	\$44k

Buildings											
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Cemetery	\$171k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fire	\$0	\$0	\$0	\$0	\$8.9m	\$0	\$0	\$0	\$0	\$0	\$0
General Government	\$465k	\$0	\$1.1m	\$0	\$0	\$0	\$3.3m	\$0	\$167k	\$0	\$0
Recreation & Culture	\$3.7m	\$0	\$167k	\$5.7m	\$54k	\$6.6m	\$0	\$20k	\$708k	\$3.8m	\$202k
Transportation Services	\$0	\$0	\$0	\$1.8m	\$0	\$0	\$453k	\$0	\$0	\$0	\$0
	\$4.4m	\$0	\$1.2m	\$7.5m	\$9.0m	\$6.6m	\$3.7m	\$20k	\$875k	\$3.8m	\$202k

Vehicles												
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
Cemetery Vehicles	\$4k	\$0	\$14k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Fire Vehicles	\$1.7m	\$456k	\$52k	\$65k	\$0	\$51k	\$649k	\$0	\$0	\$0	\$48k	
General Government Vehicles	\$0	\$0	\$52k	\$0	\$0	\$0	\$37k	\$0	\$0	\$0	\$52k	
Public Works Vehicles	\$4.9m	\$420k	\$759k	\$613k	\$64k	\$641k	\$972k	\$380k	\$2.6m	\$16k	\$1.1m	
Recreation & Culture Vehicles	\$2	\$0	\$52k	\$0	\$0	\$74k	\$38k	\$99k	\$0	\$0	\$0	
	\$6.5m	\$876k	\$929k	\$678k	\$64k	\$765k	\$1.7m	\$479k	\$2.6m	\$16k	\$1.2m	

Machinery & Equipment												
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
Cemetery Equipment	\$0	\$50k	\$20k	\$240k	\$656k	\$307k	\$166k	\$500k	\$400k	\$359k	\$350k	
Environmental Services	\$0	\$419k	\$0	\$240k	\$29k	\$307k	\$166k	\$500k	\$400k	\$29k	\$350k	
Fire Equipment	\$368k	\$0	\$930k	\$41k	\$185k	\$30k	\$174k	\$18k	\$13k	\$303k	\$41k	
General Government Equipment	\$6.6m	\$93k	\$0	\$36k	\$10k	\$307k	\$312k	\$46k	\$44k	\$65k	\$350k	
Public Works Equipment	\$0	\$259k	\$16k	\$240k	\$26k	\$20k	\$166k	\$59k	\$400k	\$359k	\$20k	
Recreation & Culture Equipment	\$35k	\$19k	\$6k	\$84k	\$20k	\$0	\$33k	\$6k	\$22k	\$85k	\$89k	
	\$7.0m	\$840k	\$972k	\$881k	\$926k	\$971k	\$1.0m	\$1.1m	<b>\$1.3</b> m	\$1.2m	\$1.2m	

Land Improvements											
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
General											
Government	\$158k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Recreation &											
Culture	\$1.5m	\$0	\$395k	\$0	\$0	\$111k	\$0	\$0	\$0	\$0	\$0
	<b>\$1.7</b> m	\$0	\$395k	\$0	\$0	\$111k	\$0	\$0	\$0	\$0	\$0

Water Network											
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Hydrants	\$0	\$198k	\$85k	\$0	\$0	\$0	\$28k	\$0	\$0	\$0	\$0
Valves	\$0	\$198k	\$85k	\$0	\$0	\$0	\$29k	\$0	\$0	\$0	\$0
Water Equipment	\$5.7m	\$209k	\$229k	\$6.2m	\$209k	\$928k	\$6.9m	\$2.3m	\$479k	\$406k	\$0
Watermains	\$107k	\$382k	\$85k	\$5.1m	\$0	\$0	\$0	\$0	\$595k	\$0	\$0
	\$5.8m	\$987k	\$484k	\$11.3m	\$209k	\$928k	\$7.0m	\$2.3m	\$1.1m	\$406k	\$0

Sanitary System												
Asset Segment	Backlog	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
Manholes	\$0	\$104k	\$104k	\$104k	\$104k	\$115k	\$104k	\$104k	\$104k	\$104k	\$0	
Sanitary Collection	\$4.0m	\$0	\$0	\$2.7m	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Sanitary												
Equipment	\$105k	\$0	\$0	\$5.2m	\$16.0m	\$45k	\$0	\$52k	\$980k	\$7.6m	\$0	
Sanitary												
Forcemains	\$0	\$0	\$13.5m	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Sanitary Mains	\$0	\$805k	\$805k	\$805k	\$805k	\$805k	\$805k	\$805k	\$805k	\$805k	\$532k	
	\$4.1m	\$909k	\$14.4m	\$8.8m	\$16.9m	\$965k	\$909k	\$961k	\$1.9m	\$8.5m	\$532k	
# Appendix B: Level of Service Maps

#### **Road Network Map – Rural Roads**



**Road Network Map – Mount Forest** 



#### **Road Network Map – Arthur**



Bridge Condition Index (BCI) Distribution of Township Bridges

BCI Distribution of Township Bridges (Number of Structures in BCI Range)



#### **Stormwater Network Map - Kenilworth**



## Stormwater Network Map – Mount Forest



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### Stormwater Network Map – Arthur



Water Network Map – Mount Forest



### Water Network Map – Arthur



### Sanitary System – Mount Forest



## Sanitary System – Arthur



#### Land Improvements – Parks Locations





LOCATION: Tucker St, Arthur New Hope Housing Buffer ZONING: OS Open Space APPROX SIZE: 92,815 Sq Ft

ROLL: 003-00210-0000 LOCATION: 185 Murphy St Murphy Park ZONING: OS Open Space APPROX SIZE: 2.85 acres

# Appendix C: Risk Rating Criteria

## Probability of Failure

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Probability of Failure Score
Road Network			80-100	1
Bridges & Culverts Buildings			60-79	2
	Condition	100%	40-59	3
Machinery & Equipment	condition	10070	20-39	4
Vehicles Land Improvements		0-19	5	
·	Condition		80-100	1
			60-79	2
		80%	40-59 3	3
		20-39 0-19	4	
			5	
Storm System (Mains)			PVC	1
Sanitary System (Mains)			Ductile Iron	1 2 3 4 5 1 1 2
Water Network (Mains)			PE	2
	Pipe	2006	Copper	3
	Material	2070	Steel	3
			AC	4
			CI	4
			Concrete	4

## Consequence of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Road Network			\$0-\$100,000	1
Bridges & Culverts Buildings		Renlacement	\$100,000-\$250,000	2
	Economic	Cost	\$250,000-\$500,000	3
Vehicles	(100%)	(100%)	\$500,000-\$1,000,000	4
Machinery & Equipment Land Improvements		(10070)	\$1,000,000+	5
			\$0-\$50,000	1
	Economic	Replacement	\$50,000-\$100,000	2
		Cost	\$100,000-\$500,000	3
	(80%)	(100%)	\$500,000-\$1,000,000	4
Storm System (Maine)			\$1,000,000+	5
Storm System (Mains)	Operational (20%)	Pipe Diameter (100%)	0-200	1
			200-300	2
			300-525	3
			525-750	4
			750+	5
			\$0-\$50,000	1
	Economic	Donlacomont	\$50,000-\$100,000	2
		Cost (100%)	\$100,000-\$500,000	3
	(00%)	COSL(100%)	\$500,000-\$1,000,000	4
Sanitary System		-	\$1,000,000+	5
(Mains)			0-100	1
	Operational	Dina Diamatar	100-200	2
			200-300	3
	(20%)	(100%)	300-350	4
			350+	5

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
			\$0-\$50,000	1
	Economic	Replacement\$50,000-\$100,000Cost (100%)\$100,000-\$500,000\$500,000-\$1,000,000\$1,000,000+	\$50,000-\$100,000	2
	(80%)		\$100,000-\$500,000	3
			\$500,000-\$1,000,000	4
Water Network (Maine)			\$1,000,000+	5
			0-50	1
	Operational	Dina Diamatar	50-100	2
			100-200	3
	(20%)	(100%) =	200-250	4
			250+	5

# Appendix D: Condition Assessment Guidelines

The foundation of good asset management practice is accurate and reliable data on the current condition of infrastructure. Assessing the condition of an asset at a single point in time allows staff to have a better understanding of the probability of asset failure due to deteriorating condition.

Condition data is vital to the development of data-driven asset management strategies. Without accurate and reliable asset data, there may be little confidence in asset management decision-making which can lead to premature asset failure, service disruption and suboptimal investment strategies. To prevent these outcomes, the Township's condition assessment strategy should outline several key considerations, including:

- The role of asset condition data in decision-making
- Guidelines for the collection of asset condition data
- A schedule for how regularly asset condition data should be collected

### Role of Asset Condition Data

The goal of collecting asset condition data is to ensure that data is available to inform maintenance and renewal programs required to meet the desired level of service. Accurate and reliable condition data allows municipal staff to determine the remaining service life of assets, and identify the most cost-effective approach to deterioration, whether it involves extending the life of the asset through remedial efforts or determining that replacement is required to avoid asset failure.

In addition to the optimization of lifecycle management strategies, asset condition data also impacts the Township's risk management and financial strategies. Assessed condition is a key variable in the determination of an asset's probability of failure. With a strong understanding of the probability of failure across the entire asset portfolio, the Township can develop strategies to mitigate both the probability and consequences of asset failure and service disruption. Furthermore, with condition-based determinations of future capital expenditures, the Township can develop long-term financial strategies with higher accuracy and reliability.

## Guidelines for Condition Assessment

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

Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating criteria, in a format that can be used for asset management decision-making. As a result, it is important that staff adequately define the condition rating criteria that should be used and the assets that require a discrete condition rating. When engaging with external consultants to complete condition assessments, it is critical that these details are communicated as part of the contractual terms of the project. There are many options available to the Township to complete condition assessments. In some cases, external consultants may need to be engaged to complete detailed technical assessments of infrastructure. In other cases, internal staff may have sufficient expertise or training to complete condition assessments.

## Developing a Condition Assessment Schedule

Condition assessments and general data collection can be both time-consuming and resource-intensive. It is not necessarily an effective strategy to collect assessed condition data across the entire asset inventory. Instead, the Township should prioritize the collection of assessed condition data based on the anticipated value of this data in decision-making. The International Infrastructure Management Manual (IIMM) identifies four key criteria to consider when making this determination:

- 1. **Relevance**: every data item must have a direct influence on the output that is required
- 2. **Appropriateness**: the volume of data and the frequency of updating should align with the stage in the assets life and the service being provided
- 3. **Reliability**: the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current
- 4. **Affordability**: the data should be affordable to collect and maintain

# Appendix E: Very High-Risk Assets

Asset ID	AMP Category	AMP Segment	Name	Risk Rating
1	Vehicles	Fire Vehicles	2006 Rosenbauer Pumper	15
11	Vehicles	Fire Vehicles	2003 HME Firetruck	15
37	Vehicles	Public Works Vehicles	2009 International Dumptruck	20
44	Vehicles	Public Works Vehicles	2008 Cat Grader	16
52	Vehicles	Public Works Vehicles	2003 Ford Tractor	15
1932	Water Network	Watermains	Watermain	16
1933	Water Network	Watermains	Watermain	16
1934	Water Network	Watermains	Watermain	16
1935	Water Network	Watermains	Watermain	16
1936	Water Network	Watermains	Watermain	16
1937	Water Network	Watermains	Watermain	16
1938	Water Network	Watermains	Watermain	16
1939	Water Network	Watermains	Watermain	16
1940	Water Network	Watermains	Watermain	16
1941	Water Network	Watermains	Watermain	16
1942	Water Network	Watermains	Watermain	16
1943	Water Network	Watermains	Watermain	16
1944	Water Network	Watermains	Watermain	16
1945	Water Network	Watermains	Watermain	16
2822	Storm System	Storm Mains	Mains	16
2823	Storm System	Storm Mains	Mains	16
2824	Storm System	Storm Mains	Mains	16

Asset	AMP	AMP Segment	Name	Risk
ID	Category			Rating
2825	Storm System	Storm Mains	Mains	16
2826	Storm System	Storm Mains	Mains	16
2827	Storm System	Storm Mains	Mains	16
2828	Storm System	Storm Mains	Mains	16
2829	Storm System	Storm Mains	Mains	16
2830	Storm System	Storm Mains	Mains	16
2833	Storm System	Storm Mains	Mains	20
2851	Storm System	Storm Mains	Mains	16
2854	Storm System	Storm Mains	Mains	16
2855	Storm System	Storm Mains	Mains	16
2857	Storm System	Storm Mains	Mains	16
2879	Storm System	Storm Mains	Mains	16
2880	Storm System	Storm Mains	Mains	16
2937	Storm System	Storm Mains	Mains	19.2
4272	Storm System	Storm Mains	Mains	15
4273	Storm System	Storm Mains	Mains	15
4290	Storm System	Storm Mains	Mains	16
4291	Storm System	Storm Mains	Mains	16
4336	Storm System	Storm Mains	Mains	16
4337	Storm System	Storm Mains	Mains	16
4431	Storm System	Storm Mains	Mains	16
4432	Storm System	Storm Mains	Mains	16
4433	Storm System	Storm Mains	Mains	16
4460	Storm System	Storm Mains	Mains	16
4461	Storm System	Storm Mains	Mains	16
4462	Storm System	Storm Mains	Mains	16
4463	Storm System	Storm Mains	Mains	16
4464	Storm System	Storm Mains	Mains	16
4465	Storm System	Storm Mains	Mains	16
4466	Storm System	Storm Mains	Mains	16
4467	Storm System	Storm Mains	Mains	16
4469	Storm System	Storm Mains	Mains	16
4470	Storm System	Storm Mains	Mains	16
4471	Storm System	Storm Mains	Mains	16
4508	Storm System	Storm Mains	Mains	16
4509	Storm System	Storm Mains	Mains	16
4510	Storm System	Storm Mains	Mains	16
4511	Storm System	Storm Mains	Mains	16
4551	Storm System	Storm Mains	Mains	15

Asset	АМР	AMP Segment	Name	Risk
ID	Category			Rating
4552	Storm System	Storm Mains	Mains	15
4557	Storm System	Storm Mains	Mains	16
4558	Storm System	Storm Mains	Mains	16
4589	Storm System	Storm Mains	Mains	16
4590	Storm System	Storm Mains	Mains	16
4591	Storm System	Storm Mains	Mains	16
4592	Storm System	Storm Mains	Mains	16
4593	Storm System	Storm Mains	Mains	16
4594	Storm System	Storm Mains	Mains	16
4595	Storm System	Storm Mains	Mains	16
4596	Storm System	Storm Mains	Mains	16
4597	Storm System	Storm Mains	Mains	16
4598	Storm System	Storm Mains	Mains	16
4599	Storm System	Storm Mains	Mains	16
4600	Storm System	Storm Mains	Mains	16
4601	Storm System	Storm Mains	Mains	16
4602	Storm System	Storm Mains	Mains	16
4603	Storm System	Storm Mains	Mains	16
4604	Storm System	Storm Mains	Mains	16
4605	Storm System	Storm Mains	Mains	16
4778	Storm System	Storm Mains	Mains	16
4779	Storm System	Storm Mains	Mains	16
4780	Storm System	Storm Mains	Mains	16
4781	Storm System	Storm Mains	Mains	16
5246	Storm System	Storm Mains	Mains	16
5247	Storm System	Storm Mains	Mains	16
5248	Storm System	Storm Mains	Mains	16
5249	Storm System	Storm Mains	Mains	16
5250	Storm System	Storm Mains	Mains	16
5251	Storm System	Storm Mains	Mains	16
5252	Storm System	Storm Mains	Mains	16
5823	Sanitary	Sanitary Mains	Sanitary Main	16
	System			
5824	Sanitary	Sanitary Mains	Sanitary Main	16
5025	System	Conitony Maina	Conitor ( Main	16
5025	System	Sanitary Mains	Sanitary Main	10
5826	Sanitary	Sanitary Mains	Sanitary Main	16
	System			10

Asset	AMP	AMP Segment	Name	Risk
ID	Category			Rating
5831	Sanitary	Sanitary Mains	Sanitary Main	20
	System			
5832	Sanitary	Sanitary Mains	Sanitary Main	20
F022	System	Canitan ( Maina	Caritary Main	20
5833	Sanitary	Sanitary Mains	Sanitary Main	20
5834	Sanitary	Sanitary Mains	Sanitary Main	20
5051	Svstem	Sumary Hums	Sumary Hum	20
5835	Sanitary	Sanitary Mains	Sanitary Main	20
	System	,	•	
5836	Sanitary	Sanitary Mains	Sanitary Main	20
	System			
6553	Water	Water Equipment	Well # 7 B Wellhouse	15
	Network			25
6555	Water	Water Equipment	Well 8A & 8B	25
6550	Water	Water Equipment	Water Storage Tank	15
0333	Network		and Wellhouse #5	15
6571	Water	Water Equipment	Storage Tank	20
	Network		(Watertower/Standpipe)	
6574	Sanitary	Sanitary Collection	Durham St. S.P. Station	15
	System			
6578	Sanitary	Sanitary Collection	Frederick St. SPS	16
6500	System		Pumpstation	20
6582	Sanitary	Sanitary Collection	Arthur WWIP	20
6583	Sanitary	Sanitary Collection	Arthur Lagoons	20
0000	System	Sumary Concetion	Arthar Eugoons	20
6593	Bridges &	Bridges	Bridge	15
	Culverts	-	-	
6605	Bridges &	Bridges	Bridge	15
	Culverts			
6699	Road Network	Rural Roads	EAST-WEST LUTHER TL	15
6756	Road Network	Urban Roads	Adelaide St.	20
6758	Road Network	Urban Roads	Andrew St.	15
6761	Road Network	Urban Roads	Carroll St.	15
6762	Road Network	Urban Roads	Carroll St.	15
6765	Road Network	Urban Roads	Charles St. W	25
6766	Road Network	Urban Roads	Charles St. W	25
6767	Road Network	Urban Roads	Charles St. W	25
6768	Road Network	Urban Roads	Charles St. W	25
6769	Road Network	Urban Roads	Clarke St.	15

Asset	АМР	AMP Segment	Name	Risk
ID	Category			Rating
6770	Road Network	Urban Roads	Clarke St.	15
6771	Road Network	Urban Roads	Clarke St.	15
6780	Road Network	Urban Roads	Domville St.	15
6781	Road Network	Urban Roads	Domville St.	15
6782	Road Network	Urban Roads	Domville St.	15
6783	Road Network	Urban Roads	Domville St.	15
6788	Road Network	Urban Roads	Edward St	15
6789	Road Network	Urban Roads	Eliza St.	25
6791	Road Network	Urban Roads	Eliza St.	25
6794	Road Network	Urban Roads	Eliza St.	25
6797	Road Network	Urban Roads	Eliza St.	15
6798	Road Network	Urban Roads	Eliza St.	15
6799	Road Network	Urban Roads	Eliza St.	25
6800	Road Network	Urban Roads	Farrell Lane	20
6801	Road Network	Urban Roads	Francis St. E	15
6807	Road Network	Urban Roads	Frederick St. W	15
6808	Road Network	Urban Roads	Frederick St. W	15
6825	Road Network	Urban Roads	McCord	15
6831	Road Network	Urban Roads	Smith St	20
6832	Road Network	Urban Roads	Smith St	15
6837	Road Network	Urban Roads	Tucker St	15
6839	Road Network	Urban Roads	Walton St	15
6840	Road Network	Urban Roads	Wells St.E	15
6841	Road Network	Urban Roads	Wells St.E	25
6842	Road Network	Urban Roads	Wells St.E	25
6843	Road Network	Urban Roads	Wells St.W	15
6844	Road Network	Urban Roads	Albert St.	15
6846	Road Network	Urban Roads	Albert St.	15
6848	Road Network	Urban Roads	Albert St.	15
6849	Road Network	Urban Roads	Albert St.	15
6850	Road Network	Urban Roads	Albert St.	15
6851	Road Network	Urban Roads	Arthur St.	15
6852	Road Network	Urban Roads	Arthur St.	15
6853	Road Network	Urban Roads	Arthur St.	15
6854	Road Network	Urban Roads	Arthur St.	15
6860	Road Network	Urban Roads	Birmingham St.	15
6861	Road Network	Urban Roads	Birmingham St.	15
6862	Road Network	Urban Roads	Birmingham St.	15
6863	Road Network	Urban Roads	Birmingham St.	15

Asset	АМР	AMP Segment	Name	Risk
ID	Category			Rating
6864	Road Network	Urban Roads	Birmingham St.	15
6865	Road Network	Urban Roads	Bristol St.	25
6866	Road Network	Urban Roads	Bristol St.	25
6871	Road Network	Urban Roads	Cheryl Lynn St	15
6872	Road Network	Urban Roads	Cheryl Lynn St	15
6883	Road Network	Urban Roads	Clyde St.	15
6884	Road Network	Urban Roads	Colcleugh Ave	15
6886	Road Network	Urban Roads	Cork St.	15
6888	Road Network	Urban Roads	Cork St.	15
6889	Road Network	Urban Roads	Cork St.	15
6892	Road Network	Urban Roads	Dublin St.	25
6901	Road Network	Urban Roads	Durham St W	15
6902	Road Network	Urban Roads	Durham St W	15
6903	Road Network	Urban Roads	Durham St W	15
6904	Road Network	Urban Roads	Durham St W	15
6905	Road Network	Urban Roads	Durham St W	15
6909	Road Network	Urban Roads	Egremont St. N	15
6913	Road Network	Urban Roads	Elgin St. N	15
6914	Road Network	Urban Roads	Elgin St. N	15
6918	Road Network	Urban Roads	Fergus St. N	15
6919	Road Network	Urban Roads	Fergus St. N	15
6924	Road Network	Urban Roads	Glasglow St	15
6925	Road Network	Urban Roads	Grant St.	15
6926	Road Network	Urban Roads	Harris St	25
6934	Road Network	Urban Roads	Homewood Ave	20
6938	Road Network	Urban Roads	Jeremys Cres	15
6939	Road Network	Urban Roads	John St	20
6942	Road Network	Urban Roads	Justins Pl	15
6943	Road Network	Urban Roads	Kenzie Rd	15
6945	Road Network	Urban Roads	King St. E	15
6956	Road Network	Urban Roads	London Rd. S	15
6957	Road Network	Urban Roads	London Rd. S	15
6958	Road Network	Urban Roads	London Rd. S	15
6959	Road Network	Urban Roads	London Rd. S	15
6962	Road Network	Urban Roads	Main St N	15
6964	Road Network	Urban Roads	Main St S	15
6966	Road Network	Urban Roads	Main St S	15
6967	Road Network	Urban Roads	Main St S	15
6970	Road Network	Urban Roads	Martin St	25

Asset	АМР	AMP Segment	Name	Risk
ID	Category			Rating
6972	Road Network	Urban Roads	Melissa Cres	15
6973	Road Network	Urban Roads	Melissa Cres	15
6974	Road Network	Urban Roads	Mill St	25
6976	Road Network	Urban Roads	Mount Forest Dr.	25
6977	Road Network	Urban Roads	Murphy St.	15
6978	Road Network	Urban Roads	Murphy St.	15
6979	Road Network	Urban Roads	Newfoundland St	20
6983	Road Network	Urban Roads	North Water St.	25
6984	Road Network	Urban Roads	North Water St.	25
6987	Road Network	Urban Roads	North Water St. W	15
6990	Road Network	Urban Roads	North Water St. W	15
6991	Road Network	Urban Roads	North Water St. W	15
7001	Road Network	Urban Roads	Prince Charles St.	20
7002	Road Network	Urban Roads	Princess Anne St.	20
7003	Road Network	Urban Roads	Princess St	15
7005	Road Network	Urban Roads	Princess St	15
7006	Road Network	Urban Roads	Princess St	15
7007	Road Network	Urban Roads	Princess St	15
7010	Road Network	Urban Roads	Queen St. E	25
7020	Road Network	Urban Roads	Queen St. W	15
7021	Road Network	Urban Roads	Queen St. W	15
7022	Road Network	Urban Roads	Queen St. W	15
7025	Road Network	Urban Roads	Queen St. W	15
7029	Road Network	Urban Roads	Sarah Rd	15
7032	Road Network	Urban Roads	Silverbirch St.	20
7035	Road Network	Urban Roads	Sligo Rd E	25
7036	Road Network	Urban Roads	Sligo Rd E	25
7037	Road Network	Urban Roads	Sligo Rd E	25
7039	Road Network	Urban Roads	Sligo Rd W	25
7040	Road Network	Urban Roads	Sligo Rd W	25
7041	Road Network	Urban Roads	Sligo Rd W	25
7042	Road Network	Urban Roads	Sligo Rd W	25
7043	Road Network	Urban Roads	Sligo Rd W	20
7044	Road Network	Urban Roads	South Water St.	25
7046	Road Network	Urban Roads	South Water St.	25
7047	Road Network	Urban Roads	South Water St.	25
7048	Road Network	Urban Roads	South Water St.	25
7052	Road Network	Urban Roads	Waterloo St	15
7053	Road Network	Urban Roads	Waterloo St	15

Asset	AMP	AMP Segment	Name	Risk
ID	Category			Rating
7054	Road Network	Urban Roads	Waterloo St	15
7055	Road Network	Urban Roads	Waterloo St	15
7057	Road Network	Urban Roads	Wellington St E	25
7059	Road Network	Urban Roads	Wellington St E	15
7062	Road Network	Urban Roads	Wellington St E	15
7064	Road Network	Urban Roads	Wellington St W	15
7065	Road Network	Urban Roads	Wellington St W	15
7066	Road Network	Urban Roads	Wellington St W	15
7067	Road Network	Urban Roads	Wellington St W	15
7096	Buildings	Recreation & Culture	Swimming Pool	25
7167	Buildings	Fire	Arthur Fire Hall	15
7194	Buildings	Recreation & Culture	Arthur Arena and	15
			Community Centre	
7207	Water	Water Equipment	Well # 3 booster & bldg	16
7010	Network Ruildings	Transportation Convisor	West Luther wike word	1 5
7213	Bood Notwork	Rural Roads		15
7300	Road Network	Rural Roads		15
7302	Road Network	Rural Roads		15
7365	Road Network	Rural Roads		15
7417	Road Network	Rural Roads		15
7410	Road Network	Rural Roads		15
7419	Road Network	Rural Roads		15
7420	Road Network	Rural Roads		15
7421	Road Network	Rural Roads		15
7422	Road Network	Rural Roads		15
7423	Road Network	Pural Roads		15
7425	Road Network	Pural Poads		15
7425	Road Network	Pural Roads		15
7442	Road Network	Pural Poads		15
7442	Road Network	Rural Roads		15
7444	Road Network	Pural Poads		15
7444	Road Network	Rural Roads		15
7445	Road Network	Rural Roads		15
7440	Land	Pacreation & Cultura	Kinsmen Ball Diamond	16
/4/3	Lanu Improvemente			10
7475	Buildings	Recreation & Culture	Old Community Centre	25
7476	Land	Recreation & Culture	Optimists Ball Diamond	16
· · · · ·	Improvements			10

Asset ID	AMP Category	AMP Segment	Name	Risk Rating
7479	Buildings	General Government	Kenilworth municipal bldg	15
7480	Buildings	General Government	Kenilworth mun bldg - addition	20
7484	Buildings	Recreation & Culture	washrooms	20
7531	Buildings	Recreation & Culture	Damascus Hall	15
7556	Road Network	Rural Roads	Jones baseline	15
7558	Road Network	Rural Roads	18th line	15
7561	Machinery & Equipment	General Government Equipment	Murphy Park dam	25
7624	Road Network	Traffic Lights	Traffic lights Mount Forest	20
7653	Sanitary System	Sanitary Collection	Cork St pump stn	25
7656	Road Network	Traffic Lights	Traffic lights Mount Forest	20
7657	Road Network	Traffic Lights	Traffic lights Mount Forest	20
7664	Road Network	Traffic Lights	Traffic lights Arthur	20
7673	Vehicles	Public Works Vehicles	Case Backhoe	15