

# 2024

Township of  
Laurentian Valley



# ASSET MANAGEMENT PLAN

Prepared By:

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Designed By:

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460 Witt Road





# Table of Contents

01

**Treasurer's Message**  
Page 3 - 4

02

**Executive Summary**  
Page 5 - 9

03

**Financial Strategy**  
Page 10 - 17

04

**Transportation**  
Page 18 - 32

05

**Drinking Water**  
Page 33 - 49

06

**Storm Water**  
Page 50 - 66

07

**Wastewater**  
Page 67 - 84

08

**Facilities**  
Page 85 - 99

09

**Vehicles and Heavy Equipment**  
Page 100 - 111

10

**Land Improvements**  
Page 112 - 122

11

**Next Steps**  
Page 123 - 125

12

**Appendix**  
Page 126 - 151





# Treasurer's Message

## Sean Crozier

*Treasurer/Deputy C.A.O.*

As part of the Infrastructure for Jobs and Prosperity Act, 2015, the Ontario government introduced Regulation 588/17, Asset Management Planning for Municipal Infrastructure which prescribes that all municipalities in Ontario develop an Asset Management Plan (AMP). The regulation set deadlines for municipalities compliance which is as follows:

- July 1, 2019 – prepare a strategic asset management policy
- July 1, 2022 – prepare an AMP for core infrastructure assets
- July 1, 2024 – prepare an AMP for all other municipal infrastructure assets
- July 1, 2025 – update the AMP to include proposed levels of service, lifecycle management strategy and financial strategy to address shortfalls

The goal of O. Reg 588/17 is to create better performing organizations and more livable and sustainable communities. Additionally, since the development of O.Reg 588/17, the Ministry of Infrastructure has modified their formula for calculating each municipality's Ontario Community Infrastructure Fund (OCIF) grant to be based on a municipality's current replacement values (CRVs) for core infrastructure. Therefore this a key planning document for the Township to become more efficient and sustainable while also identifying infrastructure funding needs from the Ministry of Infrastructure.

The first key to understanding this plan is to understand what is meant by Asset Management (AM). AM has been defined by many municipalities in different ways, however the Township has chosen to adopt the definition of AM from the Canadian Network of Asset Managers (CNAM) Asset Management 101 booklet:

*Asset management is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner – providing an optimum balance. Good asset management practices are fundamental to achieving sustainable communities.*



The essence of AM is understanding what assets the Township owns, what condition those assets are in, the estimated remaining life of those assets and the cost to replace those assets at the end of their useful lives. In this AMP when the term asset is used, the Township is referring to transportation, water, wastewater, stormwater, land improvement, facilities and vehicle & heavy equipment assets. Small equipment such as trailers and handheld assets have been omitted from this version.

Each asset category as mentioned above has their own individual chapter. The chapters are outlined in the same pattern which answer the following questions:

- What is in this category?
- What do we own?
- What are the assets worth?
- How old are the assets?
- What condition are the assets in?
- What lifecycle activities are performed on the assets?
- What are the current and proposed levels of service?
- How much current risk do the assets pose?
- What are the forecasted capital requirements for replacement?
- How can the Township finance the replacement of the assets?
- How can this section be improved in subsequent iterations?

The AMP should be read in conjunction with other Township plans such as the 2024-2028 Strategic Directions, the Township's Official Plan and annual budgets.

The Township acknowledges the following people as the development of this AMP could not have been possible without their support and access to resources:

#### **Asset Management Working Group**

- Mayor Bennett
- Reeve Watt
- Councillor Wren
- Dean Sauriol, Chief Administrative Officer
- Mark Behm, Manager of Public Works
- Brad Faught, Operations Supervisor

#### **Municipal Finance Officers Association (MFOA) AMP It Up 3.0 program:**

- Israr Ahmad, Public Sector Digest Program Manager

#### **Federation of Canadian Municipalities (FCM)**

#### **Asset Management Ontario (AMOntario)**





# Executive Summary





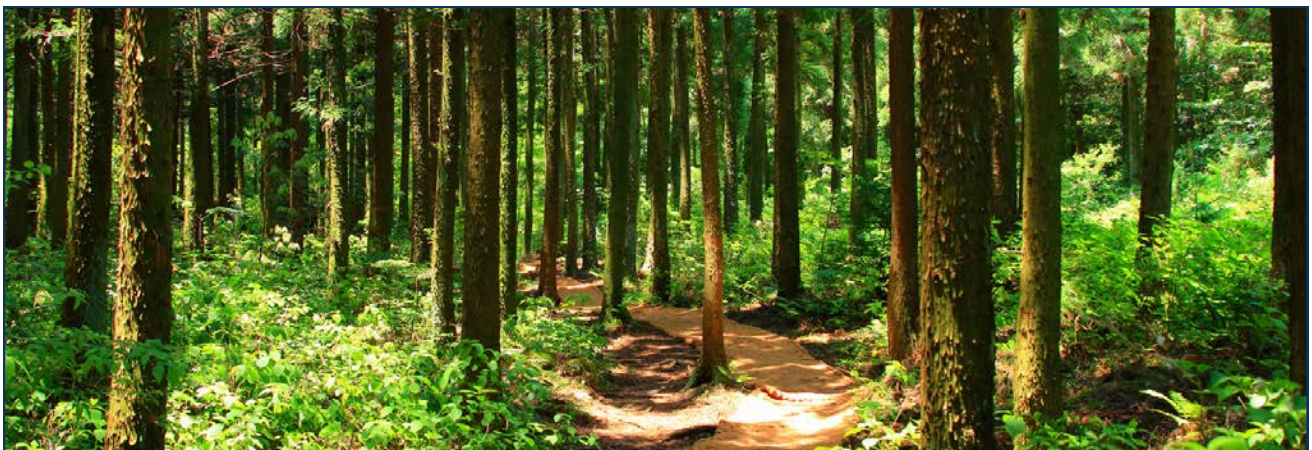
## 2.0 Executive Summary

The Township of Laurentian Valley's infrastructure assets support the delivery of a wide range of municipal services. Proper functioning infrastructure is vital to ensure residents and visitors are safe while enjoying the services they expect. The Township's AMP will serve as a guiding document for council and staff to aid in decision making that takes a long-term view in providing satisfactory levels of service to our stakeholders.

The Infrastructure for Jobs & Prosperity Act, 2015 and Ontario Regulation 588/17 prescribe that municipalities adopt an AMP that outlines current and proposed levels of service for core and non-core infrastructure assets. This AMP satisfies the legislative requirements imposed by the Provincial government. However, the Township recognizes that this AMP is a living document that will continually be updated and improved. It is the intent of the Township to continuously build on this AMP by adopting best practices to capture life cycle costs, update current replacement values and implement non-condition related factors into the risk management framework.

The Township has approximately \$323,691,274 current replacement value (CRV) of infrastructure assets. This equates to \$80,360 worth of assets for each household. Currently, the Township has an annual funding gap of \$8,873,623 or \$2,200 per household. An infrastructure gap such as this is common among many Ontario municipalities. If the Township continues to invest in infrastructure assets at the current rate, the infrastructure gap is estimated to be \$222,000,000 in twenty-five years, or \$55,000 per household. This AMP identifies a financing strategy that can close the infrastructure gap in 25 years for the infrastructure assets that are currently owned and operated by the Township today. In reality it is very likely that significant funding from the federal and provincial governments will be needed to achieve this goal.

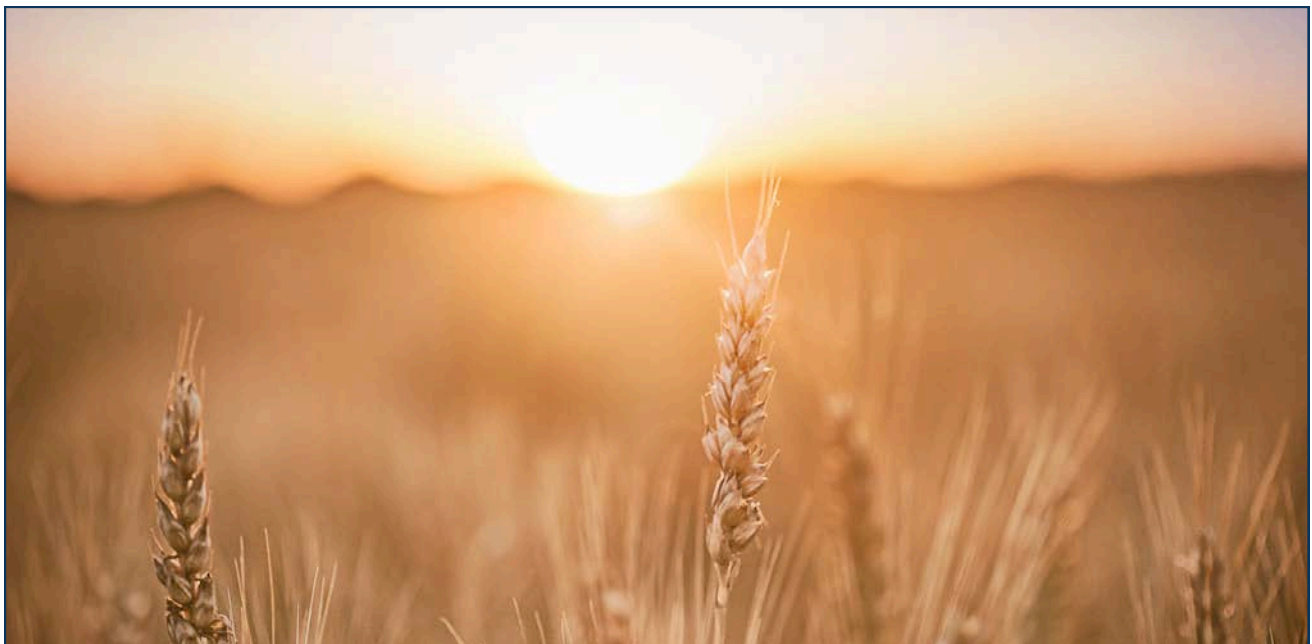
The development of this AMP came from internal staff with the guidance of the Township's Asset Management Plan Working Group, which consisted of Mayor Bennett, Reeve Watt and Councilor Wren. The working group met four times to review staff's assumptions in each asset category. The intent is to have the working group also review subsequent iterations.





## 2.1 Asset Overview

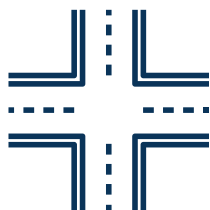
ASSET CLASS	REPLACEMENT VALUE	AVERAGE AGE	AVERAGE CONDITION	ANNUAL DEFICIT
Transportation	\$224,765,925	14.98 Years	Good	\$7,257,127
Drinking Water	\$24,558,120	34.95 Years	Good	\$331,500
Stormwater	\$10,144,810	16.05 Years	Good	\$226,660
Wastewater	\$24,725,656	43.36 Years	Fair	\$346,836
Facilities	\$28,625,000	32.36 Years	Fair	\$611,500
Vehicles and Heavy Equipment	\$7,400,000	9.38 Years	Good	\$115,000
Land Improvements	\$3,471,763	18.77 Years	Good	(\$15,000)





## 2.2 Asset Valuation

The value of an asset can be considered in terms of benefit to the community as well as the financial value such as replacement cost. The method used for determining the current replacement costs for the Township’s assets varies based on asset type and class as well as available information. In some cases, the Consumer Price Index or Non-Residential Building Consumer Price Index is applied based on the date the asset was put into service and the historical costs. In other cases, more refined replacement costs are calculated and provided by subject matter experts. The replacement cost of an asset may not be a simple like for like value due to technical or safety standard changes. Linear assets such as watermain or stormwater sewers will use information from subject matter experts such as recent contract award bid prices to create, a “per-unit” cost that can be applied based on criteria such as length, width, diameter, etc.



Transportation  
225M



Drinking Water  
25M



Stormwater  
10M



Wastewater  
25M



Facilities  
29M



Vehicles and Heavy Equipment  
7M



Land Improvements  
3M

Estimated  
Replacement Value

324M



## 2.3 Asset Condition

Understanding the overall health and physical condition of the asset is important to plan for future repair, renewal or replacement at the appropriate times. Inspections are routinely performed based on technical and/or internal standards. Where direct inspections cannot be performed, condition ratings can be estimated based on samples within the same asset class and applied to assets of similar type and age, or they can be estimated based strictly on age and expected life.

## 2.4 Asset Age

Each asset has an estimated useful life (EUL) which is the estimated longevity and design life of an asset. As assets age the appropriate lifecycle activities such as maintenance may allow an asset to exceed its EUL.

## 2.5 Lifecycle of Asset

For each asset there are ideal times where investments, even small, can increase an asset's life span and lower the overall operating cost of the asset. Activities can range from simple, low-cost preventative maintenance procedures to more expensive rehabilitations. The key is to understand that doing reactive replacement of assets in the poorest condition (worst first methodology) generally has the highest life cycle cost of all options available.

The continued use of assets beyond their EUL and without appropriate life cycle maintenance will force the Township to accept a lower standard of infrastructure along with higher lifecycle and operating costs. It also means accepting a higher level of risk for asset failure; however, assets will always be maintained to meet regulatory requirements, such as environmental protection, public health and road safety.

## 2.6 Levels of Service

The Township owns and maintains assets to provide services to the public. A Level of Service (LOS) is how an asset performs in delivering a service. Target LOS may be legislated, based on industry standards and best practices, community engagement or may be set to support the strategic goals of the Township of Laurentian Valley.

The Township of Laurentian Valley recognizes the importance of providing the community with desirable and valued services. Robust community engagement has, and will continue to, provide education on the Township's Asset Management Program and will collect the feedback needed to support the development of target LOS.





# Financial Strategy





## 3.0 Financial Strategy

The Township has an annual infrastructure gap of \$8,873,623, which equates to \$2,200 per household. If funding infrastructure replacement is held at the current rate, the Township would have an estimated infrastructure gap of \$221,840,575 in twenty-five years, which would equate to \$55,000 per household.

### 3.1 Tax Funded Assets

The current annual infrastructure gap for tax funded assets is \$8,195,287. Asset replacement for tax funded assets is primarily financed from the following sources:

- 1)Property tax in current year
- 2)Reserve contributions (property tax from previous years)
- 3)Canada Community Building Fund (CCBF)
- 4)Ontario Community Infrastructure Fund (OCIF)

Other capital grants have not been considered in this AMP as they do not provide stable financing. The use of debt has also been omitted in this AMP as debt primarily provides cash flow relief.

When analyzing options to close the infrastructure gap the following assumptions were made:

- 1)The operating portion of the tax levy would grow at a constant rate of 4%
- 2)The capital portion of the tax levy would grow at a constant rate of 1%
- 3)CCBF contributions would grow at a constant rate of 2%
- 4)OCIF contributions would grow at a constant rate of 5%
- 5)2025 beginning capital reserve balance is \$632,000
- 6)Ending capital reserve balances will never be below \$500,000
- 7)The current backlog is not factored into the calculation

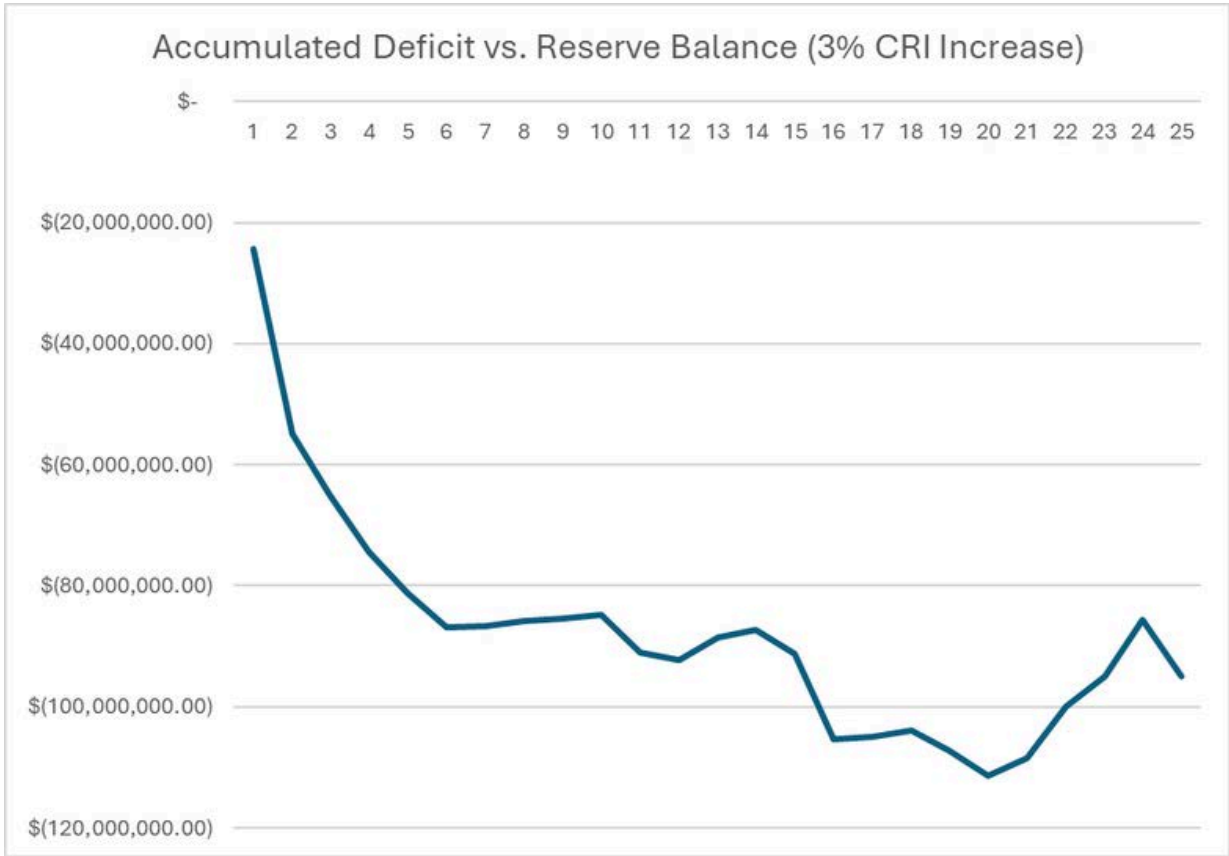
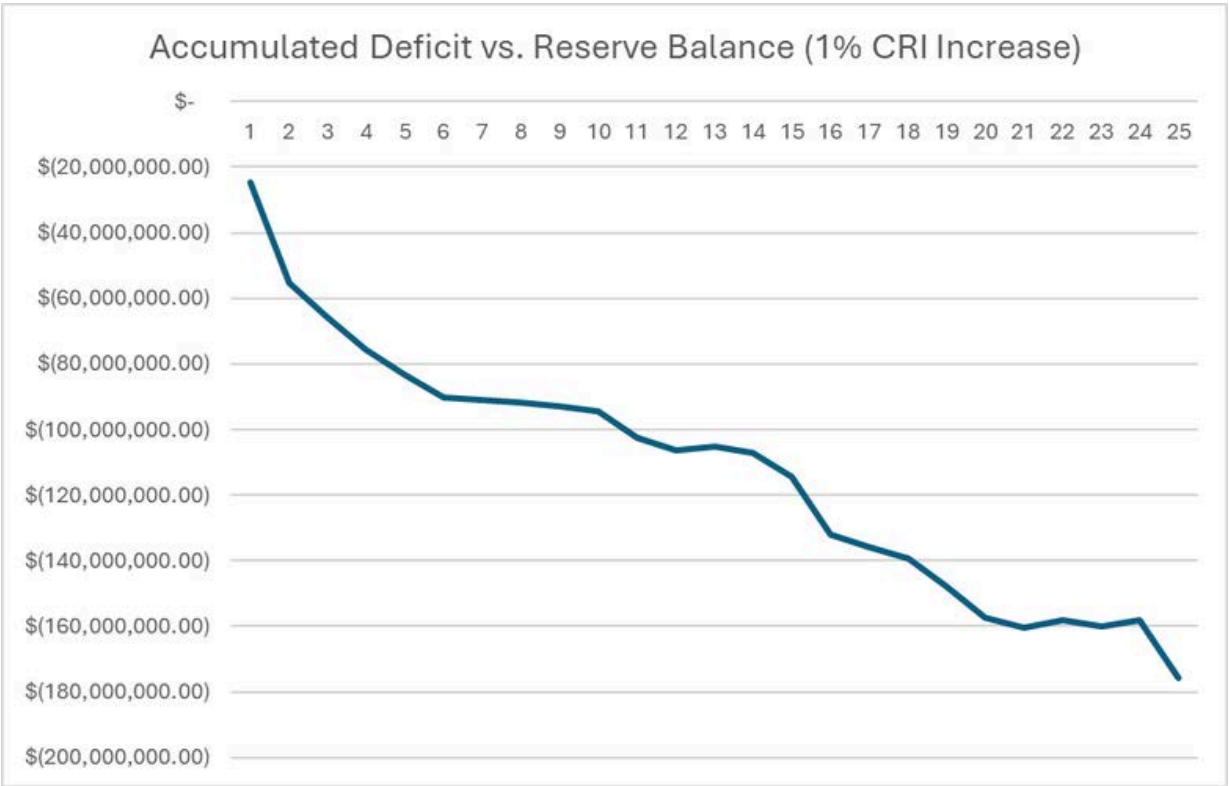
With the above assumptions the following scenarios for contributions to the capital reinvestment reserve (CRI) were analyzed:

- 1)1% of previous year's total levy (*current policy*)
- 2)3% of previous year's total levy
- 3)4.79% of previous year's total levy

The below graphs outline the infrastructure gap after twenty-five years.

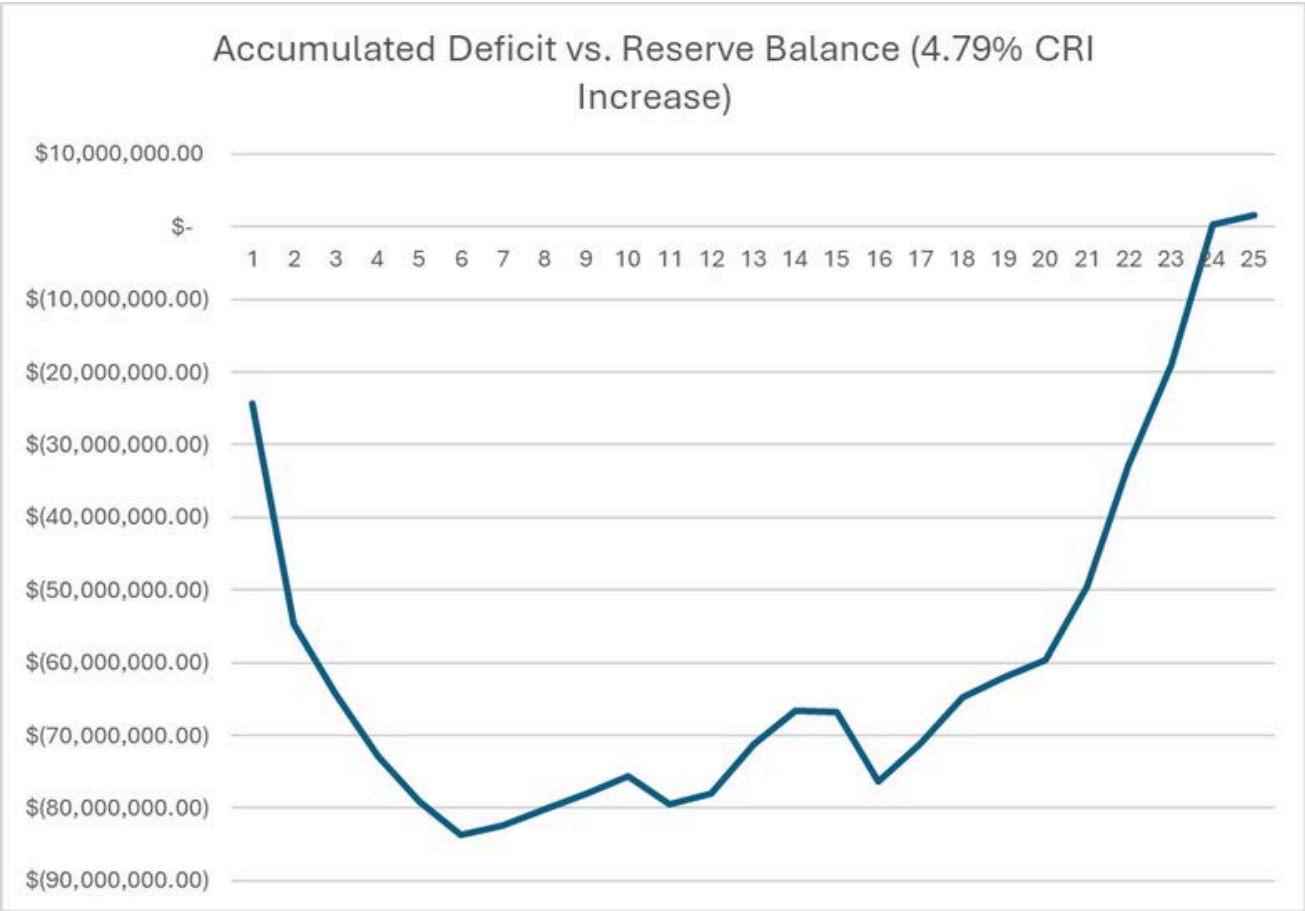


3.1.1 CRI Increase Projections

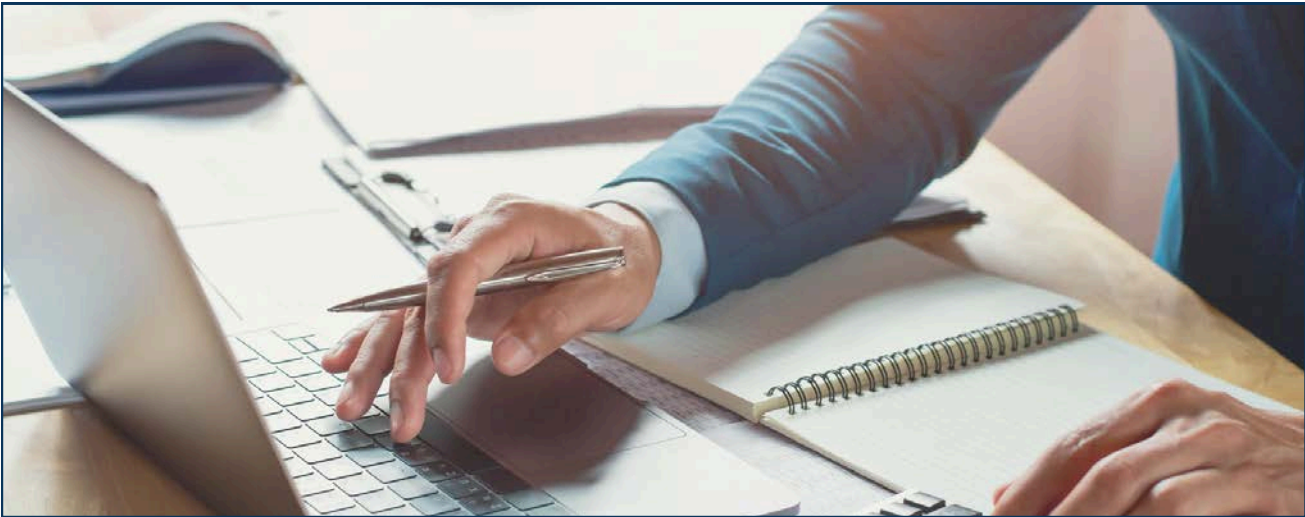




3.1.1 CRI Increase Projections

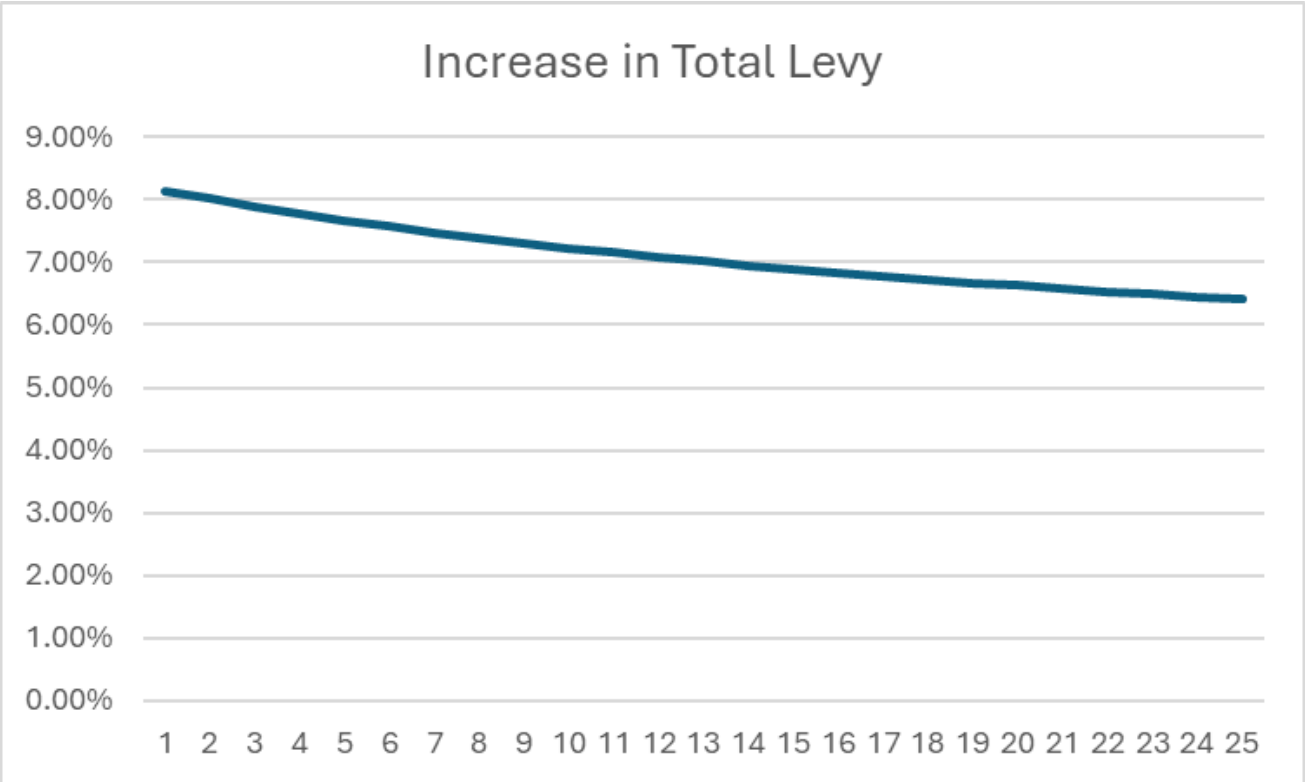


Under scenario 3, having a constant 4.79% increase to the capital reinvestment reserve the Township would close the accumulated infrastructure gap in year 24 (2048). The following graph illustrates the year-over-year increase in the total taxation levy over the twenty-five-year span. The largest increase would be in year 1 of 8.15% and would decrease to 6.41% in year 25 (2049).





### 3.1.1 CRI Increase Projections



### 3.2 Rate Funded Assets - Drinking Water

The current annual infrastructure gap for water assets is \$331,500. Asset replacement for water funded assets are primarily financed from the following sources:

- 1) Water rates
- 2) Water reserves (*water rates from previous years*)

Other capital grants have not been considered in this AMP as they do not provide stable financing. The use of debt has also been omitted in this AMP as debt primarily provides cash flow relief.

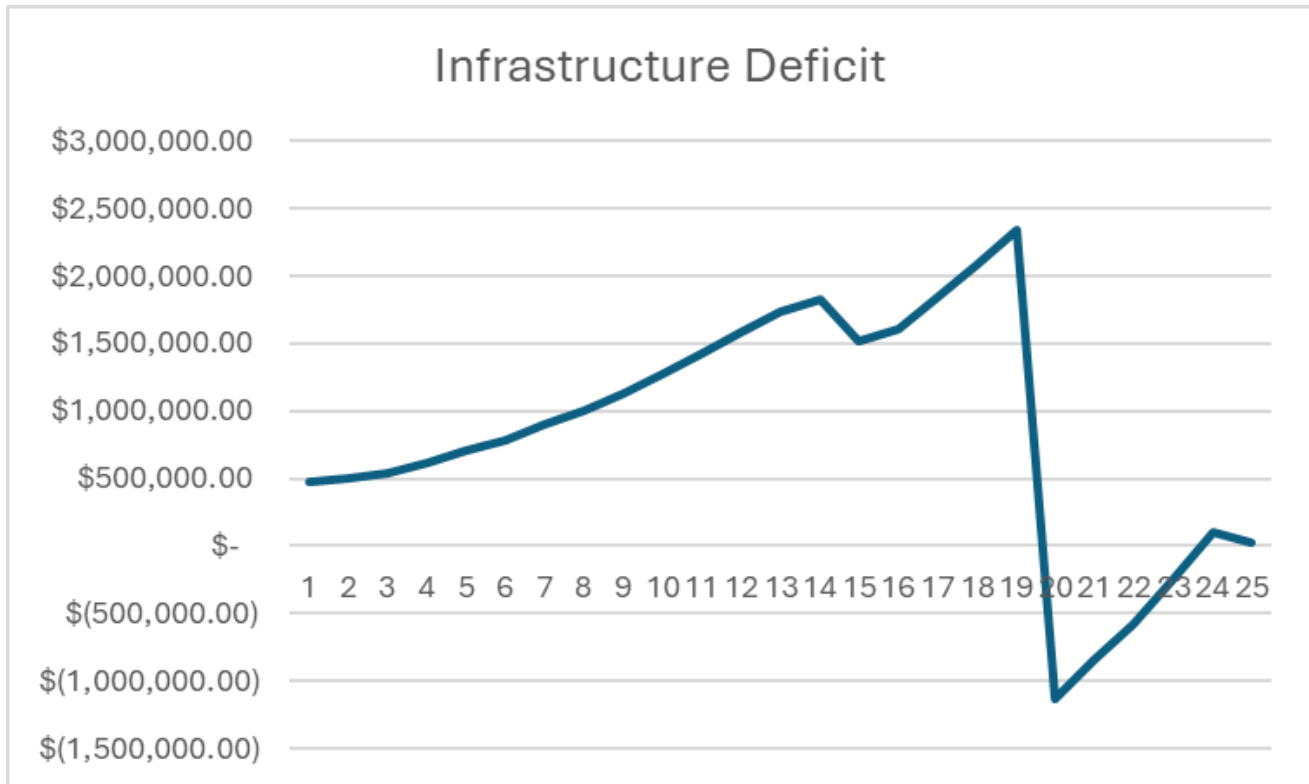
When analyzing options to close the infrastructure gap the following assumptions were made:

- 1) The operating portion of the water levy would grow at a constant rate of 4%
- 2) The capital/contribution to reserve portion of the water levy would grow at a constant rate of 1% of the previous year's total water levy
- 3) CCBF contributions are \$0.00 as they are dedicated to tax funded assets
- 4) OCIF contributions are \$0.00 as they are dedicated to tax funded assets
- 5) 2025 beginning water capital reserve balance is \$451,996
- 6) Ending capital reserve balances will never be below \$400,000
- 7) The current backlog is not factored into the calculation



### 3.3 Rate Funded Assets - Water

With the above assumptions, the below graph illustrates the infrastructure deficit over twenty-five years.

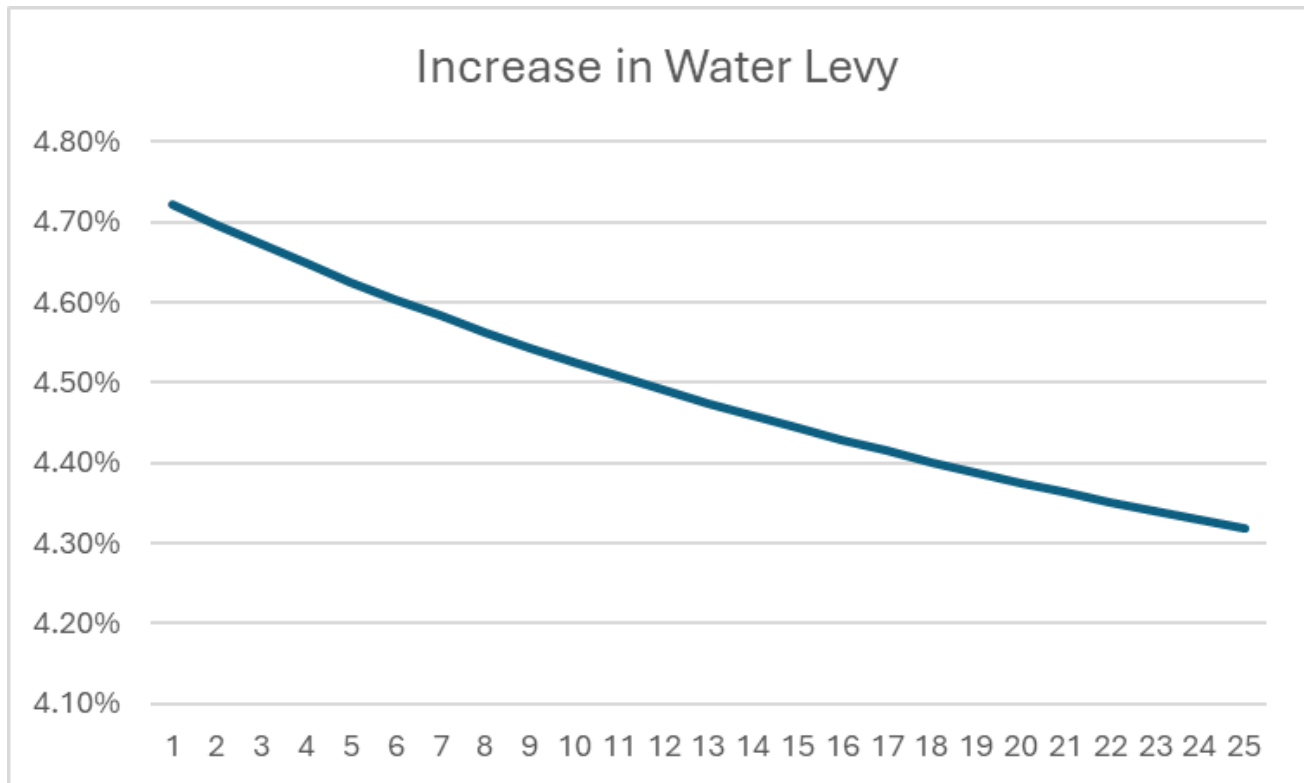


In this scenario, the Township would be in a positive position, building reserves until year 20 when large expenditures are expected to occur. From year 20 to 25 the infrastructure gap would be closed. The following graph illustrates the year-over-year increase in the total water levy over the twenty-five-year span. The largest increase would be in year 1 of 4.72% and would decrease to 4.32% in year 25 (2049).





### 3.3 Rate Funded Assets - Water



### 3.4 Rate Funded Assets - Wastewater

The current annual infrastructure gap for wastewater assets is \$346,836. Asset replacement for wastewater funded assets are primarily financed from the following sources:

- 1)Wastewater rates
- 2)Wastewater reserves (*water rates from previous years*)

Other capital grants have not been considered in this AMP as they do not provide stable financing. The use of debt has also been omitted in this AMP as debt primarily provides cash flow relief.

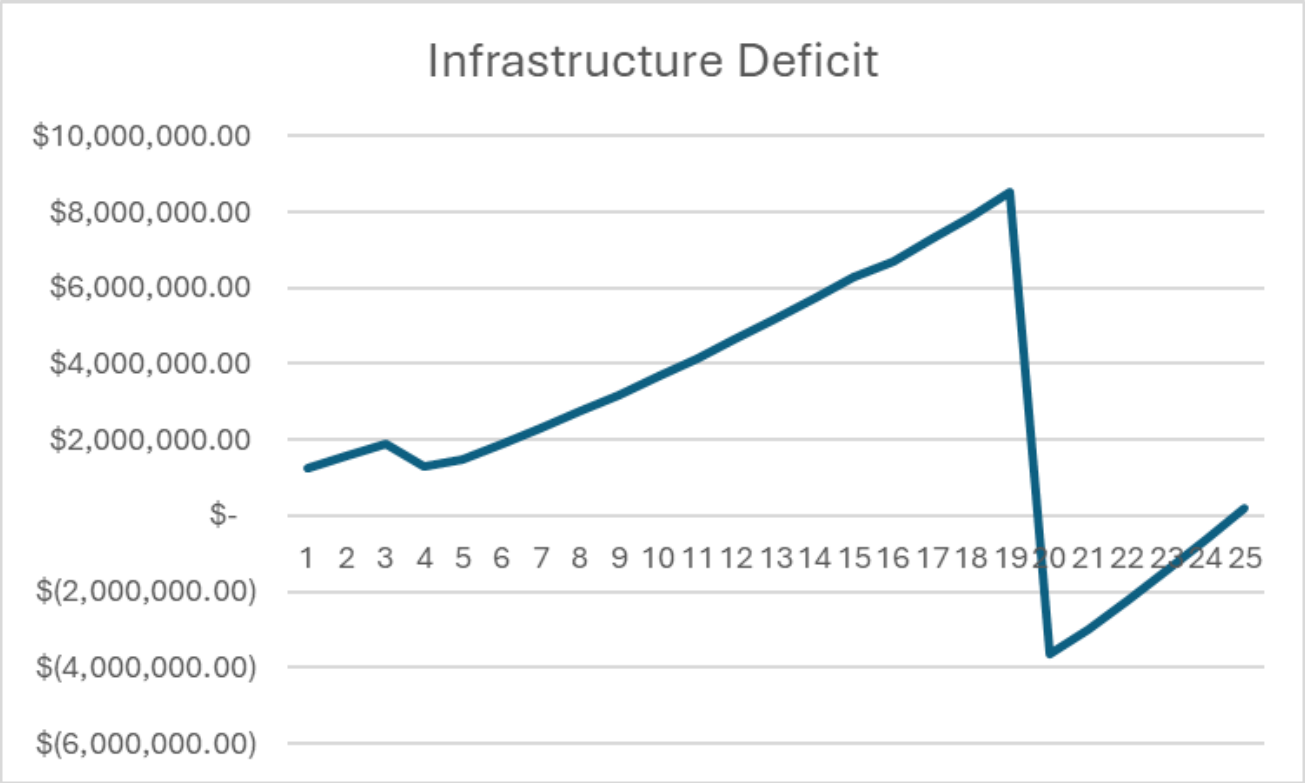
When analyzing options to close the infrastructure gap the following assumptions were made:

- 1)The operating portion of the wastewater levy would grow at a constant rate of 4%
- 2)The capital/contribution to reserve portion of the wastewater levy would grow at a constant rate of 33% of the previous year's total wastewater levy
- 3)CCBF contributions are \$0.00 as they are dedicated to tax funded assets
- 4)OCIF contributions are \$0.00 as they are dedicated to tax funded assets
- 5)2025 beginning wastewater capital reserve balance is \$1,033,849
- 6)Ending capital reserve balances will never be below \$400,000
- 7)The current backlog is not factored into the calculation

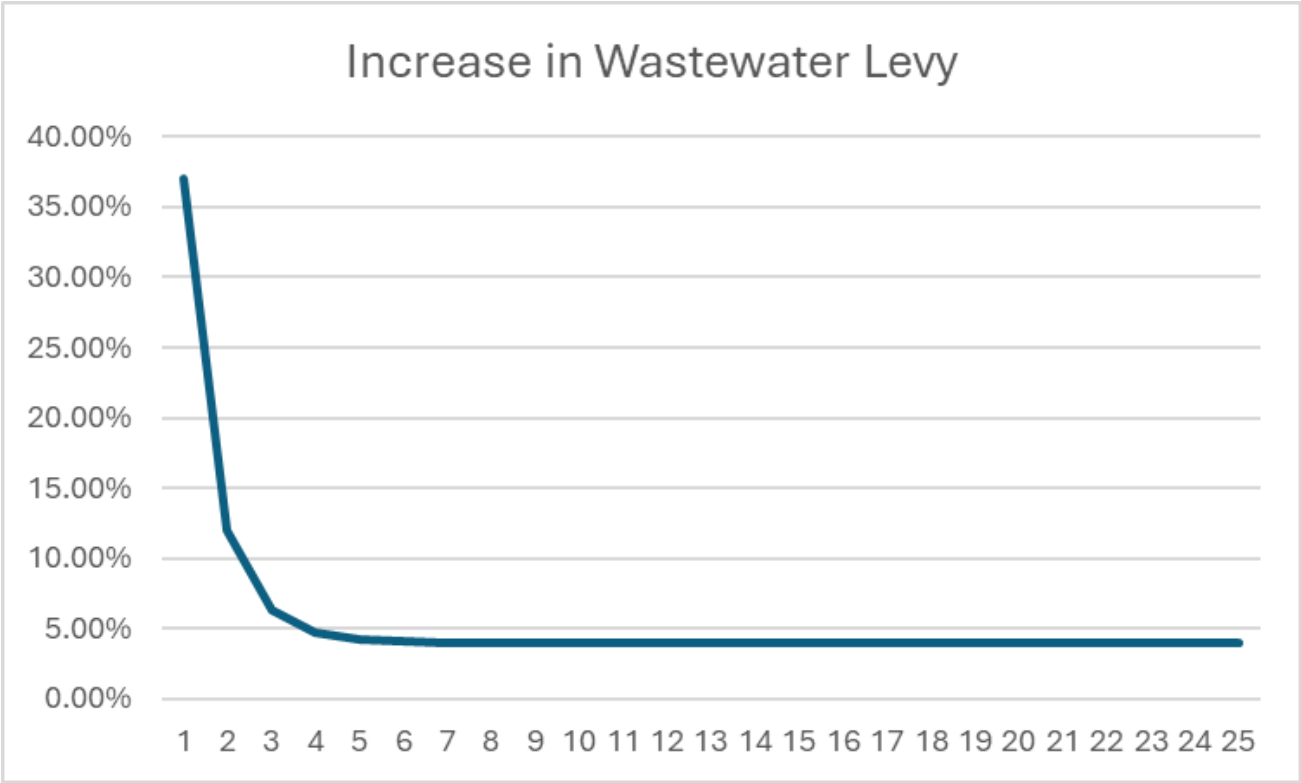
With the above assumptions, the below graph illustrates the infrastructure deficit over 25 years.



3.4 Rate Funded Assets - Wastewater



In this scenario, the Township would be in a positive position, building reserves until year 20 when large expenditures are expected to occur. From year 20 to 25 the infrastructure gap would be closed. The following graph illustrates the increase in the year-over-year total wastewater levy over the 25 year span. The largest increase would be in year 1 of 37.00% and would decrease to 4.00% in year 25 (2049).







# Transportation





## 4.0 Transportation

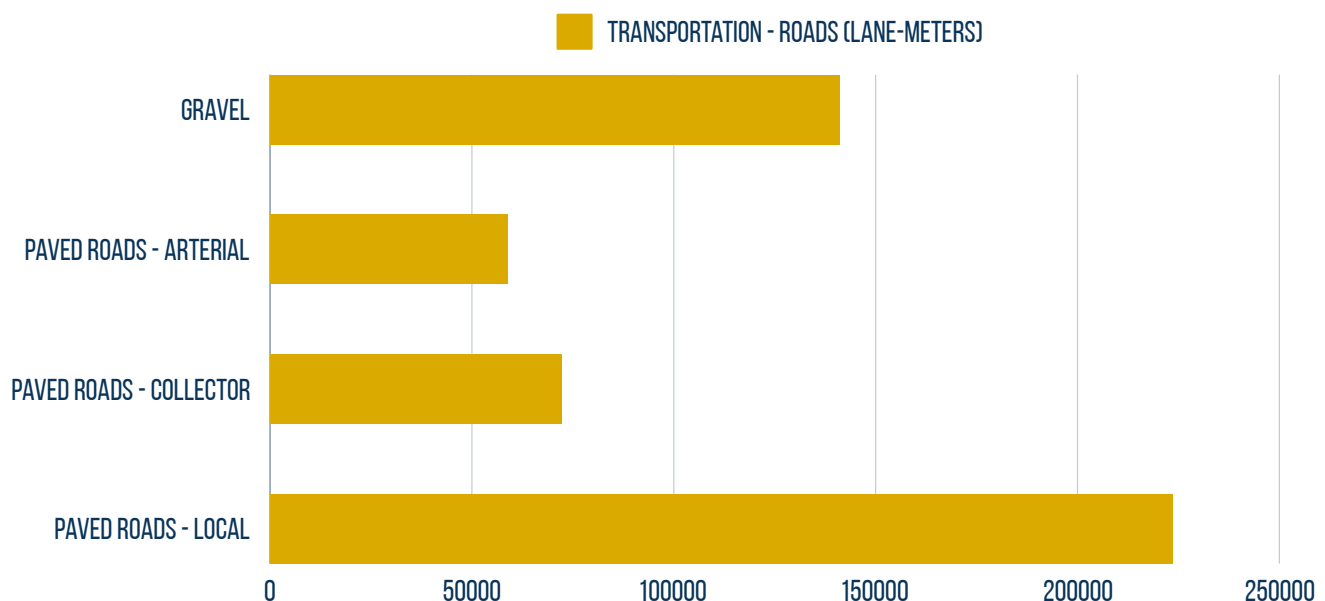
The Township owns transportation assets that allow residents to travel within and through the Township. Assets in this category include local roads, collector roads, arterial roads, gravel roads and intersection/streetlights. The road network spans approximately 500 lane kilometers. Transportation assets have a total replacement value of \$224,765,925.

### 4.1 Asset Inventory

The Township's road network spans approximately 500 lane kilometers and includes assets that relate to the transportation system. The term "lane kilometer" is an internationally adopted concept where instead of counting the overall length of the highway, only the length of each new lane that is constructed is measured.

Table 4.1 outlines what transportation assets the Township owns, while tables 4.1.1, 4.1.2 and 4.1.3 outline the asset value, age and condition respectively in reference to the items outlined in 4.1.

DESCRIPTION	COUNT	LENGTH (LANE METERS)	AREA (METERS 2)
Intersection/Streetlights	246		
Paved Roads - Local		223,602	782,242
Paved Roads – Collector		72,244	252,854
Paved Roads - Arterial		58,874	208,103
Gravel Roads		141,166	494,081
TOTAL	246	495,886 lane-meters	1,737,280 m <sup>2</sup>





### 4.1.1 ASSET VALUE

DESCRIPTION	REPLACEMENT COSTS
Intersection/Streetlights	\$1,230,000
Paved Roads – Local	\$117,336,300
Paved Roads – Collector	\$37,928,100
Paved Roads – Arterial	\$31,215,450
Gravel Roads	\$37,056,075
TOTAL	\$224,765,925

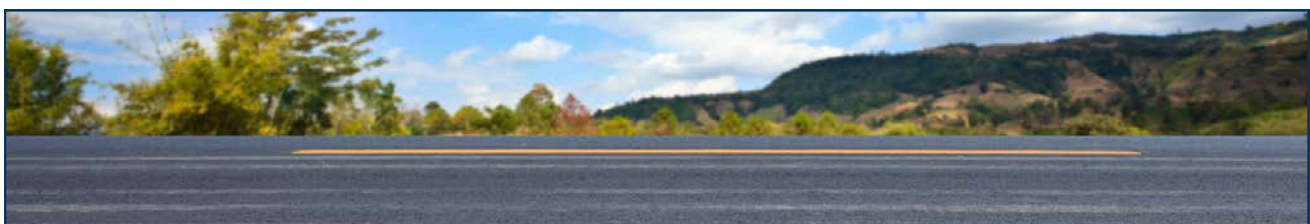
### 4.1.2 ASSET AGE

The average age of the Township’s transportation assets weighted by current replacement value is 14.98 years. The unweighted average age of each category can be broken down as follows:

DESCRIPTION	ESTIMATED USEFUL LIFE (EUL)	AVERAGE AGE
Intersection/Streetlights	25 Years	9.00
Paved Roads – Local	25 Years	15.56
Paved Roads – Collector	25 Years	19.28
Paved Roads – Arterial	25 Years	12.88
Gravel Roads	25 Years	9.51

### 4.1.3 ASSET CONDITION

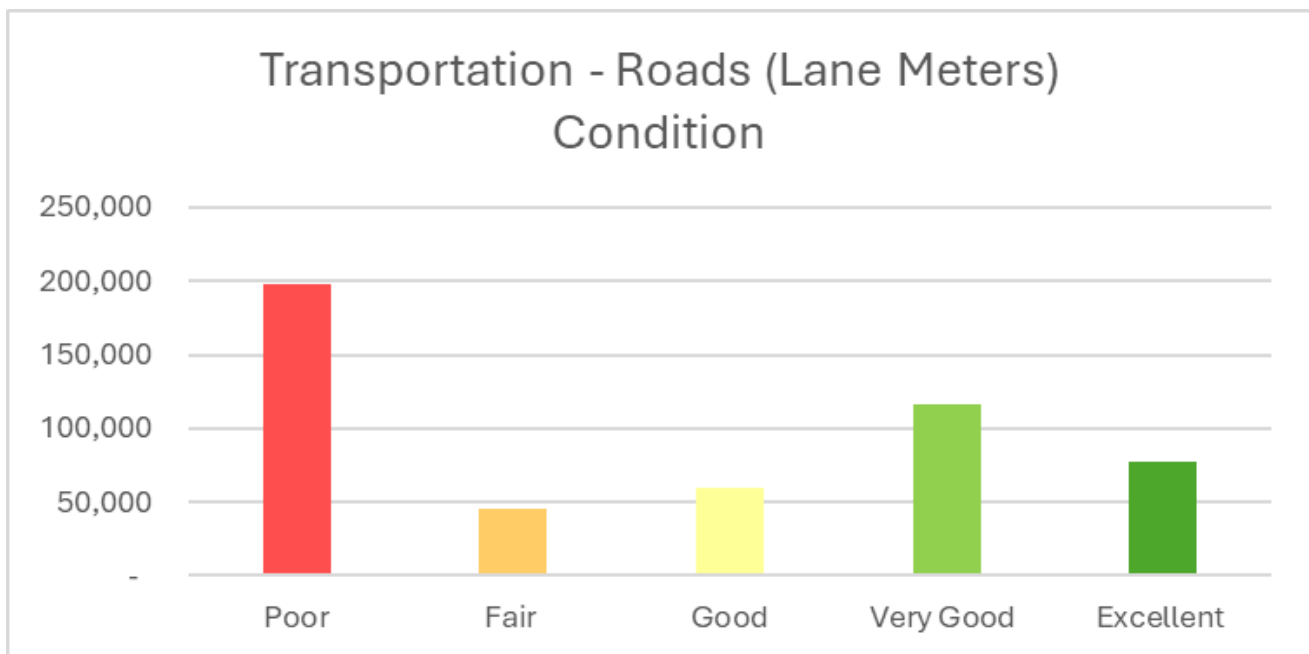
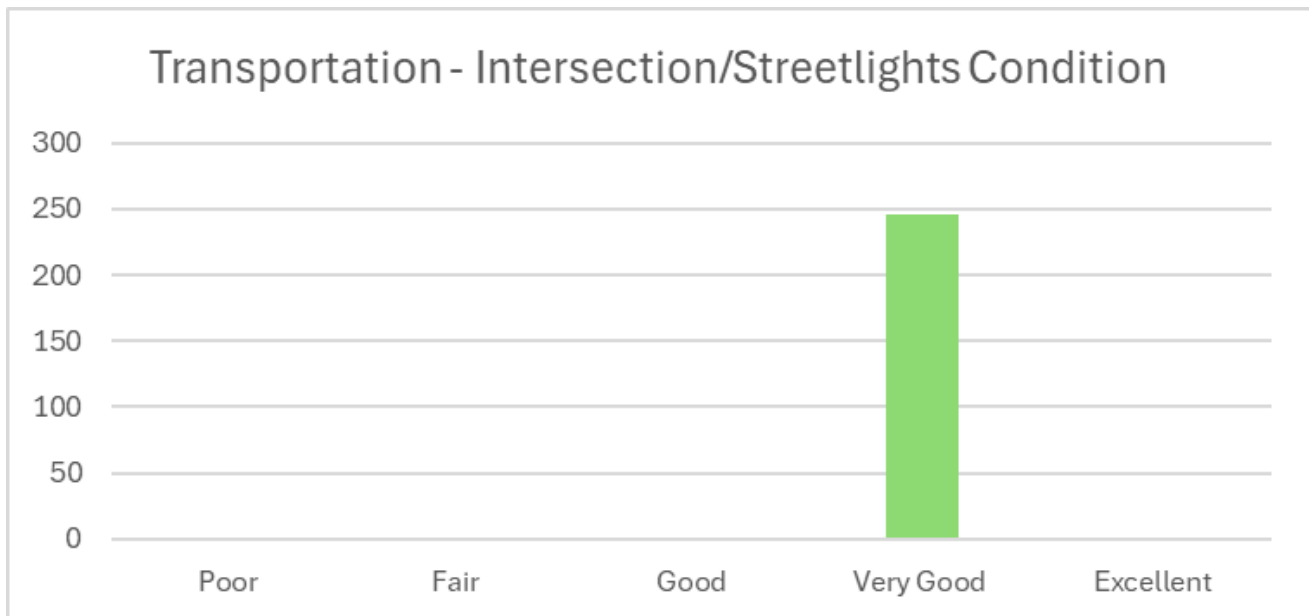
DESCRIPTION	NUMBER OF ASSETS	LENGTH (LANE-M)	AREA (M <sup>2</sup> )
Poor	0	198,390	694,365
Fair	0	45,026	157,591
Good	0	59,118	206,913
Very Good	246	116,338	407,183
Excellent	0	77,014	271,228
TOTAL	246	495,886	1,737,280m <sup>2</sup>










### 4.1.3 ASSET CONDITION

The average condition weighted by current replacement value is 2.54 which borders fair and good.





CONDITION GRADE	TYPICAL ROAD EXAMPLE
Excellent (PCI= 85-100)	
Very Good (PCI = 70-85)	
Good (PCI 55-70)	
Fair (PCI 40-55)	
Poor (PCI = 0-40)	

#### 4.1.5 ASSET CONDITION ASSESSMENT

The Township has used age and road condition to assess the state of Township transportation assets. The following chart outlines the characteristics of each condition category. Roads are measured by PCI (pavement condition index) which is a numerical index between 0 and 100, used to indicate the general condition of a pavement section. The Township has combined PCI and %ULR (percentage of useful life remaining) to determine overall transportation asset conditions.

PERCENTAGE OF USEFUL LIFE REMAINING	PAVEMENT CONDITION INDEX	CONDITION	RATING
%ULR < 20%	0-40	Poor	1
20% < %ULR < 40%	40-55	Fair	2
40% < %ULR < 60%	55-70	Good	3
60% < %ULR < 80%	70-85	Very Good	4
80% < 100%	85-100	Excellent	5



## 4.2 Lifecycle Activities

To ensure assets perform to expectations it is imperative for the Township to perform lifecycle activities to proactively manage asset deterioration. The following activities are generally performed by the Township on a regular basis:

ACTIVITY	DESCRIPTION
Maintenance	Crack Sealing performed as needed
Rehabilitation	Strip & Pave performed when PCI is at or below 40
Replacement	Full reconstruction when PCI is at or below 25

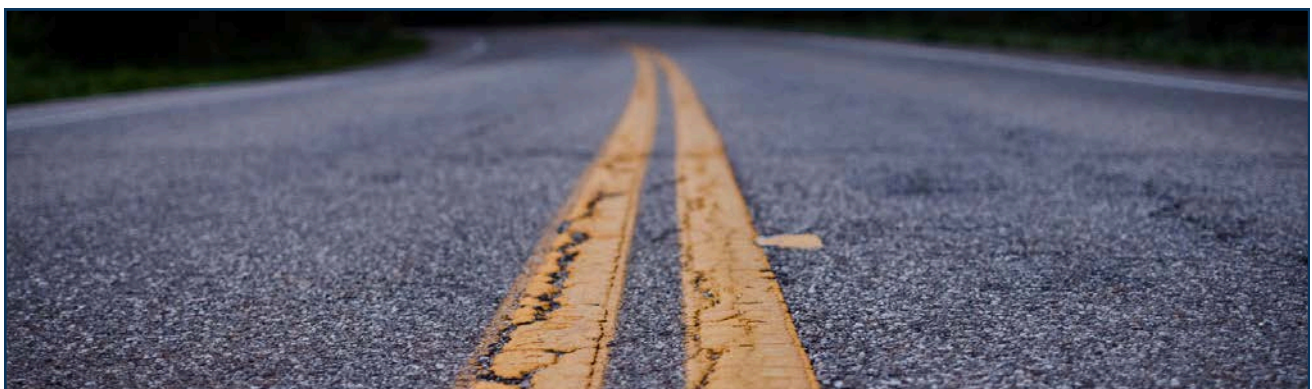
## 4.3 Levels of Service

O. Reg 588/17 prescribes the qualitative and technical metrics that municipalities must measure to define their community and technical level of service for transportation infrastructure.

### 4.3.1 COMMUNITY LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	CURRENT LOS	PROPOSED LOS
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity	See Map (4.8)	See Map (4.8)
Quality	Description or images that illustrate different levels of road class pavement condition	See Appendix (See Table 4.1.3)	See Appendix (See Table 4.1.3)





### 4.3.2 TECHNICAL LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	TECHNICAL METRIC	CURRENT LOS	PROPOSED LOS
Scope	Number of lane-kilometers of each of arterial roads, collector roads and local roads as a proportion of square kilometers of land area of the municipality	Arterial – 0.10 Collector – 0.12 Local – 0.38	Arterial – 0.10 Collector – 0.12 Local – 0.38
Scope	For paved roads in the municipality, the average pavement condition index value.  For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor)	Paved – 52.95  Unpaved – Very Good	Paved – 52.95  Unpaved – Very Good





## 4.4 Risk Assessment

Risk management is a key component of an asset's lifecycle management. The first stage of an effective risk management strategy is to develop a risk matrix where the probability of failure (PoF) and consequence of failure (CoF) are combined to produce an overall risk score for each asset.

The PoF is an estimate of how likely it is that an asset will not be available to deliver an expected service. The condition of the asset determines the asset's useful life remaining (ULR) which is the key driver to determine the likelihood of failure. The below table outlines the rationale to determine the PoF of transportation assets.

CONDITION	URL PERCENTAGE	PCI	LIKELIHOOD	POF
1 Poor	0-20	0-40	Almost Certain: 80% or greater	5
2 Fair	20-40	40-55	Likely: 60-79%	4
3 Good	40-60	55-70	Possible: 40-59%	3
4 Very Good	60-80	70-85	Unlikely 20-39%	2
5 Excellent	80-100	85-100	Rare: 0-19%	1

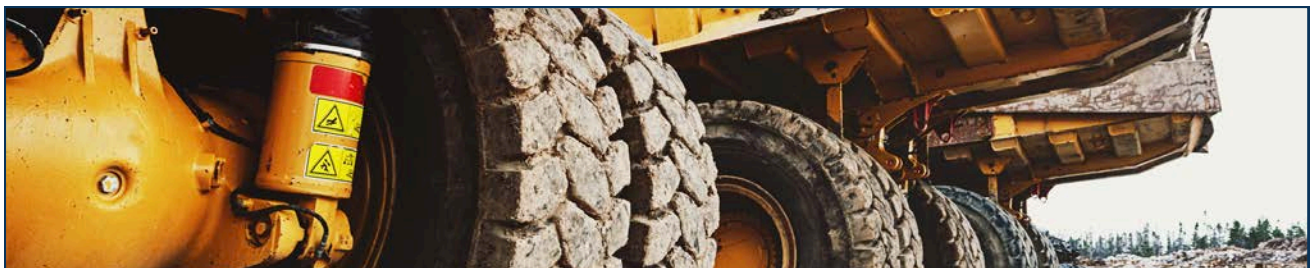




## 4.4 Risk Assessment

The CoF is an estimate of the effect an outcome of a failed asset would have on the Township. Consequences can range from service interruptions to catastrophic results. The below table outlines the criticality and consequence of failure.

CRITICALITY	CRITERIA	COF	ASSETS
Critical	Life safety or critical to deliver essential services  Legislated  Significant financial loss	5	Arterial Roads
Essential	Threatens deliver of public transportation  Serious injury or legal judgement  Financial loss	4	Collector Roads
Strategic	Threatens the integrity of defined service level  Injury  Moderate financial loss	3	Local Roads
Enhancement	Reportable injury  Inefficient process leading to financial loss	2	Gravel Roads
Deferrable	Target level of service can be achieved without the particular asset	1	Intersection/Streetlights





By developing a risk score based on the PoF and CoF the Township can identify particular assets that have the greatest impact on service delivery. The following equation demonstrates how the risk score is determined:

$$\text{Risk Score} = \text{PoF} \times \text{CoF}$$

The risk matrix below illustrates the replacement cost of transportation assets based on each individual asset's risk score. The following legend is useful in interpreting the risk matrix:

FORMULA	RISK RATING	COLOUR
PoF x CoF = 1 to 5	Very Low	Green
PoF x CoF = 6-10	Low	Light Green
PoF x CoF = 11-15	Moderate	Orange
PoF x CoF = 16-20	High	Yellow
PoF x CoF = 21-25	Very High	Red

#### 4.4.1 RISK ASSESSMENT MATRIX

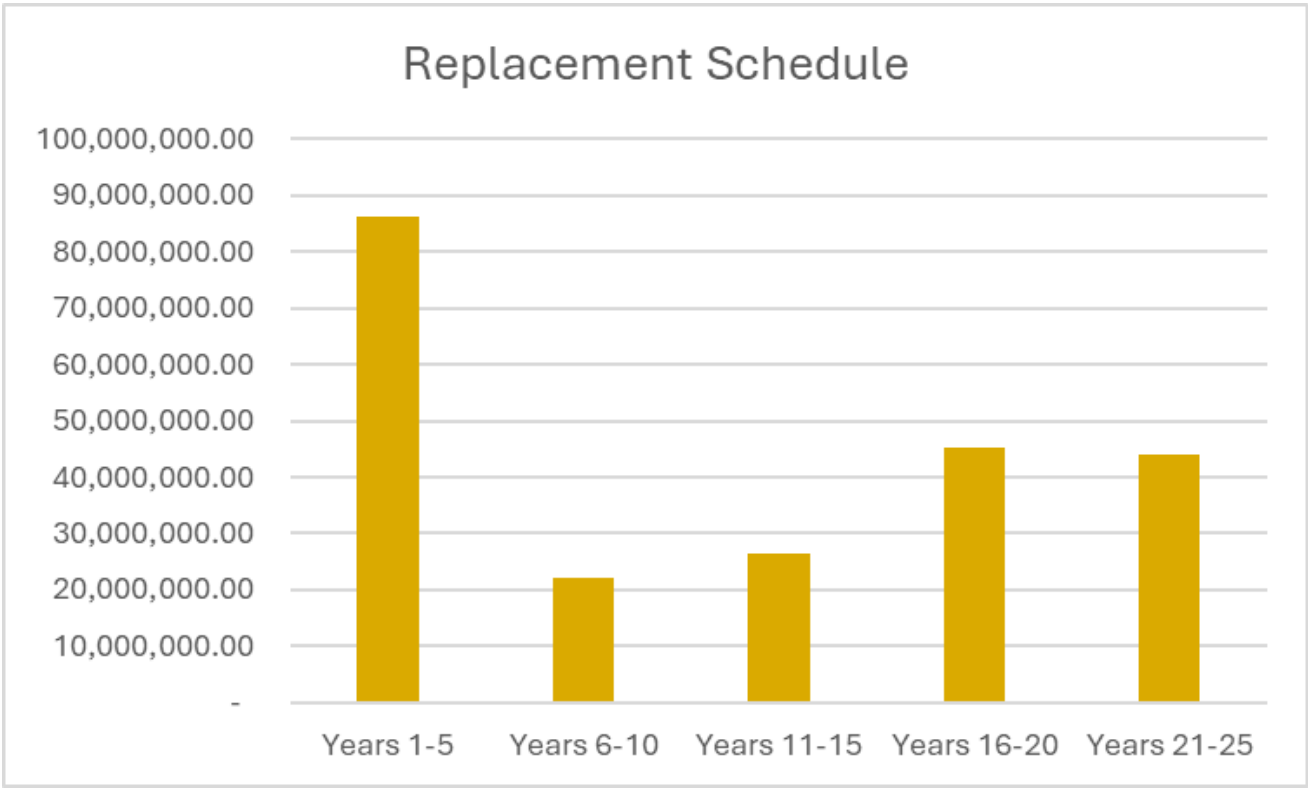
<b>C5</b>	4 \$ 7,060,200	3 \$ 5,170,200	2 \$ 2,966,250	0 \$ -	7 \$ 16,018,800
<b>C4</b>	1 \$ 1,601,250	1 \$ 1,936,200	2 \$ 3,541,650	3 \$ 4,847,850	11 \$ 26,001,150
<b>C3</b>	29 \$20,364,600	22 \$ 20,902,350	17 \$ 11,678,100	16 \$12,523,350	80 \$ 51,867,900
<b>C2</b>	10 \$ 5,829,075	20 \$ 16,534,350	10 \$ 6,425,475	4 \$ 3,133,725	4 \$ 5,133,450
<b>C1</b>	0 \$ -	246 \$ 1,230,000	0 \$ -	0 \$ -	0 \$ -
	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>

C = Consequence and P = Probability



# 4.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for stormwater assets.



The total capital requirements over a 25-year period is \$224,765,925 (based on 2024 dollars). The annual requirement is \$8,990,637.





## 4.6 Financing Strategy

The Township has a backlog of \$12,837,300. For the years 2019-2023 the Township has invested an average of \$1,733,510 into transportation assets. If the Township continues to invest at this level over twenty-five years, the funding gap will be \$181,428,175. This represents an annual funding deficit of \$7,257,127. The chart below illustrates the increase required each year to meet the desired funding level in 5, 10, 15 and 20 year scenarios.

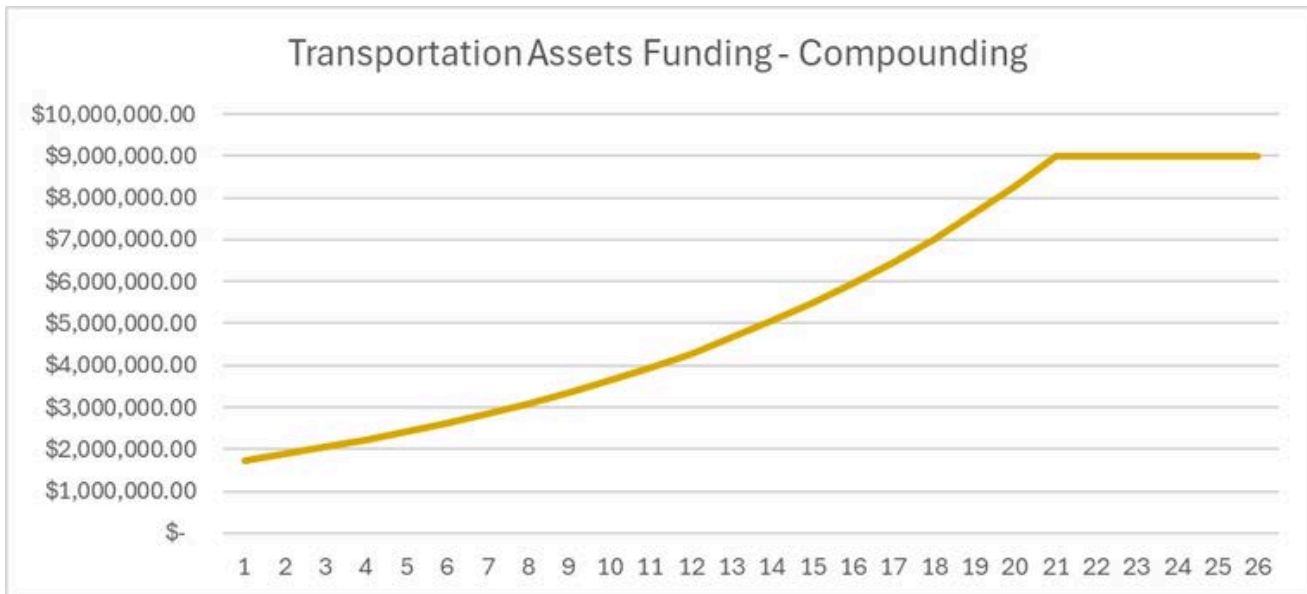
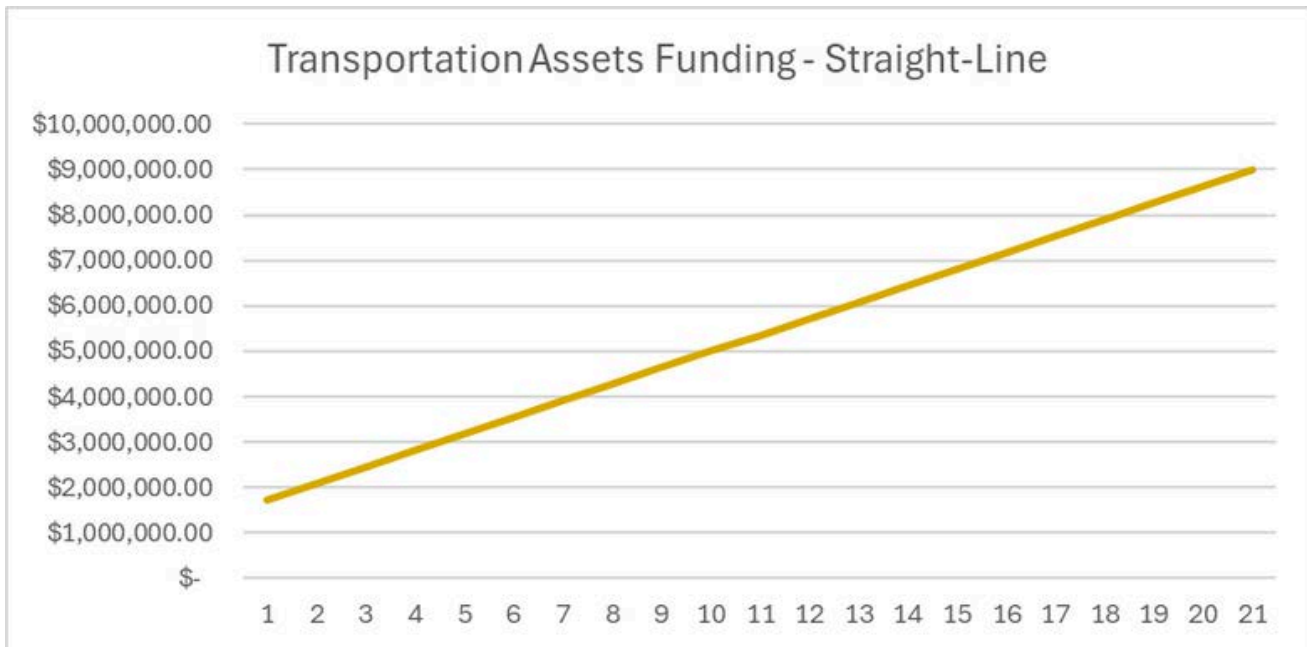
SCENARIO	YEARS UNTIL FULLY FUNDED	ANNUAL INCREASE PERCENTAGE	STRAIGHT LINE ANNUAL INCREASE DOLLARS
1	5	39%	\$1,451,425
2	10	18%	\$725,713
3	15	12%	\$483,808
4	20	9%	\$362,856

Under scenario 4, under a compounding basis the Township would need to increase the level of investment in transportation assets by 9% each year to be fully funded in 20 years. On a straight-line basis the Township would need to increase the level of investment by \$362,856 each year for 20 years. This amount represents 6.23% of the 2024 taxation levy. The below graphs illustrate visually the increase in water funding over the 20-year period under the straight-line and compounding basis.





## 4.6 Financing Strategy

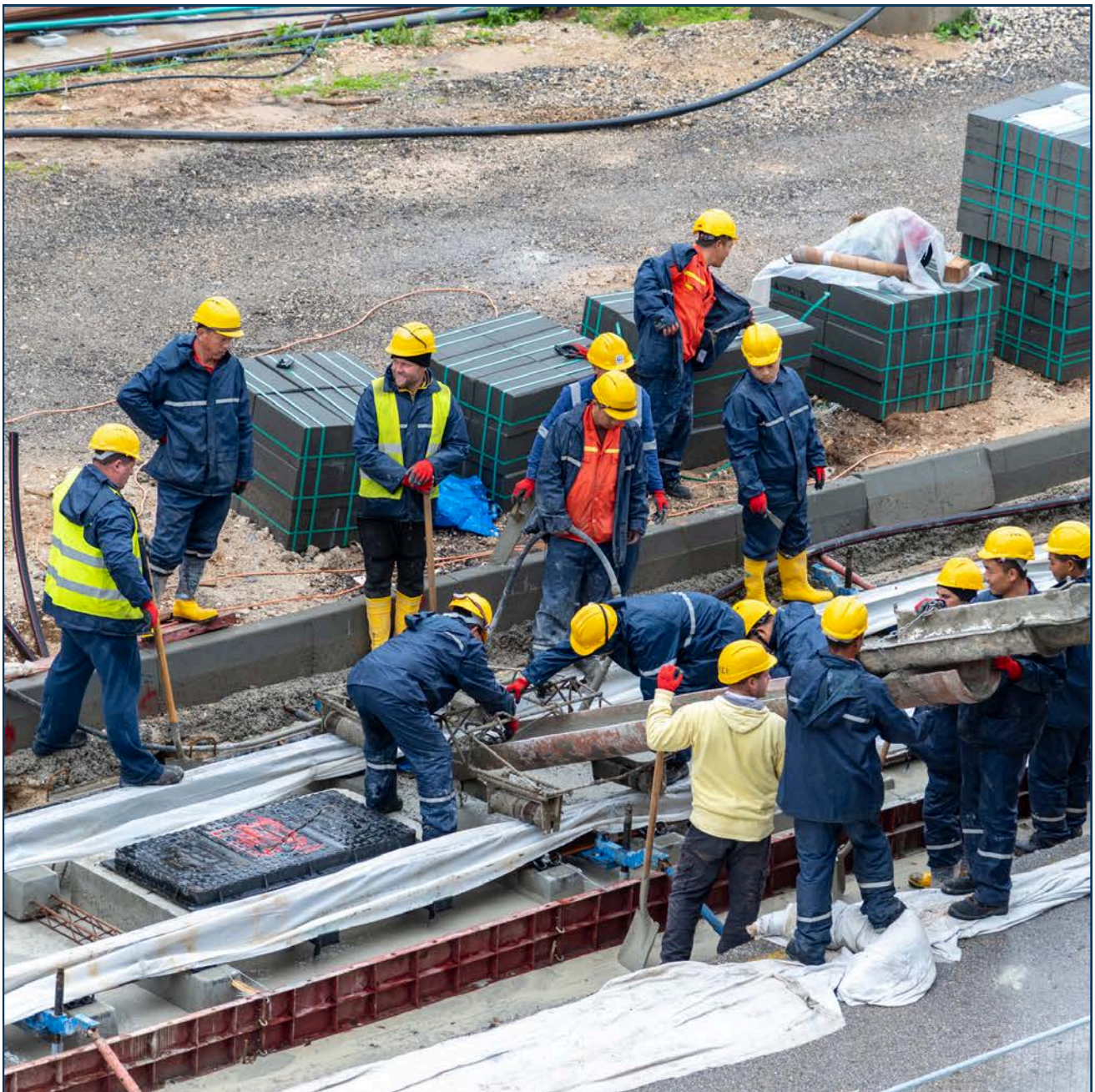




## 4.7 Improvement & Monitoring of Plan

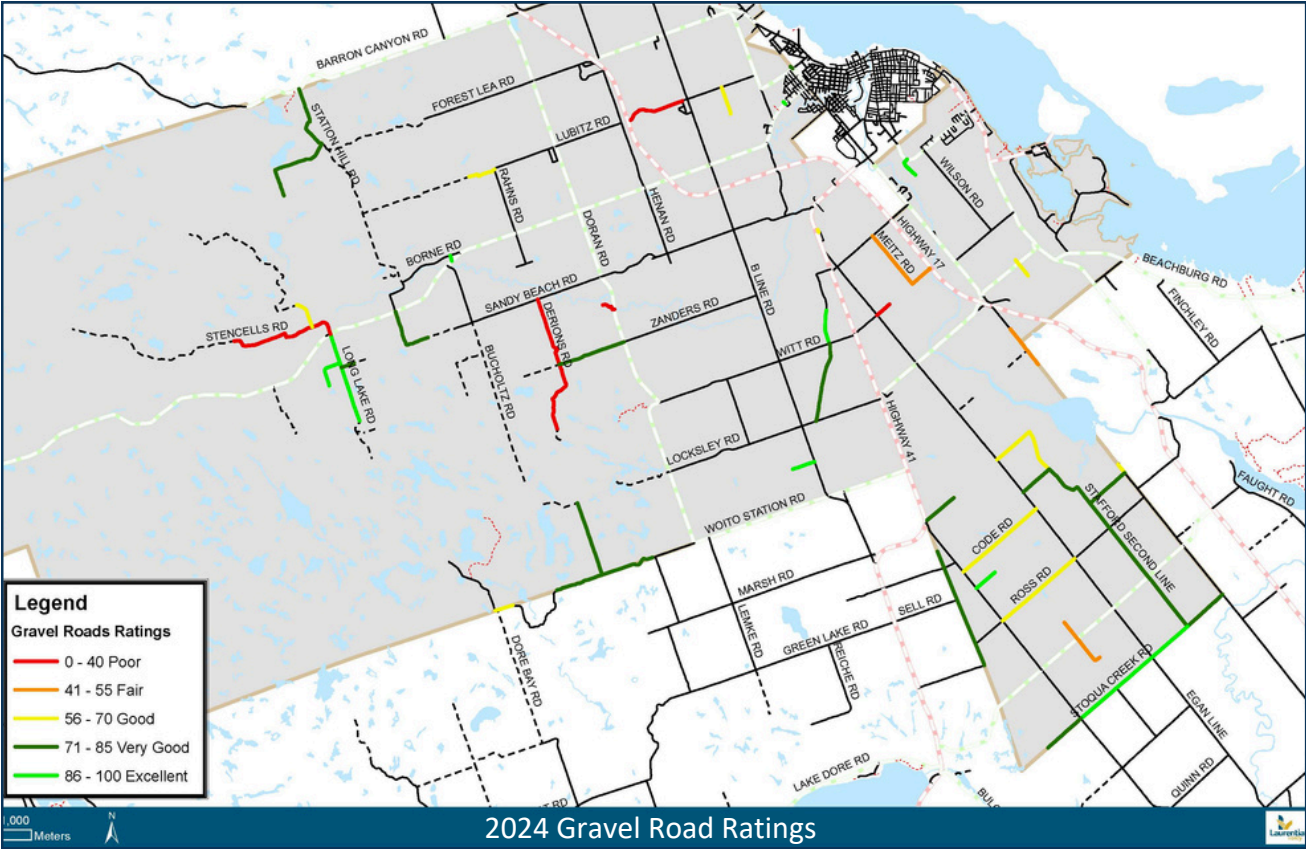
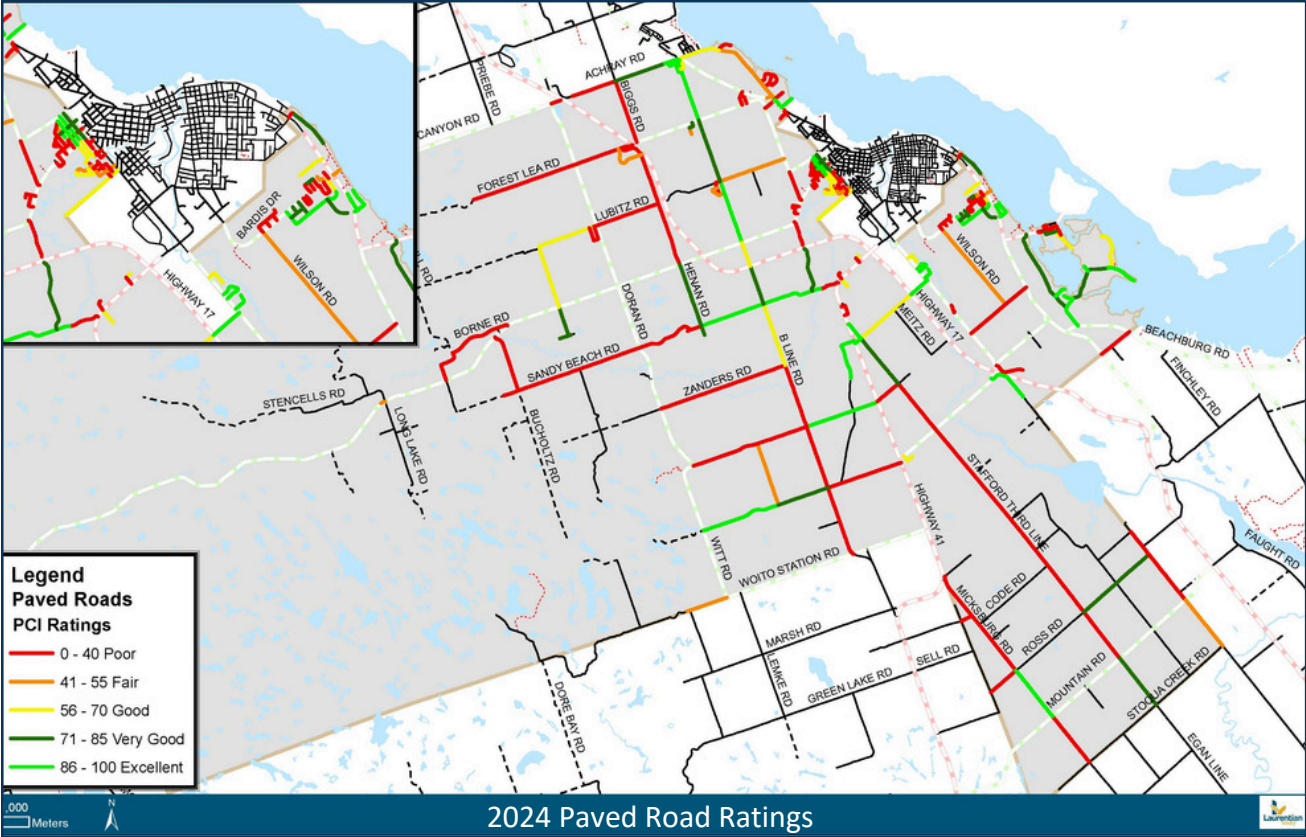
As asset management is continuous, the Township recognizes that there are areas of the above plan that can be improved over time. These areas center around data management, record keeping and reporting. The Township will implement non-condition related factors into the risk management framework.

This plan will be updated each year with relevant data before the budget process. This will ensure that Council and senior management have the most up to date information to make informed decisions.





# 4.8 Road Rating Maps







# Drinking Water





## 5.0 Drinking Water

The Township of Laurentian Valley is committed to maintaining a safe and sustainable supply of drinking water, providing for public health protection, fire protection and support for the local economy. Drinking water assets have a total replacement value of \$24,558,121.

### 5.1 Asset Inventory

Laurentian Valley Waterworks is a distribution system only, that purchases treated water from the Pembroke Drinking Water System and distributes it to 640 homes and businesses. Assets in this category include hydrants, water meters, water/hydrant valves, and multiple sizes of water mains spanning approximately 16 kilometers.

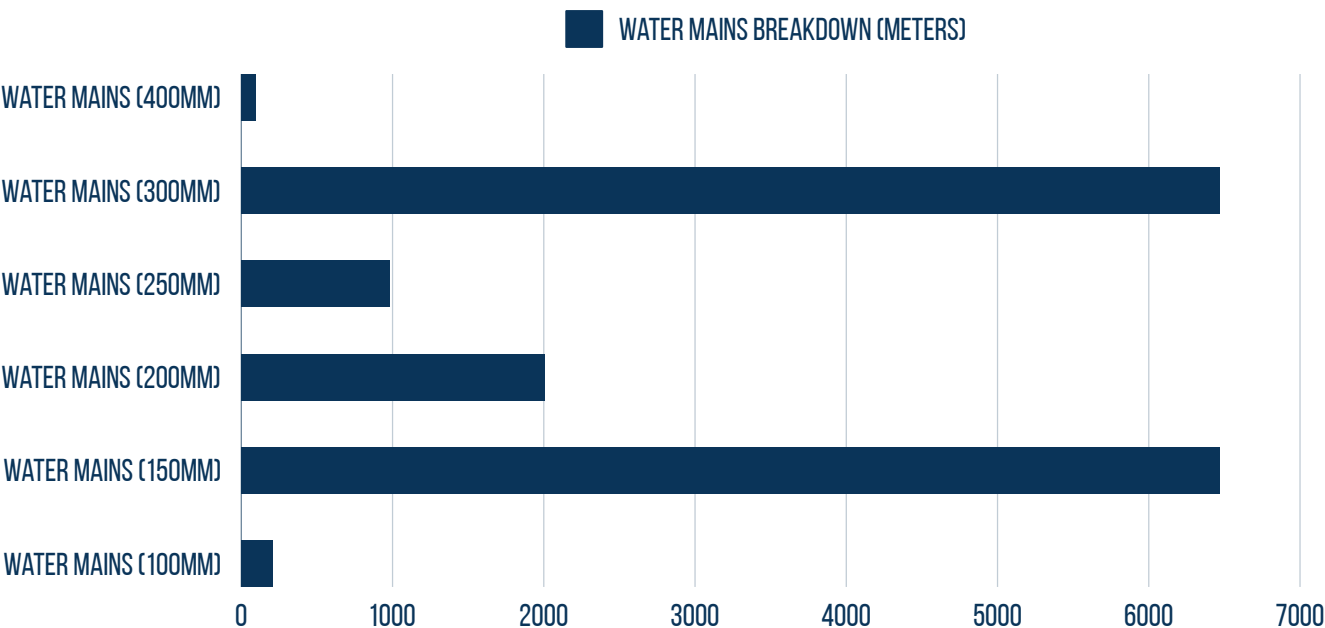
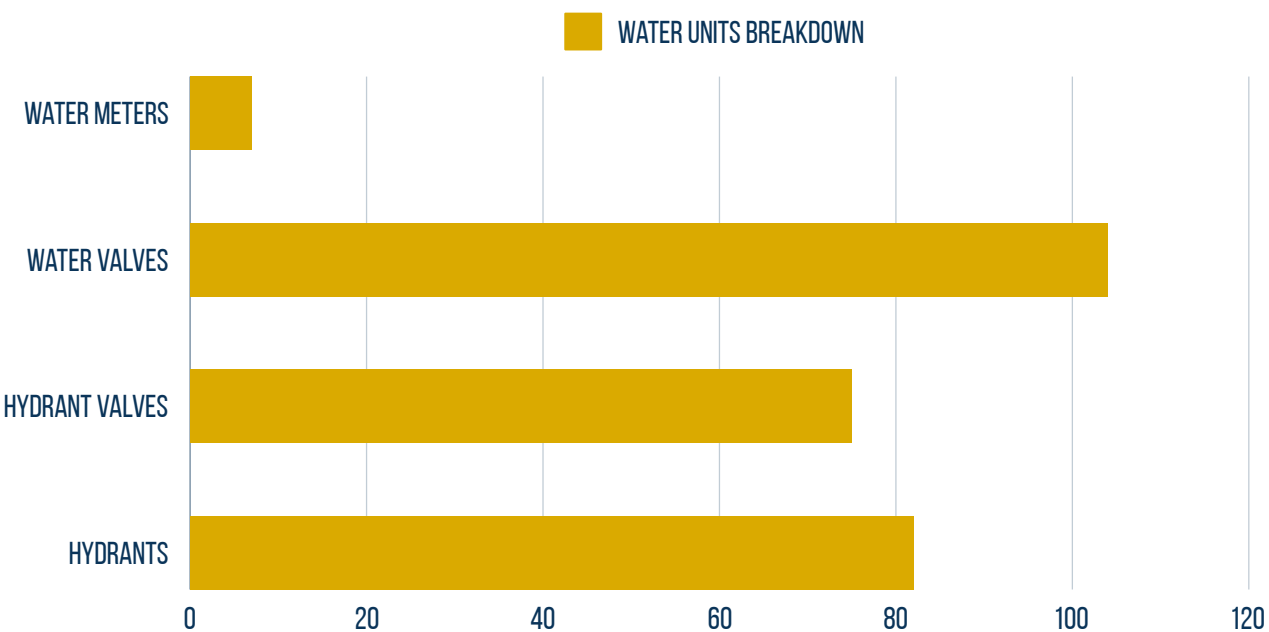
Table 5.1 outlines what transportation assets the Township owns, while tables 5.1.1, 5.1.2 and 5.1.3 outline the asset value, age and condition respectively in reference to the items outlined in 5.1.

DESCRIPTION	COUNT	LENGTH (METERS)
Hydrants	82	
Hydrant Valves	75	
Water Valves	104	
Water Mains (100mm)		211m
Water Mains (150mm)		6,467m
Water Mains (200mm)		2,009m
Water Mains (250mm)		982m
Water Mains (300mm)		6,469m
Water Mains (400mm)		99m
Water Meters	7	
TOTAL	268	16,237m





# 5.1 Asset Inventory





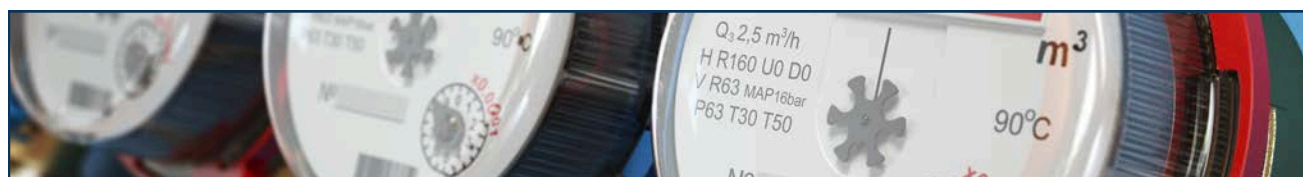
### 5.1.1 ASSET VALUE

DESCRIPTION	REPLACEMENT COSTS
Hydrants	\$844,600
Hydrant Valves	\$281,250
Water Valves	\$390,000
Water Mains (100mm)	\$95,153
Water Mains (150mm)	\$3,783,108
Water Mains (200mm)	\$2,260,125
Water Mains (250mm)	\$1,767,382
Water Mains (300mm)	\$14,554,983
Water Mains (400mm)	\$356,520
Water Meters	\$225,000
TOTAL	\$24,558,121

### 5.1.2 ASSET AGE

The average age of the Township's Drinking Water assets weighted by current replacement value is 34.95 years. The unweighted average age of each category can be broken down as follows:

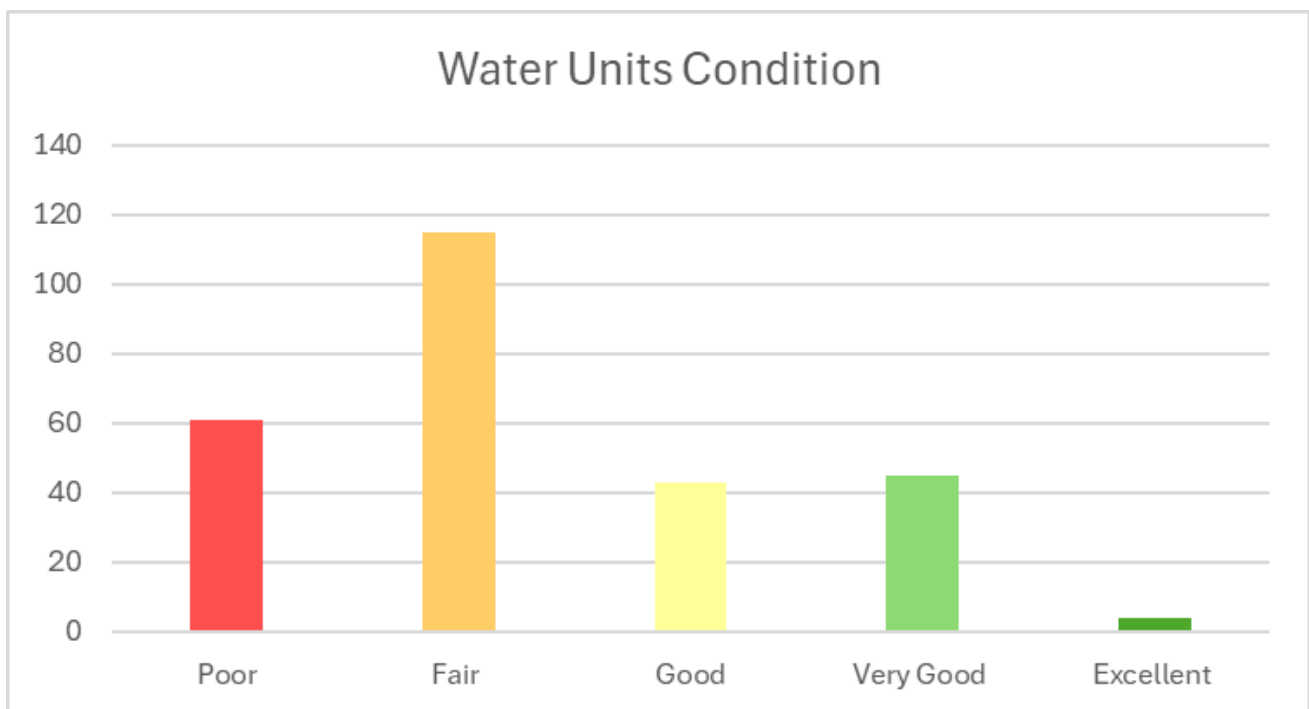
DESCRIPTION	ESTIMATED USEFUL LIFE (EUL)	AVERAGE AGE
Hydrants	50 Years	34.72
Hydrant Valves	50 Years	32.79
Water Valves	50 Years	32.50
Water Mains (100mm)	75 Years	33
Water Mains (150mm)	75 Years	35
Water Mains (200mm)	75 Years	35.86
Water Mains (250mm)	75 Years	48.33
Water Mains (300mm)	75 Years	30.25
Water Mains (400mm)	75 Years	55
Water Meters	25 Years	35.57





### 5.1.3 ASSET CONDITION

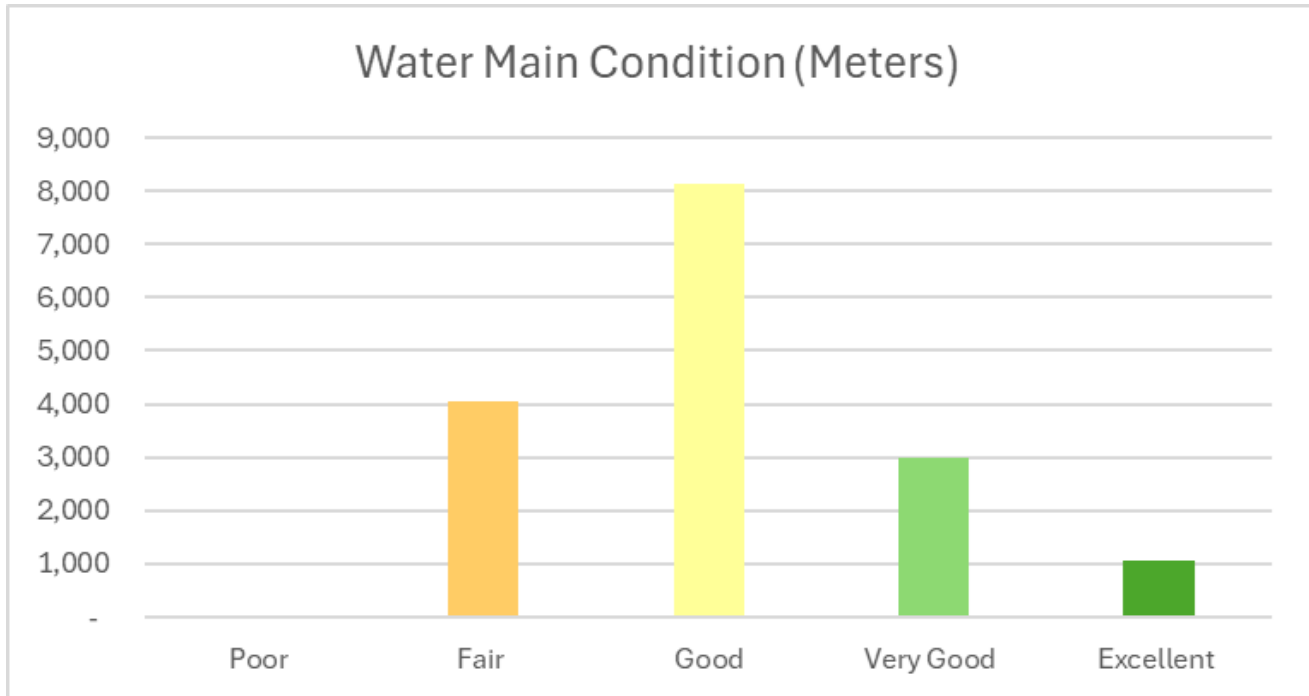
DESCRIPTION	NUMBER OF ASSETS	LENGTH (METERS)
Poor	61	0
Fair	115	4,051
Good	43	8,143
Very Good	45	2,985
Excellent	4	1,059
TOTAL	268	16,237





### 5.1.3 ASSET CONDITION

The average condition weighted by current replacement value is 3.00 or good.



### 5.1.4 ASSET CONDITION ASSESSMENT

The Township has used age to assess the condition. The following chart outlines the characteristics of each condition category.

PERCENTAGE OF USEFUL LIFE REMAINING	CONDITION	RATING
%ULR < 20%	Poor	1
20% < %ULR < 40%	Fair	2
40% < %ULR < 60%	Good	3
60% < %ULR < 80%	Very Good	4
80% < 100%	Excellent	5





## 5.2 Lifecycle Activities

To ensure assets perform to expectations it is imperative for the Township to perform lifecycle activities to proactively manage asset deterioration. The following activities are performed by the Township on a regular basis:

ACTIVITY	DESCRIPTION
Operations	Hydrants & valve are inspected as needed to ensure they are operable
Operations	Water meters are inspected quarterly to ensure they are operable
Maintenance	Dead end flushing occurs to address water quality issues related to accumulated sediment, biofilm, increased chlorine, discolored water and customer complaints bi-annually
Maintenance	Valves are exercised twice a year
Maintenance	Hydrants are fire flow tested every five years
Replacement	Water mains are generally replaced when they have failed or have reached the end of their estimated useful life.
Replacement	Hydrants are generally replaced at the end of their useful life

## 5.3 Levels of Service

O. Reg 588/17 prescribes the qualitative and technical metrics that municipalities must measure to define their community and technical level of service for drinking water infrastructure.

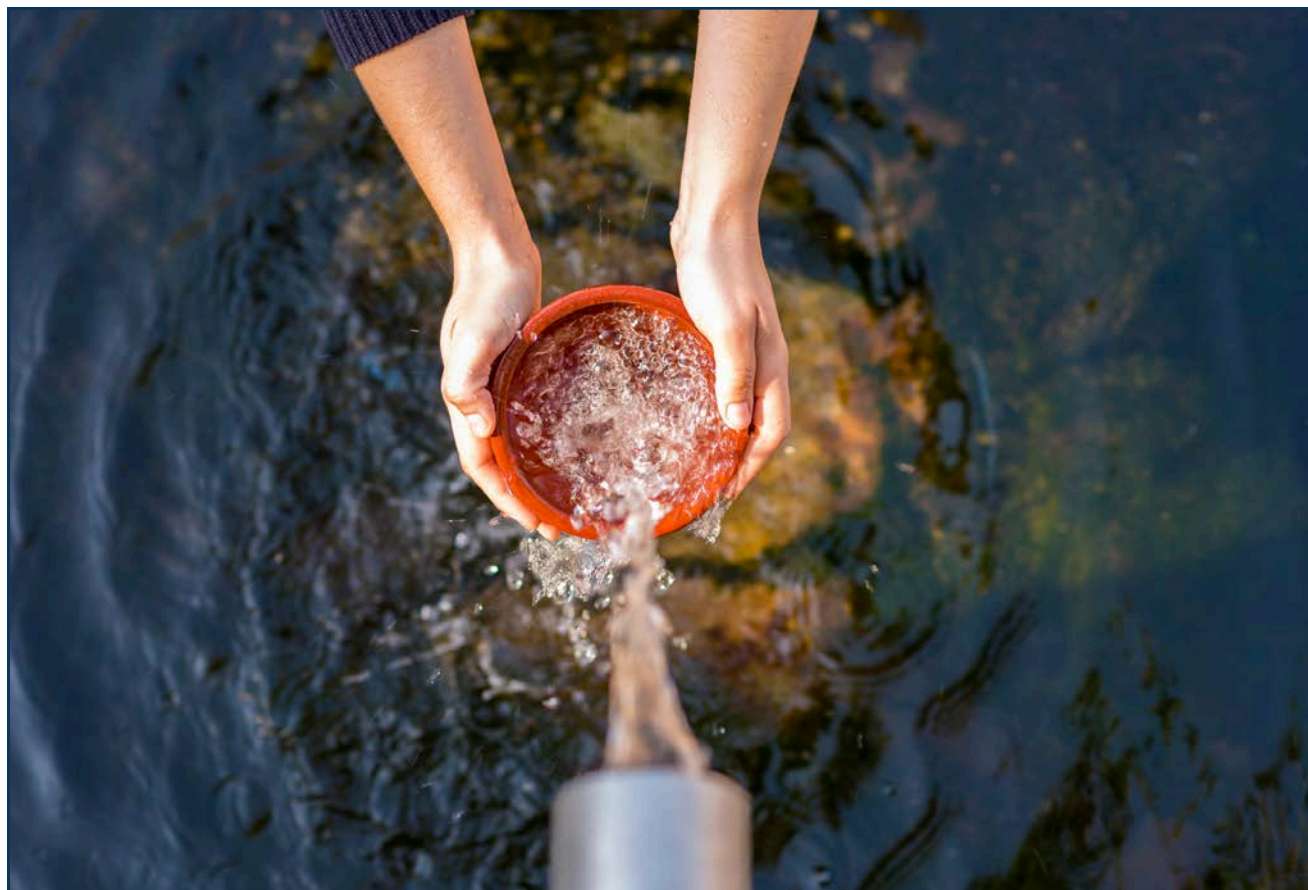




### 5.3.1 COMMUNITY LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	CURRENT LOS	PROPOSED LOS
Scope	Description which may include maps of the user groups or areas of the municipality that are connected to the municipal water system	See Map (5.8)	See Map (5.8)
Scope	Description which may include maps of the user groups or areas of the municipality that have fire flow.	See Map (5.8)	See Map (5.8)
Reliability	Description of boil water advisories and service interruptions	0	0





### 5.3.2 TECHNICAL LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	TECHNICAL METRIC	CURRENT LOS	PROPOSED LOS
Scope	Percentage of properties connected to the municipal water system	15%	20%
Scope	Percentage of properties where fire flow is available	15%	20%
Reliability	The number of connection days per year where a boil water advisory notice is in place compared to the total number of properties connected to the water system	0	0
Reliability	The number of connection days per year due to water main breaks compared to the total number of properties connected to the municipal water system.	0	0





## 5.4 Risk Assessment

Risk management is a key component of an asset's lifecycle management. The first stage of an effective risk management strategy is to develop a risk matrix where the probability of failure (PoF) and consequence of failure (CoF) are combined to produce an overall risk score for each asset.

The PoF is an estimate of how likely it is that an asset will not be available to deliver an expected service. The condition of the asset determines the asset's useful life remaining (ULR) which is the key driver to determine the likelihood of failure. The below table outlines the rationale to determine the PoF of drinking water assets.

CONDITION	URL PERCENTAGE	LIKELIHOOD	POF
1 Poor	0-20	Almost Certain: 80% or greater	5
2 Fair	20-40	Likely: 60-79%	4
3 Good	40-60	Possible: 40-59%	3
4 Very Good	60-80	Unlikely 20-39%	2
5 Excellent	80-100	Rare: 0-19%	1





## 5.4 Risk Assessment

The CoF is an estimate of the effect an outcome of a failed asset would have on the Township. Consequences can range from service interruptions to catastrophic results. The below table outlines the criticality and consequence of failure.

CRITICALITY	CRITERIA	COF	ASSETS
Critical	Life safety or critical to deliver essential services  Legislated  Significant financial loss	5	400mm Water Mains  300mm Water Mains
Essential	Threatens deliver of public transportation  Serious injury or legal judgement  Financial loss	4	250mm Water Mains
Strategic	Threatens the integrity of defined service level  Injury  Moderate financial loss	3	Hydrant  Hydrant Valves  Water Valves  200mm Water Mains
Enhancement	Reportable injury  Inefficient process leading to financial loss	2	150mm Water Mains
Deferrable	Target level of service can be achieved without the particular asset	1	Water Meters  100 mm Water Mains



By developing a risk score based on the PoF and CoF the Township can identify particular assets that have the greatest impact on service delivery. The following equation demonstrates how the risk score is determined:

$$\text{Risk Score} = \text{PoF} \times \text{CoF}$$

The risk matrix below illustrates the replacement cost of drinking water assets based on each individual asset's risk score. The following legend is useful in interpreting the risk matrix:

FORMULA	RISK RATING	COLOUR
PoF x CoF = 1 to 5	Very Low	Green
PoF x CoF = 6-10	Low	Light Green
PoF x CoF = 11-15	Moderate	Orange
PoF x CoF = 16-20	High	Yellow
PoF x CoF = 21-25	Very High	Red

#### 5.4.1 RISK ASSESSMENT MATRIX

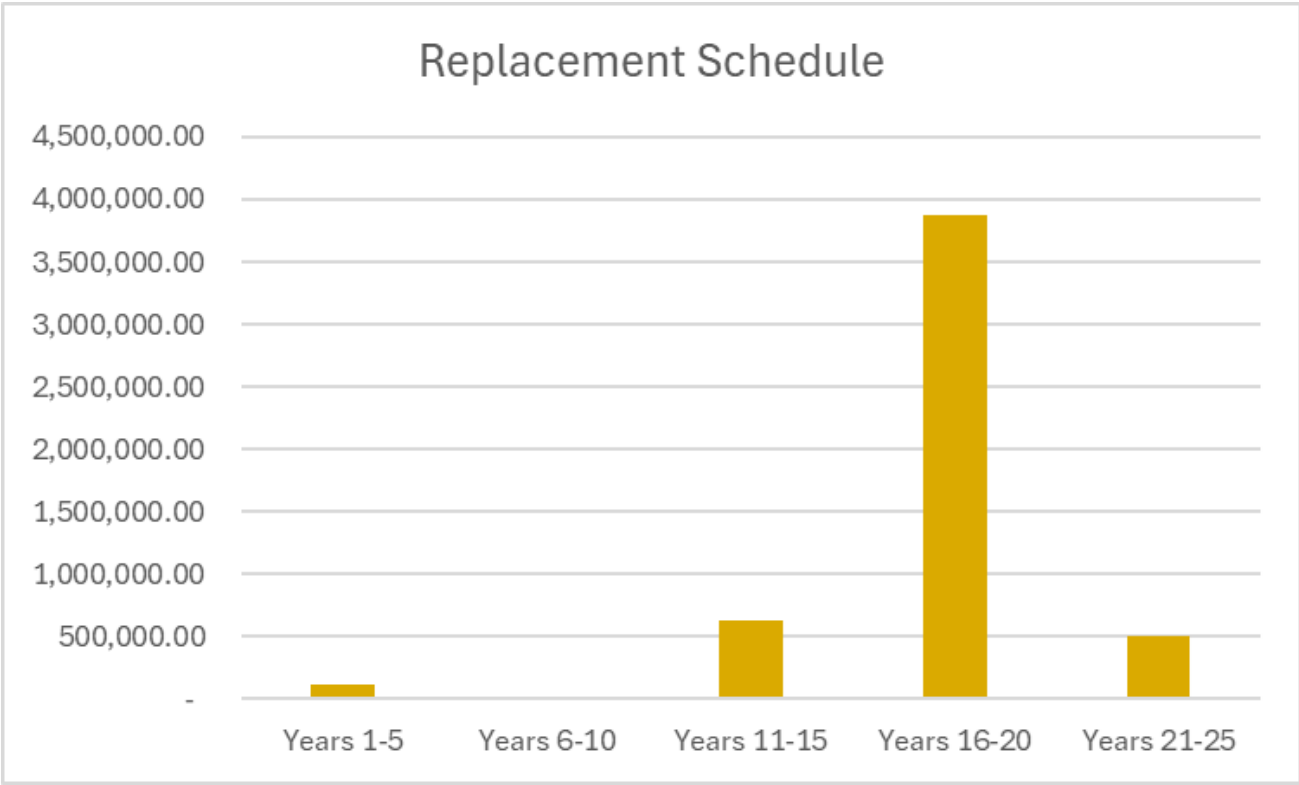
<b>C5</b>	0 \$ -	6 \$ 3,250,983	5 \$ 10,404,000	1 \$ 356,520	0 \$ -
<b>C4</b>	0 \$ -	0 \$ -	0 \$ -	3 \$ 1,745,782	0 \$ -
<b>C3</b>	4 \$ 41,200	48 \$ 1,222,200	46 \$ 1,781,525	117 \$ 1,325,700	54 \$ 326,950
<b>C2</b>	7 \$ 619,246	5 \$ 384,029	18 \$ 1,309,321	15 \$ 1,470,511	0 \$ -
<b>C1</b>	0 \$ -	0 \$ -	1 \$ 95,153	0 \$ -	7 \$ 225,000
	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>

C = Consequence and P = Probability



# 5.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for drinking water assets.



The total capital requirements over a 25-year period is \$5,143,488 (based on 2024 dollars). The annual requirement is \$344,000.





## 5.6 Financing Strategy

The Township has a backlog of \$413,000. For the years 2019-2023 the Township has invested an average of \$12,500 into drinking water assets. If the Township continues to invest at this level over twenty-five years, the funding gap will be \$8,287,500. This represents an annual funding deficit of \$331,500. The chart below illustrates the increase required each year to meet the desired funding level in 5, 10, 15 and 20 year scenarios.

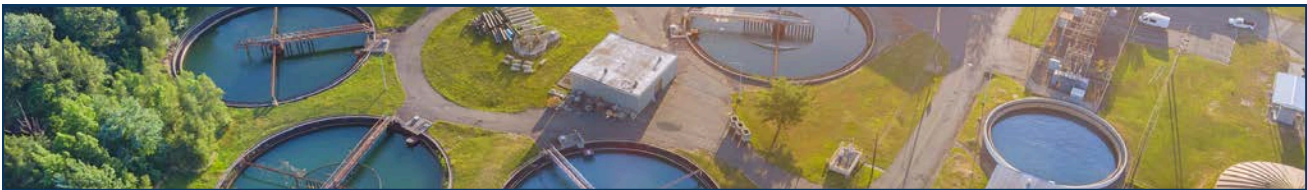
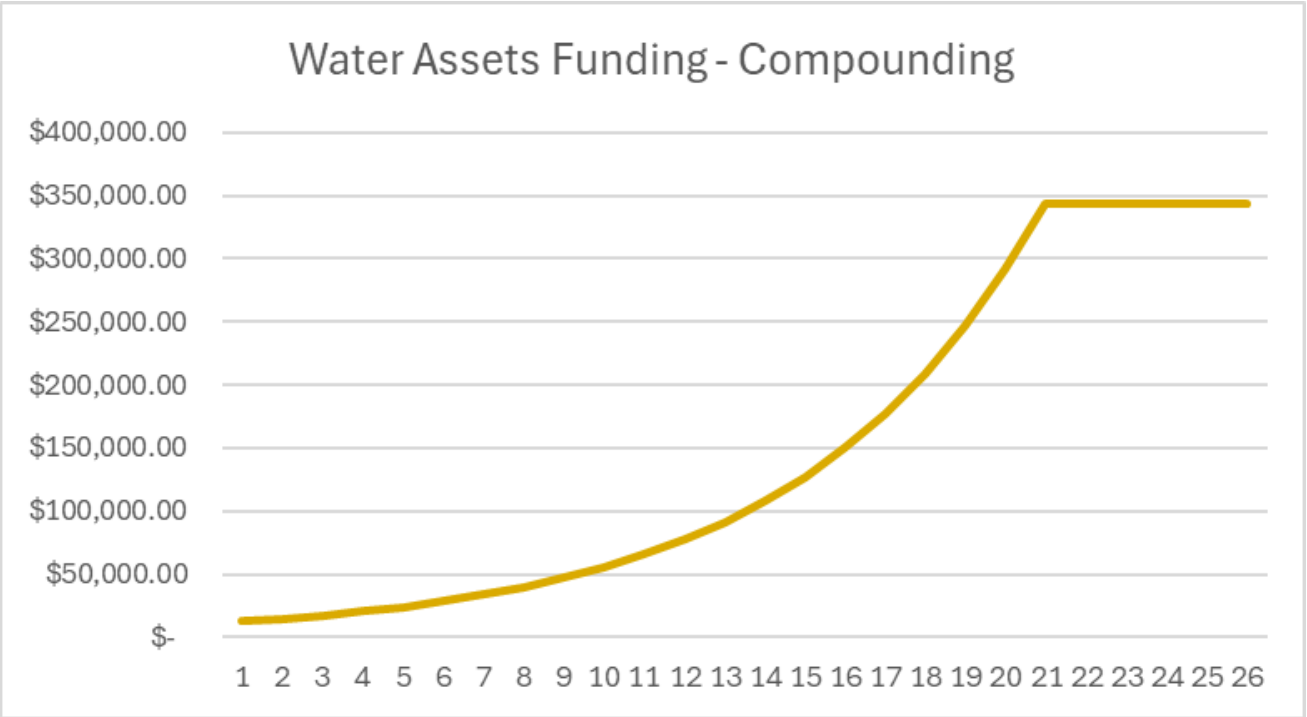
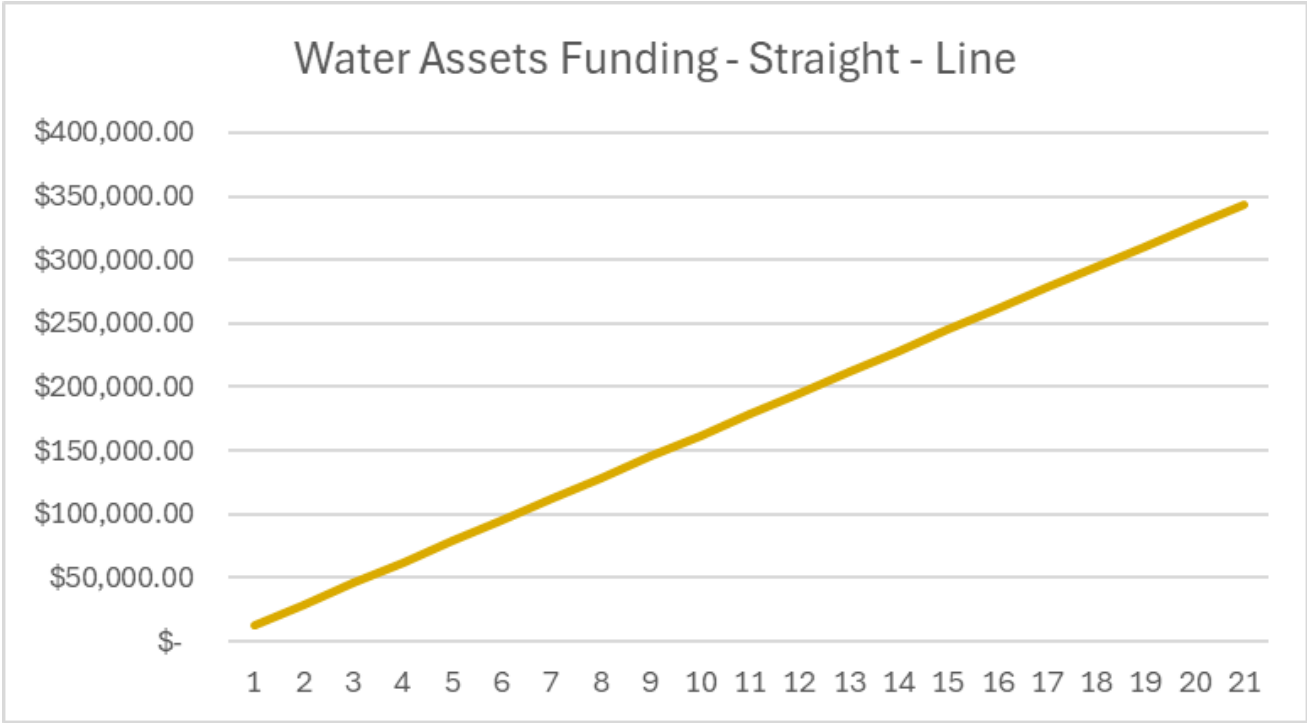
SCENARIO	YEARS UNTIL FULLY FUNDED	ANNUAL INCREASE PERCENTAGE	STRAIGHT LINE ANNUAL INCREASE DOLLARS
1	5	94%	\$66,300
2	10	39%	\$33,150
3	15	25%	\$22,100
4	20	18%	\$16,575

Under scenario 4, under a compounding basis the Township would need to increase the level of investment in drinking water assets by 18% each year to be fully funded in 20 years. On a straight-line basis the Township would need to increase the level of investment by \$16,575 each year for 20 years. This amount represents a 2.34% increase on the 2024 water levy per year. The below graphs illustrate visually the increase in water funding over the 20-year period under the straight-line and compounding basis.





# 5.6 Financing Strategy





## 5.7 Improvement & Monitoring of Plan

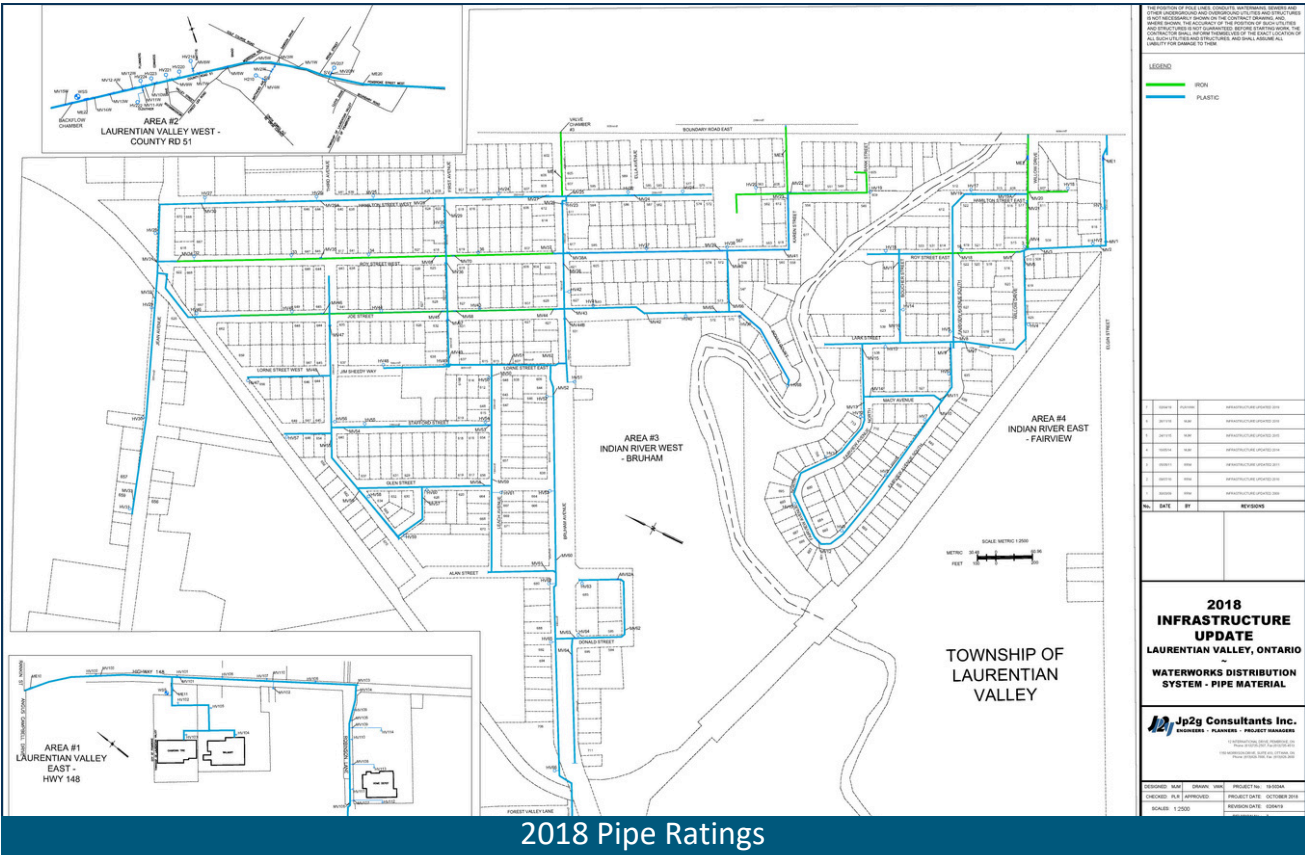
As asset management is continuous, the Township recognizes that there are areas of the above plan that can be improved over time. These areas center around data management, record keeping and reporting. The Township will implement non-condition related factors into the risk management framework.

This plan will be updated each year with relevant data before the budget process. This will ensure that Council and senior management have the most up to date information to make informed decisions.





# 5.8 Water Systems Maps







# Stormwater





## 6.0 Stormwater

The Township of Laurentian Valley’s stormwater assets manage the runoff of rain and melted snow that flows overland into catchbasins, ditches, streams, rivers and lakes. Stormwater is soaked up like a sponge in natural landscapes, which then nourishes plants and slowly replenishes streams, lakes, wetlands and aquifers. In more urban areas, impervious or hard surfaces such as asphalt, concrete and rooftops prevent stormwater from naturally soaking into the ground. Instead, the water runs quickly into catchbasins and sewer systems and then to lakes and rivers. These hard surface areas create more stormwater runoff of poorer quality carrying more pollutants such as oil, grit and debris into surrounding lakes and rivers. The runoff may contain chemicals, sediment and litter. In addition, the proper operation of the stormwater assets directly impacts the transportation assets. Road performance is directly impacted by drainage. Providing positive drainage in road right-of-ways and limiting ponding water increases the life of our road assets. Stormwater assets have a total replacement value of \$10,144,810.

### 6.1 Asset Inventory

The Township owns stormwater assets that are used in the collection of stormwater. Assets in this category include catchbasins and multiple sizes of sewerlines & culverts spanning approximately 17 kilometers.

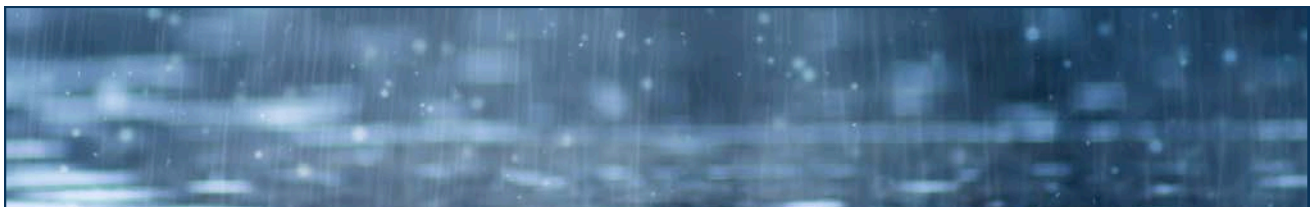
Table 6.1 outlines what stormwater assets the Township owns, while tables 6.1.1, 6.1.2 and 6.1.3 outline the asset value, age and condition respectively in reference to the items outlined in 6.1.





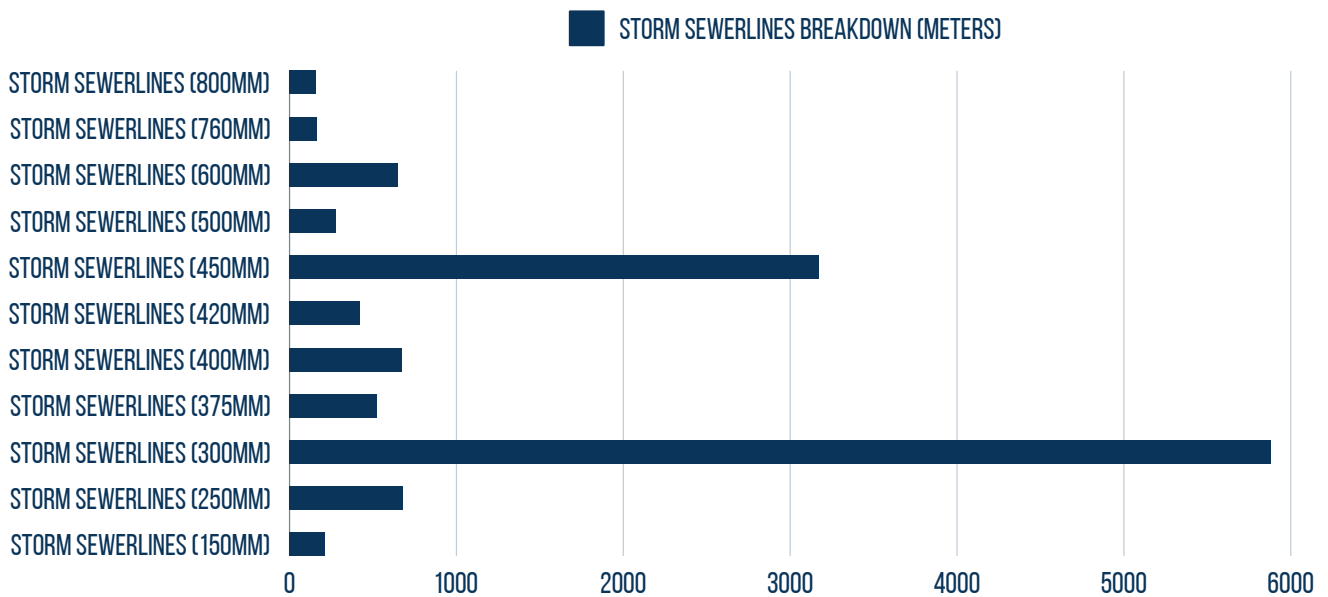
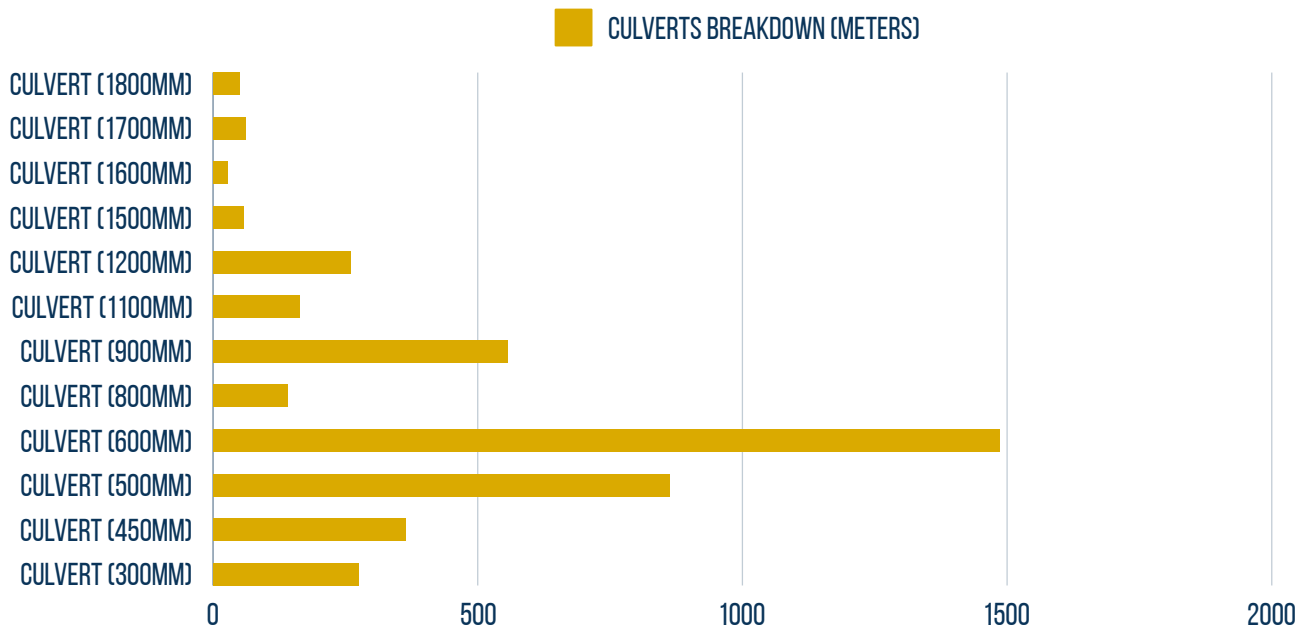
## 6.1 Asset Inventory

DESCRIPTION	COUNT	LENGTH (METERS)
Catchbasins	138	
Storm Sewerlines (150mm)		210
Storm Sewerlines (250mm)		680
Storm Sewerlines (300mm)		5,880
Storm Sewerlines (375mm)		524
Storm Sewerlines (400mm)		672
Storm Sewerlines (420mm)		420
Storm Sewerlines (450mm)		3,171
Storm Sewerlines (500mm)		276
Storm Sewerlines (600mm)		651
Storm Sewerlines (760mm)		165
Storm Sewerlines (800mm)		160
Culvert (300mm)		274
Culvert (450mm)		363
Culvert (500mm)		863
Culvert (600mm)		1,458
Culvert (800mm)		141
Culvert (900mm)		556
Culvert (1100mm)		163
Culvert (1200mm)		260
Culvert (1500mm)		58
Culvert (1600mm)		27
Culvert (1700mm)		62
Culvert (1800mm)		51
TOTAL	138	17,081





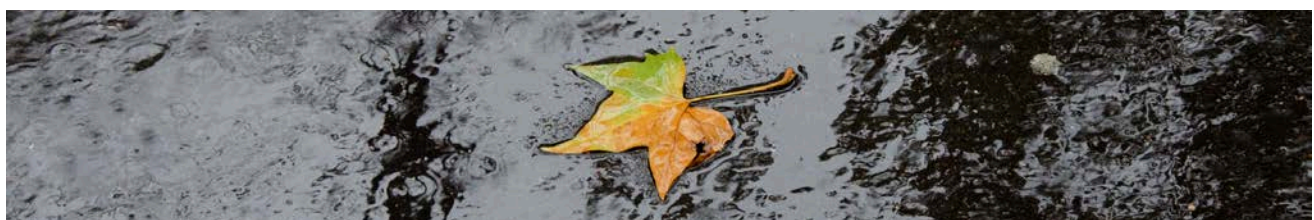
## 6.1 Asset Inventory





### 6.1.1 ASSET VALUE

DESCRIPTION	REPLACEMENT COSTS
Catchbasins	\$407,100
Storm Sewerlines (150mm)	\$39,627
Storm Sewerlines (250mm)	\$128,316
Storm Sewerlines (300mm)	\$1,109,556
Storm Sewerlines (375mm)	\$98,879
Storm Sewerlines (400mm)	\$291,110
Storm Sewerlines (420mm)	\$181,944
Storm Sewerlines (450mm)	\$1,373,677
Storm Sewerlines (500mm)	\$119,563
Storm Sewerlines (600mm)	\$462,861
Storm Sewerlines (760mm)	\$117,315
Storm Sewerlines (800mm)	\$113,760
Culvert (300mm)	\$51,609
Culvert (450mm)	\$157,252
Culvert (500mm)	\$373,635
Culvert (600mm)	\$1,036,638
Culvert (800mm)	\$99,895
Culvert (900mm)	\$1,856,148
Culvert (1100mm)	\$544,648
Culvert (1200mm)	\$867,093
Culvert (1500mm)	\$192,130
Culvert (1600mm)	\$88,547
Culvert (1700mm)	\$238,042
Culvert (1800mm)	\$195,465
TOTAL	\$10,144,810

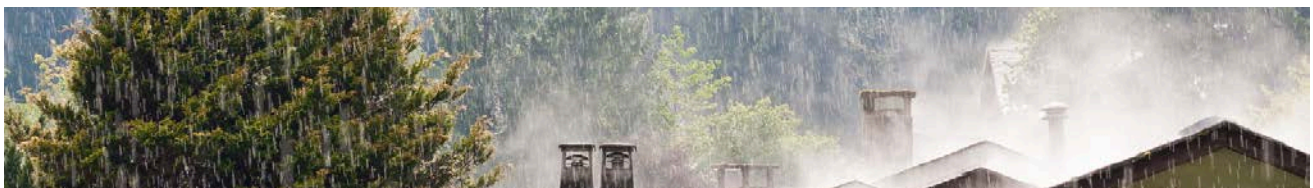




### 6.1.2 ASSET AGE

The average age of the Township's stormwater assets weighted by current replacement value is 16.05 years. The unweighted average age of each category can be broken down as follows:

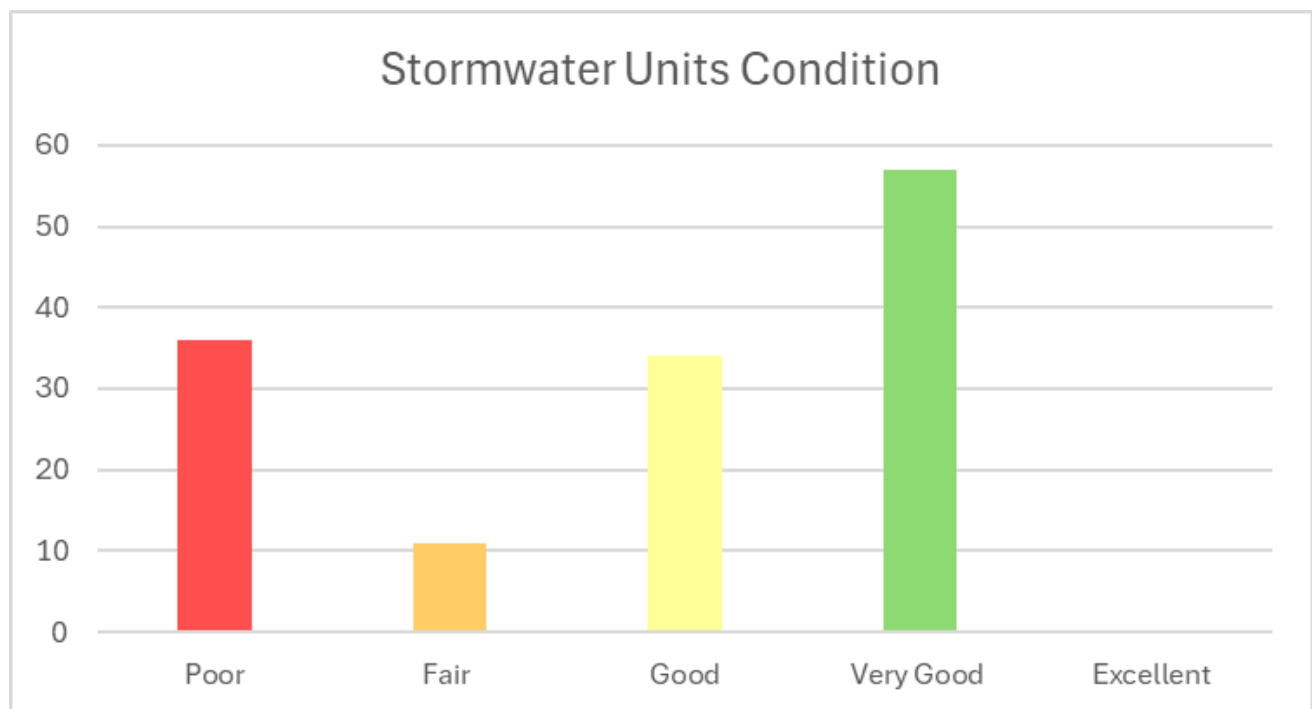
DESCRIPTION	ESTIMATED USEFUL LIFE	AVERAGE AGE
Catchbasins	50	26.78
Storm Sewerlines (150mm)	75	6.00
Storm Sewerlines (250mm)	75	10.00
Storm Sewerlines (300mm)	75	26.67
Storm Sewerlines (375mm)	75	27.86
Storm Sewerlines (400mm)	75	31.20
Storm Sewerlines (420mm)	75	7.00
Storm Sewerlines (450mm)	75	34.69
Storm Sewerlines (500mm)	75	20.75
Storm Sewerlines (600mm)	75	38.43
Storm Sewerlines (760mm)	75	49.00
Storm Sewerlines (800mm)	75	49.00
Culvert (300mm)	25	10.00
Culvert (450mm)	25	10.00
Culvert (500mm)	25	10.00
Culvert (600mm)	25	10.00
Culvert (800mm)	25	10.00
Culvert (900mm)	25	10.00
Culvert (1100mm)	25	10.00
Culvert (1200mm)	25	10.00
Culvert (1500mm)	25	10.00
Culvert (1600mm)	25	10.00
Culvert (1700mm)	25	10.00
Culvert (1800mm)	25	10.00





### 6.1.3 ASSET CONDITION

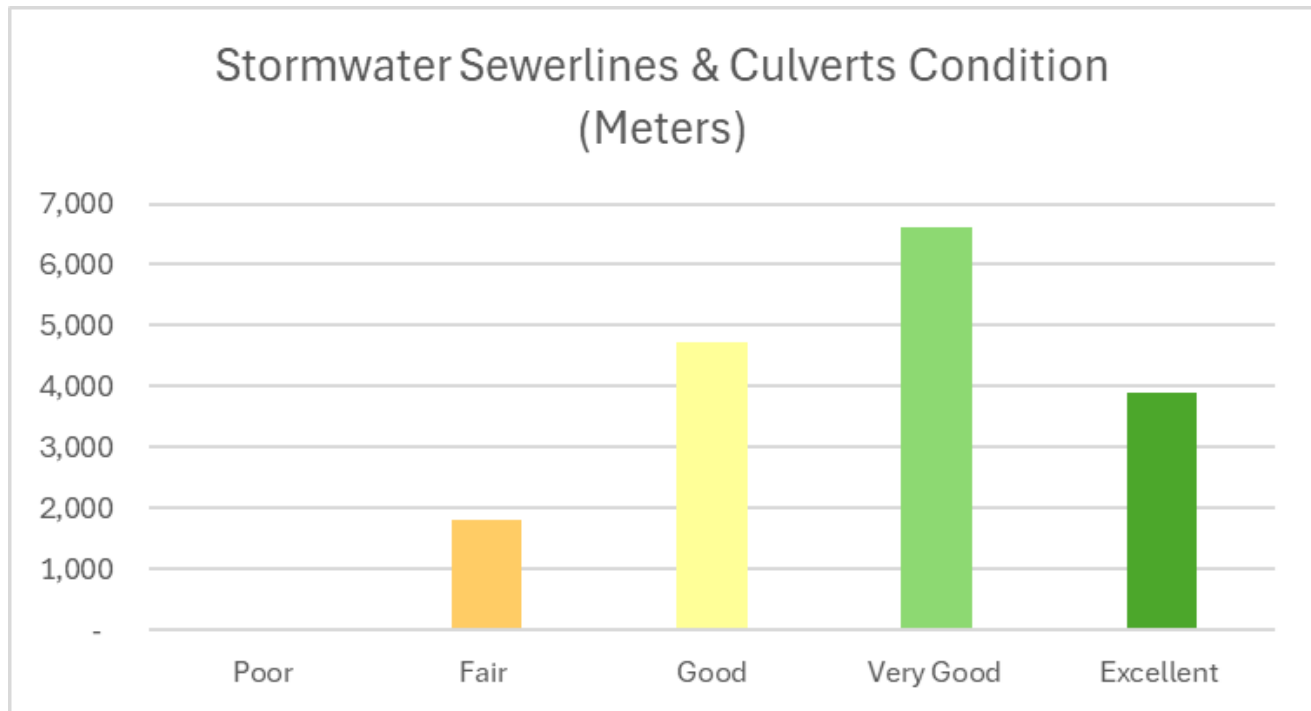
DESCRIPTION	NUMBER OF ASSETS	NUMBER OF METERS
Poor	36	15m
Fair	11	1,801m
Good	34	4,732m
Very Good	57	6,625m
Excellent	0	3,908m
TOTAL	138	17,080





### 6.1.3 ASSET CONDITION

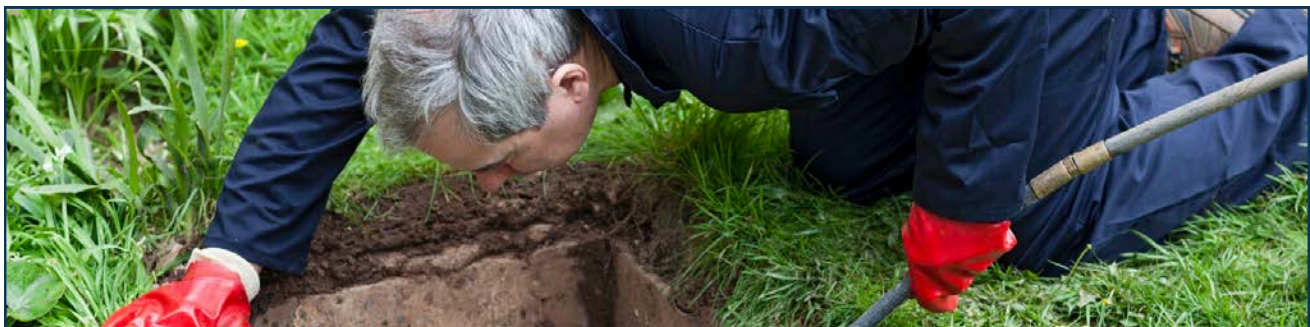
The average condition weighted by current replacement value is 3.32 or good.



### 6.1.4 ASSET CONDITION ASSESSMENT

The Township has used age to assess the condition. The following chart outlines the characteristics of each condition category.

PERCENTAGE OF USEFUL LIFE REMAINING	CONDITION	RATING
%ULR < 20%	Poor	1
20% < %ULR < 40%	Fair	2
40% < %ULR < 60%	Good	3
60% < %ULR < 80%	Very Good	4
80% < 100%	Excellent	5





## 6.2 Lifecycle Activities

To ensure assets perform to expectations it is imperative for the Township to perform lifecycle activities to proactively manage asset deterioration. The following activities are performed by the Township on a regular basis:

ACTIVITY	DESCRIPTION
Maintenance	CCTV inspections are completed on an as needed basis
Maintenance	Repairs are reactive and only after issues have been identified by camera inspections or when a failure has occurred
Replacement	Stormwater assets are generally replaced at the end of its useful life however, replacement is generally coordinated with road reconstruction projects

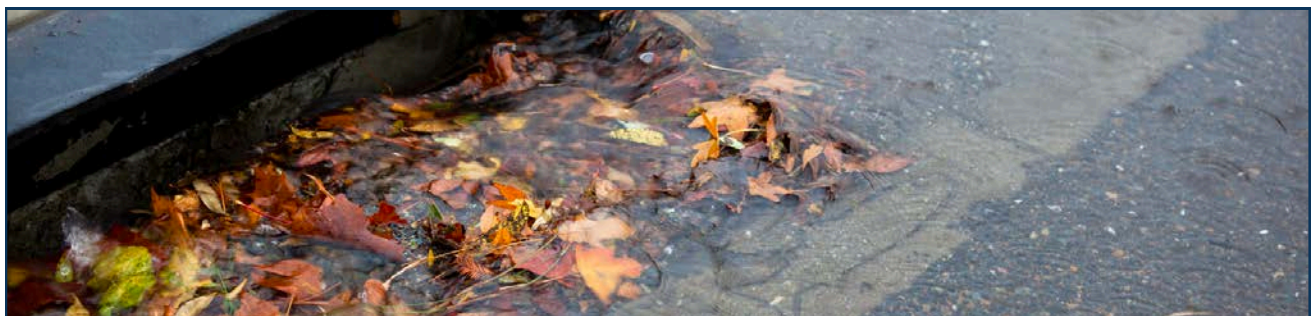
## 6.3 Levels of Service

O. Reg 588/17 prescribes the qualitative and technical metrics that municipalities must measure to define their community and technical level of service for stormwater infrastructure.

### 6.3.1 COMMUNITY LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	CURRENT LOS	PROPOSED LOS
Scope	Description which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system	See Map (6.8)	See Map (6.8)





### 6.3.2 TECHNICAL LEVEL OF SERVICE

The following are quantitative metrics of the current and proposed levels of service.

SERVICE ATTRIBUTE	TECHNICAL METRIC	CURRENT LOS	PROPOSED LOS
Scope	Percentage of properties in the municipality resilient to 100-year storm	<5%	<5%
Scope	Percentage of the municipal stormwater management system resilient to a 5-year storm	<25%	<25%

## 6.4 Risk Assessment

Risk management is a key component of an asset's lifecycle management. The first stage of an effective risk management strategy is to develop a risk matrix where the probability of failure (PoF) and consequence of failure (CoF) are combined to produce an overall risk score for each asset.

The PoF is an estimate of how likely it is that an asset will not be available to deliver an expected service. The condition of the asset determines the asset's useful life remaining (ULR) which is the key driver to determine the likelihood of failure. The below table outlines the rationale to determine the PoF of stormwater assets.

CONDITION	URL PERCENTAGE	LIKELIHOOD	POF
1 Poor	0-20	Almost Certain: 80% or greater	5
2 Fair	20-40	Likely: 60-79%	4
3 Good	40-60	Possible: 40-59%	3
4 Very Good	60-80	Unlikely 20-39%	2
5 Excellent	80-100	Rare: 0-19%	1





## 6.4 Risk Assessment

The CoF is an estimate of the effect an outcome of a failed asset would have on the Township. Consequences can range from service interruptions to catastrophic results. The below table outlines the criticality and consequence of failure.

CRITICALITY	CRITERIA	IMPACT	COF	ASSETS
Critical	Life safety or critical to deliver essential services  Legislated  Significant financial loss	Severe	5	1,000mm + stormwater sewerlines & culverts
Essential	Threatens deliver of public transportation  Serious injury or legal judgement  Financial loss	Major	4	600mm, 760mm, 800mm & 900mm stormwater sewerlines & culverts
Strategic	Threatens the integrity of defined service level  Injury  Moderate financial loss	Moderate	3	Catchbasins  400mm, 420mm, 450mm & 500mm stormwater sewerlines & culverts
Enhancement	Reportable injury  Inefficient process leading to financial loss	Minor	2	300mm & 375mm stormwater sewerlines & culverts
Deferrable	Target level of service can be achieved without the particular asset	Insignificant	1	150mm & 250mm stormwater sewerlines



By developing a risk score based on the PoF and CoF the Township can identify particular assets that have the greatest impact on service delivery. The following equation demonstrates how the risk score is determined:

$$\text{Risk Score} = \text{PoF} \times \text{CoF}$$

The risk matrix below illustrates the replacement cost of stormwater assets based on each individual asset's risk score. The following legend is useful in interpreting the risk matrix:

FORMULA	RISK RATING	COLOUR
PoF x CoF = 1 to 5	Very Low	Green
PoF x CoF = 6-10	Low	Light Green
PoF x CoF = 11-15	Moderate	Orange
PoF x CoF = 16-20	High	Yellow
PoF x CoF = 21-25	Very High	Red

#### 6.4.1 RISK ASSESSMENT MATRIX

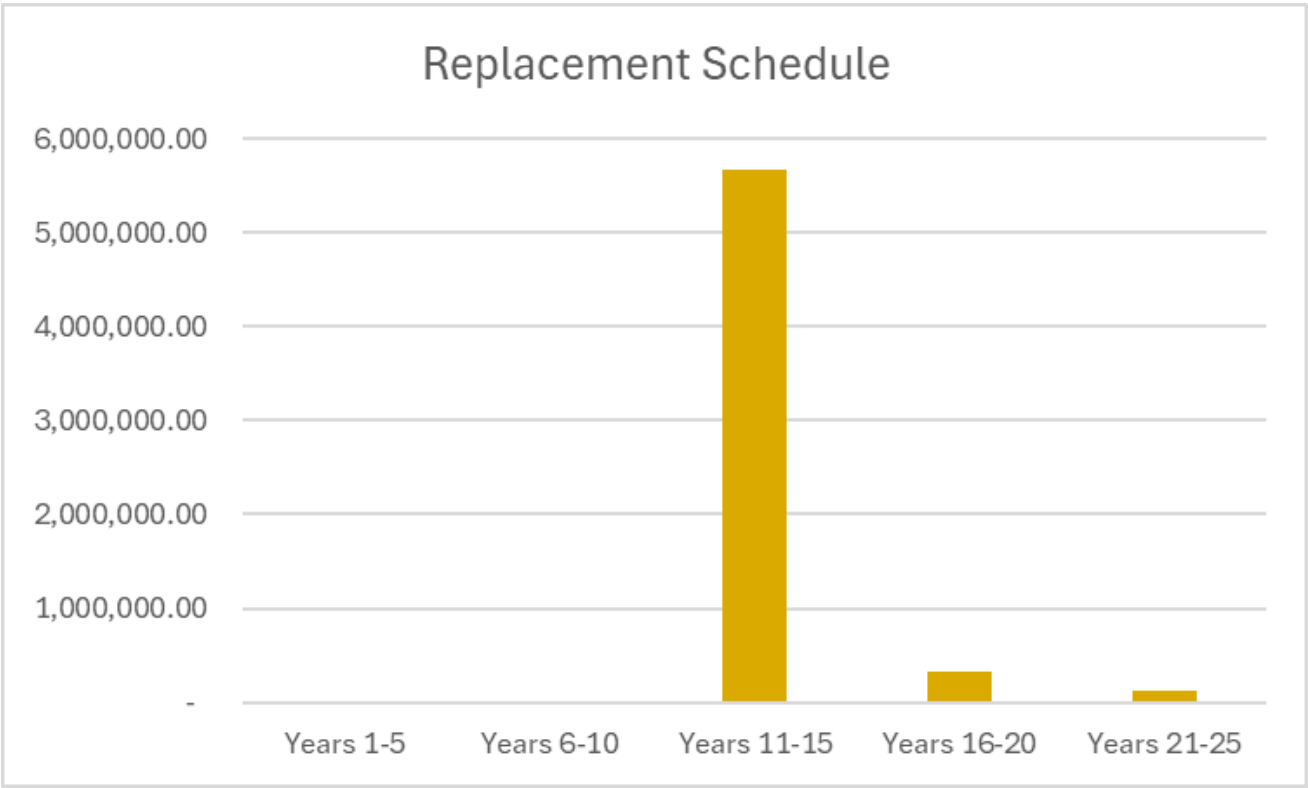
<b>C5</b>	0 \$ -	0 \$ -	35 \$ 2,125,926	0 \$ -	0 \$ -
<b>C4</b>	2 \$ 163,530	1 \$ 64,701	144 \$ 2,992,681	8 \$ 463,704	1 \$ 10,665
<b>C3</b>	4 \$ 377,750	69 \$ 1,453,021	115 \$ 639,851	19 \$ 318,795	36 \$ 106,200
<b>C2</b>	5 \$ 361,549	26 \$ 673,282	24 \$ 134,637	10 \$ 90,576	0 \$ -
<b>C1</b>	3 \$ 167,943	0 \$ -	0 \$ -	0 \$ -	0 \$ -
	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>

C = Consequence and P = Probability



# 6.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for stormwater assets.



The total capital requirements over a 25-year period is \$6,150,678 (based on 2024 dollars). The annual requirement is \$285,000.





## 6.6 Financing Strategy

The Township has a backlog of \$85,550. For the years 2019-2023 the Township has invested an average of \$58,340 into stormwater assets. If the Township continues to invest at this level over twenty-five years, the funding gap will be \$5,666,500. This represents an annual funding deficit of \$226,660. The chart below illustrates the increase required each year to meet the desired funding level in 5, 10, 15 and 20 year scenarios.

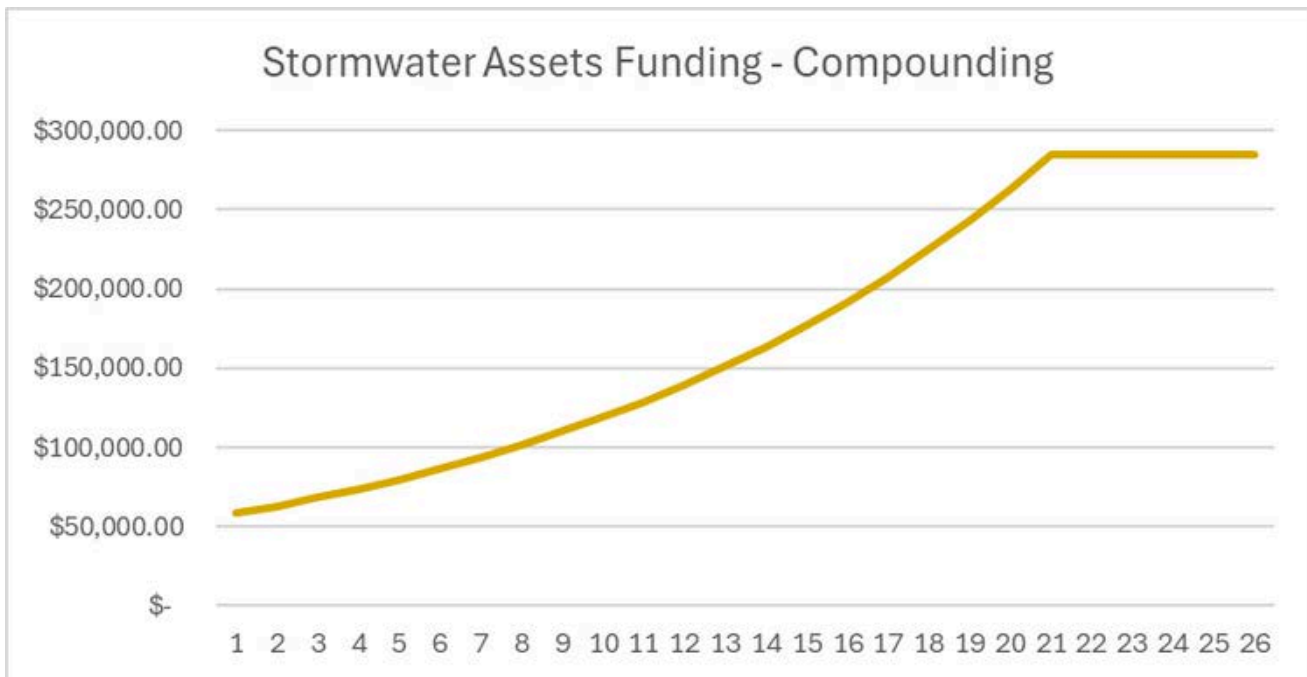
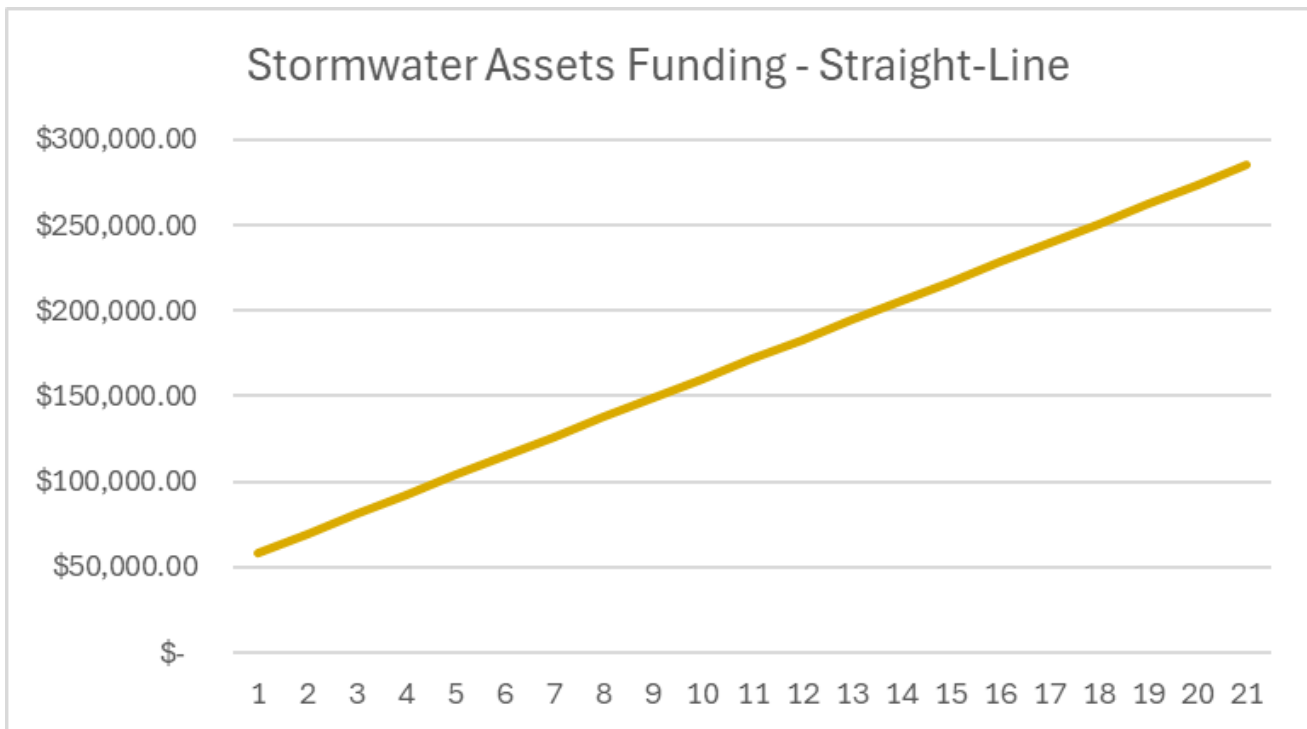
SCENARIO	YEARS UNTIL FULLY FUNDED	ANNUAL INCREASE PERCENTAGE	STRAIGHT LINE ANNUAL INCREASE DOLLARS
1	5	37%	\$45,332
2	10	17%	\$22,666
3	15	11%	\$15,111
4	20	8%	\$11,333

Under scenario 4, under a compounding basis the Township would need to increase the level of investment in stormwater assets by 8% each year to be fully funded in 20 years. On a straight-line basis the Township would need to increase the level of investment by \$11,333 each year for 20 years. This amount represents 0.17% of the 2024 taxation levy. The below graphs illustrate visually the increase in stormwater funding over the 20-year period under the straight-line and compounding basis.





## 6.6 Financing Strategy





## 6.7 Improvement & Monitoring of Plan

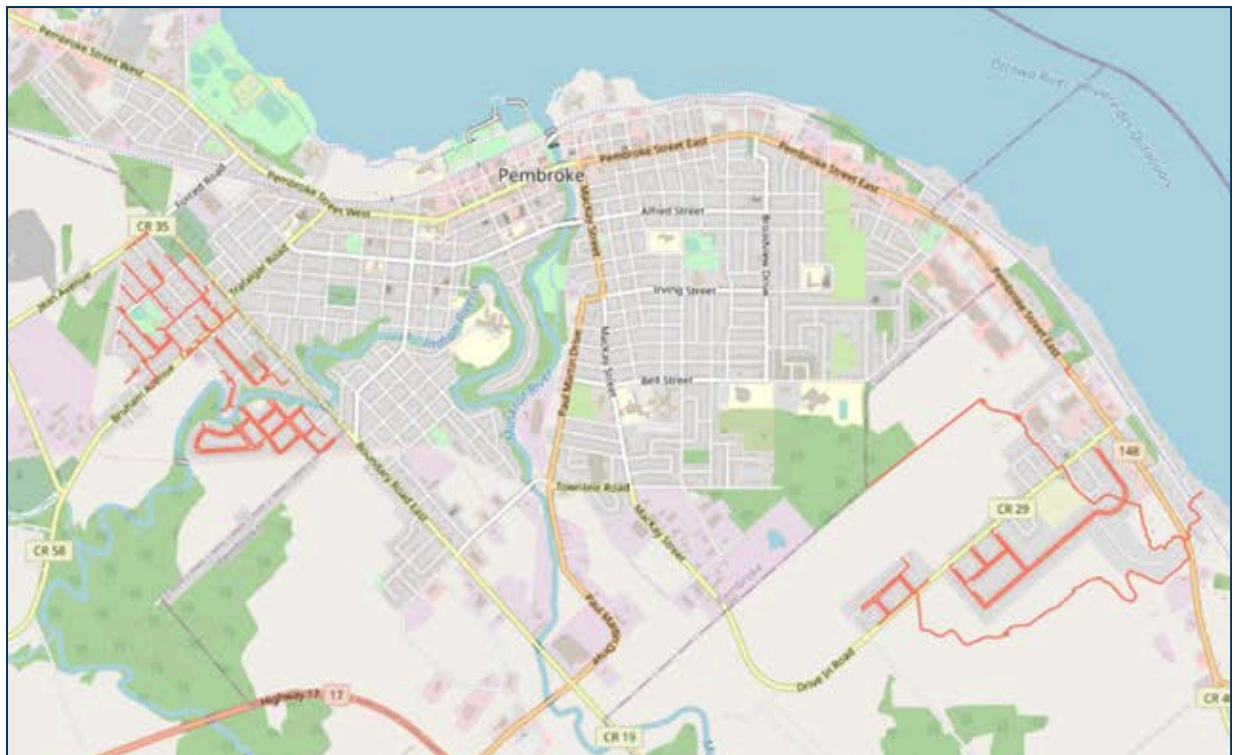
As asset management is continuous, the Township recognizes that there are areas of the above plan that can be improved over time. These areas center around data management, record keeping and reporting. The Township will implement non-condition related factors into the risk management framework.

This plan will be updated each year with relevant data before the budget process. This will ensure that Council and senior management have the most up to date information to make informed decisions.

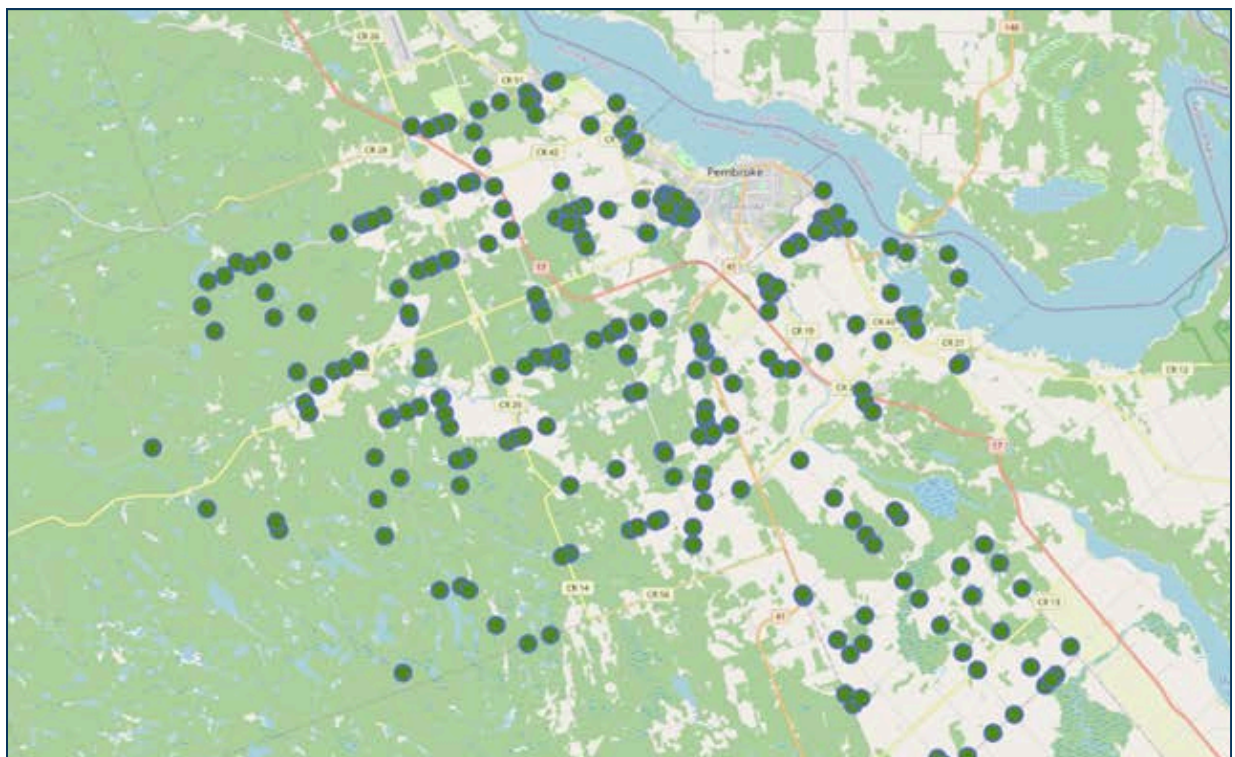




## 6.8 Stormwater System Maps



Storm Sewer Lines



Culverts





# Wastewater





## 7.0 Wastewater

The Township owns wastewater assets that are used in the collection of wastewater. Assets in this category include manholes, pumpstations and their component parts, and multiple sizes of wastewater pipes (including a sanitary forcemain). Wastewater assets have a total replacement value of \$24,725,657.

### 7.1 Asset Inventory

The Township's wastewater network spans approximately 14 kilometers and includes assets that relate to the collection, transmission, and disposal of wastewater.

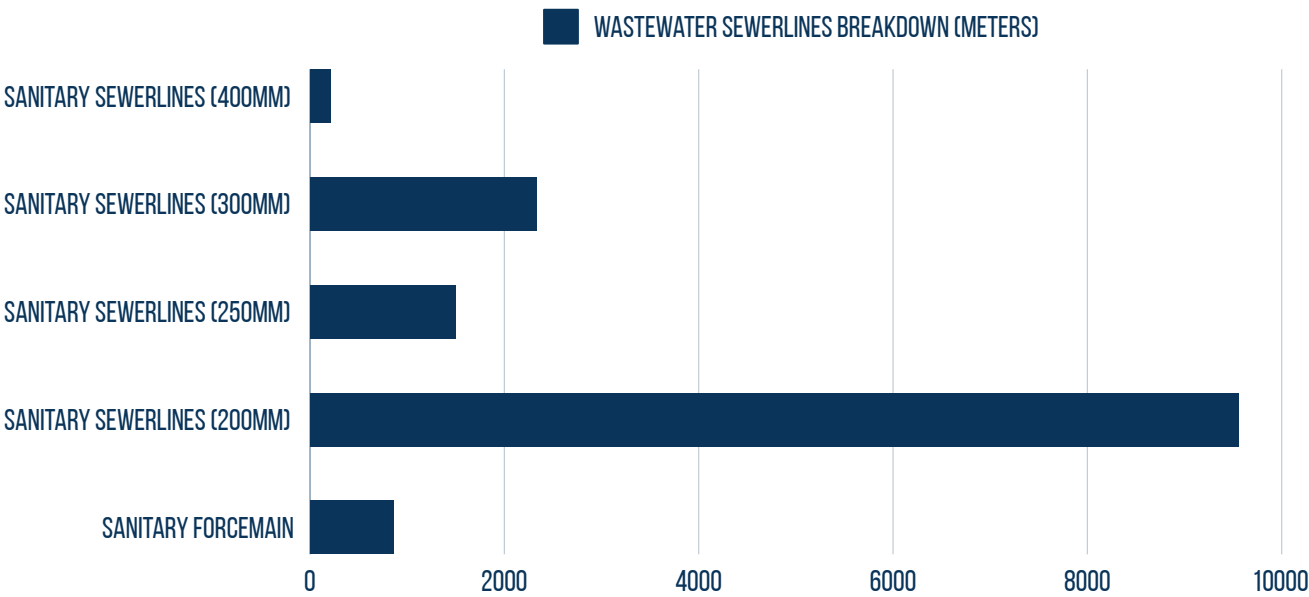
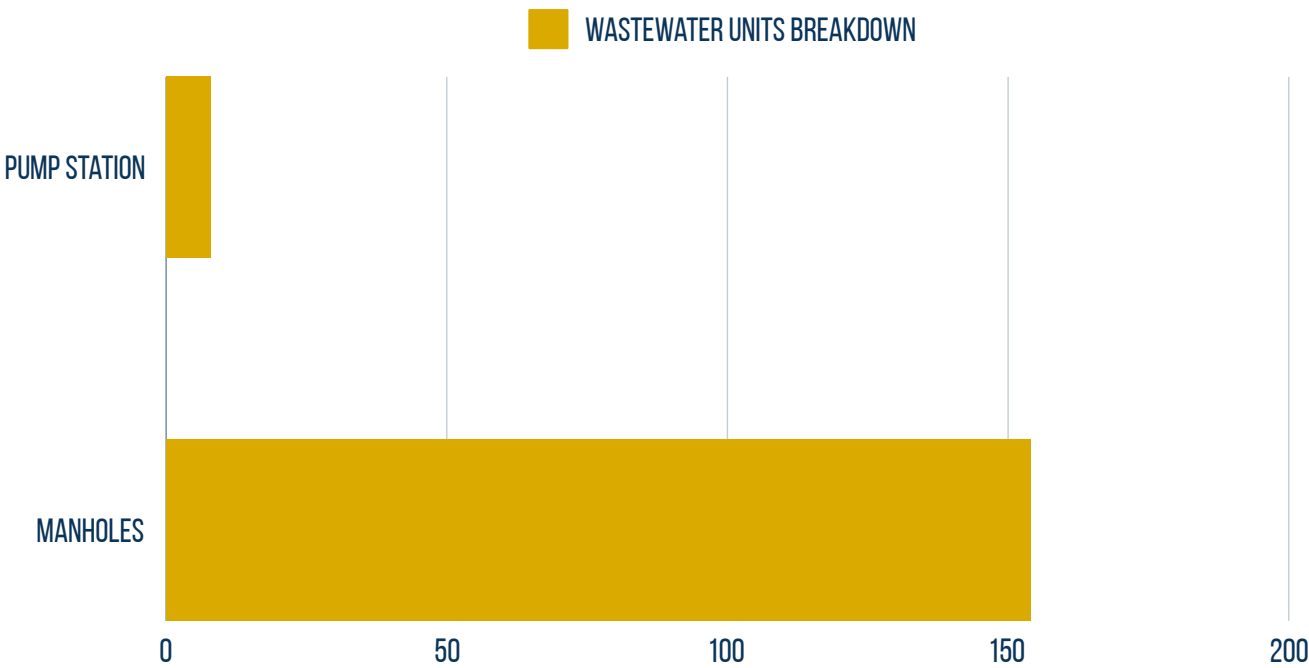
Table 7.1 outlines what wastewater assets the Township owns, while tables 7.1.1, 7.1.2 and 7.1.3 outline the asset value, age and condition respectively in reference to the items outlined in 7.1.

DESCRIPTION	COUNT	LENGTH (MKETERS)
Manholes	154	
Pumpstation Components	8	
Sanitary Forcemain		836m
Sanitary Sewerlines (200mm)		9,559m
Sanitary Sewerlines (250mm)		1,498m
Sanitary Sewerlines (300mm)		2,327m
Sanitary Sewerlines (400mm)		207m
TOTAL	162	14,427m





# 7.1 Asset Inventory





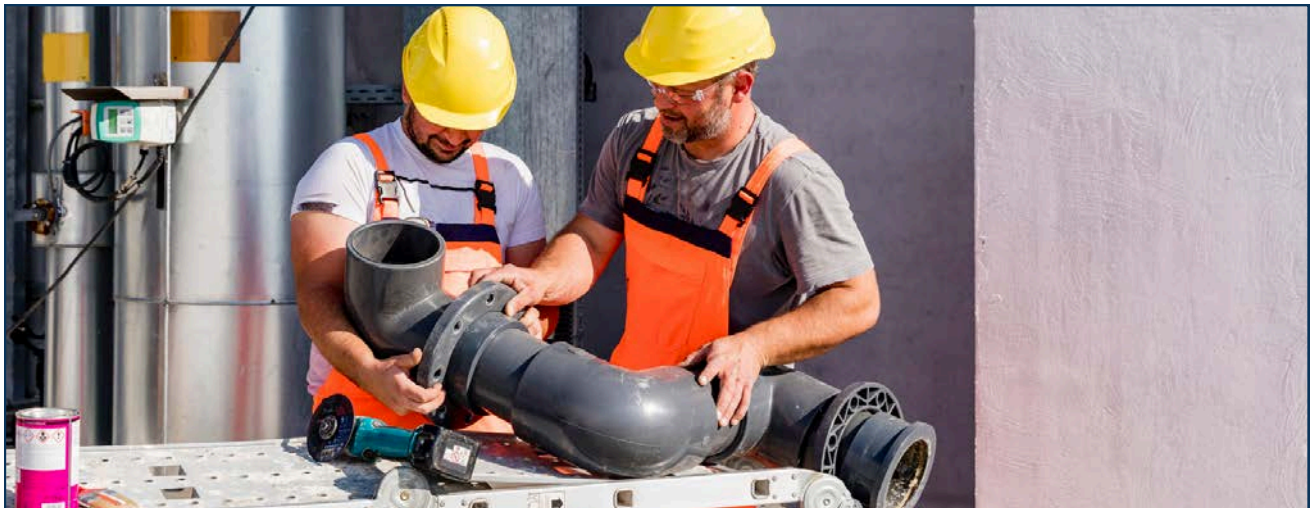
### 7.1.1 ASSET VALUE

DESCRIPTION	REPLACEMENT COSTS
Manholes	\$924,000
Pumpstation Components	\$1,640,000
Sanitary Forcemain	\$3,009,600
Sanitary Sewerlines (200mm)	\$10,754,157
Sanitary Sewerlines (250mm)	\$2,696,400
Sanitary Sewerlines (300mm)	\$5,235,750
Sanitary Sewerlines (400mm)	\$465,750
TOTAL	\$24,725,657

### 7.1.2 ASSET AGE

The average age of the Township's wastewater weighted by current replacement value is 43.36 years. The unweighted average age of each category can be broken down as follows:

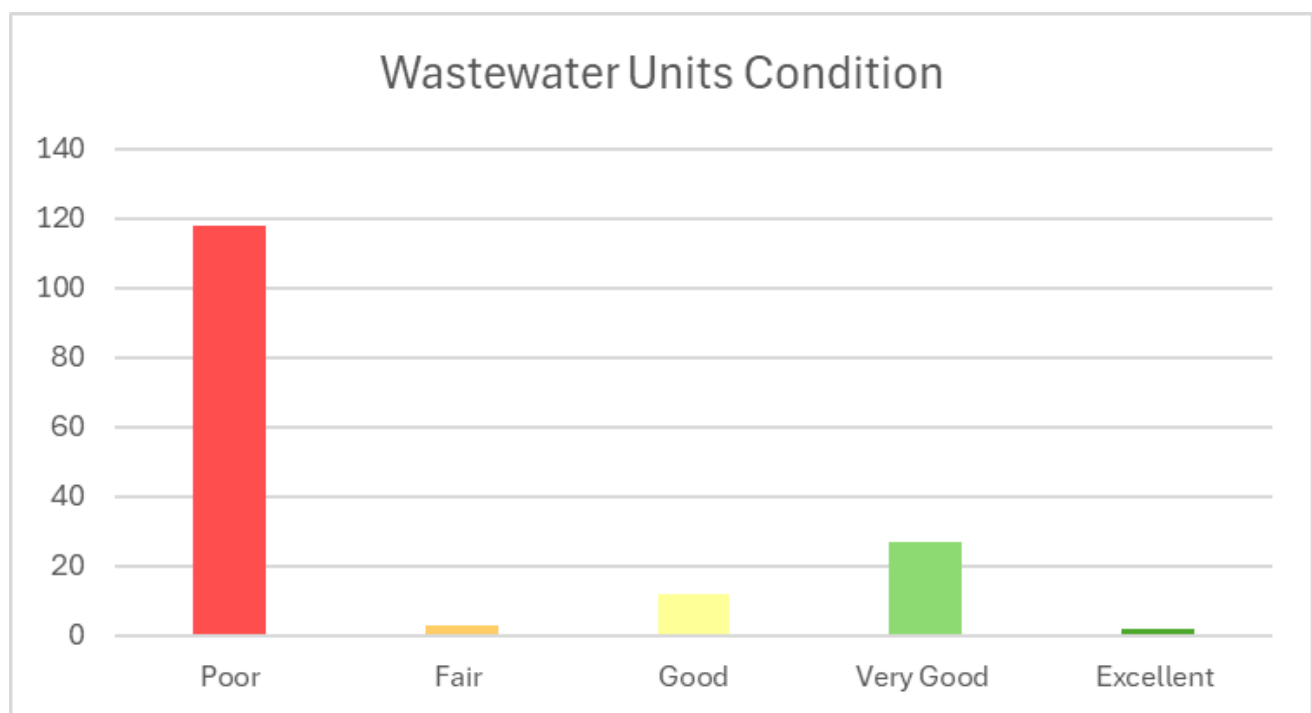
DESCRIPTION	ESTIMATED USEFUL LIFE (EUL)	AVERAGE AGE
Manholes	50 Years	44.75
Pumpstation Components	25-50 Years	19.63
Sanitary Forcemain	75 Years	52.50
Sanitary Sewerlines (200mm)	75 Years	42.72
Sanitary Sewerlines (250mm)	75 Years	25.25
Sanitary Sewerlines (300mm)	75 Years	50.00
Sanitary Sewerlines (400mm)	75 Years	45.00





### 7.1.3 ASSET CONDITION

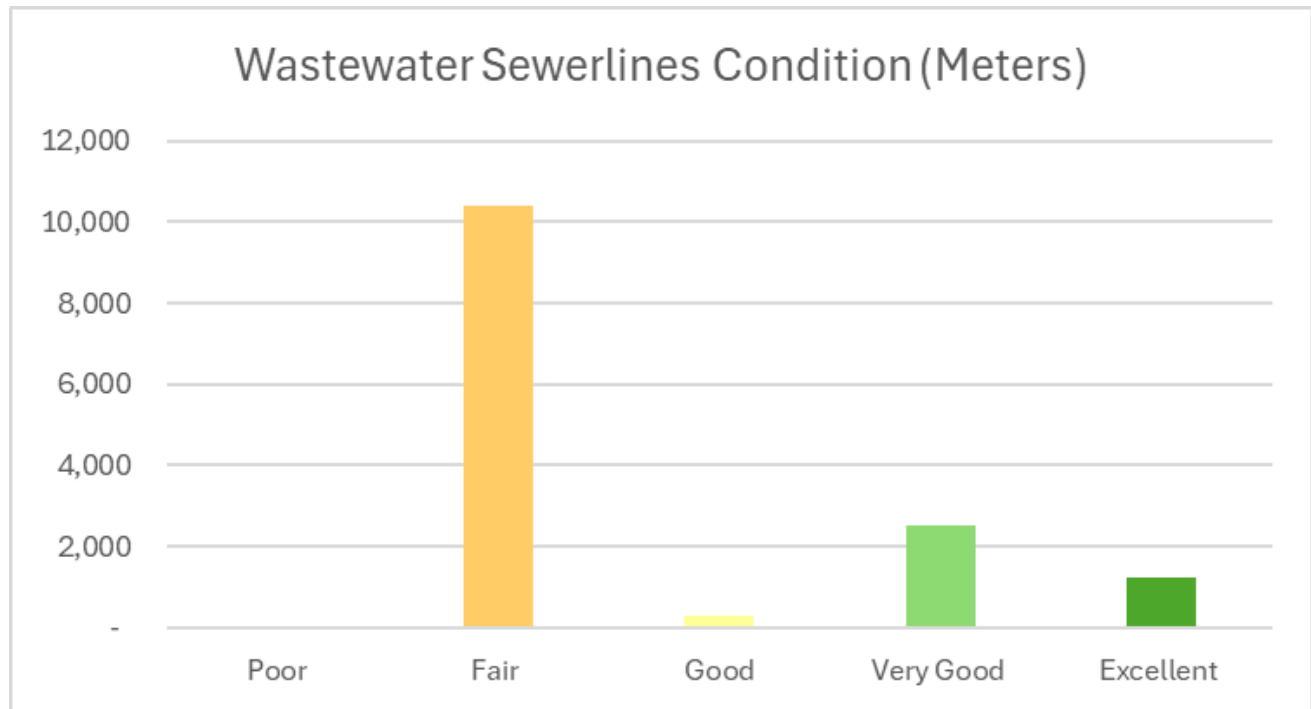
DESCRIPTION	NUMBER OF ASSETS	NUMBER OF METERS
Poor	118	0m
Fair	3	10,412m
Good	12	280m
Very Good	27	2,517m
Excellent	2	1,218m
TOTAL	162	14,427





### 7.1.3 ASSET CONDITION

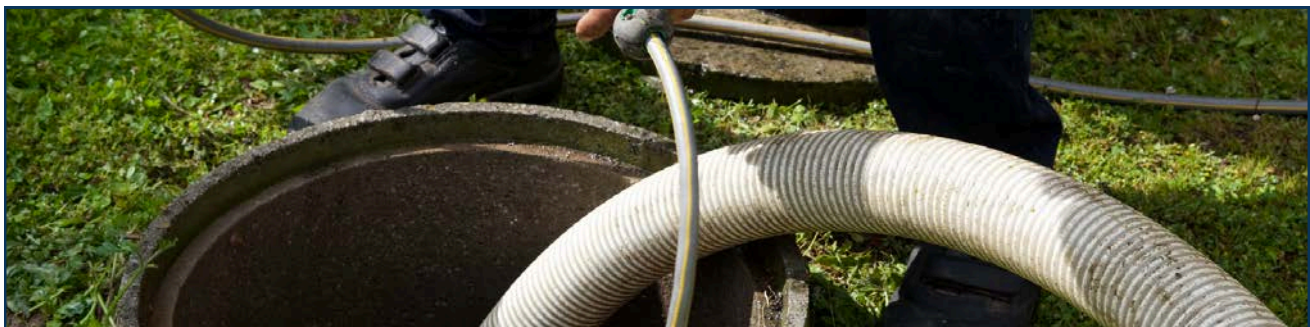
The average condition weighted by current replacement value is 2.49 or fair.



### 7.1.4 ASSET CONDITION ASSESSMENT

The Township has used age to assess the condition. The following chart outlines the characteristics of each condition category.

PERCENTAGE OF USEFUL LIFE REMAINING	CONDITION	RATING
%ULR < 20%	Poor	1
20% < %ULR < 40%	Fair	2
40% < %ULR < 60%	Good	3
60% < %ULR < 80%	Very Good	4
80% < 100%	Excellent	5





## 7.2 Lifecycle Activities

To ensure assets perform to expectations it is imperative for the Township to perform lifecycle activities to proactively manage asset deterioration. The following activities are performed by the Township on a regular basis:

ACTIVITY	DESCRIPTION
Maintenance	CCTV inspections are aligned with roadwork when possible to reduce costs.
Maintenance	Flushing is performed as needed.
Rehabilitation	Spot lining occurs based on findings from CCTV inspections
Replacement	Generally occurs based on findings from CCTV inspections, when the asset is at the end of it's useful life or when can be aligned with road work to decrease costs

## 7.3 Levels of Service

O. Reg 588/17 prescribes the qualitative and technical metrics that municipalities must measure to define their community and technical level of service for wastewater infrastructure.





### 7.3.1 COMMUNITY LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	CURRENT LOS	PROPOSED LOS
Scope	Description which may include maps of the user groups or areas of the municipality that are connected to the municipal wastewater system	See Map (7.8)	See Map (7.8)
Reliability	Description of how combined sewers in municipal wastewater systems 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	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	The Township does not own any combined sewers
Reliability	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backups into homes	Stormwater may enter sanitary sewers due to damaged infrastructure (cracks in manholes & pipes) and heavy rainfall which may cause backups into homes	Stormwater may enter sanitary sewers due to damaged infrastructure (cracks in manholes & pipes) and heavy rainfall which may cause backups into homes





### 7.3.1 COMMUNITY LEVEL OF SERVICE

Table continued from previous page.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	CURRENT LOS	PROPOSED LOS
Reliability	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	The Township follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers. These standards have been determined with consideration of the minimization of sewage overflows and backups	The Township follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers. These standards have been determined with consideration of the minimization of sewage overflows and backups
Reliability	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	The Township does not own sewage treatment plants	The Township does not own sewage treatment plants

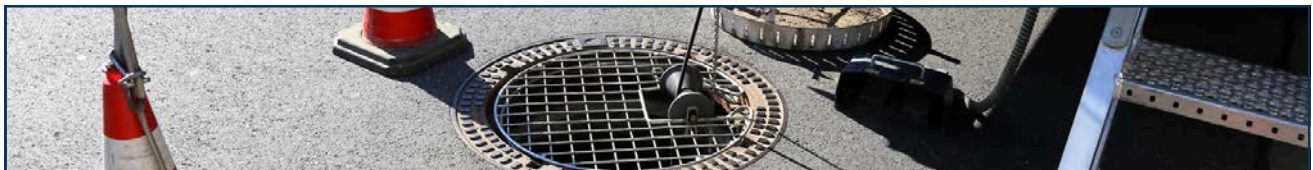




### 7.3.2 TECHNICAL LEVEL OF SERVICE

The following are quantitative metrics of the current and proposed levels of service.

SERVICE ATTRIBUTE	TECHNICAL METRIC	CURRENT LOS	PROPOSED LOS
Scope	Percentage of properties connected to the municipal wastewater system	14%	20%
Reliability	The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	NA	NA
Reliability	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system	0	0
Reliability	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	NA	NA



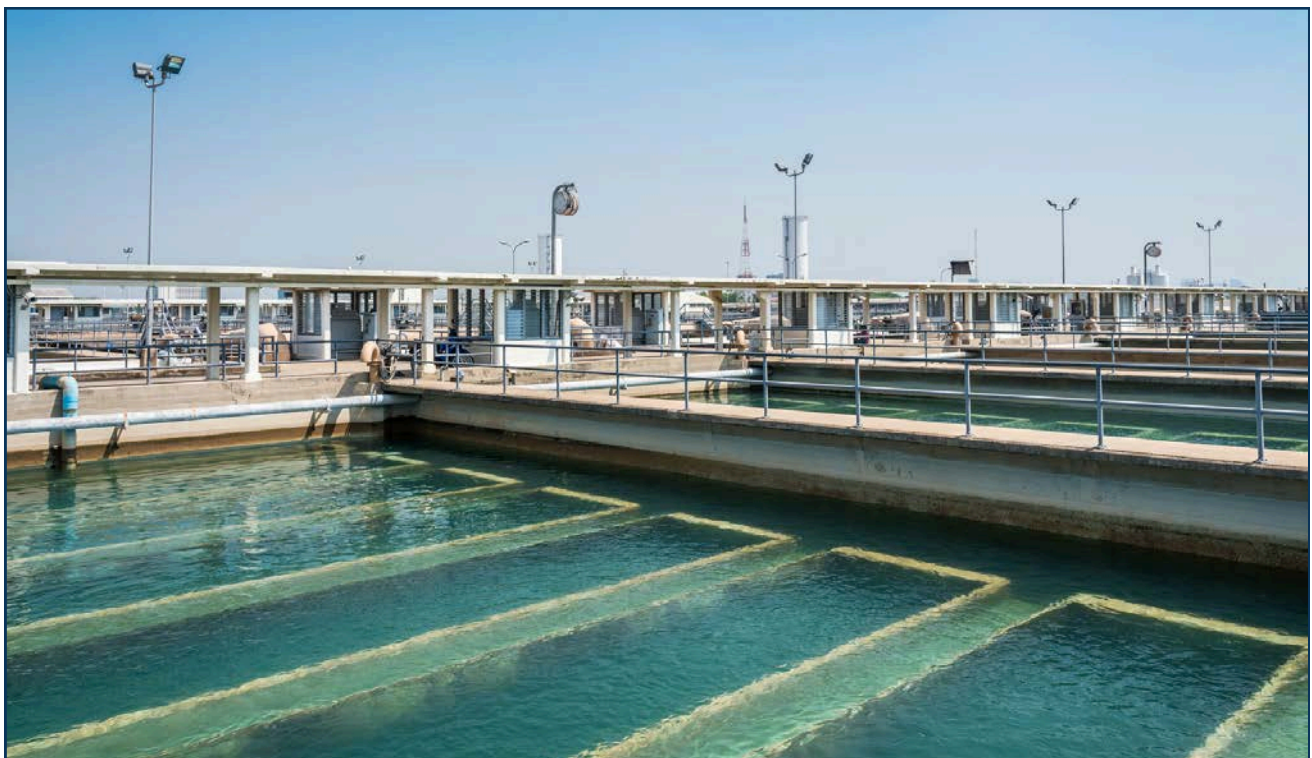


## 7.4 Risk Assessment

Risk management is a key component of an asset's lifecycle management. The first stage of an effective risk management strategy is to develop a risk matrix where the probability of failure (PoF) and consequence of failure (CoF) are combined to produce an overall risk score for each asset.

The PoF is an estimate of how likely it is that an asset will not be available to deliver an expected service. The condition of the asset determines the asset's useful life remaining (ULR) which is the key driver to determine the likelihood of failure. The below table outlines the rationale to determine the PoF of wastewater assets.

CONDITION	URL PERCENTAGE	LIKELIHOOD	POF
1 Poor	0-20	Almost Certain: 80% or greater	5
2 Fair	20-40	Likely: 60-79%	4
3 Good	40-60	Possible: 40-59%	3
4 Very Good	60-80	Unlikely 20-39%	2
5 Excellent	80-100	Rare: 0-19%	1





## 7.4 Risk Assessment

The CoF is an estimate of the effect an outcome of a failed asset would have on the Township. Consequences can range from service interruptions to catastrophic results. The below table outlines the criticality and consequence of failure.

CRITICALITY	CRITERIA	IMPACT	COF	ASSETS
Critical	Life safety or critical to deliver essential services  Legislated  Significant financial loss	Severe	5	Sanitary Forcemain  Pumpstation Components
Essential	Threatens deliver of public transportation  Serious injury or legal judgement  Financial loss	Major	4	400mm Sewerline
Strategic	Threatens the integrity of defined service level  Injury  Moderate financial loss	Moderate	3	300mm Sewerline  250mm Sewerline
Enhancement	Reportable injury  Inefficient process leading to financial loss	Minor	2	Manholes 200mm Sewerline
Deferrable	Target level of service can be achieved without the particular asset	Insignificant	1	NA



By developing a risk score based on the PoF and CoF the Township can identify particular assets that have the greatest impact on service delivery. The following equation demonstrates how the risk score is determined:

$$\text{Risk Score} = \text{PoF} \times \text{CoF}$$

The risk matrix below illustrates the replacement cost of wastewater on each individual asset's risk score. The following legend is useful in interpreting the risk matrix:

FORMULA	RISK RATING	COLOUR
PoF x CoF = 1 to 5	Very Low	Green
PoF x CoF = 6-10	Low	Light Green
PoF x CoF = 11-15	Moderate	Orange
PoF x CoF = 16-20	High	Yellow
PoF x CoF = 21-25	Very High	Red

#### 7.4.1 RISK ASSESSMENT MATRIX

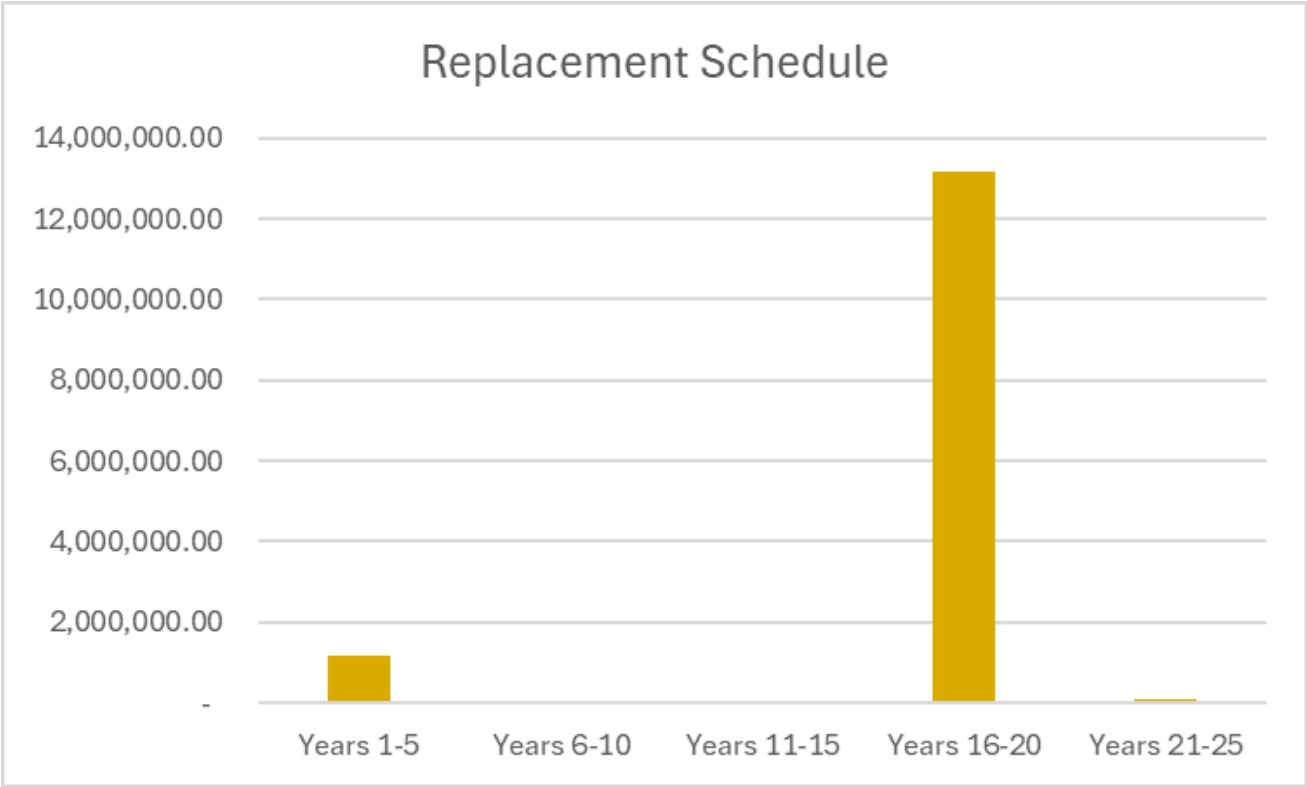
<b>C5</b>	2 \$ 80,000.00	4 \$ 520,000.00	0 \$ -	4 \$ 3,009,600.00	2 \$ 1,040,000.00
<b>C4</b>	0 \$ -	0 \$ -	0 \$ -	2 \$ 465,750.00	0 \$ -
<b>C3</b>	1 \$680,400.00	2 \$ 1,841,400.00	0 \$ -	7 \$ 5,410,350.00	0 \$ -
<b>C2</b>	3 \$945,000.00	29 \$ 1,819,031.25	13 \$ 387,000.00	29 \$ 7,831,125.00	116 \$ 696,000.00
<b>C1</b>	0 \$ -	0 \$ -	0 \$ -	0 \$ -	0 \$ -
	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>

C = Consequence and P = Probability



# 7.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for wastewater assets.



The total capital requirements over a 25 year period is \$14,448,850 (based on 2024 dollars). The annual requirement is \$349,000.



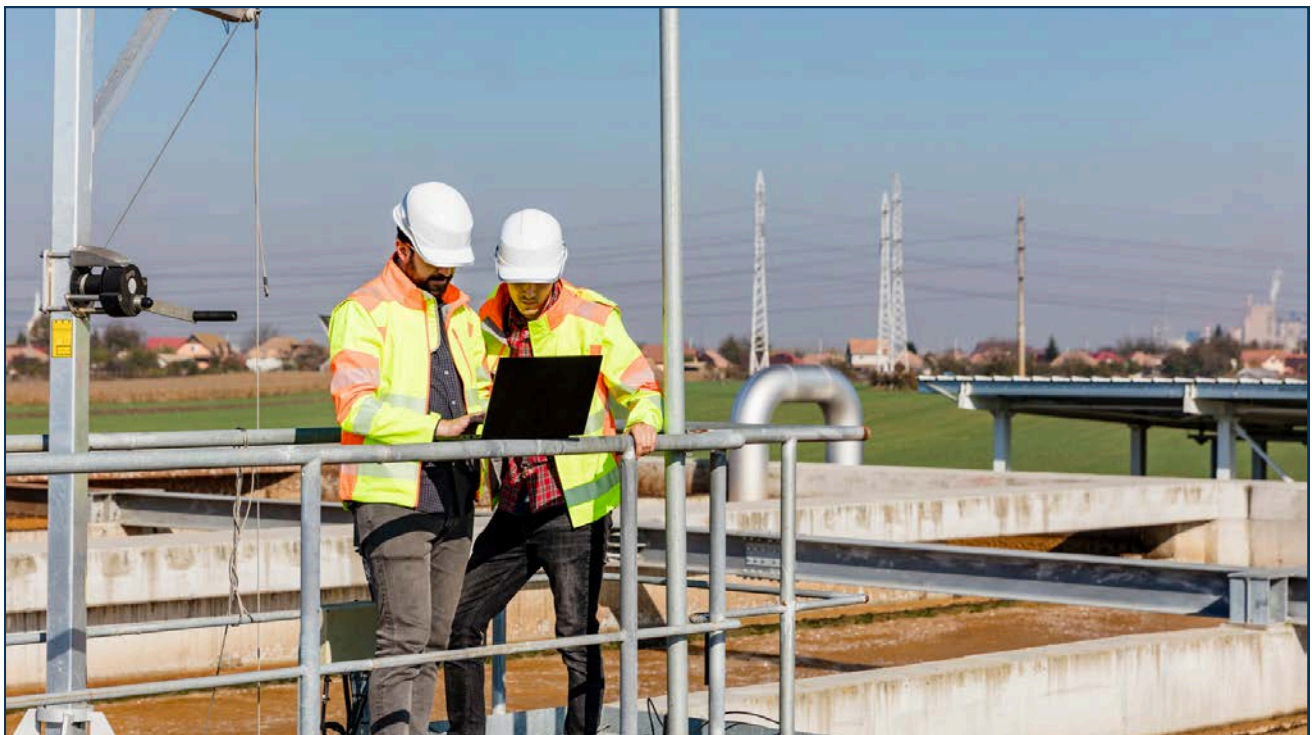


## 7.6 Financing Strategy

The Township has a backlog of \$556,000. For the years 2019-2023 the Township has invested an average of \$2,164 into wastewater assets. If the Township continues to invest at this level over twenty-five years, the funding gap will be \$8,670,900. This represents an annual funding deficit of \$346,836. The chart below illustrates the increase required each year to meet the desired funding level in 5, 10, 15 and 20 year scenarios.

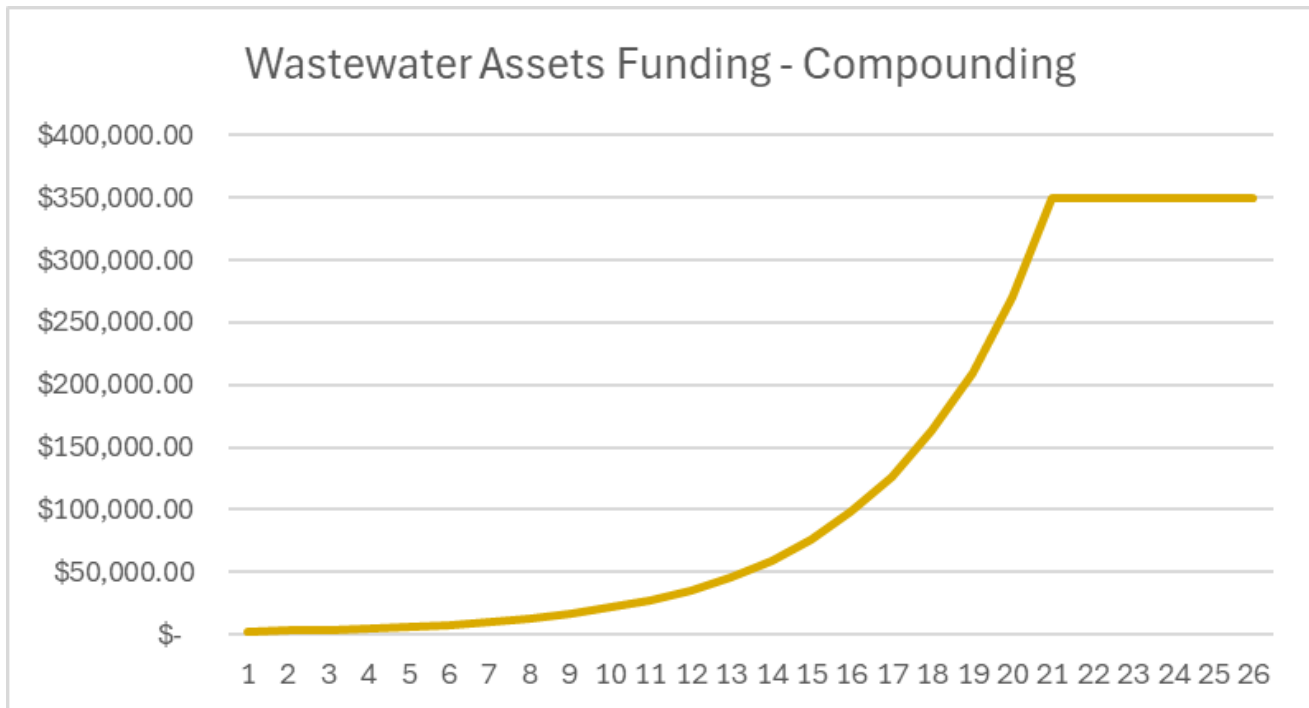
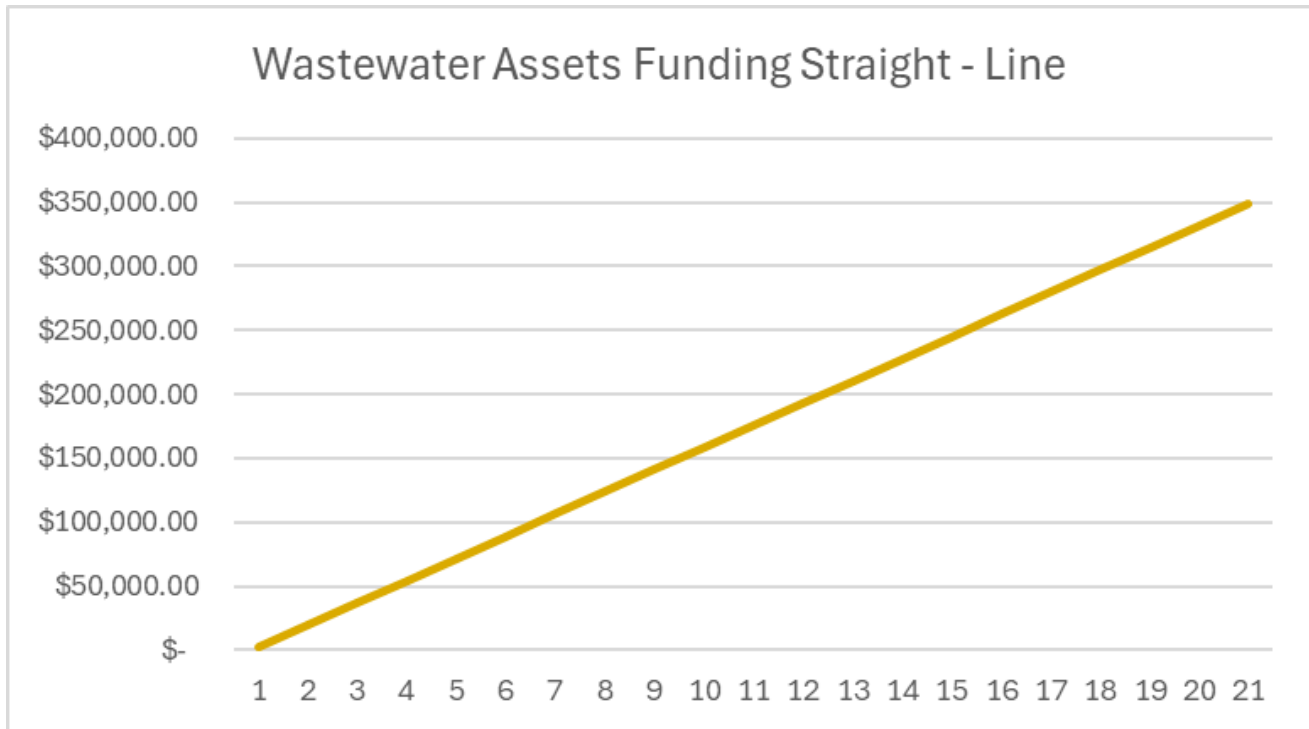
SCENARIO	YEARS UNTIL FULLY FUNDED	ANNUAL INCREASE PERCENTAGE	STRAIGHT LINE ANNUAL INCREASE DOLLARS
1	5	176%	\$69,367
2	10	66%	\$34,684
3	15	40%	\$23,122
4	20	29%	\$17,342

Under scenario 4, under a compounding basis the Township would need to increase the level of investment in wastewater assets by 29% each year to be fully funded in 20 years. On a straight-line basis the Township would need to increase the level of investment by \$17,342 each year for 20 years. This represents a 2.96% increase on the 2024 wastewater levy per year. The below graphs illustrate visually the increase in wastewater funding over the 20 year period under the straight-line and compounding basis.





## 7.6 Financing Strategy





## 7.7 Improvement & Monitoring of Plan

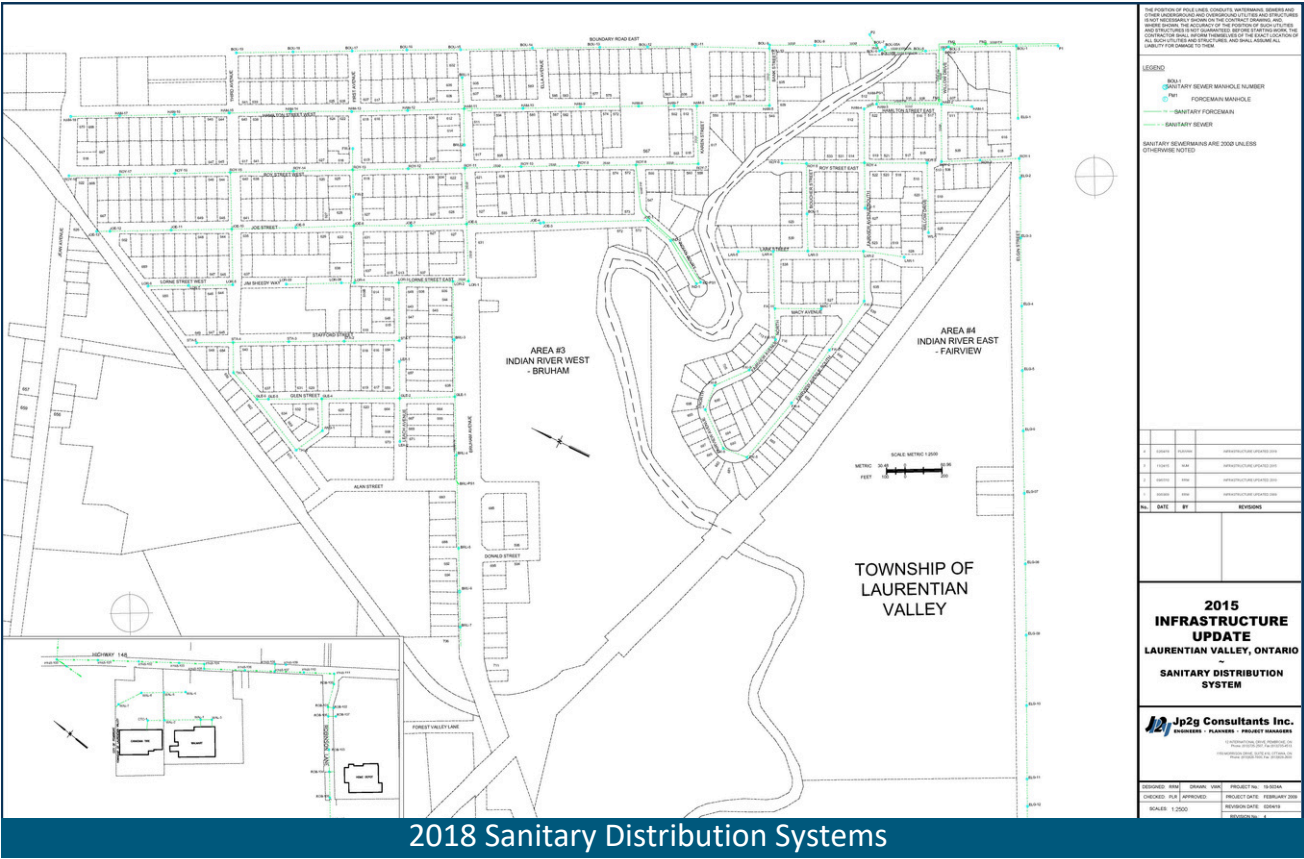
As asset management is continuous, the Township recognizes that there are areas of the above plan that can be improved over time. These areas center around data management, record keeping and reporting. The Township will implement non-condition related factors into the risk management framework.

This plan will be updated each year with relevant data before the budget process. This will ensure that Council and senior management have the most up to date information to make informed decisions.





# 7.8 Sanitary Systems Map







# Facilities





## 8.0 Facilities

The Township owns facilities that house assets related to fire, public works, and general government as well as recreation facilities that provide residents recreational and social opportunities. Assets in this category include administration buildings, sand domes/salt sheds, storage buildings, recreation centers and a fire station. Facility assets have a total replacement value of \$28,625,000.

### 8.1 Asset Inventory

The Township owns 13 facilities that provide key services to the community with approximately 6,665 square meters of buildings and structures that make up these assets.

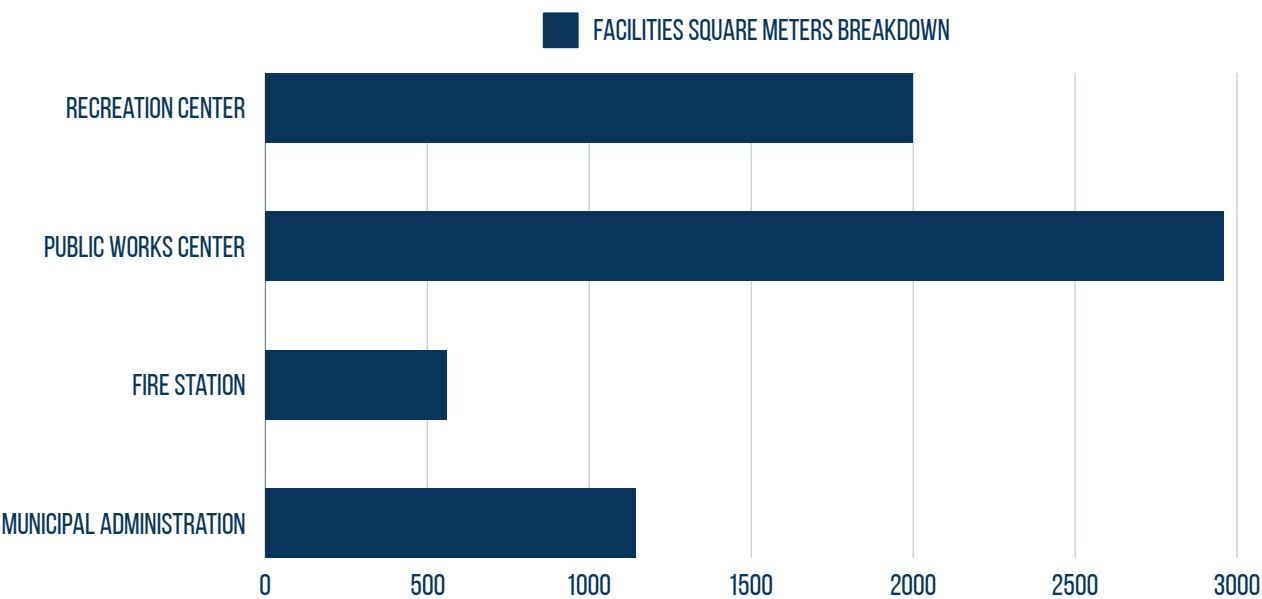
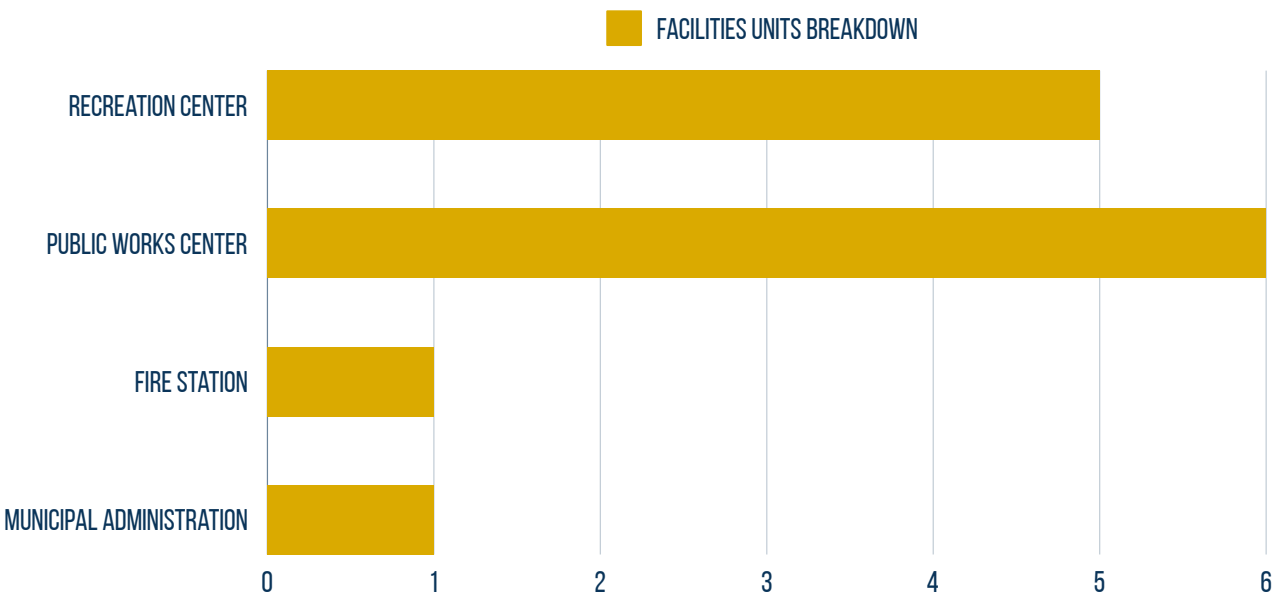
Table 8.1 outlines what facility assets the Township owns, while tables 8.1.1, 8.1.2 and 8.1.3 outline the asset value, age and condition respectively in reference to the items outlined in 8.1.

DESCRIPTION	COUNT	AREA (METERS SQUARE)
Municipal Administration	1	1,145
Fire Station	1	560
Public Works Center	6	2,960
Recreation Center	5	2,000
TOTAL	13	6,665m <sup>2</sup>





# 8.1 Asset Inventory





### 8.1.1 ASSET VALUE

DESCRIPTION	REPLACEMENT COSTS
Municipal Administration	\$6,183,000
Fire Station	\$3,024,000
Public Works Center	\$9,430,000
Recreation Center	\$9,988,000
TOTAL	\$28,625,000

### 8.1.2 ASSET AGE

The average age of the Township's facility assets weighted by current replacement value is 32.36 years. The unweighted average age of each category can be broken down as follows:

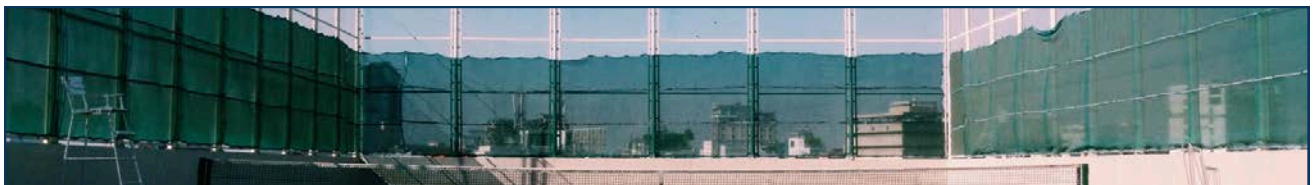
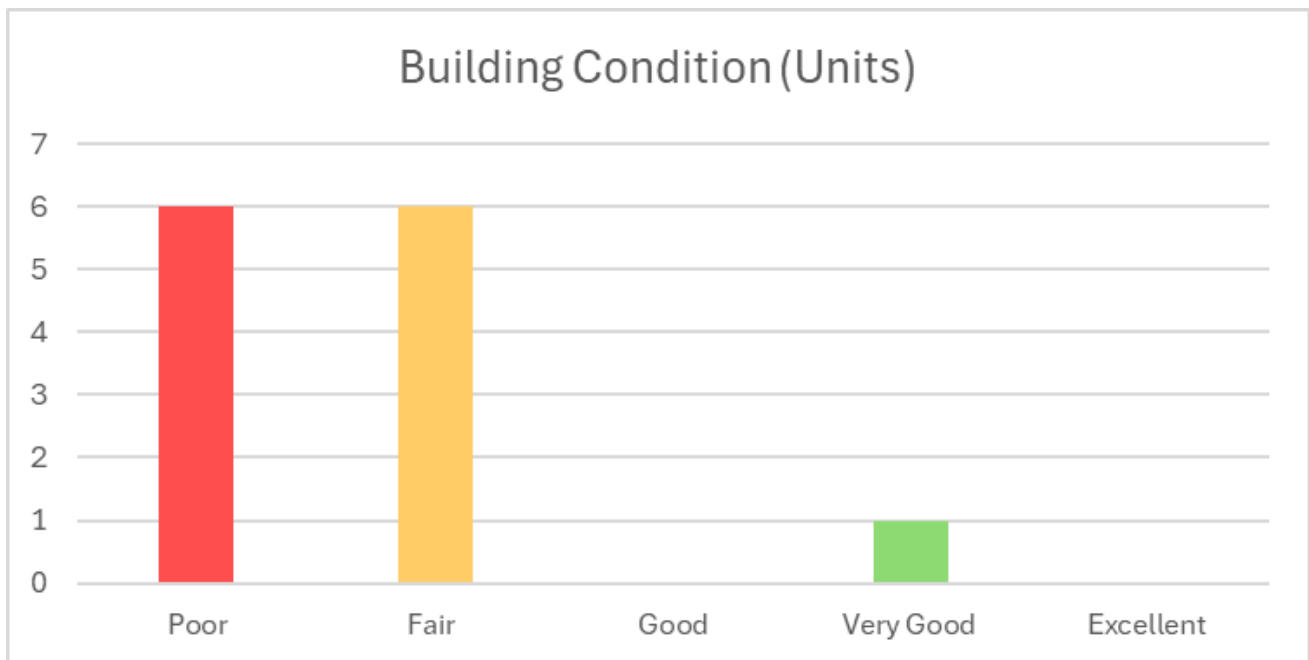
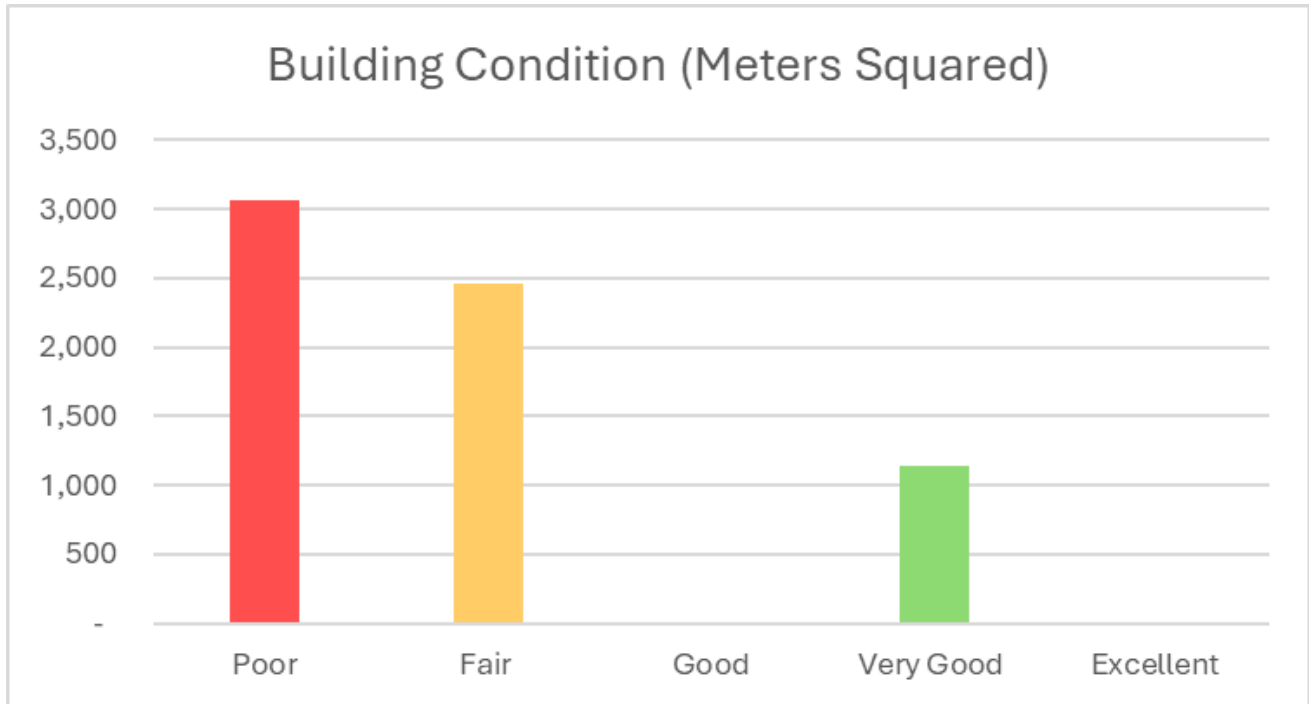
DESCRIPTION	ESTIMATED USEFUL LIFE (EUL)	AVERAGE AGE
Municipal Administration	50 Years	14.00
Fire Station	50 Years	34.00
Public Works Center	25 - 50 Years	33.83
Recreation Center	50 Years	39.80





### 8.1.3 ASSET CONDITION

The average condition weighted by current replacement value is 2.0 which is fair.

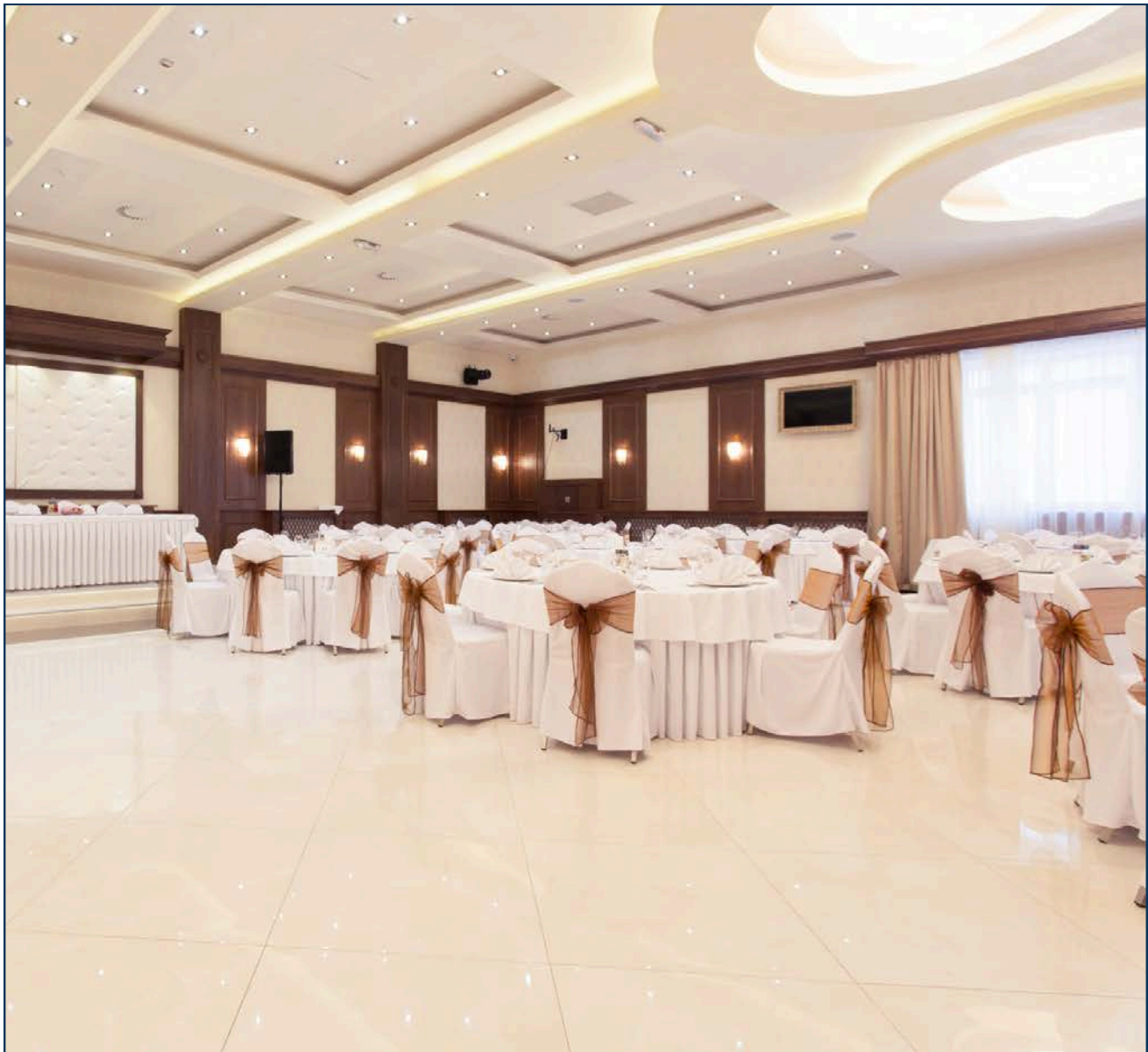




### 8.1.4 ASSET CONDITION ASSESSMENT

The Township has used age to assess the condition. The following chart outlines the characteristics of each condition category.

PERCENTAGE OF USEFUL LIFE REMAINING	CONDITION	RATING
%ULR < 20%	Poor	1
20% < %ULR < 40%	Fair	2
40% < %ULR < 60%	Good	3
60% < %ULR < 80%	Very Good	4
80% < 100%	Excellent	5





## 8.2 Lifecycle Activities

To ensure assets perform to expectations it is imperative for the Township to perform lifecycle activities to proactively manage asset deterioration. The following activities are performed by the Township on a regular basis:

ACTIVITY	DESCRIPTION
Maintenance	Maintenance to individual assets in buildings are updated as necessary and as budget permits
Maintenance	Immediate health and safety concerns are dealt with on an emergency basis
Rehabilitation	Staffed facilities are inspected on a monthly basis. Unstaffed facilities are inspected bi-annually

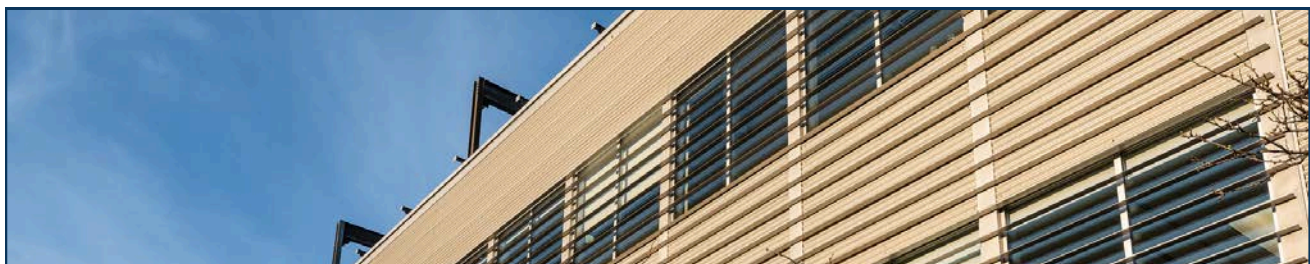
## 8.3 Levels of Service

In accordance with O. Reg 588/17, the Township has identified the current level of service and proposed level of service for both community and technical levels of service.

### 8.3.1 COMMUNITY LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	CURRENT LOS	PROPOSED LOS
Scope	Description, which may include maps, of the locations of the municipal owned buildings	See Map	See Map
Accessible & Reliable	Description of the current condition of municipal buildings and the plans that are in place to maintain the provided level of service.	The average condition of the buildings are 2.0 (fair). Regular routine maintenance activities are undertaken and replacement of assets	The average condition of the buildings are 2.0 (fair). Regular routine maintenance activities are undertaken and replacement of assets





### 8.3.2 TECHNICAL LEVEL OF SERVICE

The following are quantitative metrics of the current and proposed levels of service.

SERVICE ATTRIBUTE	TECHNICAL METRIC	CURRENT LOS	PROPOSED LOS
Performance	% building assets in fair condition or higher.	53%	53%

## 8.4 Risk Assessment

Risk management is a key component of an asset's lifecycle management. The first stage of an effective risk management strategy is to develop a risk matrix where the probability of failure (PoF) and consequence of failure (CoF) are combined to produce an overall risk score for each asset.

The PoF is an estimate of how likely it is that an asset will not be available to deliver an expected service. The condition of the asset determines the asset's useful life remaining (ULR) which is the key driver to determine the likelihood of failure. The below table outlines the rationale to determine the PoF of facility assets.

CONDITION	URL PERCENTAGE	LIKELIHOOD	POF
1 Poor	0-20	Almost Certain: 80% or greater	5
2 Fair	20-40	Likely: 60-79%	4
3 Good	40-60	Possible: 40-59%	3
4 Very Good	60-80	Unlikely 20-39%	2
5 Excellent	80-100	Rare: 0-19%	1





## 8.4 Risk Assessment

The CoF is an estimate of the effect an outcome of a failed asset would have on the Township. Consequences can range from service interruptions to catastrophic results. The below table outlines the criticality and consequence of failure.

CRITICALITY	CRITERIA	IMPACT	COF	ASSETS
Critical	Life safety or critical to deliver essential services  Legislated  Significant financial loss	Severe	5	Fire Station
Essential	Threatens deliver of public transportation  Serious injury or legal judgement  Financial loss	Major	4	Municipal Office
Strategic	Threatens the integrity of defined service level  Injury  Moderate financial loss	Moderate	3	Public Works Garage
Enhancement	Reportable injury  Inefficient process leading to financial loss	Minor	2	Recreation Centers
Deferrable	Target level of service can be achieved without the particular asset	Insignificant	1	Sand Domes Salt Dome Cold Storage Shed



By developing a risk score based on the PoF and CoF the Township can identify particular assets that have the greatest impact on service delivery. The following equation demonstrates how the risk score is determined:

$$\text{Risk Score} = \text{PoF} \times \text{CoF}$$

The risk matrix below illustrates the replacement cost of facility assets based on each individual asset's risk score. The following legend is useful in interpreting the risk matrix:

FORMULA	RISK RATING	COLOUR
PoF x CoF = 1 to 5	Very Low	Green
PoF x CoF = 6-10	Low	Light Green
PoF x CoF = 11-15	Moderate	Orange
PoF x CoF = 16-20	High	Yellow
PoF x CoF = 21-25	Very High	Red

#### 8.4.1 RISK ASSESSMENT MATRIX

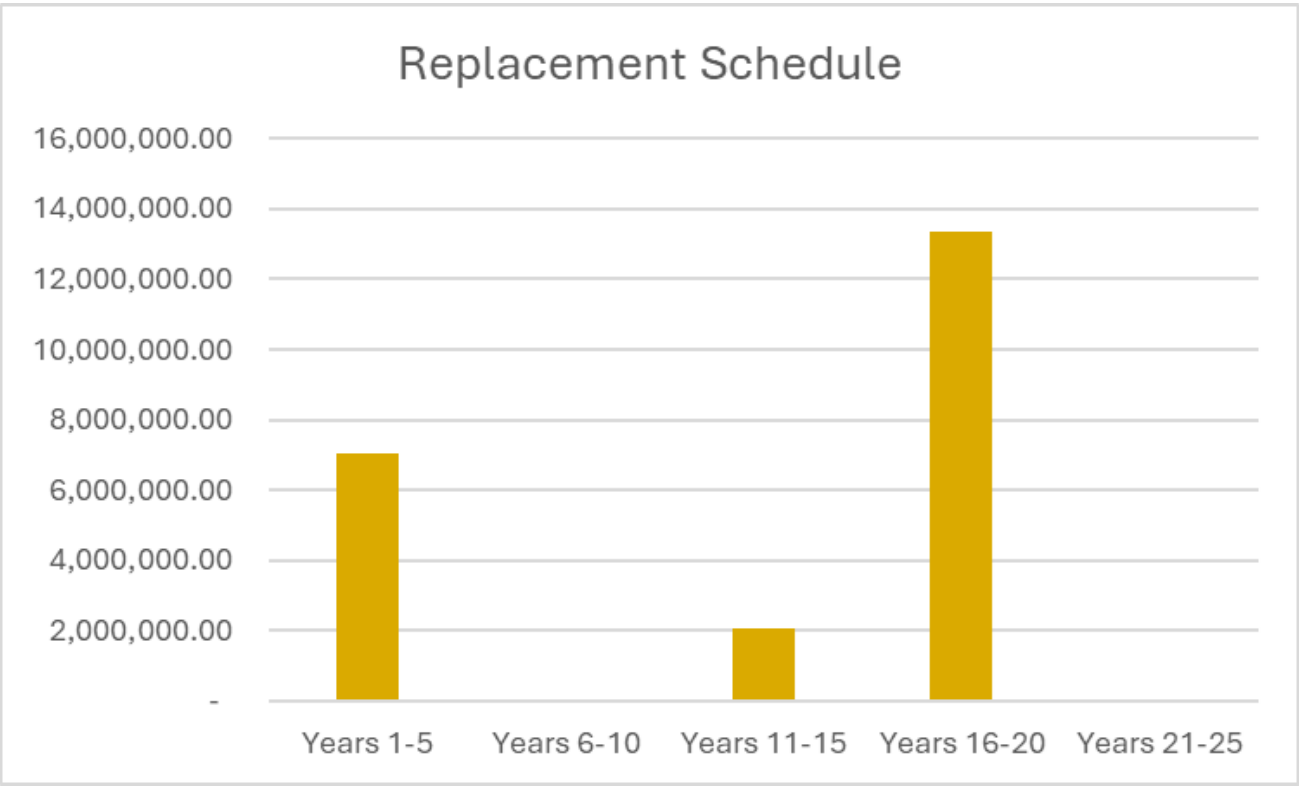
C5	0 \$ -	0 \$ -	0 \$ -	1 \$ 3,024,000	0 \$ -
C4	0 \$ -	0 \$ -	0 \$ -	0 \$ -	0 \$ -
C3	0 \$ -	1 \$ 6,183,000	0 \$ -	1 \$ 3,780,000	0 \$ -
C2	0 \$ -	0 \$ -	0 \$ -	0 \$ -	4 \$ 4,400,000
C1	0 \$ -	0 \$ -	0 \$ -	4 \$ 4,218,000	2 \$ 7,020,000
	P1	P2	P3	P4	P5

C = Consequence and P = Probability



# 8.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for facility assets.



The total capital requirements over a 25 year period is \$22,442,000 (based on 2024 dollars). The annual requirement is \$660,500.





## 8.6 Financing Strategy

The Township has a backlog of \$4,400,000. For the years 2019-2023 the Township has invested an average of \$49,000 into building assets. If the Township continues to invest at this level over twenty-five years, the funding gap will be \$15,287,500. This represents an annual funding deficit of \$611,500. The chart below illustrates the increase required each year to meet the desired funding level in 5, 10, 15 and 20-year scenarios.

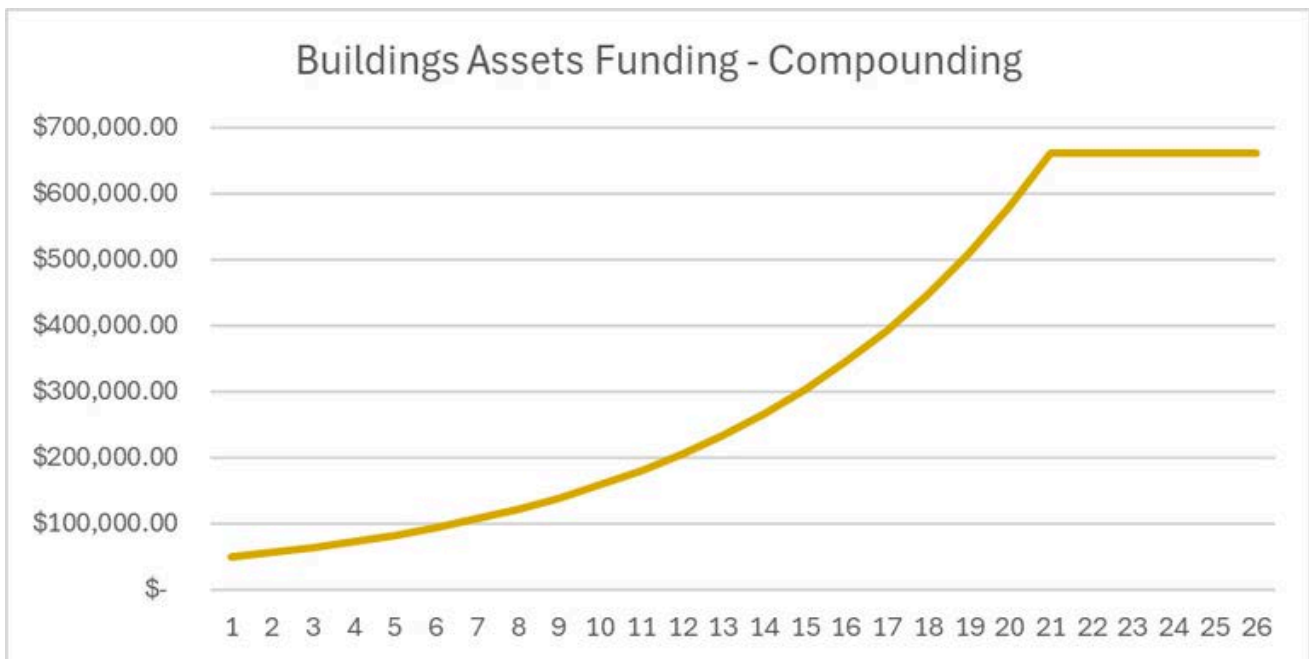
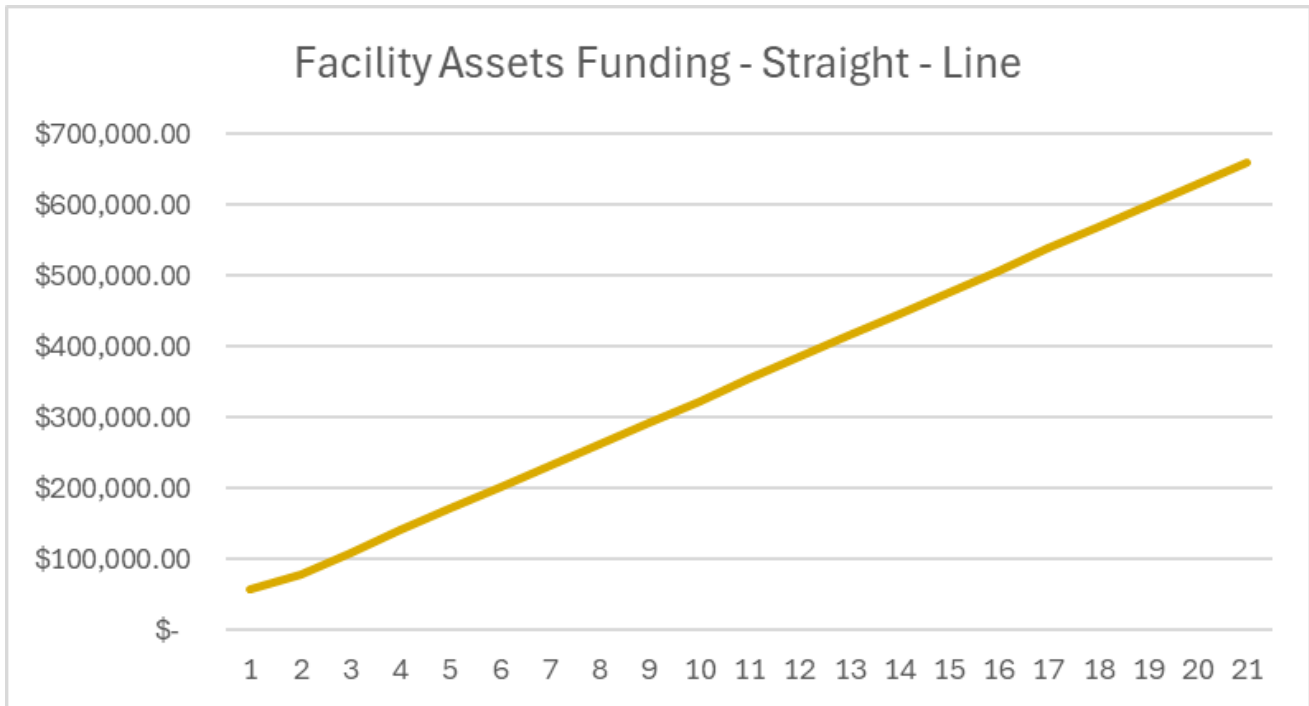
SCENARIO	YEARS UNTIL FULLY FUNDED	ANNUAL INCREASE PERCENTAGE	STRAIGHT LINE ANNUAL INCREASE DOLLARS
1	5	68%	\$122,300
2	10	30%	\$61,150
3	15	19%	\$40,767
4	20	14%	\$30,575

Under scenario 4, under a compounding basis the Township would need to increase the level of investment in facility assets by 14% each year to be fully funded in 20 years. On a straight-line basis the Township would need to increase the level of investment by \$30,575 each year for 20 years. This amount represents 0.45% of the 2024 taxation levy. The below graphs illustrate visually the increase in facility funding over the 20 year period under the straight line and compounding basis.





## 8.6 Financing Strategy





## 8.7 Improvement & Monitoring of Plan

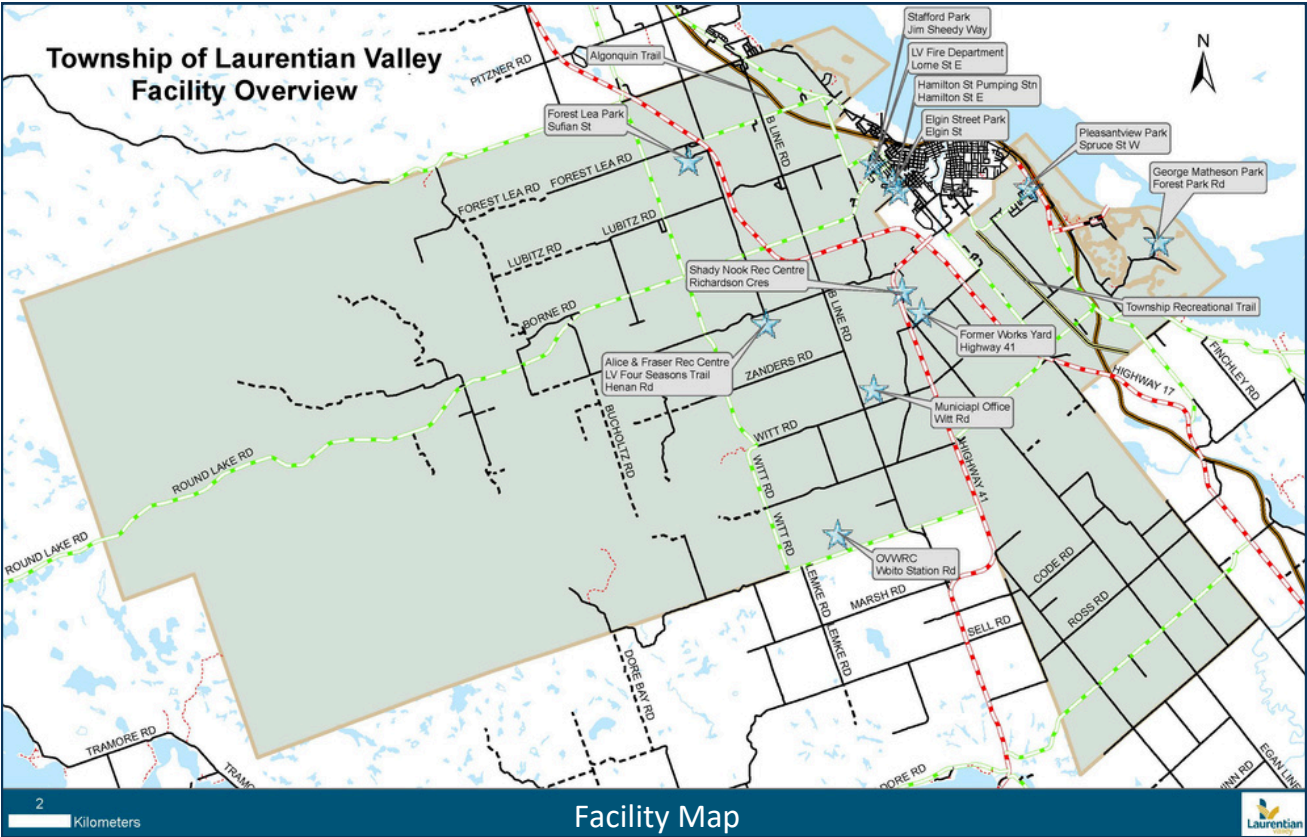
As asset management is continuous, the Township recognizes that there are areas of the above plan that can be improved over time. These areas center around data management, record keeping and reporting. The Township will implement non-condition related factors into the risk management framework.

This plan will be updated each year with relevant data before the budget process. This will ensure that Council and senior management have the most up to date information to make informed decisions.





# 8.8 Facility Map







# Vehicles and Heavy Equipment





# 9.0 Vehicles & Heavy Equipment

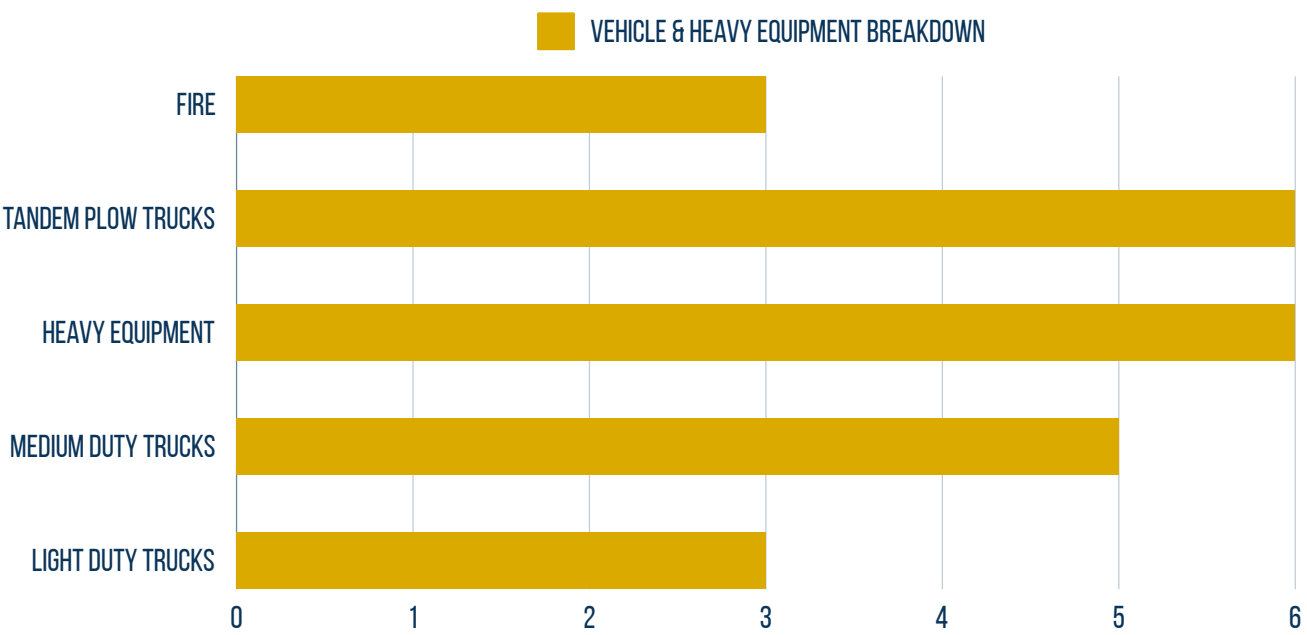
The Township of Laurentian Valley owns and operates a vast array of vehicles and machinery which allows staff to efficiently deliver municipal services. Fleet and Machinery assets have a total replacement value of \$7,400,000.

## 9.1 Asset Inventory

The types of fleets and machinery that the Township owns and maintains range from small passenger vehicles to heavy equipment for construction operations and snow removal. There are also specialized vehicles such as fire trucks and pumpers for emergency services as well as specialized machinery such as sidewalk tractors which are also included in the Township’s Fleet.

Table 9.1 outlines what vehicles the Township owns, while tables 9.1.1, 9.1.2 and 9.1.3 outline the asset value, age and condition respectively in reference to the items outlined in table 9.1.

DESCRIPTION	COUNT
Light Duty Trucks	3
Medium Duty Trucks	5
Heavy Equipment	6
Tandem Plow Trucks	6
Fire	3
TOTAL	23





### 9.1.1 ASSET VALUE

DESCRIPTION	REPLACEMENT COSTS
Light Duty Trucks	\$195,000
Medium Duty Trucks	\$650,000
Heavy Equipment	\$2,180,000
Tandem Plow Trucks	\$1,950,000
Fire	\$2,425,000
TOTAL	\$7,400,000

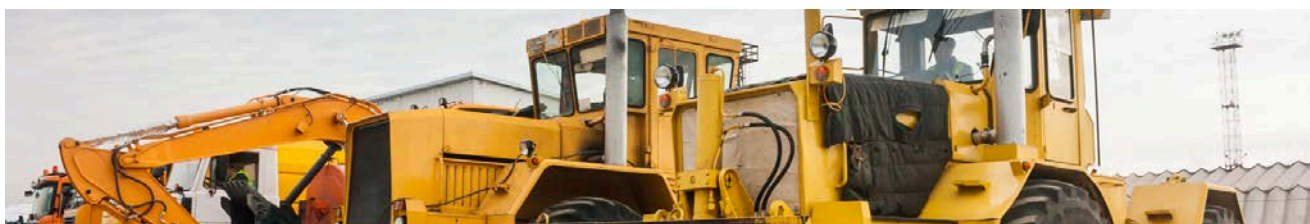
### 9.1.2 ASSET AGE

The average age of the Township's Vehicles and equipment weighted by current replacement value is 9.38 years. The unweighted average age of each category can be broken down as follows:

DESCRIPTION	ESTIMATED USEFUL LIFE (EUL)	AVERAGE AGE
Light Duty Trucks	10 Years/250,000 KMS	7.67
Medium Duty Trucks	10 Years/250,000 KMS	7.80
Heavy Equipment	15-20 Years/12,000 Hours	10.67
Tandem Plow Trucks	12 Years/ 200, 000 Hours	4.83
Fire	20 Years	10.00

### 9.1.3 ASSET CONDITION

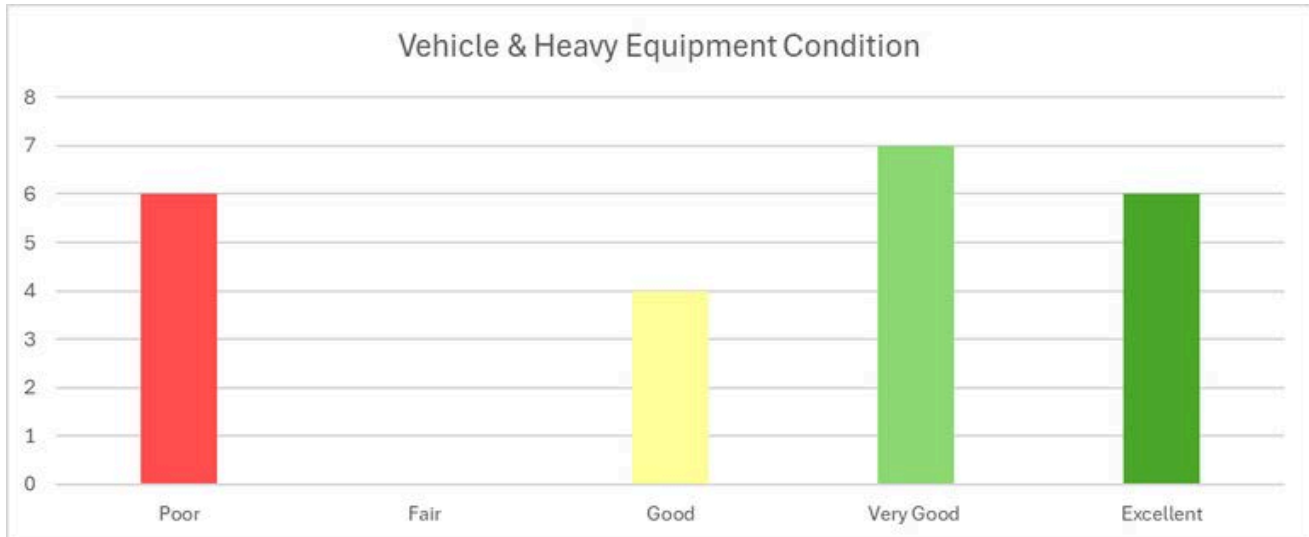
DESCRIPTION	REPLACEMENT COSTS
Poor	6
Fair	0
Good	4
Very Good	7
Excellent	6
TOTAL	23





### 9.1.3 ASSET CONDITION

The average condition weighted by current replacement value is 3.29 or good.



### 9.1.4 ASSET CONDITION ASSESSMENT

The Township has used age to assess the condition. The following chart outlines the characteristics of each condition category.

PERCENTAGE OF USEFUL LIFE REMAINING	CONDITION	RATING
%ULR < 20%	Poor	1
20% < %ULR < 40%	Fair	2
40% < %ULR < 60%	Good	3
60% < %ULR < 80%	Very Good	4
80% < 100%	Excellent	5





## 9.2 Lifecycle Activities

To ensure assets perform to expectations it is imperative for the Township to perform lifecycle activities to proactively manage asset deterioration. The following activities are performed by the Township on a regular basis:

ACTIVITY	DESCRIPTION
Maintenance	Inspections are performed annually by a certified mechanic
Maintenance	Service is scheduled bi-annually for light duty, medium duty, tandem plow trucks and fire heavy equipment. Maintenance for other heavy equipment is as per manufacturers recommendation
Prevention	All vehicles are under coated annually
Replacement	Assets are generally replaced at the end of their useful life.

## 9.3 Levels of Service

In accordance with O. Reg 588/17, the Township has identified the current level of service and proposed level of service for both community and technical levels of service.





### 9.3.1 COMMUNITY LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	CURRENT LOS	PROPOSED LOS
Scope	Description of the vehicles and heavy equipment that the Township uses to provide services to the community	Light Duty ·½ Ton Medium Duty ·1 Ton ·¾ Ton Tandem Plow Trucks Fire ·Tanker ·Pumper Tanker ·Pumper ·¾ Ton ·½ Ton Heavy Equipment ·Backhoe ·Excavator ·Sidewalk Tractor ·Grader ·Loader	Light Duty ·½ Ton Medium Duty ·1 Ton ·¾ Ton Tandem Plow Trucks Fire ·Tanker ·Pumper Tanker ·Pumper ·¾ Ton ·½ Ton Heavy Equipment ·Backhoe ·Excavator ·Sidewalk Tractor ·Grader ·Loader
Accessible and Reliable	MTO & Fire regulated inspection process	Fire vehicles are inspected/tested annually in accordance with the National Fire Protection Association (NFPA) guidelines. All Commercial Vehicle Operator's Registration (CVOR) vehicles are inspected by a certified mechanic.	Fire vehicles are inspected/tested annually in accordance with the National Fire Protection Association (NFPA) guidelines. All Commercial Vehicle Operator's Registration (CVOR) vehicles are inspected by a certified mechanic





### 9.3.2 TECHNICAL LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	TECHNICAL METRIC	CURRENT LOS	PROPOSED LOS
Quality	Average condition of vehicle & heavy equipment	Fair	Fair
Reliable	Fleet & Heavy Equipment are available to meet regulatory requirements	100% of time	100% of time

## 9.4 Risk Assessment

Risk management is a key component of an asset's lifecycle management. The first stage of an effective risk management strategy is to develop a risk matrix where the probability of failure (PoF) and consequence of failure (CoF) are combined to produce an overall risk score for each asset. The PoF is an estimate of how likely it is that an asset will not be available to deliver an expected service. The condition of the asset determines the asset's useful life remaining (ULR) which is the key driver to determine the likelihood of failure. The below table outlines the rationale to determine the PoF of vehicles and heavy equipment.

CONDITION	URL PERCENTAGE	LIKELIHOOD	POF
1 Poor	0-20	Almost Certain: 80% or greater	5
2 Fair	20-40	Likely: 60-79%	4
3 Good	40-60	Possible: 40-59%	3
4 Very Good	60-80	Unlikely 20-39%	2
5 Excellent	80-100	Rare: 0-19%	1





## 9.4 Risk Assessment

The CoF is an estimate of the effect an outcome of a failed asset would have on the Township. Consequences can range from service interruptions to catastrophic results. The below table outlines the criticality and consequence of failure.

IMPACT	CRITERIA	COF	ASSETS
Severe	Life safety or critical to deliver essential services  Legislated  Significant financial loss	5	Firetrucks
Major	Threatens deliver of public transportation  Serious injury or legal judgement  Financial loss	4	Tandem plow trucks  Loaders, graders, backhoes
Moderate	Threatens the integrity of defined service level  Injury  Moderate financial loss	3	Supervisory
Minor	Reportable injury  Inefficient process leading to financial loss	2	Corporate fleet transporting personnel supplies
Insignificant	Target level of service can be achieved without the particular asset	1	Various types of light duty vehicles





By developing a risk score based on the PoF and CoF the Township can identify particular assets that have the greatest impact on service delivery. The following equation demonstrates how the risk score is determined:

$$\text{Risk Score} = \text{PoF} \times \text{CoF}$$

The risk matrix below illustrates the replacement cost of fleet and heavy equipment based on each individual asset's risk score. The following legend is useful in interpreting the risk matrix:

FORMULA	RISK RATING	COLOUR
PoF x CoF = 1 to 5	Very Low	Green
PoF x CoF = 6-10	Low	Light Green
PoF x CoF = 11-15	Moderate	Orange
PoF x CoF = 16-20	High	Yellow
PoF x CoF = 21-25	Very High	Red

#### 9.4.1 RISK ASSESSMENT MATRIX

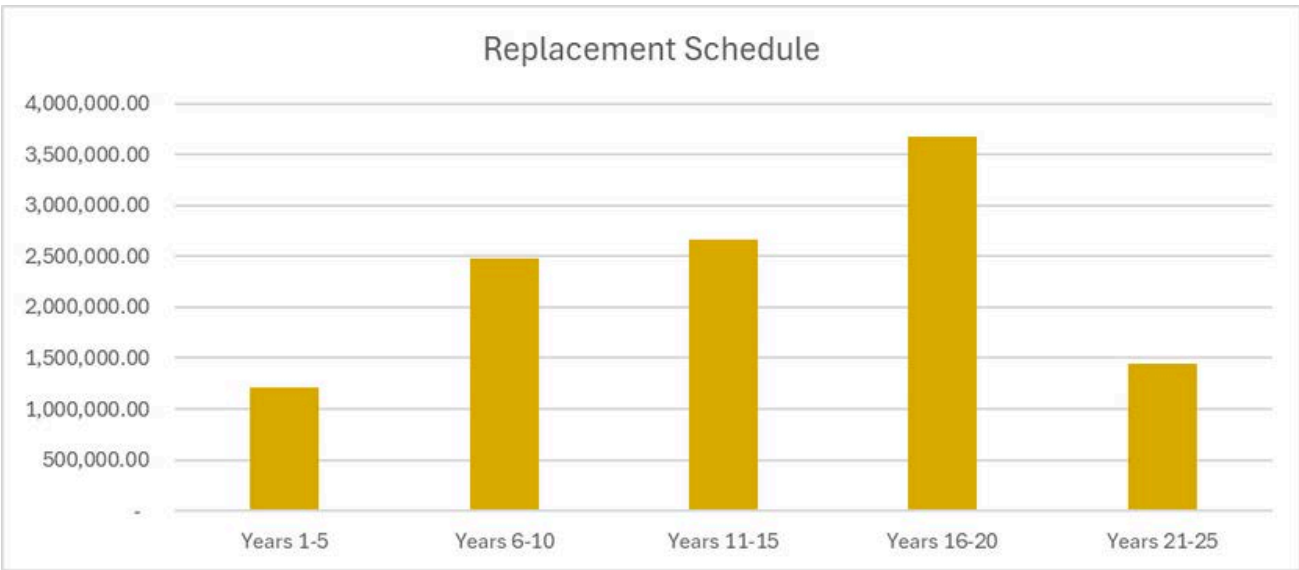
C5	1 \$425,000.00	0 \$ -	1 \$1,000,000.00	0 \$ -	1 \$1,000,000.00
C4	2 \$575,000.00	7 \$2,655,000.00	2 \$ 650,000.00	0 \$ -	1 \$ 250,000.00
C3	2 \$175,000.00	0 \$ -	0 \$ -	0 \$ -	4 \$ 540,000.00
C2	1 \$ 65,000.00	0 \$ -	1 \$ 65,000.00	0 \$ -	0 \$ -
C1	0 \$ -	0 \$ -	0 \$ -	0 \$ -	0 \$ -
	P1	P2	P3	P4	P5

C = Consequence and P = Probability



## 9.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements for vehicles and heavy equipment.



## 9.6 Financing Strategy

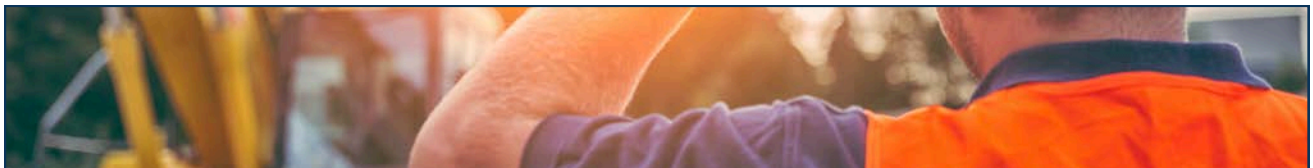
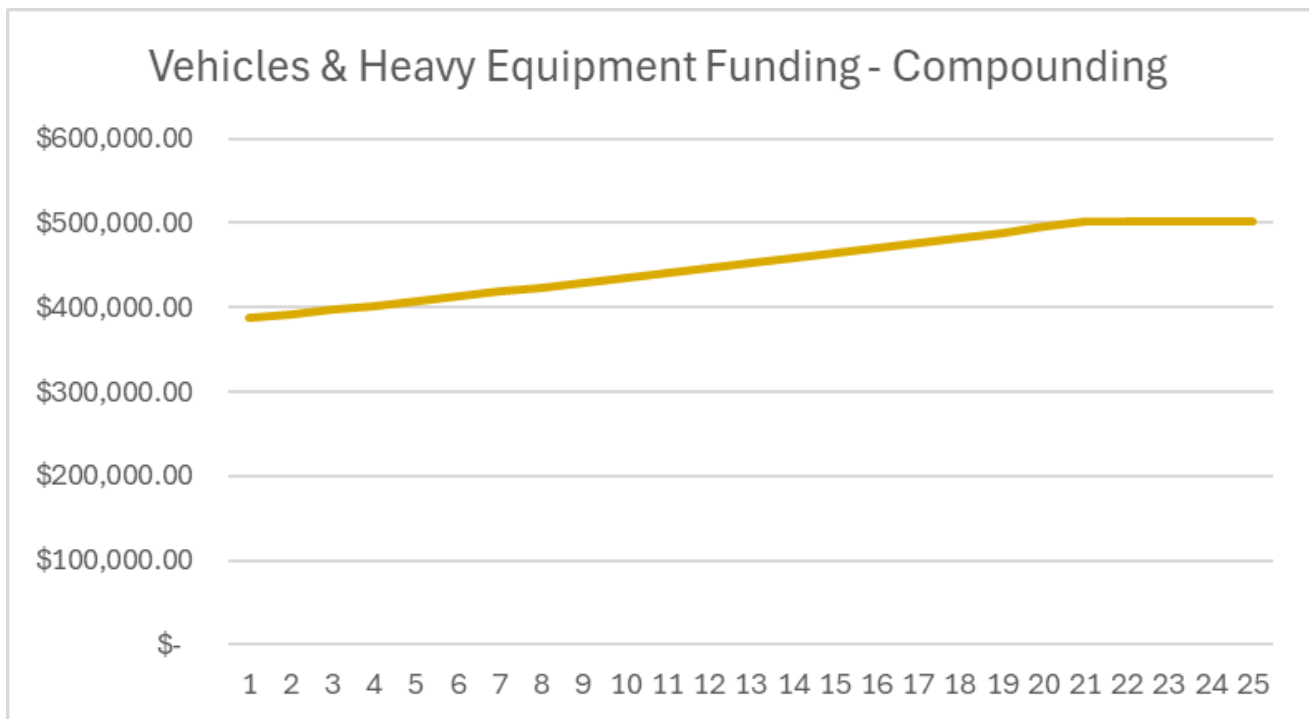
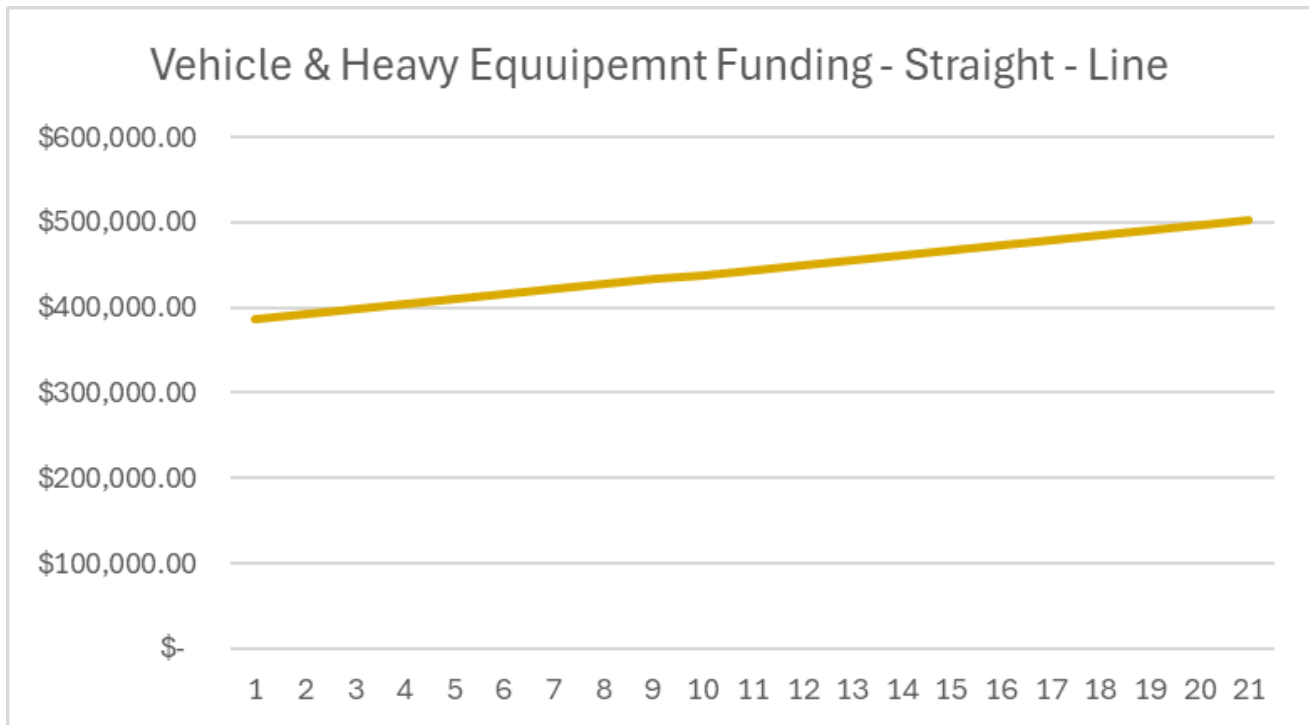
The Township has a backlog of \$1,790,000. For the years 2019-2023 the Township has invested an average of \$387,000 into vehicles and heavy equipment. If the Township continues to invest at this level over twenty-five years, the funding gap will be \$2,875,000. This represents an annual funding deficit of \$115,000. The chart below illustrates the increase required each year to meet the desired funding level in 5, 10, 15 and 20 year scenarios.

SCENARIO	YEARS UNTIL FULLY FUNDED	ANNUAL INCREASE PERCENTAGE	STRAIGHT LINE ANNUAL INCREASE DOLLARS
1	5	5.34%	\$23,000
2	10	2.64%	\$11,500
3	15	1.75%	\$7,667
4	20	1.31%	\$5,750

Under scenario 4, under a compounding basis the Township would need to increase the level of investment in vehicles & heavy equipment assets by 1.31% each year to be fully funded in 20 years. On a straight line basis the Township would need to increase the level of investment by \$5,750 each year for 20 years. This represents a 0.08% increase of the 2024 taxation levy. The below graph illustrates visually the increase in vehicle and heavy equipment funding over the 20-year period under the straight line and compounding basis.



## 9.6 Financing Strategy





## 9.7 Improvement & Monitoring of Plan

As asset management is continuous, the Township recognizes that there are areas of the above plan that can be improved over time. These areas center around data management, record keeping and reporting. The Township will work towards tracking and analyzing maintenance costs to each individual asset, develop a condition assessment process that aligns with industry best practices and implement non-condition related factors into the risk management framework.

The plan will be updated each year with relevant data before the budget process. This will ensure that Council and senior management have the most up to date information to make informed decisions.







# Land Improvements





## 10.0 Land Improvements

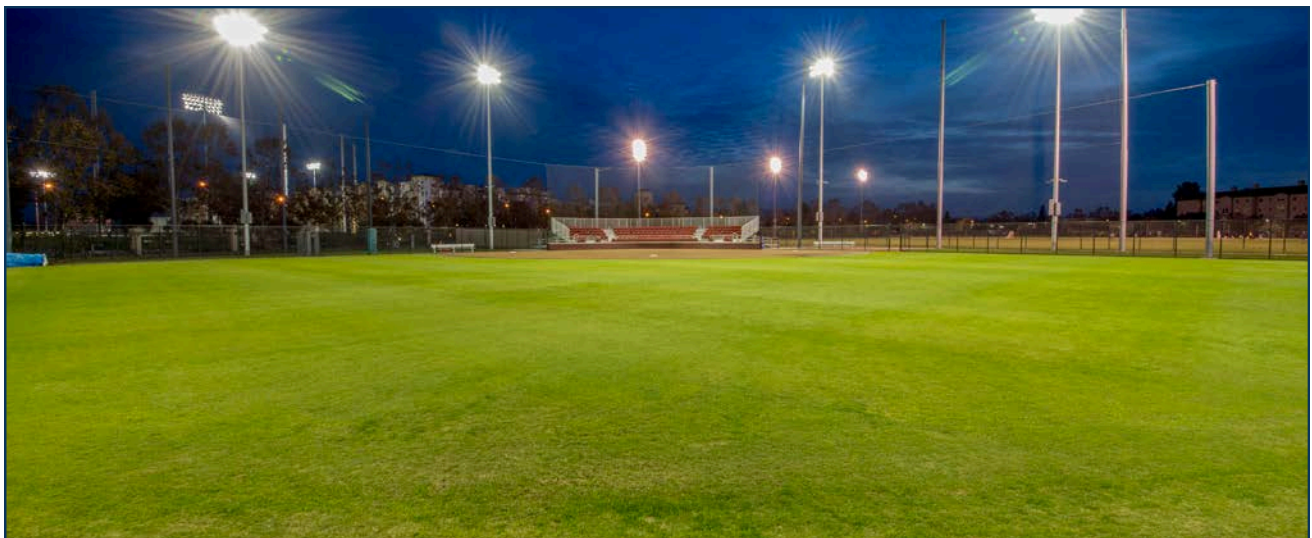
Land Improvement assets represent a variety of asset types that serve to improve the utility and/or the enjoyment of outdoor spaces. Land Improvement assets have a total replacement value of \$3,471,763

### 10.1 Asset Inventory

Assets in this category include paved parking lots, play structures, ball fields (including fences & lights), septic systems, courts (including rink pads and boards), park equipment and one splash pad.

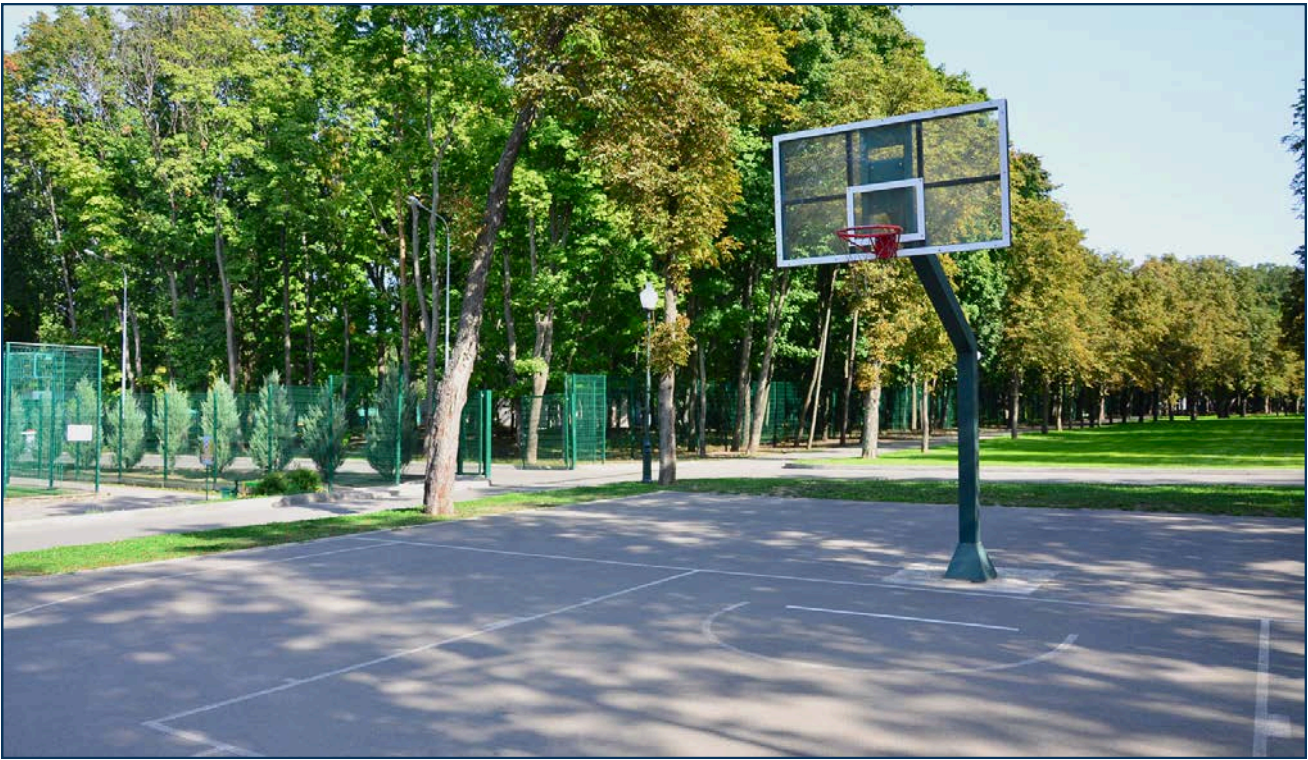
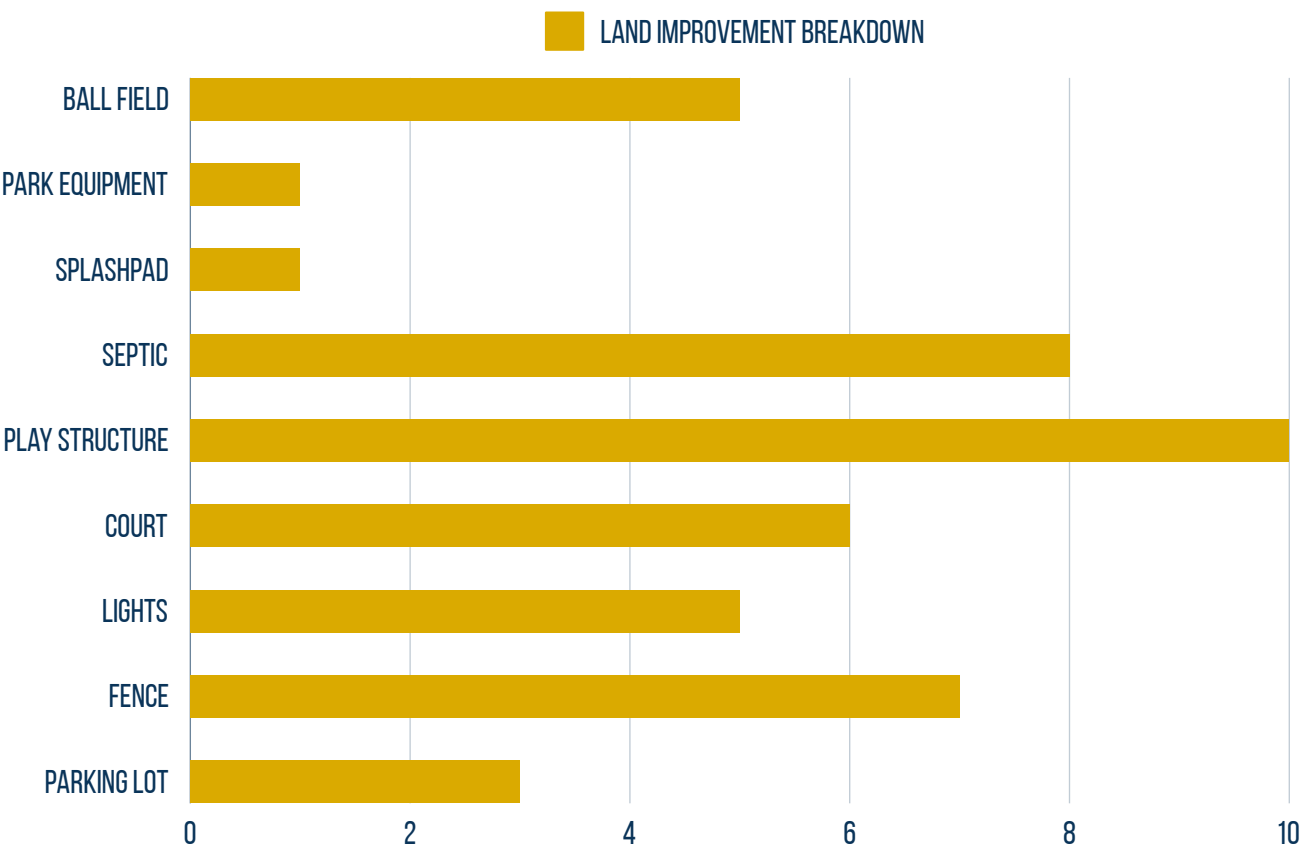
Table 10.1 outlines what land improvements the Township owns, while tables 10.1.1, 10.1.2 and 10.1.3 outline the asset value, age and condition respectively in reference to the items outlined in table 10.1.

DESCRIPTION	COUNT
Parking Lot	3
Fence	7
Lights	5
Court	6
Play Structure	10
Septic	8
Splashpad	1
Park Equipment	1
Ball Field	5
TOTAL	46





# 10.1 Asset Inventory





### 10.1.1 ASSET VALUE

DESCRIPTION	REPLACEMENT COSTS
Parking Lot	\$149,657
Fence	\$168,267
Lights	\$649,541
Court	\$678,278
Play Structure	\$1,091,648
Septic	\$156,145
Splashpad	\$191,690
Park Equipment	\$11,537
Ball Field	\$375,000
TOTAL	\$3,471,763

### 10.1.2 ASSET AGE

The average age of the Township's land improvements weighted by current replacement value is 18.77 years. The unweighted average age of each category can be broken down as follows:

DESCRIPTION	ESTIMATED USEFUL LIFE (EUL)	AVERAGE AGE
Parking Lot	25 Years	10
Fence	20 Years	31.71
Lights	20 Years	27.20
Court	20 Years	7.17
Play Structure	15 Years	13.80
Septic	20 Years	34.13
Splashpad	25 Years	5
Park Equipment	20 Years	5
Ball Field	30 Years	41.60

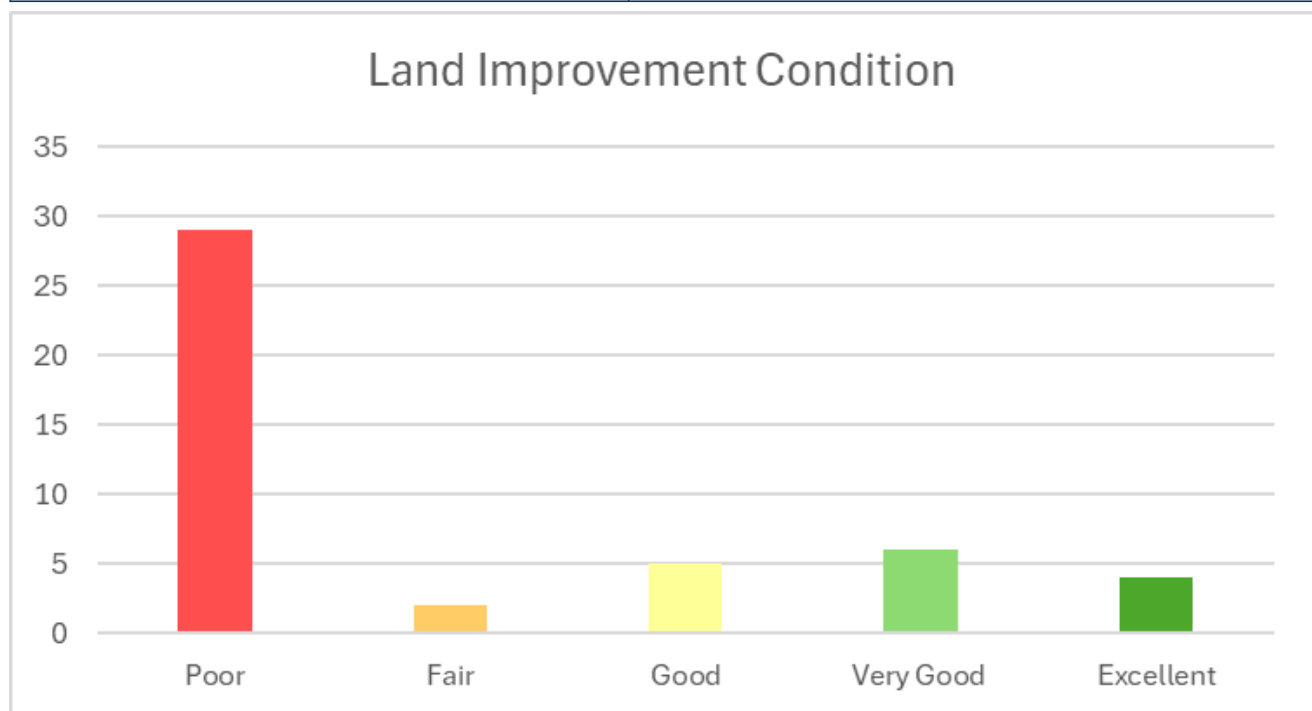




### 10.1.3 ASSET CONDITION

The average condition weighted by current replacement value is 3.29 or good.

DESCRIPTION	REPLACEMENT COSTS
Poor	29
Fair	2
Good	5
Very Good	6
Excellent	4
TOTAL	46



### 9.1.4 ASSET CONDITION ASSESSMENT

The Township has used age to assess the condition. The following chart outlines the characteristics of each condition category.

PERCENTAGE OF USEFUL LIFE REMAINING	CONDITION	RATING
%ULR < 20%	Poor	1
20% < %ULR < 40%	Fair	2
40% < %ULR < 60%	Good	3
60% < %ULR < 80%	Very Good	4
80% < 100%	Excellent	5



## 10.2 Lifecycle Activities

To ensure assets perform to expectations it is imperative for the Township to perform lifecycle activities to proactively manage asset deterioration. The following activities are performed by the Township on a regular basis:

ACTIVITY	DESCRIPTION
Maintenance	Playground inspections are conducted annually in accordance with applicable legislation
Maintenance	Lights and fences are repaired as individual assets have failed
Prevention	Cracked sealing is performed on paved parking lots every 5 years
Replacement	Assets are generally replaced at the end of their useful life

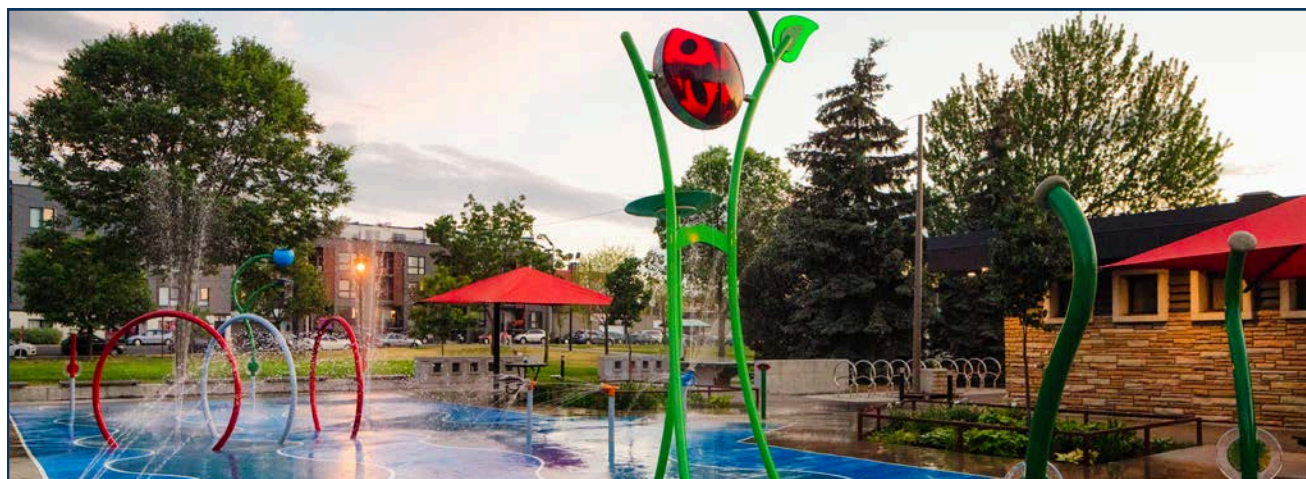
## 10.3 Levels of Service

In accordance with O. Reg 588/17, the Township has identified the current level of service and proposed level of service for both community and technical levels of service.

### 10.3.1 COMMUNITY LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	CURRENT LOS	PROPOSED LOS
Scope	Description of the vehicles and heavy equipment that the Township uses to provide services to the community	See Map (10.8)	See Map (10.8)





### 10.3.2 TECHNICAL LEVEL OF SERVICE

The following are qualitative descriptions of the current and proposed levels of service.

SERVICE ATTRIBUTE	TECHNICAL METRIC	CURRENT LOS	PROPOSED LOS
Accessible	# of recreational areas per 1,000 residents	0.8	0.8
Reliable	# of days land improvement interrupted due to asset failure	0	0

## 10.4 Risk Assessment

Risk management is a key component of an asset's lifecycle management. The first stage of an effective risk management strategy is to develop a risk matrix where the probability of failure (PoF) and consequence of failure (CoF) are combined to produce an overall risk score for each asset. The PoF is an estimate of how likely it is that an asset will not be available to deliver an expected service. The condition of the asset determines the asset's useful life remaining (ULR) which is the key driver to determine the likelihood of failure. The below table outlines the rationale to determine the PoF of land improvements.

CONDITION	URL PERCENTAGE	LIKELIHOOD	POF
1 Poor	0-20	Almost Certain: 80% or greater	5
2 Fair	20-40	Likely: 60-79%	4
3 Good	40-60	Possible: 40-59%	3
4 Very Good	60-80	Unlikely 20-39%	2
5 Excellent	80-100	Rare: 0-19%	1





## 10.4 Risk Assessment

The CoF is an estimate of the effect an outcome of a failed asset would have on the Township. Consequences can range from service interruptions to catastrophic results. The below table outlines the criticality and consequence of failure.

CRITICALITY	CRITERIA	IMPACT	COF	ASSETS
Critical	Life safety or critical to deliver essential services  Legislated  Significant financial loss	Severe	5	None
Essential	Threatens deliver of public transportation  Serious injury or legal judgement  Financial loss	Major	4	Septic  Play Structures
Strategic	Threatens the integrity of defined service level  Injury  Moderate financial loss	Moderate	3	Spalshpad
Enhancement	Reportable injury  Inefficient process leading to financial loss	Minor	2	Lights  Courts  Fence  Parking Lot
Deferrable	Target level of service can be achieved without the particular asset	Insignificant	1	Park Equipment  Ball Field



By developing a risk score based on the PoF and CoF the Township can identify particular assets that have the greatest impact on service delivery. The following equation demonstrates how the risk score is determined:

$$\text{Risk Score} = \text{PoF} \times \text{CoF}$$

The risk matrix below illustrates the replacement cost of land improvements based on each individual asset's risk score. The following legend is useful in interpreting the risk matrix:

FORMULA	RISK RATING	COLOUR
PoF x CoF = 1 to 5	Very Low	Green
PoF x CoF = 6-10	Low	Light Green
PoF x CoF = 11-15	Moderate	Orange
PoF x CoF = 16-20	High	Yellow
PoF x CoF = 21-25	Very High	Red

#### 10.4.1 RISK ASSESSMENT MATRIX

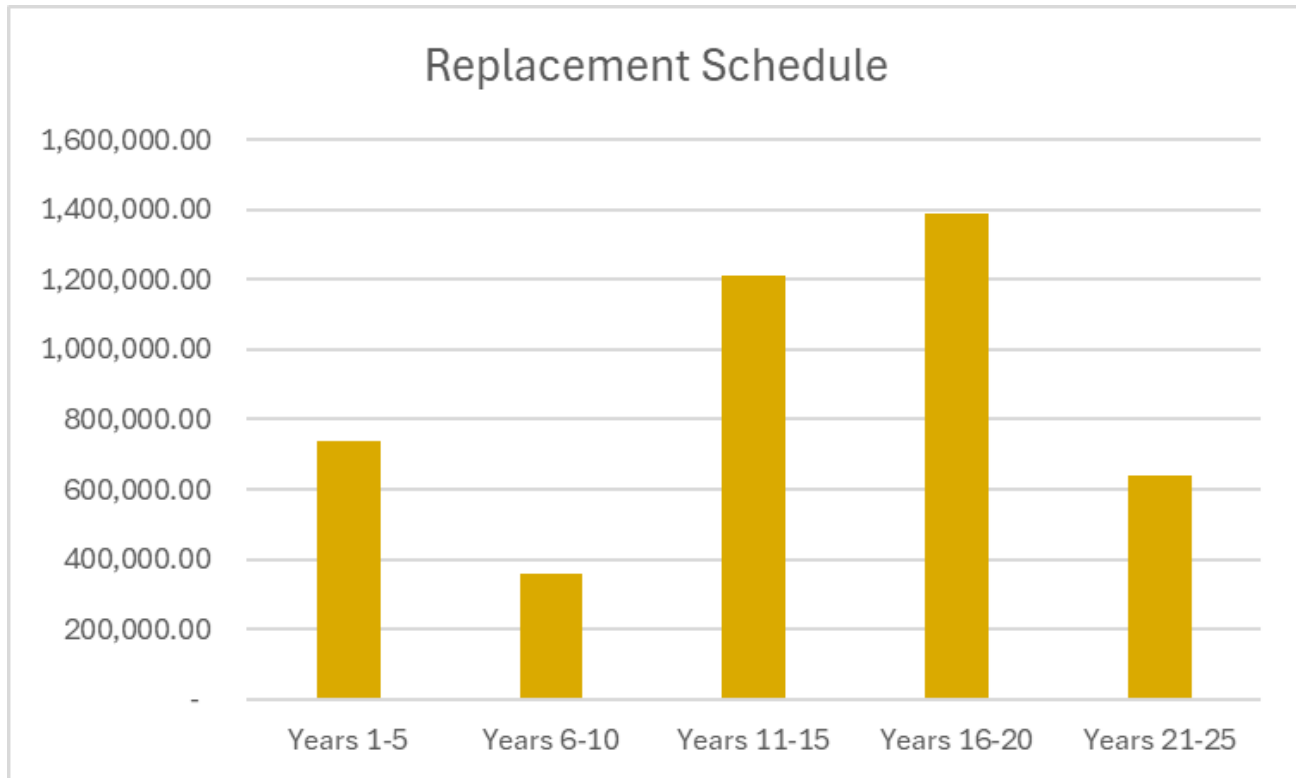
C5	0 \$ -	0 \$ -	0 \$ -	0 \$ -	0 \$ -
C4	1 \$267,153.49	1 \$ 16,144.62	1 \$ 100,000.00	1 \$ 24,494.51	14 \$ 840,000.00
C3	0 \$ -	1 \$ 191,690.20	0 \$ -	0 \$ -	0 \$ -
C2	3 \$353,868.05	3 \$ 238,920.37	4 \$ 181,554.15	1 \$174,000.00	10 \$ 697,400.00
C1	0 \$ -	1 \$ 11,537.05	0 \$ -	0 \$ -	5 \$ 375,000.00
	P1	P2	P3	P4	P5

C = Consequence and P = Probability



## 10.5 Forecasted Capital Requirements

The total capital requirements over a 25 year period is \$4,335,257 (based on 2024 dollars). The annual requirement is \$182,000



## 10.6 Financing Strategy

The Township has a backlog of \$1,812,400. For the years 2019-2023 the Township has invested an average of \$197,000 into land improvements. If sustained, this level is sufficient to fund the plan over 25 years.

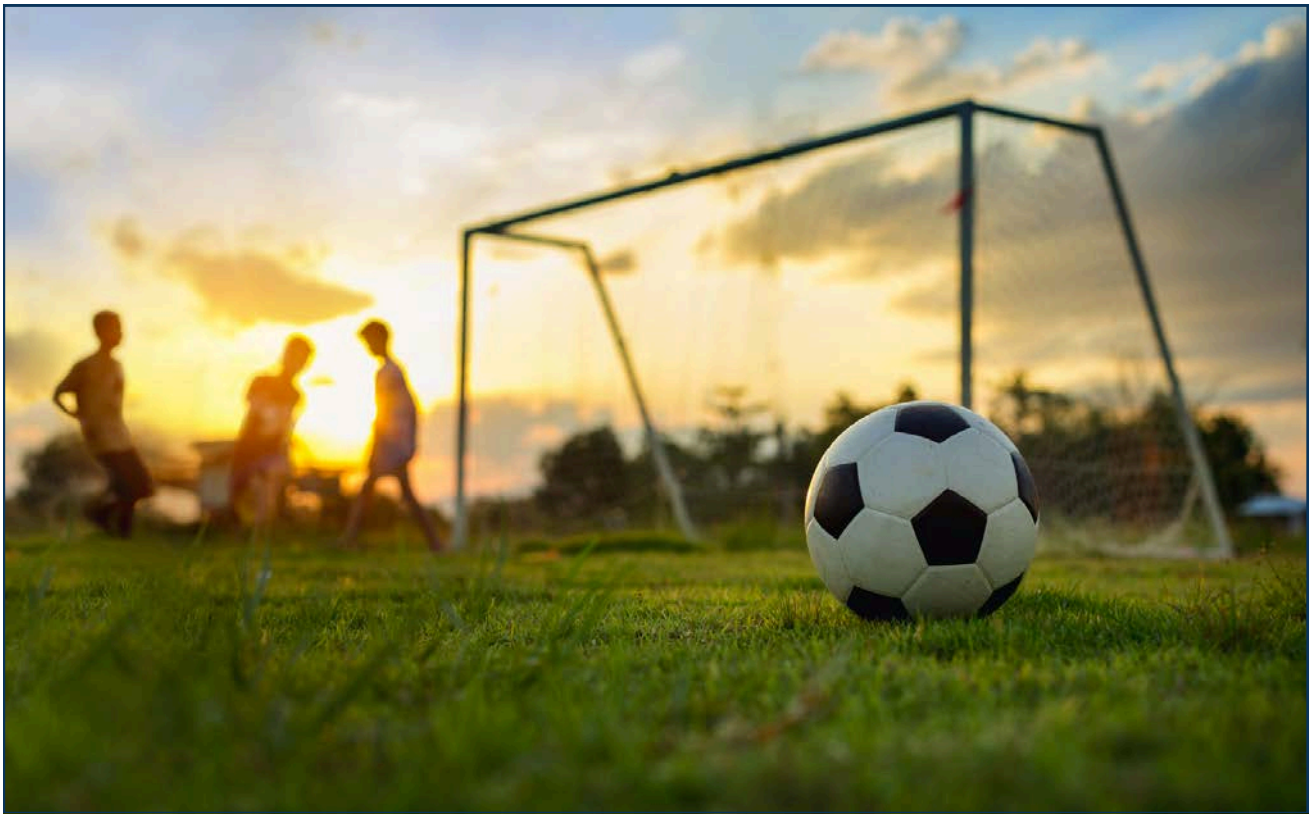
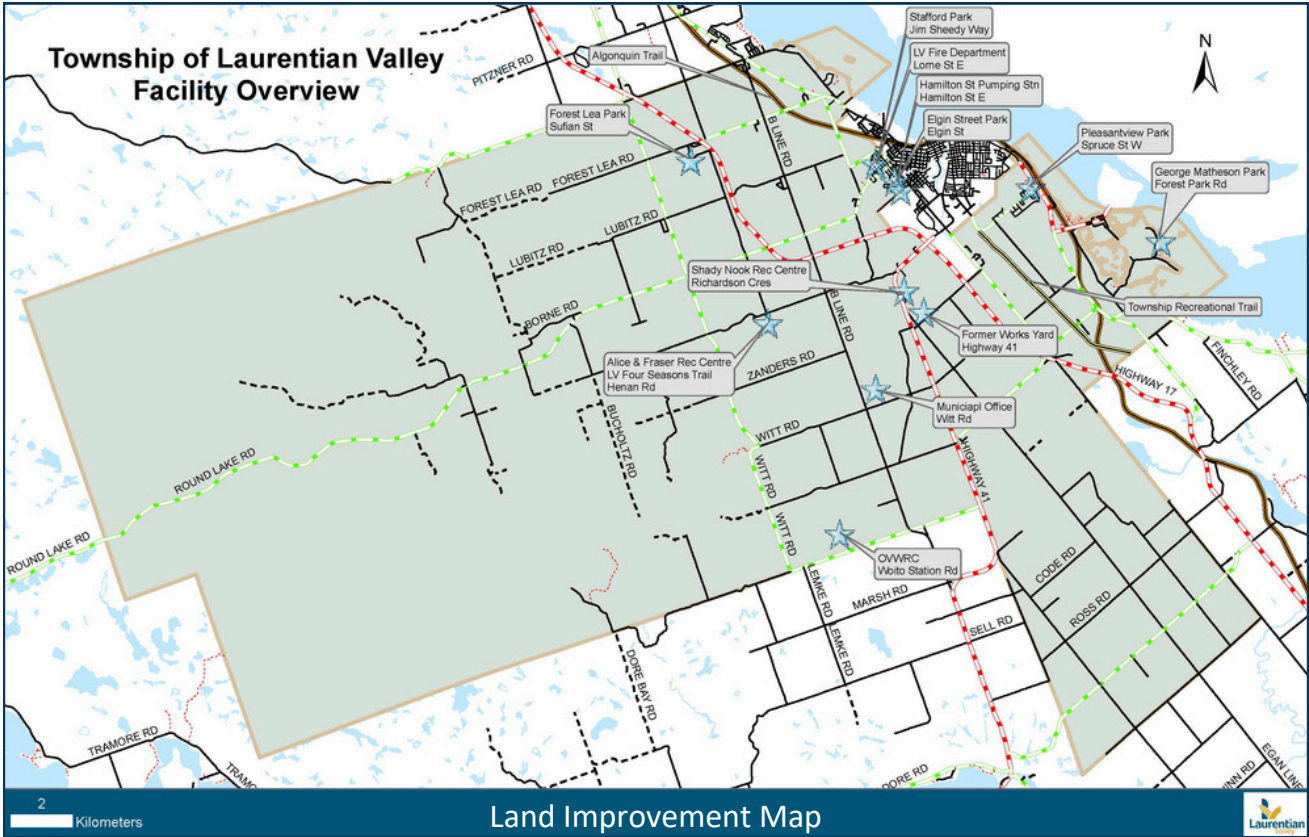
## 10.7 Improvement & Monitoring of Plan

As asset management is continuous, the Township recognizes that there are areas of the above plan that can be improved over time. These areas center around data management, record keeping and reporting. The Township will work towards tracking and analyzing maintenance costs to each individual asset, develop a condition assessment process that aligns with industry best practices and implement non-condition related factors into the risk management framework.

The plan will be updated each year with relevant data before the budget process. This will ensure that Council and senior management have the most up to date information to make informed decisions.



# 10.8 Land Improvement Map







# Next Steps





## 11.0 Next Steps

This Asset Management Plan has been developed to achieve compliance with Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure under the Infrastructure for Jobs and Prosperities Act, 2015. Next steps include:

Phase Two – by July 1, 2027

### Step 1: Endorse Adoption of 2024 Asset Management Plan

- Endorsement of the Plan through resolution of Township Council. Annual review by Council including the Township's progress on implementation of the Plan, factors impeding the implementation and a strategy to address those factors.

### Step 2: Establish Technical Baseline Assessments and Levels of Service

- Undertake structural assessment of all facilities
- Update end-of-life and replacement dates using technical assessments
- Seek public engagement satisfactory levels of service
- Understand climate change impacts on asset performance
- Incorporate proportionate share of Pembroke and Area Airport Commission and Ottawa Valley Waste Recovery Centre assets.





## 11.0 Next Steps

### Step 3: Outline and Eliminate Inefficiencies

- Determine performance of each asset category based on measures developed by the Township such as those that would measure energy usage and operating efficiency.
- Undertake RETScreen study or other technical method to determine energy efficiency of facilities and buildings to establish long-term savings to be reinvested in asset management.

### Step 4: Establish Strategic Planning for Repair and Replacement of Assets

- Utilizing updated asset information acquired through technical studies and performance evaluations, create shovel ready projects for capital projects and grant funded projects.
- Establish 5-year plans for asset replacement and upcoming capital projects.
- Seek funding to cover costs of replacement and repair of assets.







# Appendices





# Transportation Appendix





Asset ID (LV)	Asset Category	Asset Subcategory	To Street Name	From Street Name	Risk
RD01ELMW	Transportation	Paved Roads - Local	ERMA ST	DRIVE IN RD	15
RD01ELDOR	Transportation	Paved Roads - Local	LUBITZ RD	LUBITZ RD	15
RD01TVTOW	Transportation	Paved Roads - Local	JEAN AVE	ROUND LAKE RD	15
RD01MICKS	Transportation	Paved Roads - Arterial	STOQUA CREEK RD	MOUNTAIN RD	25
RD03LOCKS	Transportation	Paved Roads - Local	WITT ROAD	WALTERS RD	3
RD01SPRUCE	Transportation	Paved Roads - Local	ELM ST E	DRIVE-IN RD	15
RD01ZADOW	Transportation	Paved Roads - Local	DEAD END	ROUND LAKE RD	15
RD04JOE	Transportation	Paved Roads - Local	DEAD END	THIRD AVE S	3
RD02FORLE	Transportation	Paved Roads - Local	Start of Seasonal Section	DORAN RD	15
RD01MATTH	Transportation	Paved Roads - Local	TV TOWER RD	PEMBROKE ST W	15
RD02DICKS	Transportation	Paved Roads - Local	GRAVEL SECTION	MICKSBURG RD	15
RD01BORN E	Transportation	Paved Roads - Local	STATION HILL RD	ROUND LAKE RD	15
RD02STAF3	Transportation	Paved Roads - Local	ROSS RD	MOUNTAIN RD	15
RD01FAIR5	Transportation	Paved Roads - Local	LARK ST	HAMILTON ST E	15
RD04SANDY	Transportation	Paved Roads - Collector	DORAN RD	HENAN RD	20
RD02HAME	Transportation	Paved Roads - Local	FAIRVIEW AVE S	WILLOW DR	15
RD01OLDMI	Transportation	Paved Roads - Local	HERITAGE PL	PEMBROKE ST E	3
RD01SAARS	Transportation	Paved Roads - Local	STAFFORD THIRD LINE	HIGHWAY 41	15
RD02RUSSH	Transportation	Paved Roads - Local	KELLARD ST	B LINE RD	15
RD08STAF3	Transportation	Paved Roads - Collector	SAARS LANE	WHITEWATER ROAD	20
RD06SANDY	Transportation	Paved Roads - Arterial	BUCHOLTZ RD	DERIONS RD	25
RD01SPRUW	Transportation	Paved Roads - Local	DEAD END	DRIVE IN RD	12
RD01ATHEN	Transportation	Paved Roads - Local	BARDIS DR	DRIVE IN RD	15
RD01STONY	Transportation	Paved Roads - Local	PLEASANT VIEW DR	DRIVE IN RD	3
RD01RIVER	Transportation	Paved Roads - Local	MUD LAKE RD	MUD LAKE RD	3
RD02BORN E	Transportation	Paved Roads - Local	ROUND LAKE RD	STATION HILL RD	15
RD03MICKS	Transportation	Paved Roads - Arterial	ROSS RD	DICKS RD	25
RD01FERN	Transportation	Paved Roads - Local	DEAD END	HAZLEY BAY DR	3
RD01HERON	Transportation	Paved Roads - Local	MALLARD ST	GOLF COURSE RD	15
RD01HEATH	Transportation	Paved Roads - Local	ERMA ST	DRIVE IN RD	15
RD07SANDY	Transportation	Paved Roads - Local	Start of Seasonal Section	BUCHOLTZ RD	15
RD01BARDI	Transportation	Paved Roads - Local	DEAD END	WILSON RD	15
RD01SOUTH	Transportation	Paved Roads - Local	DEAD END	MUD LAKE RD	3
RD01MORRI	Transportation	Paved Roads - Local	PEMBROKE ST W	GOLF COURSE RD	12
RD01LARK	Transportation	Paved Roads - Local	DEAD END	FAIRVIEW AVE S	15
RD01OAK	Transportation	Paved Roads - Local	ERMA ST	DRIVE IN RD	15
RD01ROBIN	Transportation	Paved Roads - Collector	MUD LAKE RD	GREENWOOD RD	20
RD01BANK	Transportation	Paved Roads - Local	HAMILTON ST W	BOUNDARY RDE	15
RD01BECKE	Transportation	Paved Roads - Local	DEAD END	HIGHWAY 148	15
RD06BLINE	Transportation	Paved Roads - Arterial	ROUND LAKE RD	HIGHWAY 17	15
RD01FORPA	Transportation	Paved Roads - Local	BAYS END RD	BEACHBURG RD	3
RD01LUBIT	Transportation	Paved Roads - Local	DORAN RD	HENAN RD	15
RD01VALLE	Transportation	Paved Roads - Local	MEADOWBROOK DR	FOREST LEA RD	15
RD01BARRO	Transportation	Paved Roads - Local	DEAD END	DORAN RD	15
RD01PLEAS	Transportation	Paved Roads - Local	STONEFIELD RD	CHERYL ST E	3
RD01RIDGE	Transportation	Paved Roads - Local	DEAD END	OLD MILL RD	3
RD01HEWIT	Transportation	Paved Roads - Local	Township Boundary	MICKSBURG RD	15
RD03WITT	Transportation	Paved Roads - Local	DORAN RD	WALTERS RD	15
RD01JIMSH	Transportation	Paved Roads - Local	DEAD END	THIRD AVE S	3
RD03GOLFC	Transportation	Paved Roads - Local	GOLF COURSE RD	PEMBROKE ST W	3
RD01RICHA	Transportation	Paved Roads - Local	HIGHWAY 41	HIGHWAY 41	15
RD01DRIVE	Transportation	Paved Roads - Local	Dead End	Pembroke St E	12
RD01ELLA	Transportation	Paved Roads - Local	HAMILTON ST W	BOUNDARY RDE	15
RD02LOCKS	Transportation	Paved Roads - Local	WALTERS RD	B LINE RD	6
RD06STAF3	Transportation	Paved Roads - Collector	SAARS LN	SAWMILL RD	8
RD03SNAKE	Transportation	Paved Roads - Local	STONES RD	ROSS RD	15
RD01MALLA	Transportation	Paved Roads - Local	HERON DR	GOLF COURSE RD	15
RD01STAFF	Transportation	Paved Roads - Local	JOE ST	LEACH ST	15
RD07STAF3	Transportation	Paved Roads - Local	SAWMILL RD	HIGHWAY 41	3
RD04BLINE	Transportation	Paved Roads - Arterial	SANDY BEACH RD	ZANDERS RD	15
RD01BLAKE	Transportation	Paved Roads - Local	TOWNSHIP BOUNDARY	PEMBROKE ST W	15
RD01KELLA	Transportation	Paved Roads - Local	RUSSHAM RD	KRAUSE ST	15
RD01GLEN	Transportation	Paved Roads - Local	THIRD AVES	LEACH ST	15
RD05SANDY	Transportation	Paved Roads - Collector	DERIONS RD	DORAN RD	20
RD01BRIAN	Transportation	Paved Roads - Local	GORR ST	B LINE RD	3
RD02WITT	Transportation	Paved Roads - Local	WALFORD RD	B LINE RD	15



Asset ID (LV)	Asset Category	Asset Subcategory	To Street Name	From Street Name	Risk
RD02SAWMI	Transportation	Paved Roads - Local	MUD LAKE RD	HIGHWAY 17	3
RD01LOCKS	Transportation	Paved Roads - Collector	B LINE RD	HIGHWAY 41	20
RD01ANGLE	Transportation	Paved Roads - Local	THIRD AVES	GLEN ST	15
RD03SANDY	Transportation	Paved Roads - Local	HENAN RD	B LINE RD	3
RD01ELME	Transportation	Paved Roads - Local	SPRUCE ST E	DRIVE IN RD	15
RD01SCHWA	Transportation	Paved Roads - Local	DEAD END	ROUND LAKE RD	15
RD01LLOYD	Transportation	Paved Roads - Local	DEAD END	BLAKELY CRES	15
RD01PIT	Transportation	Paved Roads - Local	DEAD END	SANDY BEACH RD	15
RD02SANDY	Transportation	Paved Roads - Local	B LINE RD	BRIDGE	3
RD01SCHUL	Transportation	Paved Roads - Local	DEAD END	SANDY BEACH RD	6
RD01BU CHO	Transportation	Paved Roads - Local	SANDY BEACH RD	ROUND LAKE RD	15
RD01SANDY	Transportation	Paved Roads - Local	BRIDGE	HIGHWAY 41	15
RD03HENAN	Transportation	Paved Roads - Collector	LUBITZ RD	ROUND LAKE RD	20
RD01COTNA	Transportation	Paved Roads - Local	ESTHER ST	HIGHWAY 148	15
RD01THIRD	Transportation	Paved Roads - Local	STAFFORD ST	ANGLE ST	15
RD02ROYW	Transportation	Paved Roads - Local	JEAN AVE	BRUHAM AVE	3
RD01SPART	Transportation	Paved Roads - Local	BARDIS DR	DRIVE IN RD	15
RD02SNAKE	Transportation	Paved Roads - Local	ROSS RD	MOUNTAIN RD	15
RD01MACY	Transportation	Paved Roads - Local	FAIRVIEW AVE N	FAIRVIEW AVE S	9
RD01ESTHE	Transportation	Paved Roads - Local	DEAD END	HIGHWAY 148	15
RD04STAF3	Transportation	Paved Roads - Collector	WHITEWATER RD	STAFFORD SECOND LINE	20
RD01ERMA	Transportation	Paved Roads - Local	HEATHER ST	ELMST W	6
RD01HENRY	Transportation	Paved Roads - Local	DONALD ST	ALLEN ST	15
RD01BARRY	Transportation	Paved Roads - Local	Dead End	B LINE RD	9
RD02GOLFC	Transportation	Paved Roads - Collector	PEMBROKE ST W	HERON DR	16
RD01JOE	Transportation	Paved Roads - Local	BRUHAM AVE	INDIAN CRT	9
RD01BLINE	Transportation	Paved Roads - Arterial	LOCKSLEY RD	WOITO STATION RD	25
RD01GOLFC	Transportation	Paved Roads - Collector	HERON DR	LAPOINTE ST	16
RD01ROYE	Transportation	Paved Roads - Local	DEAD END	ELGIN ST	15
RD01BRAND	Transportation	Paved Roads - Local	JORDAN AVE	HIGHWAY 41	15
RD01FAIRN	Transportation	Paved Roads - Local	FAIRVIEW AVE S	LARK ST	12
RD02HAMMW	Transportation	Paved Roads - Local	BRUHAM AVE	DEAD END	15
RD01KRAUS	Transportation	Paved Roads - Local	KELLARD ST	B LINE RD	12
RD01DONAL	Transportation	Paved Roads - Local	HENRY ST	BRUHAM AVE	15
RD03ROSS	Transportation	Paved Roads - Local	STAFFORD SECOND LINE	STAFFORD THIRD LINE	6
RD01HAMMW	Transportation	Paved Roads - Local	DEAD END	BANK ST	15
RD01FIRST	Transportation	Paved Roads - Local	HAMILTON ST W	BOUNDARY RD E	15
RD04HENAN	Transportation	Paved Roads - Collector	SUFIAN ST	LUBITZ RD	20
RD01INDIA	Transportation	Paved Roads - Local	DEAD END	ROY ST W	9
RD01JORDA	Transportation	Paved Roads - Local	DEAD END	BRANDON AVE	9
RD03ACHRA	Transportation	Paved Roads - Arterial	TWP Boundary	BIGGS RD	25
RD01CLEAR	Transportation	Paved Roads - Local	DRIVE IN RD	DRIVE IN RD	15
RD01LEACH	Transportation	Paved Roads - Local	ALLEN ST	LORNE ST E	15
RD01SNAKE	Transportation	Paved Roads - Local	MOUNTAIN RD	STOQUA CREEK RD	12
RD01CHRE	Transportation	Paved Roads - Local	PLEASANT VIEW DR	DRIVE IN RD	9
RD01DAWSO	Transportation	Paved Roads - Local	DEAD END	GOLF COURSE RD	15
RD01LORNW	Transportation	Paved Roads - Local	THIRD AVE S	STAFFORD ST	12
RD01SULLI	Transportation	Paved Roads - Local	DEAD END	FOREST PARK RD	3
RD01STAF3	Transportation	Paved Roads - Local	MOUNTAIN RD	STOQUA CREEK RD	6
RD01ROSS	Transportation	Paved Roads - Local	MICKSBURG RD	BLUEBORD RD	15
RD01BLUED	Transportation	Paved Roads - Local	DEAD END	EILEEN ST	9
RD01CHRW	Transportation	Paved Roads - Local	DEAD END	DRIVE IN RD	15
RD01BIGGS	Transportation	Paved Roads - Local	ACHRAY RD	FOREST LEA RD	15
RD01KAREN	Transportation	Paved Roads - Local	ROY ST W	BOUNDARY RD E	15
RD01WALTE	Transportation	Paved Roads - Local	WITT RD	LOCKSLEY RD	12
RD01WILLO	Transportation	Paved Roads - Local	ROY ST E	BOUNDARY RD E	12
RD01FIBRE	Transportation	Paved Roads - Local	DEAD END	WHITEWATER RD	15
RD01LAPOI	Transportation	Paved Roads - Local	DEAD END	GOLF COURSE RD	15
RD01SUFIA	Transportation	Paved Roads - Local	FOREST LEA RD	HENAN RD	12
RD04GOLFC	Transportation	Paved Roads - Collector	LAPOINTE ST	PEMBROKE ST W	12
RD02LUBIT	Transportation	Paved Roads - Local	RAHNS RD	DORAN RD	9
RD01RANKI	Transportation	Paved Roads - Local	MOUNTAINVIEW DR	PEMBROKE ST W	15
RD01ROBL	Transportation	Paved Roads - Local	DEAD END	HIGHWAY 148	9
RD01HAME	Transportation	Paved Roads - Local	DEAD END	WILLOW DR	15
RD03BLINE	Transportation	Paved Roads - Arterial	ZANDERS RD	WITT RD	25



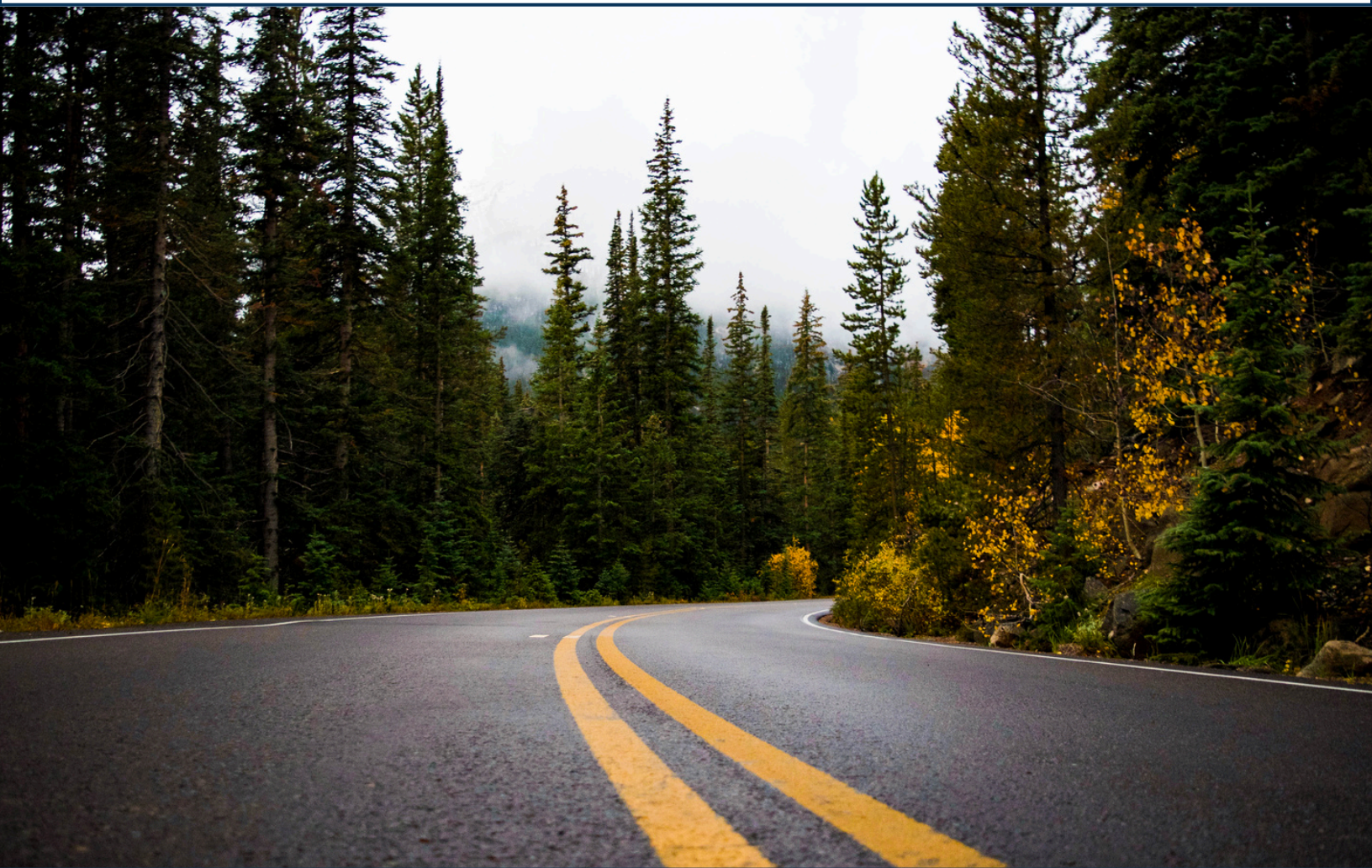
Asset ID (LV)	Asset Category	Asset Subcategory	To Street Name	From Street Name	Risk
RD01 WILSO	Transportation	Paved Roads - Local	DRIVE IN RD	ROBINSON RD	12
RD01 WILLO	Transportation	Paved Roads - Local	LARK ST	ROY ST E	12
RD01 EILEE	Transportation	Paved Roads - Local	BLUE DANUBE WAY	HIGHWAY 14B	6
RD01 HENAN	Transportation	Paved Roads - Local	SANDY BEACH RD	DEAD END	6
RD01 ROYW	Transportation	Paved Roads - Local	BRUHAM AVE	KAREN ST	9
RD02 LARK	Transportation	Paved Roads - Local	FAIRVIEW AVE S	WILLOW DR	12
RD01 MATHA	Transportation	Paved Roads - Local	STONEFIELD RD	BESS ST	6
RD01 BROOK	Transportation	Paved Roads - Local	MARTHA AVE	DRIVE IN RD	6
RD01 ELGIN	Transportation	Paved Roads - Local	DEAD END	BOUNDARY RD E	9
RD02 FOR PA	Transportation	Paved Roads - Local	SULLIVAN POINT RD	BAYS END DR	6
RD01 VAU DR	Transportation	Paved Roads - Local	DEAD END	WHITE WATER RD	9
RD01 WHISP	Transportation	Paved Roads - Local	DEAD END	MUD LAKE RD	9
RD01 STEEN	Transportation	Paved Roads - Local	DEAD END	STENCILS RD	12
RD01 FBAYS	Transportation	Paved Roads - Local	DEAD END	FOREST PARK RD	3
RD01 SAWMI	Transportation	Paved Roads - Collector	HIGHWAY 17	STAFFORD THIRD LINE	12
RD03 FOR PA	Transportation	Paved Roads - Local	DEAD END	SULLIVAN POINT RD	9
RD03 HAMW	Transportation	Paved Roads - Local	JEAN AVE	BRUHAM AVE	6
RD01 BESS	Transportation	Paved Roads - Local	PLEASANT VIEW DR	DRIVE IN RD	6
RD01 MOUNT	Transportation	Paved Roads - Local	DEAD END	RANKIN ST	6
RD01 LORNE	Transportation	Paved Roads - Local	FIRST AVE	BRUHAM AVE	15
RD02 ACHRA	Transportation	Paved Roads - Arterial	BIGGS RD	Large Cross Culvert	10
RD01 SAMUE	Transportation	Paved Roads - Local	DAVID ST	FOREST LEA RD	6
RD02 MICKS	Transportation	Paved Roads - Arterial	MOUNTAIN RD	ROSS RD	5
RD01 BAYVI	Transportation	Paved Roads - Local	DEAD END	FOREST PARK RD	3
RD01 THRAS	Transportation	Paved Roads - Local	DEAD END	MUD LAKE RD	15
RD02 BLINE	Transportation	Paved Roads - Arterial	WITT RD	LOCKSLEY RD	25
RD05 BLINE	Transportation	Paved Roads - Arterial	HIGHWAY 17	SANDY BEACH RD	10
RD02 THIRD	Transportation	Paved Roads - Local	BOUNDARY RD E	STAFFORD ST	6
RD01 RAHNS	Transportation	Paved Roads - Local	ROUND LAKE RD	WESTBROOK ST	6
RD02 FAIRS	Transportation	Paved Roads - Local	FAIRVIEW AVE N	LARK ST	9
RD08 BLINE	Transportation	Paved Roads - Arterial	FOREST LEA RD	RUSSHAM RD	10
RD01 SHALO	Transportation	Paved Roads - Local	ZADOW	ROUND LAKE RD	15
RD01 HAZLE	Transportation	Paved Roads - Local	DEAD END	HIGHWAY 14B	6
RD04 ROSS	Transportation	Paved Roads - Local	SNAKE RIVER LINE	STAFFORD SECOND LINE	6
RD01 ALLEN	Transportation	Paved Roads - Local	LEACH ST	HENRY ST	15
RD01 HER IT	Transportation	Paved Roads - Local	DEAD END	OLD MILL RD	3
RD07 BLINE	Transportation	Paved Roads - Arterial	RUSSHAM RD	ROUND LAKE RD	5
RD02 WALFO	Transportation	Paved Roads - Collector	1536 METRES TOWARDS WITT RD	HIGHWAY 41	4
RD01 KENDR	Transportation	Paved Roads - Local	DEAD END	HIGHWAY 41	9
RD02 WILSO	Transportation	Paved Roads - Local	BARDIS DR	DRIVE IN RD	15
RD01 KENA	Transportation	Paved Roads - Local	DEAD END	HIGHWAY 41	15
RD02 RAHNS	Transportation	Paved Roads - Local	LUBITZ RD	ROUND LAKE RD	9
RD01 WESTB	Transportation	Paved Roads - Local	WEST DEAD END	EAST DEAD END	6
RD01 CAROL	Transportation	Paved Roads - Local	DEAD END	DAVID ST	12
RD03 JOE	Transportation	Paved Roads - Local	THIRD AVE S	FIRST AVE	3
RD01 ACHRA	Transportation	Paved Roads - Arterial	Large Cross Culvert	B LINE RD	5
RD02 HENAN	Transportation	Paved Roads - Local	ROUND LAKE RD	SANDY BEACH RD	6
RD01 ARLEN	Transportation	Paved Roads - Local	Dead End	Achray Rd	3
RD02 JOE	Transportation	Paved Roads - Local	FIRST AVE	BRUHAM AVE	3
RD01 DAVID	Transportation	Paved Roads - Local	CAROL ST	SAMUEL ST	6
RD01 BRAZE	Transportation	Paved Roads - Local	START OF GRAVEL	WHITEWATER RD	15
RD01 WITT	Transportation	Paved Roads - Local	BLINE RD	HIGHWAY 41	3
RD01 RUSSH	Transportation	Paved Roads - Collector	BLINE RD	TV TOWER RD	16
RD09 BLINE	Transportation	Paved Roads - Arterial	PEMBROKE ST W	FOREST LEA RD	5
RD01 FORLE	Transportation	Paved Roads - Collector	DORAN RD	HIGHWAY 17	20
RD01 GORR	Transportation	Paved Roads - Local	Achray Rd	B Line Rd	3
RD01 MEADO	Transportation	Paved Roads - Local	PEMBROKE ST W	FOREST LEA RD	15
RD01 TAYLO	Transportation	Paved Roads - Local	DEAD END	PLEASANT VIEW DR	6
RD_01WOITO	Transportation	Paved Roads - Local	W OF BLACK CREEK RD	WITT RD	12
RD02 HERON	Transportation	Paved Roads - Local	MALLARD ST	MALLARD ST	15
RD01 MAVES	Transportation	Gravel	Dead End	Station Hill Road	4
RD01 PETZN	Transportation	Gravel	Start of Seasonal	Woito Station Road	4
RD03 WALFO	Transportation	Gravel	1536m from Highway 41	Witt Road	2
RD01 LONG	Transportation	Gravel	Start of Seasonal	Round Lake Road	2
RD01 DABER	Transportation	Gravel	Sandy Beach Road	Round Lake Road	4



Asset ID (LV)	Asset Category	Asset Subcategory	To Street Name	From Street Name	Risk
RD01SCHWR	Transportation	Gravel	Start of Seasonal	Long Lake Road	4
RD01DICKS	Transportation	Gravel	Strat of Paved	Dead End	4
RD02DONAL	Transportation	Gravel	Dead End	Bruham Avenue	2
RD02BRAZE	Transportation	Gravel	Dead End	End of Pavement	8
RD01WALFO	Transportation	Gravel	Witt Road	Locksley Road	4
RD01SOIKE	Transportation	Gravel	Dead End North	Dead End South	8
RD02ZAN DE	Transportation	Gravel	Start of Seasonal	Doran Road	4
RD02WOITO	Transportation	Gravel	Boundary	End of Paved	4
RD01LOBAC	Transportation	Gravel	Dead End	B Line Road	2
RD02STAF2	Transportation	Gravel	Ross Road	Mountain Road	4
RD01MAR IO	Transportation	Gravel	Dead End	Richardson Crescent	6
RD03STOQU	Transportation	Gravel	Micksburg Road	Stafford Third Line	2
RD01DERIO	Transportation	Gravel	Start of Seasonal	Sandy Beach Road	10
RD04STOQU	Transportation	Gravel	Dead End	Micksburg Road	4
RD04STAF2	Transportation	Gravel	Schoolhouse Road	Stones Road	4
RD01POPKI	Transportation	Gravel	Dead End	Long Lake Road	2
RD01STENC	Transportation	Gravel	Start of Seasonal	Round Lake Road	10
RD03STAF2	Transportation	Gravel	Stones Road	Ross Road	4
RD03STATI	Transportation	Gravel	Barron Canyon Road	Maves Road	4
RD04SNAKE	Transportation	Gravel	Dead End	Stones Road	6
RD05STAF2	Transportation	Gravel	Stafford Third Line	Schoolhouse Road	6
RD01LEACM	Transportation	Gravel	Dead End	Micksburg Road	2
RD01MEITZ	Transportation	Gravel	Dead End	Sawmill Road	8
RD01CATHM	Transportation	Gravel	Dead End North	Dead End South	6
RD01DAVIS	Transportation	Gravel	Dead End	Doran Road	10
RD01STAF2	Transportation	Gravel	Mountain Road	Stoqua Creek Road	4
RD01SCHOO	Transportation	Gravel	Stafford Third Line	Stafford Second Line	4
RD01STOQU	Transportation	Gravel	Stafford Second Line	Snake River Line	4
RD01HUNTS	Transportation	Gravel	Dead End	Russham Road	6
RD02STOQU	Transportation	Gravel	Stafford Third Line	Stafford Second Line	2
RD01CO DE	Transportation	Gravel	Micksburg Road	Stafford Third Line	6
RD01STONE	Transportation	Gravel	Stafford Second Line	Snake River Line	4
RD01GER MA	Transportation	Gravel	Round Lake Road	Borne Road	2
RD03RUSSH	Transportation	Gravel	Dead End	Kellard Street	10
RD02ROSS	Transportation	Gravel	Stafford Third Line	Micksburg Road	6
RD01HAWTH	Transportation	Gravel	Dead End Road	Drive-in Road	2
RD01SAARS	Transportation	Gravel	Dead End	Stafford Third Line	8
RD03LU BIT	Transportation	Gravel	Start of Seasonal	Rahns Road	6
RD09SANDY	Transportation	Gravel	Dabers Road	675m E of Dabers Road	4
RD01BOU ND	Transportation	Gravel	Dead End	Jean Avenue	4
RD01BLUEB	Transportation	Gravel	Dead End	Walshs Road	4
RD01CO LBY	Transportation	Gravel	Start of Seasonal	Stencills Road	6
RD03WOITO	Transportation	Gravel	Kraft Road	Boundary	6
1 - 167	Transportation	Intersection Light	NA	NA	5
2 - 296	Transportation	Intersection Light	NA	NA	5
3 - 187	Transportation	Intersection Light	NA	NA	5
4 - 219	Transportation	Intersection Light	NA	NA	5
5 - 181	Transportation	Intersection Light	NA	NA	5
6 - 304	Transportation	Intersection Light	NA	NA	5
7 - 226	Transportation	Intersection Light	NA	NA	5
8 - 224	Transportation	Intersection Light	NA	NA	5
9 - 225	Transportation	Intersection Light	NA	NA	5
10 - 146	Transportation	Intersection Light	NA	NA	5
11 - 147	Transportation	Intersection Light	NA	NA	5
12 - 149	Transportation	Intersection Light	NA	NA	5
13 - 150	Transportation	Intersection Light	NA	NA	5
14 - 151	Transportation	Intersection Light	NA	NA	5
15 - 215	Transportation	Intersection Light	NA	NA	5
16 - 216	Transportation	Intersection Light	NA	NA	5
17 - 293	Transportation	Intersection Light	NA	NA	5
18 - 294	Transportation	Intersection Light	NA	NA	5
19 - 214	Transportation	Intersection Light	NA	NA	5
20 - 218	Transportation	Intersection Light	NA	NA	5
21 - 217	Transportation	Intersection Light	NA	NA	5
22 - 156	Transportation	Intersection Light	NA	NA	5



Asset ID (LV)	Asset Category	Asset Subcategory	To Street Name	From Street Name	Risk
23 - 203	Transportation	Intersection Light	NA	NA	5
24 - 131	Transportation	Intersection Light	NA	NA	5
25 - 153	Transportation	Intersection Light	NA	NA	5
26 - 128	Transportation	Intersection Light	NA	NA	5
27 - 213	Transportation	Intersection Light	NA	NA	5
28 - 288	Transportation	Intersection Light	NA	NA	5
29 - 159	Transportation	Intersection Light	NA	NA	5
30 - 157	Transportation	Intersection Light	NA	NA	5
31 - 154	Transportation	Intersection Light	NA	NA	5
32 - IL 640 - Intersection Lights 640	Transportation	Intersection Light	NA	NA	5
33 - 305	Transportation	Intersection Light	NA	NA	5
34 - 152	Transportation	Intersection Light	NA	NA	4
35 - 148	Transportation	Intersection Light	NA	NA	5
36 - 119	Transportation	Intersection Light	NA	NA	5
1587 - 297	Transportation	Intersection Light	NA	NA	2
1591 - 163	Transportation	Intersection Light	NA	NA	2
1596 - 113	Transportation	Intersection Light	NA	NA	2
1597 - 155	Transportation	Intersection Light	NA	NA	2
1598 - 158	Transportation	Intersection Light	NA	NA	2
1599 - 161	Transportation	Intersection Light	NA	NA	2
1700 - Intersection Light - Whitewater Rd and HWY 41	Transportation	Intersection Light	NA	NA	2
1701 - Intersection Light - Robinson Rd and Wilson Rd	Transportation	Intersection Light	NA	NA	2
1702 - Intersection Light - Whitewater Rd and Brazeau Rd	Transportation	Intersection Light	NA	NA	2
1715 - Intersection Light	Transportation	Intersection Light	NA	NA	1
1716 - Intersection Light	Transportation	Intersection Light	NA	NA	2





# Drinking Water Appendix





Asset ID (LV)	Asset Subcategory	Risk
Elgin Street Hydrant Valve 001	Hydrant Valves	12
Roy St E Hydrant Valve 002	Hydrant Valves	15
Willow Street Hydrant Valve 004	Hydrant Valves	12
Fairview Avenue Hydrant Valve 005	Hydrant Valves	12
Fairview Avenue Hydrant Valve 006	Hydrant Valves	9
Fairview Avenue Hydrant Valve 007	Hydrant Valves	9
Fairview Avenue Hydrant Valve 008	Hydrant Valves	9
Fairview Avenue Hydrant Valve 009	Hydrant Valves	9
Fairview Avenue Hydrant Valve 010	Hydrant Valves	9
Fairview Avenue Hydrant Valve 011	Hydrant Valves	9
Fairview Avenue Hydrant Valve 012	Hydrant Valves	9
Lark Street Hydrant Valve 013	Hydrant Valves	12
Boucher Street Fire Hydrant 014	Hydrant Valves	12
Roy St E Hydrant Valve 015	Hydrant Valves	12
Hamilton Street E Hydrant Valve 017	Hydrant Valves	15
Hamilton Street E Hydrant Valve 018	Hydrant Valves	15
Bank Street Hydrant Valve 019	Hydrant Valves	15
Hamilton Street W Hydrant Valve 020	Hydrant Valves	15
Hamilton Street W Hydrant Valve 021	Hydrant Valves	12
Hamilton Street W Hydrant Valve 022	Hydrant Valves	12
Hamilton Street W Hydrant Valve 023	Hydrant Valves	15
Hamilton Street W Hydrant Valve 024	Hydrant Valves	12
Hamilton Street W Hydrant Valve 025	Hydrant Valves	12
Hamilton Street W Hydrant Valve 026	Hydrant Valves	12
Hamilton Street W Hydrant Valve 027	Hydrant Valves	12
Jean Avenue Hydrant Valve 028	Hydrant Valves	12
Jean Avenue Hydrant Valve 029	Hydrant Valves	12
Jean Avenue Hydrant Valve 030	Hydrant Valves	12
Jean Avenue Hydrant Valve 031	Hydrant Valves	12
First Avenue Hydrant Valve 035	Hydrant Valves	12
Roy St W Hydrant Valve 037	Hydrant Valves	6
Roy St W Hydrant Valve 038	Hydrant Valves	15
Indian Court Hydrant Valve 039	Hydrant Valves	6
Joe Street Hydrant Valve 040	Hydrant Valves	15
Joe Street Hydrant Valve 041	Hydrant Valves	12
Joe Street Hydrant Valve 043	Hydrant Valves	15
Joe Street Hydrant Valve 044	Hydrant Valves	12
Joe Street Hydrant Valve 045	Hydrant Valves	15
Joe Street Hydrant Valve 046	Hydrant Valves	12
Lorne Street Hydrant Valve 047	Hydrant Valves	12
Lorne Street Hydrant Valve 048	Hydrant Valves	12
Lorne Street Hydrant Valve 049	Hydrant Valves	12
Leach Street Hydrant Valve 050	Hydrant Valves	12
Bruham Avenue Hydrant Valve 051	Hydrant Valves	15
Bruham Avenue Hydrant Valve 052	Hydrant Valves	12
Bruham Avenue Hydrant Valve 053	Hydrant Valves	12
Stafford St. Hydrant Valve 54	Hydrant Valves	12
Stafford Street Hydrant Valve 055	Hydrant Valves	12
Third Avenue Hydrant Valve 056	Hydrant Valves	12
Stafford Street Hydrant Valve 057	Hydrant Valves	12
Third Avenue Hydrant Valve 058	Hydrant Valves	12
Angle Street Hydrant Valve 059	Hydrant Valves	12
Glen Street Hydrant Valve 060	Hydrant Valves	12
Leach Street Hydrant Valve 061	Hydrant Valves	12
Bruham Avenue Hydrant Valve 062	Hydrant Valves	12
Allen Street Hydrant Valve 063	Hydrant Valves	12
Donald Street Hydrant Valve 064	Hydrant Valves	12
Bruham Avenue Hydrant Valve 065	Hydrant Valves	12
Bruham Avenue Hydrant Valve 066	Hydrant Valves	12
Bruham Avenue Hydrant Valve 067	Hydrant Valves	12
Indian Court Hydrant Valve 068	Hydrant Valves	6
Pembroke Street E Hydrant Valve 100	Hydrant Valves	9
Pembroke Street E Hydrant Valve 101	Hydrant Valves	9
Pembroke Street E Hydrant Valve 106	Hydrant Valves	6
Pembroke Street E Hydrant Valve 107	Hydrant Valves	6
Pembroke Street E Hydrant Valve 108	Hydrant Valves	12
Robinson Lane Hydrant Valve 109	Hydrant Valves	6
Robinson Lane Hydrant Valve 110	Hydrant Valves	6
Robinson Lane Hydrant Valve 111	Hydrant Valves	6
Pembroke Street W Hydrant Valve 220	Hydrant Valves	9

Asset ID (LV)	Asset Subcategory	Risk
Pembroke Street W Hydrant Valve 221	Hydrant Valves	9
Bruham Avenue Hydrant Valve 042	Hydrant Valves	6
Pembroke St. W. Hydrant Valve 224	Hydrant Valves	6
Pembroke St. W. Hydrant Valve 223	Hydrant Valves	6
Pembroke St. W. Hydrant Valve 207	Hydrant Valves	6
Elgin Street Fire Hydrant 001	Hydrants	12
Roy St E Fire Hydrant 002	Hydrants	15
Roy St E Fire Hydrant 003	Hydrants	15
Willow Drive Fire Hydrant 004	Hydrants	12
Fairview Avenue Fire Hydrant 005	Hydrants	12
Fairview Avenue Fire Hydrant 006	Hydrants	9
Fairview Avenue Fire Hydrant 007	Hydrants	9
Fairview Avenue Fire Hydrant 008	Hydrants	9
Fairview Avenue Fire Hydrant 009	Hydrants	9
Fairview Avenue Fire Hydrant 010	Hydrants	9
Fairview Avenue Fire Hydrant 011	Hydrants	9
Fairview Avenue Fire Hydrant 012	Hydrants	9
Lark Street Fire Hydrant 013	Hydrants	12
Boucher Street Fire Hydrant 014	Hydrants	12
Roy St E Fire Hydrant 015	Hydrants	12
Roy St E Fire Hydrant 016	Hydrants	15
Hamilton Street E Fire Hydrant 017	Hydrants	6
Hamilton Street E Fire Hydrant 018	Hydrants	15
Bank Street Fire Hydrant 019	Hydrants	15
Hamilton Street W Fire Hydrant 020	Hydrants	15
Hamilton Street W Fire Hydrant 021	Hydrants	12
Hamilton Street W Fire Hydrant 022	Hydrants	12
Hamilton Street W Fire Hydrant 023	Hydrants	15
Hamilton Street W Fire Hydrant 024	Hydrants	12
Hamilton Street W Fire Hydrant 025	Hydrants	12
Hamilton Street W Fire Hydrant 026	Hydrants	12
Hamilton Street W Fire Hydrant 027	Hydrants	12
Jean Avenue Fire Hydrant 028	Hydrants	12
Jean Avenue Fire Hydrant 029	Hydrants	12
Jean Avenue Fire Hydrant 030	Hydrants	12
Jean Avenue Fire Hydrant 031	Hydrants	12
Roy St W Fire Hydrant 032	Hydrants	15
Roy St W Fire Hydrant 033	Hydrants	15
Roy St W Fire Hydrant 034	Hydrants	15
First Avenue Fire Hydrant 035	Hydrants	12
Roy St W Fire Hydrant 036	Hydrants	15
Roy St W Fire Hydrant 037	Hydrants	15
Roy St W Fire Hydrant 038	Hydrants	15
Indian Court Fire Hydrant 039	Hydrants	6
Joe Street Fire Hydrant 040	Hydrants	15
Joe Street Fire Hydrant 041	Hydrants	12
Bruham Avenue Fire Hydrant 042	Hydrants	15
Joe Street Fire Hydrant 043	Hydrants	15
Joe Street Fire Hydrant 044	Hydrants	15
Joe Street Fire Hydrant 045	Hydrants	15
Joe Street Fire Hydrant 046	Hydrants	12
Lorne Street Fire Hydrant 047	Hydrants	12
Lorne Street Fire Hydrant 048	Hydrants	12
Lorne Street Fire Hydrant 049	Hydrants	12
Leach Street Fire Hydrant 050	Hydrants	12
Bruham Avenue Fire Hydrant 051	Hydrants	15
Bruham Avenue Fire Hydrant 052	Hydrants	12
Bruham Avenue Fire Hydrant 053	Hydrants	12
Stafford Street Fire Hydrant 054	Hydrants	12
Stafford Street Fire Hydrant 055	Hydrants	12
Third Avenue Fire Hydrant 056	Hydrants	12
Stafford Street Fire Hydrant 057	Hydrants	12
Third Avenue Fire Hydrant 058	Hydrants	12
Angle Street Fire Hydrant 059	Hydrants	12
Glen Street Fire Hydrant 060	Hydrants	12
Leach Street Fire Hydrant 061	Hydrants	12
Bruham Avenue Fire Hydrant 062	Hydrants	12
Allen Street Fire Hydrant 063	Hydrants	12
Donald Street Fire Hydrant 064	Hydrants	12
Bruham Avenue Fire Hydrant 065	Hydrants	12
Bruham Avenue Fire Hydrant 066	Hydrants	12
Bruham Avenue Fire Hydrant 067	Hydrants	12
Indian Court Fire Hydrant 068	Hydrants	6

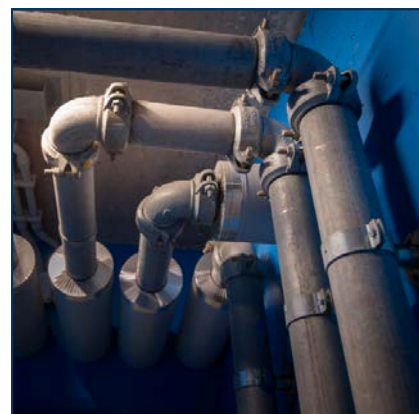
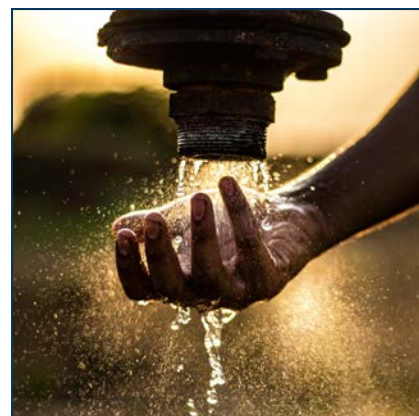


Asset ID (LV)	Asset Subcategory	Risk
Pembroke Street E Fire Hydrant 100	Hydrants	9
Pembroke Street E Fire Hydrant 101	Hydrants	9
Pembroke Street E Fire Hydrant 106	Hydrants	6
Pembroke Street E Fire Hydrant 107+A20	Hydrants	6
Pembroke Street E Fire Hydrant 108	Hydrants	6
Robinson Lane Fire Hydrant 109	Hydrants	6
Robinson Lane Fire Hydrant 110	Hydrants	6
Robinson Lane Fire Hydrant 111	Hydrants	6
Pembroke Street W Fire Hydrant 220	Hydrants	9
Pembroke Street W Fire Hydrant 221	Hydrants	9
Pembroke St W Hydrant 224	Hydrants	3
Pembroke St W Hydrant 223	Hydrants	3
Pembroke St W Hydrant 207	Hydrants	3
Golf Course Rd	Hydrants	3
Bruham Avenue Waterline 02b	Water Mains (100mm)	3
Allen Street E Waterline	Water Mains (150mm)	6
Allen Street W Waterline	Water Mains (150mm)	6
Angle Street Waterline	Water Mains (150mm)	6
Bank Street Waterline	Water Mains (150mm)	8
Boucher Drive Waterline	Water Mains (150mm)	6
Bruham Avenue Waterline 01b	Water Mains (150mm)	8
Donald Street Waterline	Water Mains (150mm)	6
Fairview Avenue S Waterline 01	Water Mains (150mm)	6
Glen Street Waterline	Water Mains (150mm)	6
Hamilton Street E Waterline 01	Water Mains (150mm)	4
Hamilton Street W Waterline 01	Water Mains (150mm)	8
Henry Street Waterline	Water Mains (150mm)	6
Indian Court Waterline 01	Water Mains (150mm)	4
Joe Street Waterline 01	Water Mains (150mm)	8
Joe Street Waterline 02	Water Mains (150mm)	6
Karen Street Waterline 01a	Water Mains (150mm)	8
Karen Street Waterline 01b	Water Mains (150mm)	8
Lark Street Waterline 01	Water Mains (150mm)	6
Lorne Street Waterline 01	Water Mains (150mm)	6
Macy Avenue Waterline	Water Mains (150mm)	4
Roy St W Waterline 02	Water Mains (150mm)	8
Stafford Street Waterline 01b	Water Mains (150mm)	6
Third Avenue Waterline	Water Mains (150mm)	6
Willow Drive Waterline 01	Water Mains (150mm)	8
Roy Street W Waterline 01	Water Mains (150mm)	2
Lorne Street Waterline 02B	Water Mains (150mm)	8
Leach Street Waterline 02	Water Mains (150mm)	8
Roy Street E Waterline 01	Water Mains (150mm)	8
Roy Street E Waterline 02	Water Mains (150mm)	6
Roy Street E Waterline 03	Water Mains (150mm)	6
Joe Street Waterline 04	Water Mains (150mm)	2
Joe Street Waterline 03	Water Mains (150mm)	2
Joe Street Waterline 05	Water Mains (150mm)	2
Joe Street Waterline 06	Water Mains (150mm)	2
Joe Street Waterline 07	Water Mains (150mm)	2
Roy Street E Waterline 04	Water Mains (150mm)	6
Leach Street Waterline 03	Water Mains (150mm)	8
Roy Street W Waterline 02	Water Mains (150mm)	2
Willow Drive Waterline 02	Water Mains (150mm)	8
Willow Drive Waterline 03	Water Mains (150mm)	8
Lark Street Waterline 02	Water Mains (150mm)	6
Lark Street Waterline 03	Water Mains (150mm)	6
Indian Court Waterline 02	Water Mains (150mm)	4
Hamilton Street W Waterline 02	Water Mains (150mm)	8
Hamilton Street E Waterline 02	Water Mains (150mm)	4
Fairview Avenue N Waterline	Water Mains (200mm)	6
Fairview Avenue S Waterline 01b	Water Mains (200mm)	6
Hamilton Street W Waterline 03	Water Mains (200mm)	12
Leach Street Waterline 01	Water Mains (200mm)	9
Matthews Avenue Waterline	Water Mains (200mm)	6
Stafford Street Waterline 01a	Water Mains (200mm)	9
Willow Drive Waterline 04	Water Mains (200mm)	12
Jean Avenue Waterline 01	Water Mains (250mm)	9
Hamilton Street W Waterline 05	Water Mains (250mm)	16
Hamilton Street W Waterline 06	Water Mains (250mm)	16
Bruham Avenue Waterline 02a	Water Mains (300mm)	15
Elgin Street Waterline	Water Mains (300mm)	15
First Avenue Waterline 01	Water Mains (300mm)	15

Asset ID (LV)	Asset Subcategory	Risk
Hamilton Street W Waterline 04	Water Mains (300mm)	16
Lorne Street Waterline 02A	Water Mains (300mm)	15
Pembroke Street E Waterline 01	Water Mains (300mm)	10
Pembroke Street E Waterline 04	Water Mains (300mm)	10
Pembroke Street W Waterline	Water Mains (300mm)	15
Robinson Lane Waterline	Water Mains (300mm)	10
Robinson Lane Waterline	Water Mains (300mm)	10
Pembroke Street E Waterline 02	Water Mains (300mm)	10
Pembroke Street E Waterline 03	Water Mains (300mm)	10
Bruham Avenue Waterline 01a	Water Mains (400mm)	20
Bruham Avenue Water Meter	Water Meters	5
Elgin Street Water Meter	Water Meters	5
Karen Street Water Meter	Water Meters	5
MacGregor's Hill Water Meter	Water Meters	5
Pembroke Street E Water Meter	Water Meters	5
Pembroke Street W Water Meter	Water Meters	5
Willow Street Water Meter	Water Meters	5
Elgin Street Main Valve 001	Water Valves	12
Pembroke Street W Main Valve 001W	Water Valves	9
Roy St E Main Valve 002	Water Valves	15
Mathews Ave Main Valve 02W	Water Valves	9
Roy St E Main Valve 003	Water Valves	15
Mathews Ave Main Valve 03W	Water Valves	9
Willow Street Main Valve 004	Water Valves	15
Butlers Main Valve 04W	Water Valves	9
Roy St E Main Valve 005	Water Valves	15
Pembroke Street W Main Valve 005W	Water Valves	9
Willow Street Main Valve 006	Water Valves	12
Pembroke Street W Main Valve 006W	Water Valves	9
Lark Street Main Valve 007	Water Valves	12
Pembroke Street W Main Valve 007W	Water Valves	9
Fairview Avenue Main Valve 008	Water Valves	12
Smitty's Main Valve 08W	Water Valves	9
Larke St. Main Valve 9	Water Valves	12
Pembroke Street W Main Valve 009W	Water Valves	12
Fairview Avenue Main Valve 010	Water Valves	9
Macy Avenue Main Valve 011	Water Valves	9
Fairview Avenue Main Valve 012	Water Valves	9
Fairview Avenue Main Valve 013	Water Valves	9
Macy Avenue Main Valve 014	Water Valves	9
Fairview Avenue Main Valve 015	Water Valves	12
Boucher Street Main Valve 016	Water Valves	12
Boucher St. Main Valve 17	Water Valves	15
Roy St E Main Valve 018	Water Valves	15
Hamilton Street E Main Valve 019	Water Valves	6
Hamilton St. E. Main Valve 20	Water Valves	15
Willow Drive Main Valve 021	Water Valves	15
Hamilton Street W Main Valve 022	Water Valves	15
Karen Street Main Valve 023	Water Valves	15
Hamilton St W Main Valve 024	Water Valves	15
Hamilton St W Main Valve 025	Water Valves	15
Bruham Ave Main Valve 026	Water Valves	15
Hamilton St W Main Valve 027	Water Valves	15
Hamilton St W Main Valve 028	Water Valves	15
First Avenue Main Valve 029	Water Valves	15
Hamilton St W MV 29A	Water Valves	15
Hamilton Street W Main Valve 030	Water Valves	15
Jean Avenue Main Valve 031	Water Valves	12
Jean Avenue Main Valve 032	Water Valves	12
Jean Avenue Main Valve 033	Water Valves	12
Roy St W Main Valve 034	Water Valves	15
Roy St W Main Valve 035	Water Valves	15
First Avenue Main Valve 036	Water Valves	12
Roy St W Main Valve 037	Water Valves	15
Roy St W Main Valve 038	Water Valves	6
Roy St W Main Valve 039	Water Valves	15
Indian Court Main Valve 040	Water Valves	6
Roy St W Main Valve 041	Water Valves	15
Joe Street Main Valve 042	Water Valves	12
Joe Street Main Valve 043	Water Valves	6
Joe Street Main Valve 044	Water Valves	6
Joe Street Main Valve 045	Water Valves	12
Joe Street Main Valve 046	Water Valves	12



Asset ID (LV)	Asset Subcategory	Risk
Third Avenue Main Valve 047	Water Valves	12
Lorne Street W Main Valve 048	Water Valves	12
First Avenue Main Valve 049	Water Valves	12
Leach Street Main Valve 050	Water Valves	12
Lorne Street E Main Valve 051	Water Valves	12
Bruham Avenue Main Valve 052	Water Valves	12
Stafford Street Main Valve 053	Water Valves	12
Stafford Street Main Valve 054	Water Valves	12
Third Avenue Main Valve 055	Water Valves	12
Third Avenue Main Valve 056	Water Valves	12
Angle Street Main Valve 057	Water Valves	12
Glen Street Main Valve 058	Water Valves	12
Leach Street Main Valve 059	Water Valves	12
Bruham Avenue Main Valve 060	Water Valves	12
Allen Street Main Valve 061	Water Valves	12
Henry Street Main Valve 062	Water Valves	12
Donald Street Main Valve 063	Water Valves	12
Bruham Avenue Main Valve 064	Water Valves	12
Joe Street Water Valve 065	Water Valves	6
Indian Court Main Valve 066	Water Valves	6
Pembroke Street E Main Valve 100	Water Valves	9
Pembroke Street E Main Valve 101	Water Valves	9
Pembroke Street E Main Valve 102	Water Valves	6
Pembroke Street E Main Valve 103	Water Valves	6
Robinson Lane Main Valve 104	Water Valves	9
Tim Hortons Main Valve 105	Water Valves	6
Home Depot Main Valve 106	Water Valves	6
Home Depot Main Valve 107	Water Valves	6
Robinson Lane Main Valve 108	Water Valves	6
Atmosphere Main Valve 109	Water Valves	6
Murphy Ford Main Valve 20W	Water Valves	6
Pembroke St. W Main Valve 15W	Water Valves	9
Pembroke St. W Main Valve 14W	Water Valves	9
Pembroke St. W Main Valve 13W	Water Valves	9
Pembroke St. W Main Valve 12	Water Valves	9
Pembroke St. W Main Valve 12W	Water Valves	9
Pembroke St. W Main Valve 11AW	Water Valves	6
Pembroke St. W Main Valve 11W	Water Valves	6
Pembroke St. W Main Valve 10W	Water Valves	6
Pembroke Street E Main Valve 110	Water Valves	6
Roy Street W Main Valve 70	Water Valves	6
Roy Street W Main Valve 69	Water Valves	6
Joe St Main Valve 68	Water Valves	6
Lorne St. Main Valve 67	Water Valves	12
Allan St Main Valve 062A	Water Valves	12
Bruham Ave Main Valve 44A	Water Valves	6
Bruham Ave Main Valve 38A	Water Valves	15
Hamilton Street E Main Valve 19A	Water Valves	6





# Storm Water Appendix









Asset ID (LV)	Asset Subcategory	Risk
Bess Street Storm Sewerline 01	Storm Sewerlines (300mm)	4
Bess Street Storm Sewerline 03	Storm Sewerlines (300mm)	4
Brooklyn Street Storm Sewerline 01	Storm Sewerlines (300mm)	4
Brooklyn Street Storm Sewerline 02	Storm Sewerlines (300mm)	4
Fairview Avenue Storm Sewerline 02	Storm Sewerlines (300mm)	4
First Avenue Storm Sewerline 02	Storm Sewerlines (300mm)	4
Hamilton Street West Storm Sewerline 03	Storm Sewerlines (300mm)	8
Hamilton Street West Storm Sewerline 04	Storm Sewerlines (300mm)	6
Hamilton Street West Storm Sewerline 05	Storm Sewerlines (300mm)	6
Hamilton Street West Storm Sewerline 06	Storm Sewerlines (300mm)	6
Hamilton Street West Storm Sewerline 07	Storm Sewerlines (300mm)	4
Hamilton Street West Storm Sewerline 08	Storm Sewerlines (300mm)	4
Indian Court Storm Sewerline 01	Storm Sewerlines (300mm)	4
Indian Court Storm Sewerline 03	Storm Sewerlines (300mm)	4
Joe Street Storm Sewerline 03	Storm Sewerlines (300mm)	4
Leach Street Storm Sewerline 01	Storm Sewerlines (300mm)	8
Leach Street Storm Sewerline 05	Storm Sewerlines (300mm)	8
Leach Street Storm Sewerline 06	Storm Sewerlines (300mm)	8
Leach Street Storm Sewerline 07	Storm Sewerlines (300mm)	8
Lorne Street Storm Sewerline 05	Storm Sewerlines (300mm)	4
Martha Avenue Storm Sewerline 02	Storm Sewerlines (300mm)	4
Roy Street West Storm Sewerline 01	Storm Sewerlines (300mm)	8
Roy Street West Storm Sewerline 02	Storm Sewerlines (300mm)	8
Roy Street West Storm Sewerline 03	Storm Sewerlines (300mm)	8
Roy Street West Storm Sewerline 04	Storm Sewerlines (300mm)	6
Roy Street West Storm Sewerline 06	Storm Sewerlines (300mm)	6
Stafford Street Storm Sewerline 01	Storm Sewerlines (300mm)	4
Stafford Street Storm Sewerline 02	Storm Sewerlines (300mm)	4
Stafford Street Storm Sewerline 03	Storm Sewerlines (300mm)	4
Stafford Street Storm Sewerline 05	Storm Sewerlines (300mm)	4
Stoneyfield Road Storm Sewerline 01	Storm Sewerlines (300mm)	4
Stoneyfield Road Storm Sewerline 02	Storm Sewerlines (300mm)	4
Stoneyfield Road Storm Sewerline 03	Storm Sewerlines (300mm)	4
Third Avenue Storm Sewerline 02	Storm Sewerlines (300mm)	4
Roy Street Storm Sewerline Portion in 2014	Storm Sewerlines (300mm)	2
Roy St. W.	Storm Sewerlines (300mm)	2
Cheryl St Storm Sewer Addition	Storm Sewerlines (300mm)	2
Joe Street Storm Sewerline 04	Storm Sewerlines (300mm)	2
Indian Court Storm Sewerline 02	Storm Sewerlines (375mm)	4
Lark Street Storm Sewerline 02	Storm Sewerlines (375mm)	4
Fairview Storm Sewerline 03	Storm Sewerlines (375mm)	4
Leach Street Storm Sewerline 02	Storm Sewerlines (375mm)	8
Lorne Street Storm Sewerline 03	Storm Sewerlines (375mm)	8
Martha Avenue Storm Sewerline 01	Storm Sewerlines (375mm)	4
Stafford Street Storm Sewerline 04	Storm Sewerlines (375mm)	4
Bess Street Storm Sewerline 02	Storm Sewerlines (400mm)	6
Bess Street Storm Sewerline 04	Storm Sewerlines (400mm)	6
Hamilton Street West Storm Sewerline 01	Storm Sewerlines (400mm)	12
Lark Street Storm Sewerline 01	Storm Sewerlines (400mm)	6
Lorne Street Storm Sewerline 04	Storm Sewerlines (400mm)	12
Cheryl St Storm Sewer Addition	Storm Sewerlines (420mm)	3
First Avenue Storm Sewerline 01	Storm Sewerlines (450mm)	6
First Avenue Storm Sewerline 03	Storm Sewerlines (450mm)	6
First Avenue Storm Sewerline 04	Storm Sewerlines (450mm)	6
First Avenue Storm Sewerline 06	Storm Sewerlines (450mm)	6
Hamilton Street West Storm Sewerline 02	Storm Sewerlines (450mm)	12
Joe Street Storm Sewerline 02	Storm Sewerlines (450mm)	12
Karen Street Storm Sewerline 01	Storm Sewerlines (450mm)	12
Krause Street Storm Sewerline 01	Storm Sewerlines (450mm)	6
Krause Street Storm Sewerline 02	Storm Sewerlines (450mm)	6
Leach Street Storm Sewerline 03	Storm Sewerlines (450mm)	12
Leach Street Storm Sewerline 04	Storm Sewerlines (450mm)	12
Pleasant View Drive Storm Sewerline 02	Storm Sewerlines (450mm)	6
Pleasant View Drive Storm Sewerline 03	Storm Sewerlines (450mm)	6
Roy Street West Storm Sewerline 05	Storm Sewerlines (450mm)	9
Third Avenue Storm Sewerline 01	Storm Sewerlines (450mm)	12
Fairview Avenue Storm Sewerline 01	Storm Sewerlines (500mm)	6
Glen Street Storm Sewerline 02	Storm Sewerlines (500mm)	16
First Avenue Storm Sewerline 05	Storm Sewerlines (600mm)	16
Joe Street Storm Sewerline 01	Storm Sewerlines (600mm)	16
Karen Street Storm Sewerline 02	Storm Sewerlines (600mm)	16
Karen Street Storm Sewerline 03	Storm Sewerlines (600mm)	20
Pleasant View Drive Storm Sewerline 01	Storm Sewerlines (600mm)	8

Asset ID (LV)	Asset Subcategory	Risk
Joe Street Storm Sewerline 06	Storm Sewerlines (600mm)	4
Bruham Avenue Storm Sewerline 01	Storm Sewerlines (760mm)	16
Glen Street Storm Sewerline 01	Storm Sewerlines (760mm)	16
Lorne Street Storm Sewerline 01	Storm Sewerlines (760mm)	16
Lorne Street Storm Sewerline 02	Storm Sewerlines (800mm)	16
Golf Course Storm Sewer Section 2020	Storm Sewerlines (300mm)	2
Golf Course Storm Sewer Section 2020	Storm Sewerlines (450mm)	3
Golf Course Storm Sewer Section 2020	Storm Sewerlines (500mm)	3
Stoqua Creek Road	Culvert (1100mm)	15
Stones Road	Culvert (1100mm)	15
Stoqua Creek Road	Culvert (1100mm)	15
Stoqua Creek Road	Culvert (1100mm)	15
Whispering Pines Crescent	Culvert (1100mm)	15
Borne Road	Culvert (1100mm)	15
Biggs Road	Culvert (1100mm)	15
Matthews Avenue	Culvert (1100mm)	15
Golf Course Road	Culvert (1100mm)	15
B Line Road	Culvert (1100mm)	15
Kelly Lake Road	Culvert (1100mm)	15
Micksburg Road	Culvert (1200mm)	15
Loback Road	Culvert (1200mm)	15
Stones Road	Culvert (1200mm)	15
Stafford Second line	Culvert (1200mm)	15
Meitz Road	Culvert (1200mm)	15
Meitz Road	Culvert (1200mm)	15
Pleasant View Drive	Culvert (1200mm)	15
Meitz Road	Culvert (1200mm)	15
Witt Road	Culvert (1200mm)	15
Zanders Road	Culvert (1200mm)	15
Witt Road	Culvert (1200mm)	15
Derions Road	Culvert (1200mm)	15
Sandy Beach Road	Culvert (1200mm)	15
Henan Road	Culvert (1200mm)	15
B Line Road	Culvert (1200mm)	15
B Line Road	Culvert (1500mm)	15
B Line Road	Culvert (1500mm)	15
Zanders Road	Culvert (1500mm)	15
Sandy Beach Road	Culvert (1600mm)	15
Micksburg Road	Culvert (1700mm)	15
Hertage Place	Culvert (1700mm)	15
B Line Road	Culvert (1700mm)	15
Biggs Road	Culvert (1800mm)	15
Achary Road	Culvert (1800mm)	15
Stafford Third line	Culvert (300mm)	6
Stones Road	Culvert (300mm)	6
Ross Road	Culvert (300mm)	6
Stafford Third line	Culvert (300mm)	6
Spruce Street West	Culvert (300mm)	6
Walters Road	Culvert (300mm)	6
Spruce Street West	Culvert (300mm)	6
West Brook Street	Culvert (300mm)	6
Richardson Crescent	Culvert (300mm)	6
Maves Road	Culvert (300mm)	6
Shalom Street	Culvert (300mm)	6
Lloyd Street	Culvert (300mm)	6
Glen Street	Culvert (300mm)	6
Forest Lea Road	Culvert (300mm)	6
Station Hill Road	Culvert (300mm)	6
Long Lake Road	Culvert (300mm)	6
PetzcnicksLake Road	Culvert (300mm)	6
Roy St W	Culvert (300mm)	6
Karen Street	Culvert (300mm)	6
Karen Street	Culvert (450mm)	9
Karen Street	Culvert (600mm)	12
First Avenue	Culvert (450mm)	9
First Avenue	Culvert (600mm)	12
Krause St	Culvert (450mm)	9
Krause St	Culvert (450mm)	9
Krause St	Culvert (450mm)	9
Locksley Road	Culvert (500mm)	9
Stoqua Creek Road	Culvert (500mm)	9
Stafford Second line	Culvert (500mm)	9
Stafford Third line	Culvert (500mm)	9

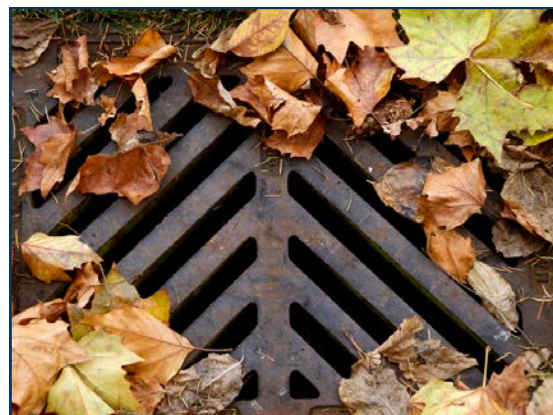
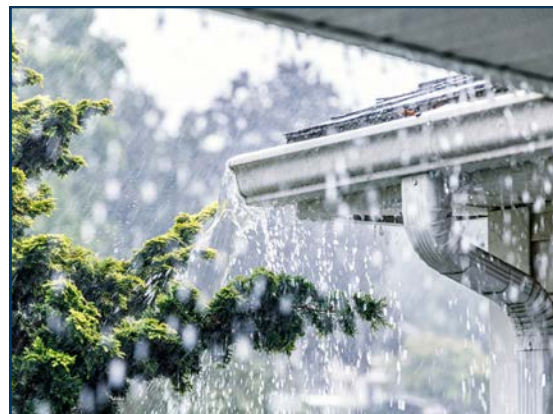


Asset ID (LV)	Asset Subcategory	Risk
Locksley Road	Culvert (500mm)	9
Stafford Third line	Culvert (500mm)	9
Locksley Road	Culvert (500mm)	9
Leachmen Road	Culvert (500mm)	9
Stafford Second line	Culvert (500mm)	9
Stafford Second line	Culvert (500mm)	9
Stafford Third line	Culvert (500mm)	9
Brazeau Road	Culvert (500mm)	9
Industrial Park Road	Culvert (500mm)	9
Cemetery Road	Culvert (500mm)	9
Walford Road	Culvert (500mm)	9
Walters Road	Culvert (500mm)	9
Clearveiw Crescent	Culvert (500mm)	9
Esther Street	Culvert (500mm)	9
Drive In Road	Culvert (500mm)	9
Walford	Culvert (500mm)	9
Brazeau Road	Culvert (500mm)	9
Spruce Street East	Culvert (500mm)	9
Petzicks Road	Culvert (500mm)	9
Walford Road	Culvert (500mm)	9
Cathmae Road	Culvert (500mm)	9
Sawmill Road	Culvert (500mm)	9
Derions Road	Culvert (500mm)	9
Borne Road	Culvert (500mm)	9
Sandy Beach Road	Culvert (500mm)	9
Derions Road	Culvert (500mm)	9
Sandy Beach Road	Culvert (500mm)	9
Sandy Beach Road	Culvert (500mm)	9
Lubitz Road	Culvert (500mm)	9
Sandy Beach Road	Culvert (500mm)	9
Henan Road	Culvert (500mm)	9
Borne Road	Culvert (500mm)	9
Sandy Beach Road	Culvert (500mm)	9
Lubitz Road	Culvert (500mm)	9
Sandy Beach Road	Culvert (500mm)	9
Henan Road	Culvert (500mm)	9
Borne Road	Culvert (500mm)	9
Lubitz Road	Culvert (500mm)	9
Derions Road	Culvert (500mm)	9
Sandy Beach Road	Culvert (500mm)	9
Hunts Road	Culvert (500mm)	9
Forest Lea Road	Culvert (500mm)	9
Barry Street	Culvert (500mm)	9
Russham Road	Culvert (500mm)	9
Forest Lea Road	Culvert (500mm)	9
Achary Road	Culvert (500mm)	9
Forest Lea Road	Culvert (500mm)	9
Zadow Street	Culvert (500mm)	9
Zadow Street	Culvert (500mm)	9
Third Avenue	Culvert (500mm)	9
Third Avenue	Culvert (500mm)	9
Fairview Avenue	Culvert (500mm)	9
Third Avenue	Culvert (500mm)	9
Lloyd Street	Culvert (500mm)	9
Fairview Avenue	Culvert (500mm)	9
Fairview Avenue	Culvert (500mm)	9
Henry Street	Culvert (500mm)	9
Macy Avenue	Culvert (500mm)	9
Forest Lea Road	Culvert (500mm)	9
Forest Lea Road	Culvert (500mm)	9
Maves Road	Culvert (500mm)	9
Maves Road	Culvert (500mm)	9
Crows Nest Road	Culvert (500mm)	9
Bucholtz Road	Culvert (500mm)	9
Long Lake Road	Culvert (500mm)	9
Kraft Road	Culvert (500mm)	9
Stafford Third Line	Culvert (500mm)	9
Snake River Line	Culvert (500mm)	9
Petzicks Lake Road	Culvert (500mm)	9
Snake River Line	Culvert (500mm)	9
Woto Station Road	Culvert (500mm)	9
Code Road	Culvert (600mm)	12
Micksburg Road	Culvert (600mm)	12

Asset ID (LV)	Asset Subcategory	Risk
Stafford Third line	Culvert (600mm)	12
Locksley Road	Culvert (600mm)	12
Dicks Road	Culvert (600mm)	12
Stafford Third line	Culvert (600mm)	12
Leachmen Road	Culvert (600mm)	12
Micksburg Road	Culvert (600mm)	12
Stafford Third line	Culvert (600mm)	12
Stafford Second line	Culvert (600mm)	12
Dicks Road	Culvert (600mm)	12
Stafford Third line	Culvert (600mm)	12
River Crest Drive	Culvert (600mm)	12
Hazley Bay Road	Culvert (600mm)	12
River Crest Drive	Culvert (600mm)	12
River Crest Drive	Culvert (600mm)	12
Fiberboard Drive	Culvert (600mm)	12
Elm Street West	Culvert (600mm)	12
Zanders Road	Culvert (600mm)	12
Beckett View Drive	Culvert (600mm)	12
Bardis Drive	Culvert (600mm)	12
Zanders Road	Culvert (600mm)	12
Hazley Bay Road	Culvert (600mm)	12
River Crest Drive	Culvert (600mm)	12
Willson Road	Culvert (600mm)	12
Walford Road	Culvert (600mm)	12
Witt Road	Culvert (600mm)	12
Walford Road	Culvert (600mm)	12
Bardis Drive	Culvert (600mm)	12
Sparta Street	Culvert (600mm)	12
Bardis Drive	Culvert (600mm)	12
Clearveiw Crescent	Culvert (600mm)	12
River Crest Drive	Culvert (600mm)	12
Bays End Road	Culvert (600mm)	12
Witt Road	Culvert (600mm)	12
Forest Park Road	Culvert (600mm)	12
Forest Park Road	Culvert (600mm)	12
Clearveiw Crescent	Culvert (600mm)	12
Pit Road	Culvert (600mm)	12
Henan Road	Culvert (600mm)	12
Sufian Street	Culvert (600mm)	12
Borne Road	Culvert (600mm)	12
Sandy Beach Road	Culvert (600mm)	12
Sandy Beach Road	Culvert (600mm)	12
Borne Road	Culvert (600mm)	12
Sandy Beach Road	Culvert (600mm)	12
Henan Road	Culvert (600mm)	12
Sandy Beach Road	Culvert (600mm)	12
Locksley Road	Culvert (600mm)	12
Sandy Beach Road	Culvert (600mm)	12
Sandy Beach Road	Culvert (600mm)	12
Richardson Crescent	Culvert (600mm)	12
Locksley Road	Culvert (600mm)	12
Sandy Beach Road	Culvert (600mm)	12
Eldorado Crescent	Culvert (600mm)	12
Rahns Road	Culvert (600mm)	12
Sawmill Road	Culvert (600mm)	12
Eldorado Crescent	Culvert (600mm)	12
Borne Road	Culvert (600mm)	12
West Brook Street	Culvert (600mm)	12
Sufian Street	Culvert (600mm)	12
Brian Street	Culvert (600mm)	12
Achary Road	Culvert (600mm)	12
Kellard Street	Culvert (600mm)	12
Arlene Street	Culvert (600mm)	12
Russham Road	Culvert (600mm)	12
Forest Lea Road	Culvert (600mm)	12
Forest Lea Road	Culvert (600mm)	12
Kellard Street	Culvert (600mm)	12
Forest Lea Road	Culvert (600mm)	12
Brian Street	Culvert (600mm)	12
Achary Road	Culvert (600mm)	12
Golf Course Road	Culvert (600mm)	12
Achary Road	Culvert (600mm)	12
Russham Road	Culvert (600mm)	12



Asset ID (LV)	Asset Subcategory	Risk
Forest Lea Road	Culvert (600mm)	12
Dawson Drive	Culvert (600mm)	12
Forest Lea Road	Culvert (600mm)	12
Achary Road	Culvert (600mm)	12
Fairview Avenue	Culvert (600mm)	12
Boucher Street	Culvert (600mm)	12
Valley Street	Culvert (600mm)	12
Meadowbrook Drive	Culvert (600mm)	12
TV Tower Road	Culvert (600mm)	12
B Line Road	Culvert (600mm)	12
Fairview Avenue	Culvert (600mm)	12
Lloyd Street	Culvert (600mm)	12
Fairview Avenue	Culvert (600mm)	12
Station Hill Road	Culvert (600mm)	12
Station Hill Road	Culvert (600mm)	12
Crows Nest Road	Culvert (600mm)	12
Petzicks Lake Road	Culvert (600mm)	12
Woitto Station Road	Culvert (600mm)	12
Micksburg Road	Culvert (800mm)	12
Zanders Road	Culvert (800mm)	12
Witt Road	Culvert (800mm)	12
Rahns Road	Culvert (800mm)	12
Rahns Road	Culvert (800mm)	12
Rahns Road	Culvert (800mm)	12
B Line Road	Culvert (800mm)	12
Blue Bird Road	Culvert (900mm)	12
Stafford Third line	Culvert (900mm)	12
Locksley Road	Culvert (900mm)	12
Stoqua Creek Road	Culvert (900mm)	12
Code Road	Culvert (900mm)	12
Stafford Third line	Culvert (900mm)	12
Ross Road	Culvert (900mm)	12
Stafford Third line	Culvert (900mm)	12
Stoqua Creek Road	Culvert (900mm)	12
Stafford Third line	Culvert (900mm)	12
Stafford Third line	Culvert (900mm)	12
Ross Road	Culvert (900mm)	12
Walford Road	Culvert (900mm)	12
Walford Road	Culvert (900mm)	12
Hazley Bay Road	Culvert (900mm)	12
Robinson Road	Culvert (900mm)	12
Zanders Road	Culvert (900mm)	12
Rankin Street	Culvert (900mm)	12
Forest Park Road	Culvert (900mm)	12
Zanders Road	Culvert (900mm)	12
Lubitz Road	Culvert (900mm)	12
Henan Road	Culvert (900mm)	12
Lubitz Road	Culvert (900mm)	12
Sandy Beach Road	Culvert (900mm)	12
Heron Drive	Culvert (900mm)	12
Forest Lea Road	Culvert (900mm)	12
Maves Road	Culvert (900mm)	12
Forest Lea Road	Culvert (900mm)	12
Maves Road	Culvert (900mm)	12
B Line Road	Culvert (900mm)	12
B Line Road	Culvert (900mm)	12
B Line Road	Culvert (900mm)	12
B Line Road	Culvert (900mm)	12
Lubitz Road	Culvert (900mm)	12
Maves Road	Culvert (900mm)	12
Zanders Road	Culvert (900mm)	12
Zanders Road	Culvert (900mm)	12
Stencells Road	Culvert (900mm)	12
Crows Nest Road	Culvert (900mm)	12
Locksley Road	Culvert (900mm)	12
Snake River Line	Culvert (900mm)	12
Bruham Avenue	Culvert (800mm)	12





# Wastewater Appendix





Asset ID (LV)	Asset Subcategory	Risk
Boundary Road Manhole 01	Manholes	10
Boundary Road Manhole 03	Manholes	10
Boundary Road Manhole 04	Manholes	10
Boundary Road Manhole 05	Manholes	10
Boundary Road Manhole 06	Manholes	10
Boundary Road Manhole 07	Manholes	10
Boundary Road Manhole 08	Manholes	10
Boundary Road Manhole 09	Manholes	10
Boundary Road Manhole 10	Manholes	10
Boundary Road Manhole 11	Manholes	10
Boundary Road Manhole 12	Manholes	10
Boundary Road Manhole 13	Manholes	10
Boundary Road Manhole 14	Manholes	10
Boundary Road Manhole 15	Manholes	10
Boundary Road Manhole 16	Manholes	4
Boundary Road Manhole 17	Manholes	10
Boundary Road Manhole 18	Manholes	10
Boundary Road Manhole 19	Manholes	10
Boucher Street Manhole 01	Manholes	10
Bruham Avenue Manhole 01	Manholes	10
Bruham Avenue Manhole 02	Manholes	10
Bruham Avenue Manhole 03	Manholes	10
Bruham Avenue Manhole 04	Manholes	10
Bruham Avenue Manhole 05	Manholes	10
Bruham Avenue Manhole 06	Manholes	10
Bruham Avenue Manhole 07	Manholes	10
Elgin Street Manhole 01	Manholes	10
Elgin Street Manhole 02	Manholes	10
Elgin Street Manhole 03	Manholes	10
Elgin Street Manhole 04	Manholes	10
Elgin Street Manhole 05	Manholes	10
Elgin Street Manhole 06	Manholes	10
Elgin Street Manhole 07	Manholes	10
Elgin Street Manhole 08	Manholes	10
Elgin Street Manhole 09	Manholes	10
Elgin Street Manhole 10	Manholes	10
Elgin Street Manhole 11	Manholes	10
Fairview Avenue Manhole 01	Manholes	10
Fairview Avenue Manhole 02	Manholes	6
Fairview Avenue Manhole 03	Manholes	6
Fairview Avenue Manhole 04	Manholes	6
Fairview Avenue Manhole 05	Manholes	6
Fairview Avenue Manhole 06	Manholes	6
Fairview Avenue Manhole 07	Manholes	6
Fairview Avenue Manhole 08	Manholes	6
Fairview Avenue Manhole 09	Manholes	6
Fairview Avenue Manhole 10	Manholes	6
Fairview Avenue Manhole 11	Manholes	6
First Avenue Manhole 01	Manholes	10
First Avenue Manhole 02	Manholes	10
Glen Street Manhole 01	Manholes	10
Glen Street Manhole 02	Manholes	10
Glen Street Manhole 04	Manholes	10
Glen Street Manhole 05	Manholes	10
Glen Street Manhole 06	Manholes	10
Pembroke Street E Manhole 100	Manholes	4
Pembroke Street E Manhole 101	Manholes	4
Pembroke Street E Manhole 102	Manholes	4
Pembroke Street E Manhole 103	Manholes	4
Pembroke Street E Manhole 104	Manholes	4
Pembroke Street E Manhole 105	Manholes	4
Pembroke Street E Manhole 106	Manholes	4
Pembroke Street E Manhole 107	Manholes	4
Pembroke Street E Manhole 108	Manholes	4
Pembroke Street E Manhole 109	Manholes	4
Pembroke Street E Manhole 110	Manholes	4
Pembroke Street E Manhole 111	Manholes	4
Hamilton Street East Manhole 01	Manholes	10
Hamilton Street East Manhole 02	Manholes	10
Hamilton Street East Manhole 03	Manholes	10

Asset ID (LV)	Asset Subcategory	Risk
Hamilton Street East Manhole 04	Manholes	10
Hamilton Street West Manhole 05	Manholes	10
Hamilton Street West Manhole 06	Manholes	10
Hamilton Street West Manhole 07	Manholes	10
Hamilton Street West Manhole 08	Manholes	10
Hamilton Street West Manhole 09	Manholes	10
Hamilton Street West Manhole 10	Manholes	10
Hamilton Street West Manhole 11	Manholes	10
Hamilton Street West Manhole 12	Manholes	10
Hamilton Street West Manhole 13	Manholes	10
Hamilton Street West Manhole 14	Manholes	10
Hamilton Street West Manhole 15	Manholes	10
Hamilton Street West Manhole 16	Manholes	10
Hamilton Street West Manhole 17	Manholes	10
Hamilton Street West Manhole 18	Manholes	10
Indian Court Manhole 01	Manholes	4
Indian Court Manhole 02	Manholes	4
Joe Street Manhole 01	Manholes	8
Joe Street Manhole 03	Manholes	8
Joe Street Manhole 04	Manholes	8
Joe Street Manhole 06	Manholes	10
Joe Street Manhole 07	Manholes	10
Joe Street Manhole 08	Manholes	10
Joe Street Manhole 09	Manholes	10
Joe Street Manhole 10	Manholes	10
Joe Street Manhole 11	Manholes	10
Joe Street Manhole 12	Manholes	10
Joe Street Manhole 13	Manholes	10
Lark Street Manhole 01	Manholes	10
Lark Street Manhole 02	Manholes	10
Lark Street Manhole 03	Manholes	10
Lark Street Manhole 04	Manholes	10
Lark Street Manhole 05	Manholes	10
Leach Street Manhole 01	Manholes	10
Leach Street Manhole 02	Manholes	10
Lorne Street East Manhole 01	Manholes	10
Lorne Street East Manhole 02	Manholes	10
Lorne Street East Manhole 03	Manholes	10
Lorne Street East Manhole 04	Manholes	10
Lorne Street West Manhole 05	Manholes	10
Lorne Street West Manhole 06	Manholes	10
Macy Avenue Manhole 01	Manholes	6
Robinson Lane Manhole 100	Manholes	4
Robinson Lane Manhole 101	Manholes	4
Robinson Lane Manhole 102	Manholes	4
Robinson Lane Manhole 103	Manholes	4
Robinson Lane Manhole 104	Manholes	4
Robinson Lane Manhole 105	Manholes	4
Roy Street East Manhole 01	Manholes	10
Roy Street East Manhole 02	Manholes	10
Roy Street East Manhole 03	Manholes	10
Roy Street East Manhole 04	Manholes	10
Roy Street East Manhole 05	Manholes	10
Roy Street East Manhole 06	Manholes	10
Roy Street West Manhole 07	Manholes	10
Roy Street West Manhole 08	Manholes	10
Roy Street West Manhole 09	Manholes	10
Roy Street West Manhole 10	Manholes	10
Roy Street West Manhole 11	Manholes	10
Roy Street West Manhole 12	Manholes	10
Roy Street West Manhole 13	Manholes	10
Roy Street West Manhole 14	Manholes	10
Roy Street West Manhole 15	Manholes	10
Roy Street West Manhole 16	Manholes	10
Roy Street West Manhole 17	Manholes	10
Roy Street West Manhole 18	Manholes	10
Stafford Street Manhole 01	Manholes	10
Stafford Street Manhole 02	Manholes	10
Stafford Street Manhole 03	Manholes	10
Stafford Street Manhole 04	Manholes	10
Stafford Street Manhole 05	Manholes	10
Third Avenue Manhole 01	Manholes	10
Third Avenue Manhole 02	Manholes	10



Asset ID (LV)	Asset Subcategory	Risk
Willow Drive Manhole 01	Manholes	10
Elgin Street Manhole 12	Manholes	10
Lorne Street West Manhole 07	Manholes	10
Robinson Lane Manhole 106	Manholes	4
Robinson Lane Manhole 107	Manholes	4
Roy Street West Manhole 19	Manholes	10
Macy Ave Manhole 01	Manholes	6
Angle Street Manhole 01	Manholes	10
Lorne Street West Manhole 08	Manholes	10
Lorne Street West Manhole 09	Manholes	10
Elgin Street Manhole 13	Manholes	10
Indian Court	Pump Station	10
Bruham Avenue Underground Sanitary Lift Station	Pump Station	25
Hamilton Street Sanitary Pumpstation	Pump Station	25
Indian Court Underground Sanitary Lift Station	Pump Station	10
Rebuild Pump #2	Pump Station	5
New Pump #1	Pump Station	10
Back up Pump	Pump Station	10
Lift Pump	Pump Station	5
Boundary Road Sanitary Forcemain	Sanitary Forcemain	20
Hamilton Street Sanitary Forcemain	Sanitary Forcemain	20
Indian Court Sanitary Forcemain	Sanitary Forcemain	20
Willow Drive Sanitary Forcemain	Sanitary Forcemain	20
Angle Street Sanitary Sewerline	Sanitary Sewerlines (200mm)	8
Boucher Street Sanitary Sewerline	Sanitary Sewerlines (200mm)	4
Boundary Road Sanitary Sewerline 01	Sanitary Sewerlines (200mm)	8
Bruham Avenue Sanitary Sewerline 01a	Sanitary Sewerlines (200mm)	8
Bruham Avenue Sanitary Sewerline 02	Sanitary Sewerlines (200mm)	8
Elgin Street Sanitary Sewerline 01b	Sanitary Sewerlines (200mm)	8
Leach Street Sanitary Sewerline	Sanitary Sewerlines (200mm)	8
Fairview Avenue N Sanitary Sewerline	Sanitary Sewerlines (200mm)	4
Fairview Avenue S Sanitary Sewerline 01a	Sanitary Sewerlines (200mm)	8
Fairview Avenue S Sanitary Sewerline 01b	Sanitary Sewerlines (200mm)	4
First Avenue Sanitary Sewerline	Sanitary Sewerlines (200mm)	8
Glen Street Sanitary Sewerline	Sanitary Sewerlines (200mm)	8
Hamilton Street E Sanitary Sewerline 01	Sanitary Sewerlines (200mm)	8
Hamilton Street W Sanitary Sewerline 02	Sanitary Sewerlines (200mm)	8
Hamilton Street W Sanitary Sewerline 03	Sanitary Sewerlines (200mm)	8
Indian Court Sanitary Sewerline	Sanitary Sewerlines (200mm)	4
Jean Avenue Sanitary Sewerline	Sanitary Sewerlines (200mm)	8
Joe Street Sanitary Sewerline 01a	Sanitary Sewerlines (200mm)	6
Joe Street Sanitary Sewerline 01b	Sanitary Sewerlines (200mm)	8
Lark Street Sanitary Sewerline	Sanitary Sewerlines (200mm)	8
Leach Street Sanitary Sewerline	Sanitary Sewerlines (200mm)	8
Lorne Street Sanitary Sewerline 01	Sanitary Sewerlines (200mm)	8
Lorne Street Sanitary Sewerline 02	Sanitary Sewerlines (200mm)	8
Macy Street Sanitary Sewerline	Sanitary Sewerlines (200mm)	4
Robinson Lane Sanitary Sewerline 01a	Sanitary Sewerlines (200mm)	4
Roy Street E Sanitary Sewerline 01	Sanitary Sewerlines (200mm)	8
Roy Street E Sanitary Sewerline 02	Sanitary Sewerlines (200mm)	8
Roy Street W Sanitary Sewerline 02	Sanitary Sewerlines (200mm)	8
Stafford Street Sanitary Sewerline 01	Sanitary Sewerlines (200mm)	8
Stafford Street Sanitary Sewerline 02	Sanitary Sewerlines (200mm)	8
Third Avenue Sanitary Sewerline 01a	Sanitary Sewerlines (200mm)	8
Third Avenue Sanitary Sewerline 01b	Sanitary Sewerlines (200mm)	8
Third Avenue Sanitary Sewerline 01c	Sanitary Sewerlines (200mm)	8
Joe Street Sanitary Sewerline 03	Sanitary Sewerlines (200mm)	2
Joe Street Sanitary Sewerline 02	Sanitary Sewerlines (200mm)	2
Joe Street Sanitary Sewerline 04	Sanitary Sewerlines (200mm)	2
Karen Street Sanitary Sewerline	Sanitary Sewerlines (250mm)	12
Pembroke Street E Sanitary Sewerline	Sanitary Sewerlines (250mm)	6
Robinson Lane Sanitary Sewerline 01b	Sanitary Sewerlines (250mm)	6
Roy Street W Sanitary Sewerline 01	Sanitary Sewerlines (250mm)	3
Bank Street Sanitary Sewerline	Sanitary Sewerlines (300mm)	12
Boundary Road Sanitary Sewerline 02	Sanitary Sewerlines (300mm)	12
Bruham Avenue Sanitary Sewerline 01b	Sanitary Sewerlines (300mm)	12
Elgin Street Sanitary Sewerline 01a	Sanitary Sewerlines (300mm)	12
Hamilton Street W Sanitary Sewerline 01	Sanitary Sewerlines (300mm)	12
Willow Drive Sanitary Sewerline 02	Sanitary Sewerlines (300mm)	12
Hamilton Street E Sanitary Sewerline 02	Sanitary Sewerlines (400mm)	16
Willow Drive Sanitary Sewerline 01	Sanitary Sewerlines (400mm)	16





# Facilities Appendix





Asset ID (LV)	Asset Subcategory	Risk
Municipal Office (Witt Rd)	Municipal Administration	6
Sand Dome (Witt Rd)	Public Works Centre	10
Salt Shed (Witt Rd)	Public Works Centre	10
Salt Shed (Hwy 41)	Public Works Centre	10
Sand Dome (Hwy 41)	Public Works Centre	10
Public Works Garage and Office (Hwy 41)	Public Works Centre	12
Fire Hall	Fire Station	20
Cold Storage Shed (Witt Rd)	Public Works Centre	4
Stafford Recreation Centre	Recreation Centre	4
Shady Nook Recreation Centre	Recreation Centre	5
A&F Recreation Centre	Recreation Centre	5
A&F Storage Shed	Recreation Centre	4
LV Lodge	Recreation Centre	4





# Vehicles & Heavy Equipment Appendix





Asset ID (LV)	Asset Subcategory	Replacement Cost	Risk
102-11	Medium Duty Trucks	130,000.00	15
106-17	Light Duty Trucks	65,000.00	6
107-96	Heavy Equipment	250,000.00	20
108-21	Light Duty Trucks	65,000.00	2
205-15	Tandem Plow Trucks	325,000.00	12
206-16	Tandem Plow Trucks	325,000.00	12
207-18	Tandem Plow Trucks	325,000.00	8
208-20	Tandem Plow Trucks	325,000.00	8
209-22	Tandem Plow Trucks	325,000.00	4
210-24	Tandem Plow Trucks	325,000.00	8
303-13	Heavy Equipment	250,000.00	8
304-15	Heavy Equipment	550,000.00	8
305-16	Heavy Equipment	180,000.00	8
306-18	Heavy Equipment	700,000.00	8
307-22	Heavy Equipment	250,000.00	4
9647	Fire	1,000,000.00	25
9853	Medium Duty Trucks	80,000.00	15
9831	Medium Duty Trucks	265,000.00	15
9646	Fire	1,000,000.00	15
1	Light Duty Trucks	65,000.00	15
9726	Fire	425,000.00	5
109-24	Medium Duty Trucks	75,000.00	3
110-24	Medium Duty Trucks	100,000.00	3



# Land Improvements Appendix





Asset ID (LV)	Asset Subcategory	Replacement Cost	Risk
Shady Nook Parking Lot	Parking Lot	80,461.36	6
Salt Shed Pavement	Parking Lot	15,142.13	6
Stafford Park - Paved Basketball Court	Court	15,550.66	6
Pleasant View Park - Playstructure 1	Playstructure	24,494.51	16
460 Witt Rd - Parking Lot	Parking Lot	54,053.76	4
HWY 41 Garage - Septic System	Septic	16,144.62	8
Stafford Park - Splash Pad	Splashpad	191,690.20	6
Stafford Park - Sunroof over Benches	Park Equipment	11,537.05	2
Stafford Park - Floor, Rink Boards & Lights	Court	173,925.91	2
Pleasant View Park - Tennis Court	Court	70,401.26	2
LV Trail Lighting	Lights	109,540.88	2
Elgin Street Park Equipment	Playstructure	267,153.49	4
A & F Safety Netting	Fence	10,866.61	4
A & F Play Structure 1	Playstructure	100,000.00	20
A & F Play Structure 2	Playstructure	100,000.00	20
A & F Ball Diamond 1 Lighting	Lights	180,000.00	10
A & F Ball Diamond 1 Fencing	Fence	24,000.00	10
A & F Ball Diamond 1 Field	Ball Field	100,000.00	5
A & F Ball Diamond 2 Lighting	Lights	150,000.00	10
A & F Ball Diamond 2 Fencing	Fence	24,000.00	10
A & F Ball Diamond 2 Field	Ball Field	100,000.00	5
A & F Ball Diamond 3 Fence	Fence	15,000.00	10
A & F Ball Diamond 3 Field	Ball Field	75,000.00	5
A & F - Floor, Rink Boards & Lights	Court	174,000.00	4
A & F Horse Fence	Fence	40,000.00	10
A & F Horse Ring Lighting	Lights	30,000.00	10
A & F Horse Ring	Ball Field	50,000.00	5
SN - Floor, Rink Boards & Lights	Court	174,000.00	8
SN Playstructure 1	Playstructure	100,000.00	20
SN Play Structure 2	Playstructure	100,000.00	20
SP Playstructure 1	Playstructure	100,000.00	20
SP Playstrucutre 2	Playstructure	100,000.00	20
SP Ball Diamond Lights	Lights	180,000.00	10
SP Ball Diamond Fence	Fence	40,000.00	10
SP Ball Diamond	Ball Field	50,000.00	5
PVP Playstructure 2	Playstructure	100,000.00	12
FLP Court	Court	70,400.00	6
FLP Play Structure	Playstructure	100,000.00	20
Township Office Septic	Septic	20,000.00	20
A & F Septic 1	Septic	20,000.00	20
A & F Septic 2	Septic	20,000.00	20
A & F Septic 3	Septic	20,000.00	20
LV 4 Seasons Trail Septic	Septic	20,000.00	20
Shady Nook Septic 1	Septic	20,000.00	20
Shady Nook Septic 2	Septic	20,000.00	20
PVP Court Fence	Fence	14,400.00	10







