# Asset Management Plan

**County of Brant**
**66 Grand River Street North**
**Paris ON  N3L 2M2**

# Asset Management Plan

## County of Brant
## 66 Grand River Street North
## Paris ON  N3L 2M2

**R.J. Burnside & Associates Limited**
**15 Townline**
**Orangeville ON  L9W 3R4 CANADA**

**July 11, 2024**
**300054018.0000**

## Distribution List

| No. of Hard Copies | PDF | Email | Organization Name |
|---|---|---|---|
| - | Yes | Yes | County of Brant |

## Record of Revisions

| Revision | Date | Description |
|---|---|---|
| - | June 21, 2024 | Draft Report to County of Brant |
| - | July 11, 2024 | Final Report to County of Brant |

**R.J. Burnside & Associates Limited**

**Report Prepared By:**

Arunas Kalinauskas, B.Sc.
Business Manager – Asset Management / GIS
AK:ao

## Executive Summary

This report contains the Asset Management Plan for the County of Brant (County) assets. The report has been organized as follows:

- Section 1: Introduction
- Section 2: State of Local Infrastructure
- Section 3: Expected Levels of Service
- Section 4: Asset Management Strategy
- Section 5: Recommendations

The State of Local Infrastructure Section provides an overview of the capital assets owned by the County. This includes detailed information on asset inventory, including asset attributes, accounting valuations, replacement costs, useful life, age, and asset condition. This information provides the foundation for other sections of the asset management plan.

Based on data provided by the County and discussions with County staff, it is believed that the County's assets, based on weighted average condition (with the weighting based on asset replacement cost), are as follows:

### Tax Based Assets

- Road assets – **Good** condition
- Bridge and Culvert assets – **Good** condition
- Bridges – Trails and Parks – **Average** condition
- Roadway assets – **Average** condition
- Storm Water assets – **Good** condition
- Facility assets – **Good** condition
- Park assets – **Good** condition
- Vehicles – **Average** condition
- Solid Waste Sites – **Good** condition
- Emergency Services Equipment – **Poor** condition
- Information Technology and Solar Equipment – **Average** condition

### Ratepayer Based Assets

- Water assets – **Average** condition
- Wastewater assets – **Good** condition

As outlined in the following summary assets table, please note that weighted average conditions do not fully reflect the many assets that need to have capital improvement investments but provide an overall high-level perspective of all the assets found in that asset grouping / network.

Please also note that Water and Wastewater assets which are funded by system ratepayers have been separated from the tax-based assets. Each asset class has been subset for better understanding of the asset classes.

Looking at a weighted average of remaining life as a percentage of useful life can provide a quick estimate of how quickly the County may be looking to invest in either capital improvements or asset replacement. It is important to view the Remaining Service Life percentages not as absolutes but as triggers to seek more information about an asset type. For example, two tax supported asset types; Bridges and Culverts and Facilities – Works Yards show approximately 25% of their remaining service life or these assets are approaching their last ¼ of their lifecycle. The Bridges are reviewed regularly by professional engineers who provide maintenance and capital improvement recommendations for the most appropriate levels of service to the public. The works yards are getting old and will require some closer investigation to identify an improvement schedule. So weighted averages are good high-level values that may require some additional detailed information for clarity.

| Asset Class | Asset Type | Condition (weighted average) | Risk (weighted average) | Useful Life (UL) - weighted average | Remaining Service Life (RSL) weighted average | RSL as a % of URL |
|---|---|---|---|---|---|---|
| Core | Roads | Good | Low | 71 | 42 | 60% |
| | Bridges & Culverts | Good | Low | 74 | 20 | 27% |
| | Bridges - Trails & Parks | Average | Moderate | 61 | 31 | 51% |
| | Roadway Assets | Average | Moderate | 21 | 12 | 57% |
| | Storm Water | Good | Low | 96 | 71 | 74% |
| Non-Core | Facilities - Administration | Average | High | 39 | 24 | 62% |
| | Facilities - Works Yards | Poor | High | 46 | 12 | 26% |
| | Facilities - Emergency Services | Good | Moderate | 97 | 36 | 37% |
| | Facilities - Community Centres | Good | Moderate | 40 | 26 | 65% |
| | Facilities - Libraries | Average | High | 39 | 19 | 49% |
| | Parks | Good | Moderate | 37 | 27 | 73% |
| | Vehicles | Average | High | 13 | 9 | 68% |
| | Solid Waste Sites | Good | Moderate | 49 | 10 | 20% |
| | Emergency Services Equipment | Poor | Moderate | 11 | 5 | 45% |
| | IT & Solar Equipment | Average | Moderate | 11 | 6 | 55% |

| Asset Type | Condition (weighted average) | Risk (weighted average) | Useful Life (UL) - weighted average | Remaining Service Life (RSL) weighted average | RSL as a % of URL |
|---|---|---|---|---|---|
| Water Facilities & Components | Good | Moderate | 43 | 30 | 70% |
| Water Wells | Average | Moderate | 44 | 21 | 48% |
| Water Mains | Average | Moderate | 78 | 45 | 58% |
| Water Valves | Average | Moderate | 54 | 28 | 52% |
| Water Hydrants | Poor | High | 50 | 20 | 40% |
| Water Curb Stops | Poor | Moderate | 50 | 17 | 34% |
| Water Service | Average | Moderate | 60 | 30 | 50% |

| Asset Type | Condition (weighted average) | Risk (weighted average) | Useful Life (UL) - weighted average | Remaining Service Life (RSL) weighted average | RSL as a % of URL |
|---|---|---|---|---|---|
| Wastewater Facilities | Poor | High | 59 | 36 | 61% |
| Wastewater Mains | Good | Moderate | 99 | 67 | 67% |
| Wastewater Manholes | Good | Moderate | 100 | 67 | 67% |
| Wastewater Chambers | Good | Low | 100 | 84 | 84% |
| Wastewater Valves | Very Good | Low | 100 | 90 | 90% |
| Wastewater Service Lines | Good | Moderate | 100 | 68 | 68% |

Expected Levels of Service compares the current level of service provided by the County, and the recommended levels of service that will help extend the life of the above-mentioned asset types. The County takes great care in the service levels they offer their constituents and public. This report has made a few additional Levels of Service (LOS) recommendations that can potentially extend the life of the County's capital assets; therefore, reducing the total lifecycle costs of these assets.

The Asset Management Strategy provides a ten-year operating and capital forecast for asset-related costs, indicating the requirements for maintaining, rehabilitating, replacing / disposing, and expanding the County's assets, while moving towards the specified expected levels of service identified above. The goal of the asset management strategy is to have the County moving towards a more sustainable asset management position over the forecast period. We have also taken into consideration the potential risk of each asset by identifying the asset consequence of failure and probability of failure. Asset risk was assessed based on the asset's age, condition, consequence of failure, and probability of failure.

Great efforts were undertaken by County staff and Burnside to create a complete asset dataset. Gaps in this data have been found and estimates were made where possible. For the facilities where limited information was provided, it is recommended that the County undertake a Facility Condition Assessment project that will provide the County with a complete inventory of facility assets and improving the lifecycle needs of these $117 million (non-core) assets grouping. It was also found that many assets had very conservative useful life values which can affect the lifecycle timelines for these assets. It is recommended that County staff review the working data spreadsheets provided and update information as it becomes available. As assets are reviewed, the asset inventory can be updated creating an improved dataset annually.

The County has recommended that this asset management plan not include a complete corresponding Financial Strategy as the County has another consultant providing a complete county-wide Financial Strategy. Data used in developing this asset management plan will be delivered to the County to ensure that the Financial Strategy uses the same asset data.

Also, the County has worked diligently to create a ten-year capital plan that integrates roads, stormwater, water and wastewater asset improvements. The roads component of this information was incorporated in this project; however, due to time constraints, the additional stormwater, water, and wastewater assets information from the County's 10-year plan still need to be input for completeness.

In summary, at a very high level we have found that approximately $28.1 million annually to fund long-term asset management planning needs for tax supported assets. Approximately $6.7 million dollars for water and $3.2 million for wastewater annually for ratepayer assets.

Overall, this asset management plan is a tool to be used by the County for capital and financial decision making. It can be tied to various existing reports (such as budget, official plan, and strategic planning reports) to ensure the asset management plan can be updated to reflect any changes in the County's priorities.

Please note that this study incorporated the County's core assets (water, wastewater, stormwater, roads, and bridges) plan (delivered to the County in December 2023) with some updates and the County's non-core assets. The potential gap in infrastructure funding is expected to change when incorporating additional information from a Facility Condition Assessment project.

# Table of Contents

## Tables

## Figures

## Disclaimer

Other than by the addressee, copying or distribution of this document, in whole or in part, is not permitted without the express written consent of R.J. Burnside & Associates Limited.

In the preparation of the various instruments of service contained herein, R.J. Burnside & Associates Limited was required to use and rely upon various sources of information (including but not limited to reports, data, drawings, observations) produced by parties other than R.J. Burnside & Associates Limited. For its part, R.J. Burnside & Associates Limited has proceeded based on the belief that the third-party/parties in question produced this documentation using accepted industry standards and best practices and that all information was therefore accurate, correct, and free of errors at the time of consultation. As such, the comments, recommendations, and materials presented in this instrument of service reflect our best judgment in light of the information available at the time of preparation. R.J. Burnside & Associates Limited, its employees, affiliates and subcontractors accept no liability for inaccuracies or errors in the instruments of service provided to the client, arising from deficiencies in the aforementioned third-party materials and documents.

R.J. Burnside & Associates Limited makes no warranties, either express or implied, of merchantability and fitness of the documents and other instruments of service for any purpose other than that specified by the contract.

# 1.0 Introduction

## 1.1 Overview

R.J. Burnside & Associates Limited (Burnside) was retained by the County of Brant (County) to prepare an asset management plan for non-core assets. This project was also to incorporate the core assets information delivered to the County in December 2023. The asset management plan is intended to be a tool for the County to use during various decision-making processes, including the annual budget process and Provincial / Federal capital grant application processes. This plan will serve as a road map for sustainable infrastructure planning going forward.

Assets included in this asset management plan are the following:

**Tax Supported**

- Roads (Asphalt, Surface Treated, Gravel, Concrete, and Earth).
- Bridges/Culverts (Public Works and Trails and Parks).
- Roadway Assets (Sidewalks, Guiderails, Lights, Signs, Retaining Walls).
- Storm Water (Mains, Service Lines, Culverts, Catch Basins, Catch Basin Leads, Manholes, Subdrains, Dry Wells, Storm Ponds, Discharge Points, Oil Grit Separators).
- Facilities
  - Administration (Burford Admin Office, Burford Records Building, Paris Admin Office, Cemeteries, Russel Heights Seniors Residence).
  - Works Yards (Paris Transfer Station, Mt. Pleasant Yard, Mt. Vernon Yard, Paris Yard, South Dumfries Yard).
  - Emergency Services (#1 Paris Fire Station, #2 Airport Fire Station, #3 Burford Fire Station, #4 Cainsville Fire Station, #5 Mt. Pleasant Fire Station, #6 Onondaga Fire Station, #7 St. George Fire Station, #8 Scotland Fire Station, Henry St. Ambulance Station, Bethel Road OPP Station).
  - Community Centres (Airport Community Centre, Brant Sports Complex, Burford Arena and Community Centre, Cainsville Community Centre, Cobblestone Commons, Glen Morris Centennial Hall, Green Lane Sports Complex, Mt. Pleasant Community Centre, Oakland Centre and Office, Pinegrove Howell Community Centre, Paris Bawcutt Centre, Scotland Community Centre, South Dumfries Arena and Community Centre, Syl Apps Arena and Community Centre).
  - Libraries (Burford Public Library, Glen Morris Public Library, Oakland Scottland Public Library, Paris Public Library, St. George Public Library).

- Parks (Parks and Rec Service Office, Parks and Paths, Mt. Pleasant Community Park, Mt. Pleasant Nature and Fish Park, Paris Lions Park, Optimist Park).
- Vehicles.
- Solid Waste Sites (Biggars Lane Landfill, Paris Landfill).
- Emergency Services Equipment (Ambulance Equipment, Fire Equipment).
- Information Technology and Solar Equipment.

**Ratepayer Supported**

- Water (Facilities and Components, Wells, Mains, Valves, Hydrants, Curb Stops, Service Lines).
- Wastewater (Facilities and Components, Mains, Manholes, Chamber Nodes, Valves, Service Lines).

It is recommended that this plan be updated on an annual basis to ensure that it is kept up to date. All assets listed above, other than ratepayer water and wastewater assets, are tax supported and are discussed more thoroughly in this report.

## 1.2 Plan Objectives

The County's goals and objectives, with respect to their capital assets, relate to the level of service being provided to the County's residents and visitors. Services are provided at current levels of service. This asset management plan provides a few recommended service additions that will improve the asset lifecycles for these County assets. The County's infrastructure and other capital assets are anticipated to be maintained at condition levels that provide for a safe and functional environment for its residents and visitors. Therefore, the asset management plan and its implementation will be evaluated based on the County's ability to meet these goals and objectives.

## 1.3 Plan Development

The development of the County's asset management plan was based on the steps summarized below:

- Develop a complete listing of all County capital assets, to be included in the plan, including attributes such as useful life, age, accounting valuation, and current replacement valuation. Update the replacement cost of assets to 2023 dollars, and where required, use applicable inflationary indices.
- Assess current condition of the assets, based on a combination of the following:
  - Existing reports.
  - Road Needs Study.
  - Bridge and Culvert Inspection reports.
  - Burnside desktop assessments based on reports.
  - Staff assessments.
  - Asset age analysis.

- Assess the risk of asset failure for each asset, based on determining the probability of each asset failing, as well as the consequence of the asset failing. This risk analysis is one of the components used to identify priority projects for inclusion in the asset management plan, as well as asset risk levels that require mitigation.
- Determine current levels of service, based on standard practices and discussions with County staff. Further analysis of the maintenance practices and identification of additional measures that can be applied to the assets to extend their lifecycle and potentially provide a lower asset total lifecycle cost.
- Prepare an asset management strategy (i.e., operating, and capital forecast) based on the asset inventory, identified priorities, and level of service analysis discussed above.
- Prepare a final report, summarizing the process, strategy, and results of the asset management plan.

## 1.4 Maintaining the Asset Management Plan

The asset management plan should be updated as the capital needs and priorities of the County changes. This can be accomplished in conjunction with the County's budget process. With the delivery of this project's working spreadsheet file, the County will have the tools available to perform updates to the plan when needed.

When updating the asset management plan, note that the state of local infrastructure, expected levels of service, and asset management strategy are integrated and impact each other. The asset management strategy illustrates the costs required to maintain expected levels of service at a sustainable level. The expected levels of service component summarizes and links each service area to specific assets contained in the State of Local Infrastructure Section and thus determines how these assets will be used to provide expected service levels.

This report covers a forecast period of 10-years; however, it is suggested that more focus and attention be put on the first five years of the asset management plan, to ensure accurate capital planning in the short term. It is also recommended that the County start moving towards 50-year forecasts. This longer-term vision will ensure that future infrastructure investments are not lost in the shorter 10-year forecast window.

## 1.5 Plan Integration

The municipal environment is continually changing and demanding when it comes to legislation and other responsibilities. Integrating the asset management plan with the County's budget process, as well as Public Standards Accounting Board Handbook Section 3150 (tangible capital asset) requirements can make updates in all three areas more efficient.

With respect to integrating the County's budget process with asset management planning, the County requires a projection of capital and operating costs over a future

period. The budget outlines total operating and capital requirements for the County, while the asset management plan focuses in on specific asset related requirements. With this link to the annual budget, the budget update process can also become an asset management plan update process.

Both asset management and PSAB 3150 require a complete and accurate asset inventory. The significant difference between the two lies in valuation approaches (PSAB 3150 requires historical cost valuation, while asset management requires future replacement cost valuation). Using a single asset inventory, as developed in the asset management spreadsheets for the County assets (delivered to the County as working documents for County staff), containing both historic and current replacement valuation methods is an effective approach to maintaining the County's asset data.

Please note that upon initial review of County core asset data, Burnside found significant differences between County Operations and Administration and County Finance core asset inventories. As the County was beginning a project to implement a new work management system, Burnside recommended that the County take this opportunity to create a single asset inventory for County assets to ensure only one asset database was used across all County departments. This significantly delayed this asset management plan project for over a year but is providing much greater value to the County. Once the asset inventory was completed, the County then re-engaged with Burnside to complete the asset management plan for core assets.

This project further expands by including the remaining County assets. Limited County facility information was received. It became apparent that the County should undertake a Facilities Assessment project, which will help to breakdown each facility into key asset groupings and provide more realistic Useful Life and Replacement Cost values.

# 2.0 State of Local Infrastructure

## 2.1 Scope and Process

This section of the plan provides an opportunity to develop a greater understanding of the capital assets owned by the County. The state of local infrastructure analysis includes:

- An asset inventory documenting asset types, sub-types including quantities, materials, and other similar asset attributes (where available).
- Financial accounting valuation (where available).
- Replacement cost valuation.
- Asset age distribution analysis and asset age as a proportion of expected useful life.
- Asset condition information (mostly based on report and / or staff assessment as well as the age of the asset).
- Documentation of assumptions made in creating the asset inventory.

Burnside developed a detailed asset inventory listing for the County which was used as a starting point in fulfilling the requirements for this report as well as the Work the County's consultant is using to develop a long-range Financial Strategy. This inventory provides current financial accounting valuations (i.e., historical cost, accumulated amortization, and net book value) as well as attributes such as replacement cost, useful life, and age. With respect to replacement cost, the County provided various recent valuations, which were inflated in order to estimate current 2023 replacement costs. Other valuations were made using a current 2023 replacement cost and deflating the value to the year or estimated year that the asset was constructed and / or acquired.

The following data and reports were used extensively to develop the County's asset inventory during this project:

- County past capital improvement asset listings.
- County reports (such as spreadsheets; documents; and notes from staff).
- County 2023 Updated Road Needs Study.
- County 2021 Bridge Inspection Report.
- County 2021 Bridge for Trails and Parks Inspection Report.
- Recent purchase information from the County.
- Many discussions with County staff.

Some adjustments to asset useful lives have been made but further analysis may reveal that the County will want to update some useful life values in the tangible capital asset financial reporting so that they better reflect the lifecycle and remaining life of the County's assets. Burnside engineers have reviewed the useful lives of the County assets identified in this project and believe they now better reflect the conditions, maintenance practices, and management of the County's assets.

Please note that upon receiving the County's final core asset inventory, Burnside found numerous gaps and proceeded to use road and other related assets to fill these gaps so that the project could move forward. All assets that were adjusted or filled in gaps are highlighted in the delivered spreadsheets. It is recommended that the County review the spreadsheet data and ensure that the highlighted cells are confirmed and corrected where required.

## 2.2 Asset Condition

Each asset was tracked based on estimated total useful life and remaining service life. Using this data, along with staff information, and age analysis of the County's assets assisted in identifying potential areas of focus where inspected asset condition was not available. We want to state that asset condition is always best defined via engineering best practices. Engineering based condition assessments can provide more realistic estimates of an asset's remaining service life, which can then be used to establish asset rehabilitation and / or replacement schedules. Age related condition values can be problematic if the asset's useful life is not appropriately defined. For example, if a useful life of an asset is defined shorter than the assets true performance, this will result in a lower / poorer age assessed condition ratings. This method of condition approximation was only used when inspected conditions were not available.

A rating out of 10 was established for all assets and was based on a combination of past reported physical inspections, current inspections, staff assessment, and asset age analysis. This rating was then converted to a condition description of "Very Good" to "Very Poor" as shown in Table 2.1.

**Table 2.1: Asset Condition Format for all Assets**

| Condition (Value 0 to 10) | Condition |
|---|---|
| 9 to 10 | Very Good |
| 7 to 8 | Good |
| 5 to 6 | Average |
| 3 to 4 | Poor |
| 1 to 2 | Very Poor |

The condition of the assets is an important element of any lifecycle assessment process. This process also identifies maintenance and operating practices that can be applied to ensure appropriate service levels, as well as extending the life of the asset to its maximum service life.

A high-level summary of the average conditions for the County's assets are shown in Table 2.2 to Table 2.4. The conditions listed in Table 2.2 to Table 2.4 were calculated using weighted average conditions. The weighting factor used was the asset replacement costs so that the greater the cost the greater the weighting of that asset's condition used to determine the average. Using this method provides more emphasis on the more expensive to replace assets. However, please note that averages are a composition of many assets in a group. Averages can be misleading with respect to immediate needs as the new assets offset the old assets requiring urgent replacement.

## 2.3 Capital Asset Overview

The County presently owns capital assets with a 2023 replacement value of approximately $2.605 billion, broken out in Table 2.2, Table 2.3, and Table 2.4 and summarized as follows:

- $1,890 million Core tax supported assets (Roads, Bridges, Storm Water).
- $183 million Non-core tax supported assets (Facilities, Parks, Equipment, Vehicles)
- $265 million Water ratepayers supported assets.
- $267 million Wastewater ratepayers supported assets.

**Table 2.2: Tax Supported Asset Assessment Summary**

| Asset Class | Asset Type | Historic Cost | 2022 Accumulated Amortization | 2022 Net Book Value | 2023 Replacement Cost | Condition (weighted average) | | Useful Life (weighted average) | Age (weighted average) | Remaining Life (weighted average) | Risk (weighted average) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Value | Text | | | | Value | Text |
| Core | Roads | $185,991,169 | $54,711,280 | $131,279,889 | $1,285,238,143 | 7.6 | Good | 71 | 30 | 42 | 1.2 | Low |
| | Bridges & Culverts | $28,921,493 | $13,004,159 | $15,917,334 | $356,951,000 | 7.2 | Good | 74 | 55 | 20 | 1.1 | Low |
| | Bridges - Trails & Parks | $2,739,850 | $762,169 | $1,977,719 | $7,103,100 | 6.4 | Average | 61 | 33 | 31 | 2.1 | Moderate |
| | Roadway Assets | $11,719,380 | $3,909,218 | $7,667,574 | $25,984,441 | 6.0 | Average | 21 | 9 | 12 | 2.0 | Moderate |
| | Storm Water | $81,155,400 | $15,402,939 | $65,717,835 | $214,894,204 | 7.4 | Good | 96 | 26 | 71 | 1.4 | Low |
| Non-Core | Facilities - Administration | $4,158,223 | $1,746,529 | $2,411,694 | $6,588,893 | 5.0 | Average | 39 | 16 | 24 | 3.0 | High |
| | Facilities - Works Yards | $3,152,585 | $1,444,451 | $1,708,133 | $19,258,820 | 4.0 | Poor | 46 | 36 | 12 | 3.0 | High |
| | Facilities - Emergency Services | $22,945,539 | $2,059,452 | $20,886,088 | $29,779,768 | 8.0 | Good | 42 | 6 | 36 | 2.0 | Moderate |
| | Facilities - Community Centres | $38,409,980 | $11,420,711 | $26,989,269 | $55,244,996 | 7.0 | Good | 40 | 14 | 26 | 2.0 | Moderate |
| | Facilities - Libraries | $4,048,423 | $1,861,214 | $2,187,209 | $6,216,114 | 5.0 | Average | 39 | 21 | 19 | 3.0 | High |
| | Parks | $13,785,736 | $2,886,962 | $10,756,889 | $18,953,532 | 7.0 | Good | 37 | 10 | 27 | 2.0 | Moderate |
| | Vehicles | $24,651,057 | $11,604,582 | $13,046,476 | $33,806,811 | 5.0 | Average | 13 | 5 | 9 | 2.5 | High |
| | Solid Waste Sites | $3,289,407 | $535,372 | $2,754,035 | $3,899,578 | 7.8 | Good | 49 | 40 | 10 | 1.7 | Moderate |
| | Emergency Services Equipment | $3,598,629 | $1,342,130 | $2,256,499 | $4,795,821 | 4.0 | Poor | 11 | 6 | 5 | 2.0 | Moderate |
| | IT & Solar Equipment | $3,595,861 | $2,045,752 | $1,550,109 | $4,910,626 | 5.0 | Average | 11 | 8 | 6 | 2.0 | Moderate |
| **Total** | | **$432,162,732** | **$124,736,918** | **$307,106,753** | **$2,073,625,849** | **7.0** | **Good** | **70** | **32** | **39** | **1.0** | **Low** |

**Table 2.3: Ratepayers Supported Water Assets**

| Asset Type | Historic Cost | 2022 Accumulated Amortization | 2022 Net Book Value | 2023 Replacement Cost | Condition (weighted average) | | Useful Life (weighted average) | Age (weighted average) | Remaining Life (weighted average) | Risk (weighted average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Water Facilities & Components | $65,612,813 | $16,093,244 | $49,519,569 | $77,307,438 | 7.0 | Good | 43 | 14 | 30 | Moderate |
| Water Wells | $11,919,536 | $5,169,473 | $6,750,063 | $23,495,000 | 6.0 | Average | 50, 40 | 25 | 21 | Moderate |
| Water Mains | $32,867,684 | $8,699,990 | $24,167,694 | $103,620,371 | 5.0 | Average | 100, 50 | 35 | 45 | Moderate |
| Water Valves | $5,948,872 | $2,268,534 | $3,680,339 | $15,292,400 | 5.0 | Average | 100, 50 | 29 | 27 | Moderate |
| Water Hydrants | $4,776,303 | $1,944,351 | $2,831,952 | $13,410,000 | 4.0 | Poor | 50 | 29 | 20 | High |
| Water Curb Stops | $3,948,942 | $2,030,111 | $1,918,831 | $12,964,000 | 3.0 | Poor | 50 | 35 | 17 | Moderate |
| Water Service | $6,356,624 | $2,469,840 | $3,886,784 | $18,468,801 | 5.0 | Average | 100, 50 | 30 | 30 | Moderate |
| **Total** | **$131,430,774** | **$38,675,543** | **$92,755,231** | **$264,558,009** | **6.0** | **Average** | | **27** | **34** | **Moderate** |

**Table 2.4: Ratepayers Supported Wastewater Assets**

| Asset Type | Historic Cost | 2022 Accumulated Amortization | 2022 Net Book Value | 2023 Replacement Cost | Condition (weighted average) | | Useful Life (weighted average) | Age (weighted average) | Remaining Life (weighted average) | Risk (weighted average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Wastewater Facilities | $21,808,388 | $9,532,684 | $12,275,704 | $56,110,761 | 5.3 | Average | 59 | 28 | 36 | High |
| Wastewater Mains | $23,879,772 | $6,217,697 | $17,662,075 | $137,314,833 | 6.9 | Good | 100 | 32 | 68 | Moderate |
| Wastewater Manholes | $6,300,778 | $1,402,720 | $4,898,058 | $19,630,000 | 6.7 | Good | 100 | 31 | 66 | Moderate |
| Wastewater Chambers | $647,472 | $66,308 | $581,164 | $1,200,000 | 8.4 | Good | 100 | 16 | 84 | Low |
| Wastewater Valves | $899,780 | $73,963 | $825,817 | $1,410,000 | 9.2 | Very Good | 100 | 10 | 90 | Low |
| Wastewater Service Lines | $15,623,391 | $3,797,202 | $11,826,189 | $51,415,417 | 6.9 | Good | 100 | 32 | 68 | Moderate |
| **Total** | **$69,159,581** | **$21,090,575** | **$48,069,006** | **$267,081,011** | **7.0** | **Good** | **91** | **31** | **61** | **Moderate** |

Figure 2.1, Figure 2.2, Figure 2.3, and Figure 2.4 outline the breakdown of these totals into the County's asset categories.

**Figure 2.1: County Tax Supported Core Assets Replacement Costs (2023)**

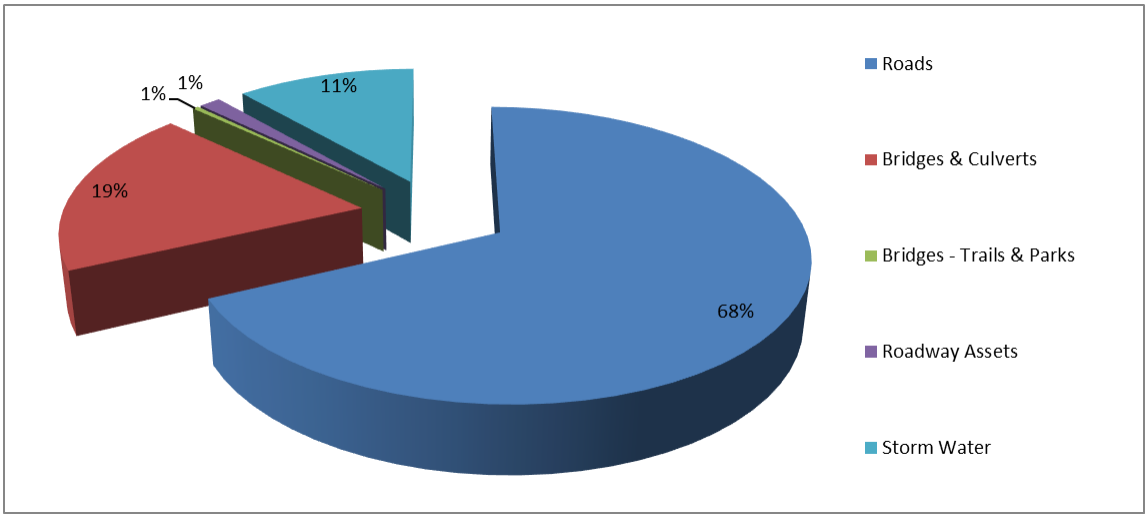



**Figure 2.2: County Tax Supported None-core Assets Replacement Costs (2023)**

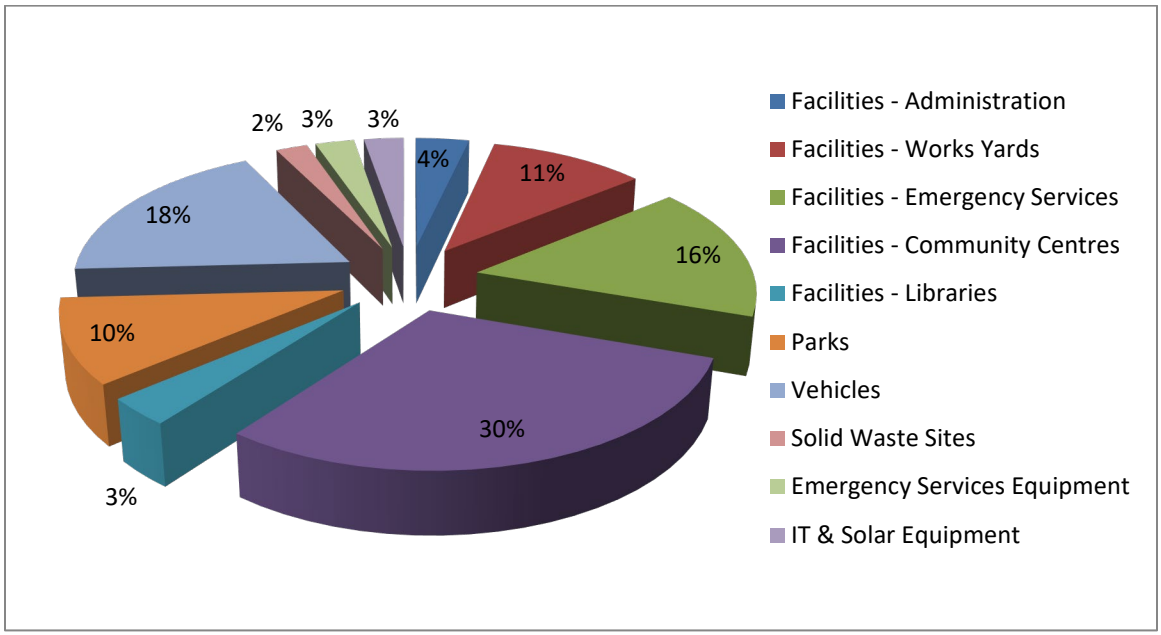


**Figure 2.3: County Ratepayers Supported Water Assets Replacement Costs (2023)**

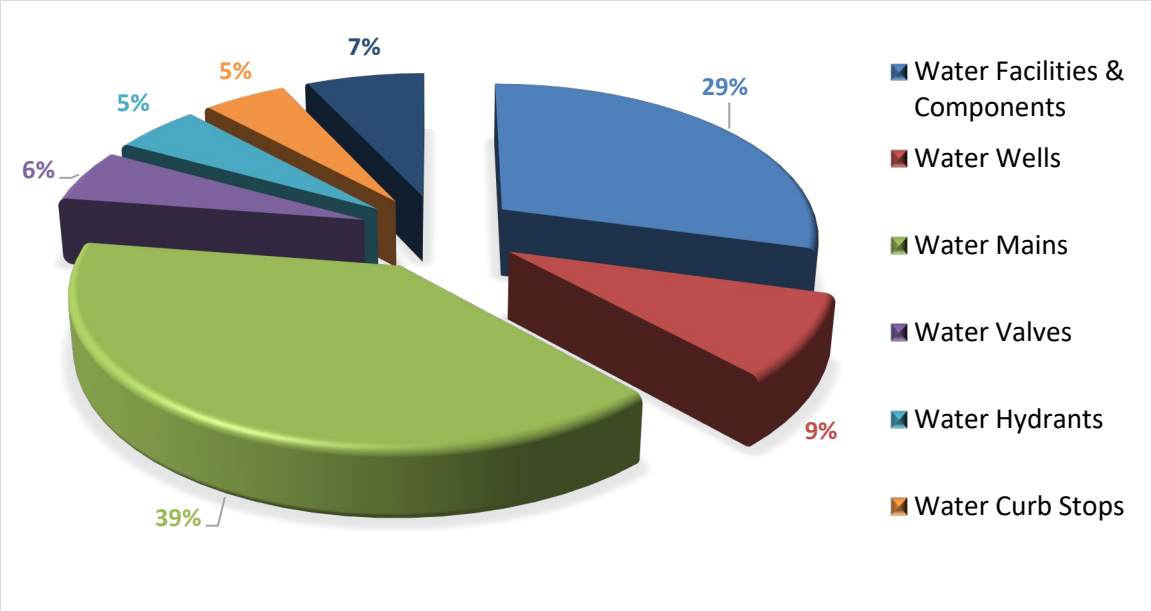
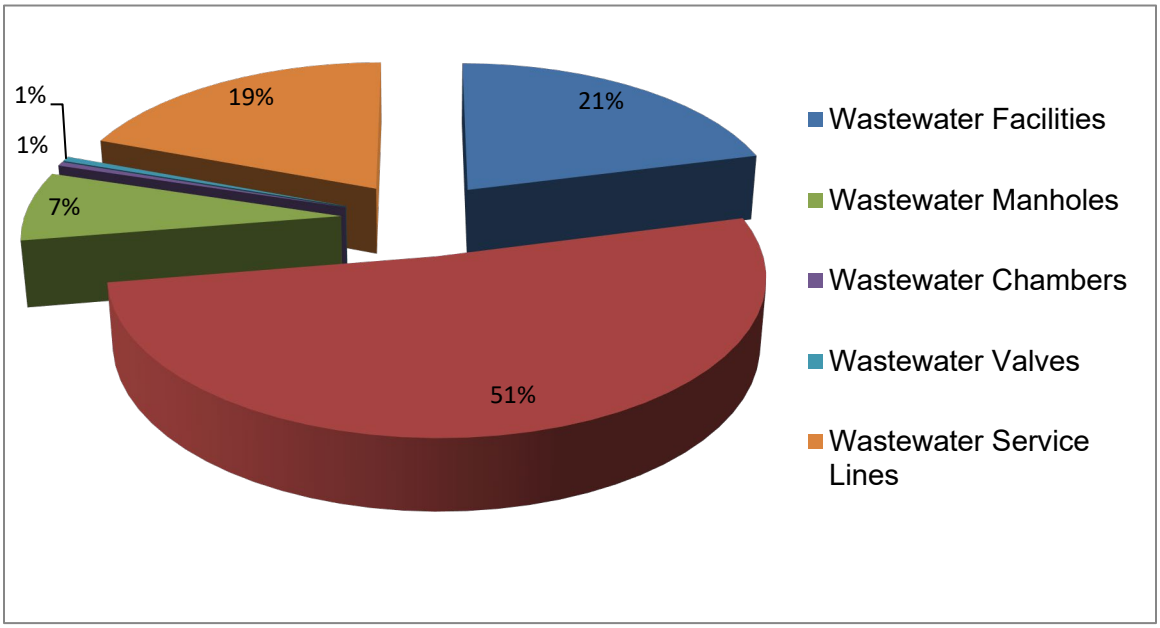



**Figure 2.4: County Ratepayers Supported Wastewater Assets Replacement Costs (2023)**




The capital asset inventory was organized in a Microsoft Excel spreadsheet and delivered to the County in digital form as working documents for County staff to continue to use and update as required. Each of the asset types were assessed for their age, condition (where available) and for data accuracy and completeness.

Table 2.1 shows the County's financial accounting valuation summary by asset type for all tax supported assets. Since 2009, municipalities across Canada have been required under the Public Sector Accounting Board Handbook Section 3150 (PSAB 3150) to maintain asset listings complete with historical cost (i.e., the original cost to purchase or construct an asset), accumulated amortization and net book value. These values were to be reported on the County's audited financial statements each year. Burnside has done the additional work of developing the 2023 cost for assets that were not part of the County's Financial asset inventory and added them to the County's asset inventory. If the County chooses to use the asset inventory developed in this project to report the PSAB 3150 values, the data / information is found in the delivered spreadsheets to County Staff.

Including all the County's assets studied in this project, the total tangible capital asset historical cost is approximately $633 million or close to 25.0% of the total replacement cost. It is expected that historical cost totals are less than replacement cost totals, given inflationary adjustments that would occur between the original asset purchase / construction date and 2023. Total accumulated amortization for the County's assets is approximately $184 million or 29% of the total asset historical cost. This represents the proportion of tangible capital assets that have been amortized (i.e., used up) to date from a financial valuation perspective. This also leads one to understand that the County's core assets are mostly in the first one-third of their lifecycle.

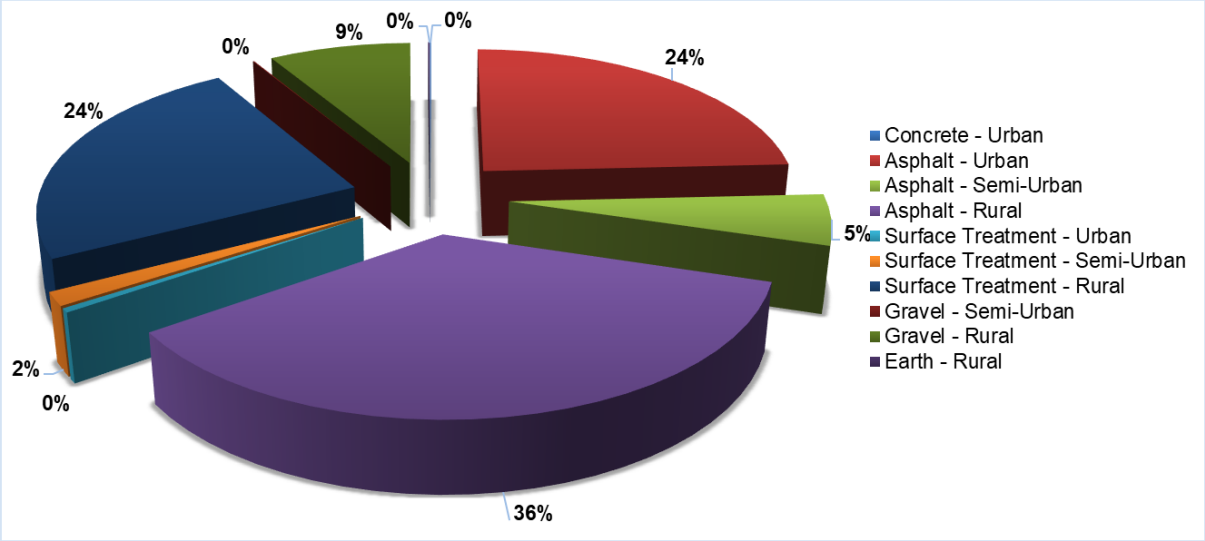
Clearly the of the County's greatest replacement cost value of owned tax supported assets are roads (62%) followed by Bridges and Culverts (17.2%) and Storm Water (10.4%). These three asset classes are very important to the County's function.

The County's Road assets make up a key service that reflects the economic and social development of the community. The road environment or assets found within the road right-of-way make up 91% of the tax supported assets studied in this project. The following asset types are the assets studied in this project:

- Roads – 62% of the total County's asset replacement costs.
- Bridges and Culverts – 17.2% of the total County's asset replacement costs.
- Bridges and Trails – 0.3% of the total County's asset replacement costs.
- Other Roadway Assets – 1.3% of the total County's asset replacement costs
- Storm Water – 10.4% of the total County's asset replacement costs
- Facilities – 5.6% of the County's asset replacement costs.
- Parks – 0.9% of the County's asset replacement costs.
- Vehicles – 1.6% of the County's asset replacement costs
- Solid Waste Sites – 0.2% of the County's asset replacement costs
- Emergency Equipment – 0.2% of the County's asset replacement costs
- IT and Solar Equipment – 0.2% of the County's asset replacement costs

Figure 2.5 outlines the replacement cost distribution of Road Assets.

**Figure 2.5: Road Environment Asset Distribution Replacement Costs (2023)**




Below we provide more detail on the asset groups in the Road group of assets.

### 2.3.1 Roads

At the current replacement cost the road assets account for approximately $1,285 million dollars or approximately 50% of the assets studied in this project. The composition of the road surfaces is outlined in Table 2.5.

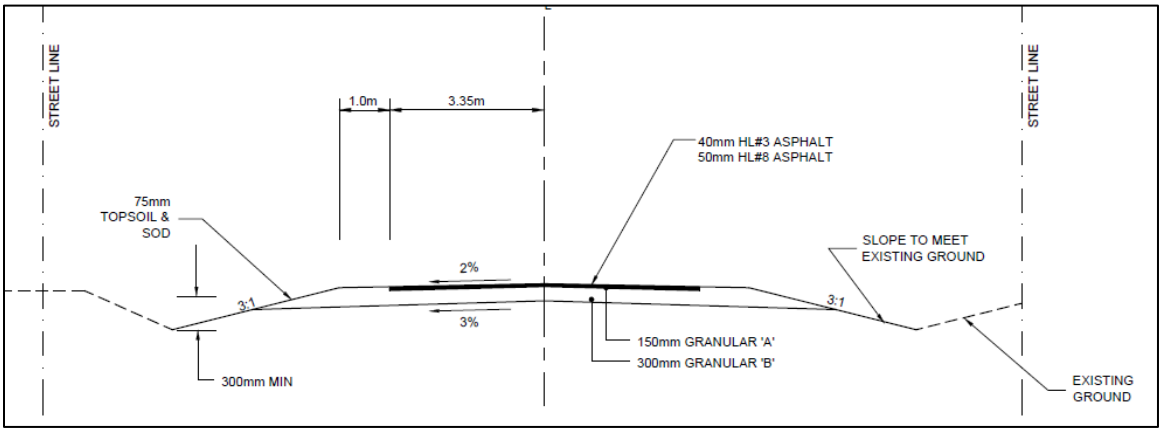
**Table 2.5: Road Tax Supported Asset Summary**

| Road Surface Type | Length (km) | Replacement Cost | Road Useful Life (4Roads Report) | Road Age (weighted average) | Road Remaining Life (weighted average) | Surface Useful Life (4Roads Report) | Condition (weighted average) | Risk (weighted average) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Text |
| Concrete - Urban | 0.32 | $759,619 | 75 | 43 | 32.0 | 19 | Very Good | Low |
| Asphalt - Urban | 122.84 | $310,536,836 | 75 | 25 | 50.2 | 17 | Good | Moderate |
| Asphalt - Semi-Urban | 72.31 | $69,992,990 | 75 | 25 | 50.2 | 17 | Good | Low |
| Asphalt - Rural | 347.29 | $458,693,615 | 75 | 24 | 50.6 | 16 | Good | Low |
| Surface Treatment - Urban | 2.33 | $5,772,128 | 50 | 36 | 15.5 | 7 | Very Good | Low |
| Surface Treatment - Semi-Urban | 24.12 | $18,834,595 | 50 | 41 | 14.4 | 7 | Good | Moderate |
| Surface Treatment - Rural | 368.44 | $309,329,265 | 50 | 37 | 17.7 | 7 | Good | Low |
| Gravel - Semi-Urban | 1.91 | $911,962 | 100 | 40 | 59.8 | 3 | Good | Low |
| Gravel - Rural | 181.20 | $109,112,795 | 100 | 44 | 56.5 | 3 | Good | Low |
| Earth - Rural | 2.04 | $1,294,339 | 100 | 41 | 59.0 | 100 | Very Poor | High |
| **Total** | **1,123** | **$1,285,238,143** | | | | | | |

The County completes Road Needs Studies every two years and gets minor updates annually which is an excellent practice and assists the County in prioritizing both capital and operational maintenance programs. The next Road Needs Study will be completed in 2024; therefore, the results from the 2022/2023 study are being projected out to assist in road work recommendations for development of an asset strategy for this project.

Key to all roads is the road base on which they are built. These road bases in most cases were established many years ago. Hard top (asphalt, and surface treated) road surface roads provide the longest life cycle with the best level of service when constructed on excellent road bases. Once the road base becomes soft, it cannot economically support a hardtop road surface and it is best to convert it to a gravel road until funding is made available and the base has been reinforced. Figure 2.6 provides a typical road cross-section diagram. This can be applied for all surface types as asphalt (shown in Figure), and without asphalt for surface treatment or gravel road surfaces.

**Figure 2.6: Typical Asphalt Road Surface Cross-Section**




The County's gravel surface roads are upgraded approximately every three years or as required with surface gravel replacement / top-up. In some locations additional gravel is at times required to help reinforce the gravel road base.

The 2024 Road Needs Study report will provide updates and explanations of the County's Road conditions and related deficiencies that impact longevity or operations of the roads, including road widths, drainage, surface type, alignment, and brushing maintenance where required. The road conditions from the 2023 updated road study were incorporated into this asset management plan. It is important to note that only current assumed roads were studied and listed in the asset inventory.

### 2.3.2 Bridges and Culverts

The County Operations and Administration is responsible for 156 bridges and culverts structures over the span of 3.0 m. The County Trails and Parks are responsible for 19 structures which are mostly small pedestrian structures found in the County's parks or along County trails. Both groups of structures were inspected in 2021. The

inspection reports were reviewed, and information used in this asset management analysis. The County has a dam in Paris that is expected to never be replaced. There were no details identified about this dam.

Visual inspections are required to be carried out every two years in accordance with the Ministry of Transportation – Ontario Structure Inspection Manual (OSIM). The inspections are to be completed under the direction of a professional engineer to assess their condition and identify any material defects, performance deficiencies, maintenance needs, additional studies and / or repairs / rehabilitation work required on a structure-by-structure basis.

The County has a total of $357 million replacement cost of bridge and culvert assets. Table 2.6 and Table 2.7 provide the distribution of the types of bridges that the County owns.

**Table 2.6: Public Works Structure Types**

| Bridge and Culvert Type | Number | Replacement Cost |
|---|---|---|
| Bowstring Arch | 1 | $1,853,000 |
| Box Beams or Girders | 8 | $10,275,000 |
| Circular Voided Slab | 2 | $3,338,000 |
| I-beam or Girders | 37 | $78,562,000 |
| Precast Concrete Box Girder | 1 | $2,543,000 |
| Rectangular Culvert | 1 | $770,000 |
| Rigid Frame, Vertical Legs | 19 | $52,197,000 |
| Solid Slab | 2 | $4,245,000 |
| Spandrel Arch | 2 | $2,403,000 |
| T-Beam | 5 | $8,367,000 |
| Arch Culvert | 9 | $17,275,000 |
| CSP | 2 | $1,895,000 |
| Earth filled arch | 1 | $1,623,000 |
| Ellipse Culvert | 2 | $4,475,000 |
| Frame, Inclined Legs | 1 | $3,100,000 |
| Rectangular Culvert | 36 | $86,275,000 |
| Rigid Frame, Vertical Legs | 17 | $43,736,000 |
| Round Culvert | 6 | $16,814,000 |
| Solid Slab | 1 | $11,540,000 |
| T-Beam | 1 | $645,000 |
| Twin CSP | 2 | $5,020,000 |
| **Total** | **156** | **$356,951,000** |

**Table 2.7: Trails and Parks Structure Types**

| Bridge and Culvert Type | Number | Replacement Cost |
|---|---|---|
| Rigid Frame, Vertical Legs | 1 | $563,000 |
| Pedestrian Bridge (Timber Deck) | 9 | $4,510,100 |
| Cast-In-Place Conc. Rigid Frame | 2 | $1,123,000 |
| Steel I-Girder (Timber Deck) | 1 | $142,000 |
| Timber Girder | 6 | $765,000 |
| **Total** | **19** | **$7,103,100** |

Load postings may be recommended for structures based on age, condition, noted performance deficiencies, or based on the findings of a structural evaluation. There are currently three structures in the County's inventory that have load postings. See Table 2.8 for Load Posting details.

**Table 2.8: County Bridge Load Limit Postings**

| Asset ID | Bridge Asset Name | Structure Type | Load Posting (tonnes) |
|---|---|---|---|
| PWD14693 / 1-0129-00 | Brant Mill Bridge | T-Beam | Closed |
| 1-FTBR-01 | Lion's Park At Mechanic Street | Pedestrian Bridge (Timber Deck) | 3.1 |
| 1-FTBR-02 | Paris Trail Near Lion's Park | Pedestrian Bridge (Timber Deck) | 5.9 |

The County's structure inspection reports had bridge condition index (BCI) values calculated for the bridges. Burnside reviewed these calculations and believe that the County's consultant did not account for the transition of some individual elements of structures. This results in a higher-than-expected BCI. Burnside recalculated the BCI values and provided this to County staff in the working spreadsheets. For example, each element of a structure is assigned an environment (severe, moderate, and benign) based on the level of exposure. The environment identified for the element has an impact on the condition transition.

It is recommended that the County have the engineers completing the bridge and culvert inspections use the most up to date Ministry of Transportation inspection forms and calculate appropriate BCI values for each structure.

The capital works needs include any repair, rehabilitation, or replacement work which would typically be completed by the County's hired contractor, to assist in extending the service life of a structure and increasing the Bridge Condition Index (BCI). In accordance with the OSIM reports, the capital and maintenance works required are

based on a priority of six to ten years, one to five years, and urgent now needs have been estimated and incorporated into the asset management strategy.

Based on the biennial inspection of each structure, the estimated Structure Condition Index Distribution graphs, shown in Figure 2.7 and Figure 2.8, provide a summary of the current state of the County's structures.

**Figure 2.7: Estimated Public Works Structure Condition Distribution**

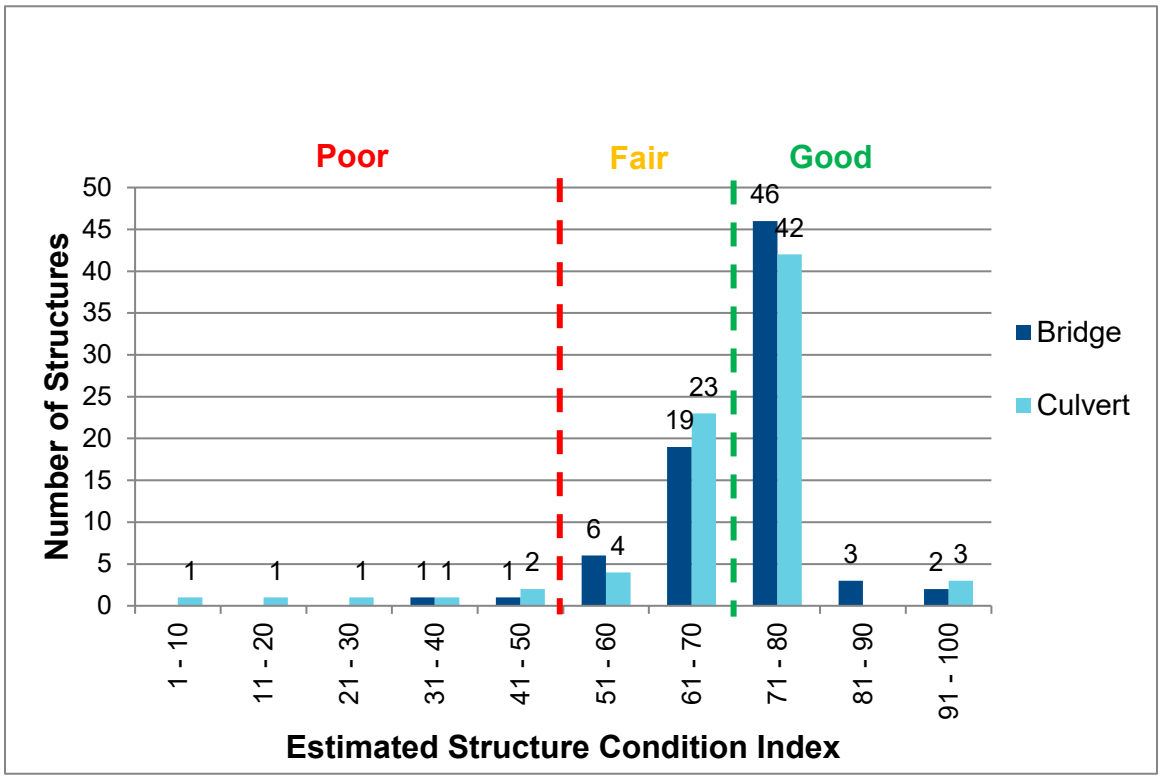
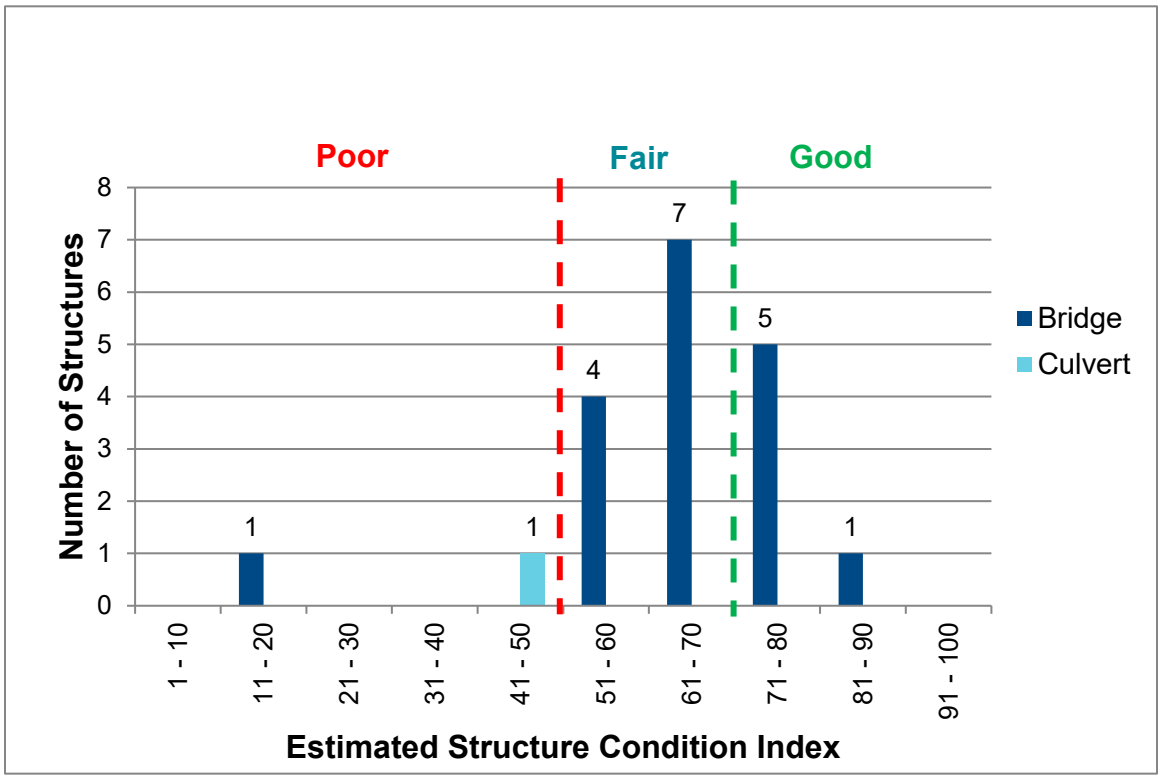


**Figure 2.8: Estimated Trails and Parks Structure Condition Distribution**




Currently, the County's structures weighted average based on replacement cost and Burnside calculated Bridge Condition Index are good (72) and for the Trails and Parks structures are fair (64), as illustrated in Table 2.7, Figure 2.7, and Figure 2.8 above. Of interest, the Ministry of Transportation Ontario (MTO) has established a goal to have 85% of their structures in "Good" condition by the year 2021, and to maintain that condition moving forward by addressing rehabilitations and replacements as necessary. Burnside recognizes that the above goal was not established by the County. It should be noted that based on the current state of the inspected structures and Burnside recalculated BCIs the County has some serious investment needs in their structures, as only 62% fall into the good or very good categories.

Continued maintenance and completion of rehabilitative or replacement works as recommended in the 2021 OSIM Bridge Inspection Reports will help to move the structure BCI conditions in an upward direction.

## 2.4 Roadway Assets

Roadway assets are identified as County assets that fall within the road right-of-way or related asset types were found to have a weighted average condition of Average. The following are the asset types included in this $26 million asset grouping:

- Sidewalks
- Guiderails
- Streetlights
- Signs

Retaining Walls and FencesTable 2.9 provides information for each one of the roadway asset types. The County was not able to provide construction year for the sidewalk assets; therefore, only the replacement cost is provided. Based on a sidewalk 50-year life an approximate $200,000/yr was identified as required for sidewalk sustainability.

The County has started a guiderail inspection program in 2023. It was too soon to receive any condition information from this program for this report. It is expected that once the inspections are completed, a multi-year project will be developed to address the guiderail deficiencies.

The County uses the Transportation Association of Canada guide for roadway lighting design to ensure appropriate street lighting is implemented across the County.

County signs are inspected annually for sign retro-reflectivity and maintained as per Minimum Maintenance Standards.

The County is currently inventorying their retaining walls that are 1.0 m in height or higher and will be added to the OSIM process in 2026. Only current retaining walls with information have been included in this report.

**Table 2.9: Roadway Assets**

| Roadway Assets | Length (km) | 2021 Closing Cost | 2021 Closing Amortization | 2021 Net Book Value | 2023 Replacement Cost | Age (Weighted Average) | Remaining Life (Weighted Average) | Useful Life | Condition (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Text |
| Sidewalks | 116.79 | N/A | N/A | N/A | $9,808,501 | N/A | N/A | 50 | N/A | N/A |
| Guiderails | N/A | $3,233,839 | $693,132 | $2,540,707 | $4,450,060 | 9 | 21 | 30 | 7.0 | Moderate |
| Lights | N/A | $5,199,321 | $2,303,212 | $2,896,110 | $7,365,373 | 11 | 9 | 20 | 5.0 | Moderate |
| Signs | N/A | $2,811,073 | $780,478 | $1,888,007 | $3,690,358 | 5 | 4 | 9 | 6.0 | Moderate |
| Retaining Walls | N/A | $475,146 | $132,396 | $342,750 | $670,150 | 11 | 25 | 37 | 7.0 | Moderate |
| **Total** | | **$11,719,380** | **$3,909,218** | **$7,667,574** | **$25,984,441** | **9.0** | **12.0** | **21.0** | **6.0** | Moderate |

## 2.5 Storm Water Assets

The County has $214.9 million of storm water assets. The majority of the storm water asset value is made up with storm water mains total replacement cost approximately $95.3 million of the County's tax supported assets. Table 2.10 and Table 2.11 show the distribution of the County's storm water assets. More detailed listing of the storm water assets was provided to County staff with the working spreadsheet of asset inventory. In general, the storm water assets are in Good condition and have a weighted average long remaining lifecycle of 70 years, with low risk of failure.

**Figure 2.9: Storm Water Assets Replacement Cost Distribution (2023)**

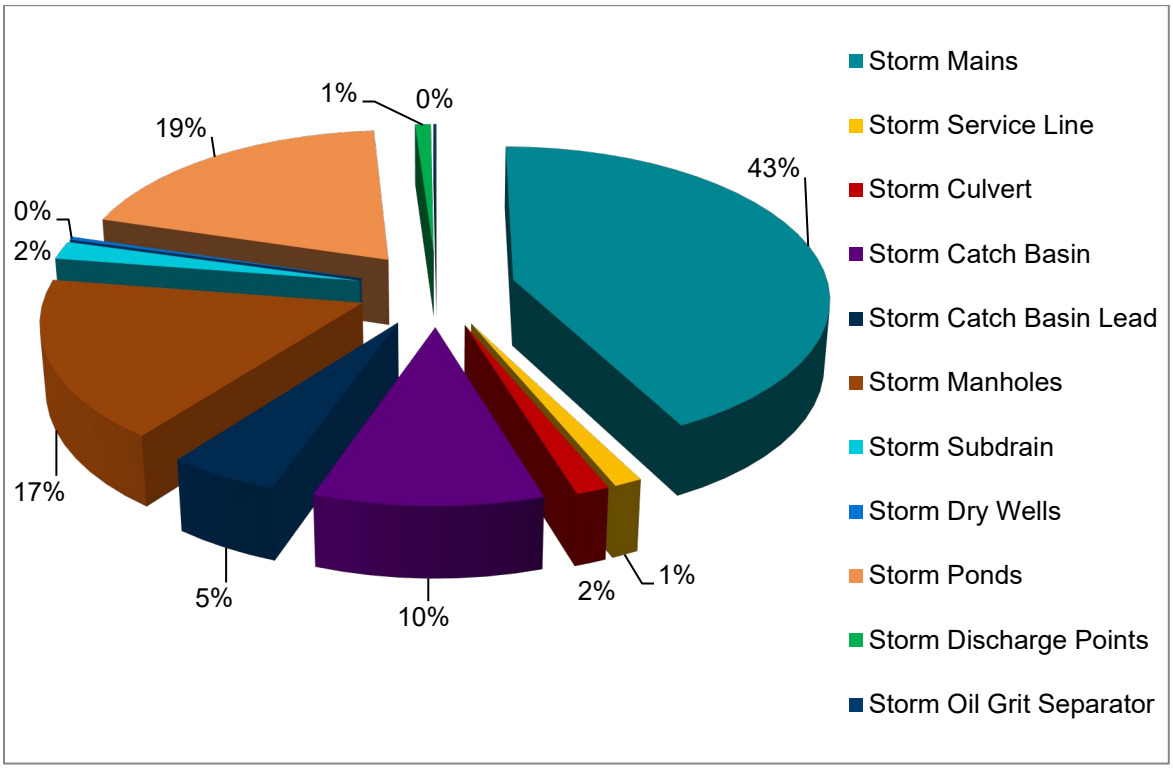


**Table 2.10: Storm Water Assets**

| Storm Water Assets | Length (m) / Number | Replacement Cost | Condition (Weighted Average) | Condition (Weighted Average) | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|
| | | | | Text | | | Text | Text |
| Storm Mains | 14645 | $95,274,161 | 7.5 | Good | 97.4 | 23.8 | 73.7 | Moderate |
| Storm Service Line | 9846 | $2,989,772 | 8.0 | Good | 100.0 | 21.4 | 78.6 | Low |
| Storm Culvert | 5201 | $2,926,823 | 5.0 | Average | 52.4 | 26.8 | 26.7 | Moderate |
| Storm Catch Basin | 3,563 | $22,297,500 | 6.5 | Good | 80.0 | 28.7 | 51.3 | Moderate |
| Storm Catch Basin Lead | 25759 | $11,776,888 | 7.6 | Good | 98.8 | 24.4 | 74.5 | Low |
| Storm Manholes | 2,067 | $37,963,500 | 7.4 | Good | 100.0 | 26.8 | 73.2 | Low |
| Storm Subdrain | 11501 | $3,741,385 | 6.5 | Good | 100.0 | 38.8 | 64.7 | Low |
| Storm Dry Wells | 125 | $625,000 | 7.8 | Good | 94.0 | 25.1 | 70.1 | Low |
| Storm Ponds | 36 | $35,051,846 | 8.0 | Good | 100.0 | 26.0 | 74.0 | |
| Storm Discharge Points | 324 | $1,927,330 | 6.5 | Good | 81.3 | 22.6 | 57.2 | Moderate |
| Storm Oil Grit Separator | 8 | $320,000 | 9.3 | Very Good | 80.0 | 9.6 | 72.4 | Low |
| **Total** | **13,390 / 1,021** | **$214,894,204** | **7.4** | **Good** | **95.8** | **25.5** | **70.5** | Low |

**Table 2.11: Storm Water Mains Assets**

| Storm Main Assets | Status | Length (m) | Replacement Cost | Useful Life | Age (Weighted Average) | Remaining Life (Weighted Average) | Condition (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|
| **Material** | | | | | | | **Text** | **Text** |
| | Abandoned | 562.64 | | | | | | |
| **Asbestos Concrete** | Constructed | 83.68 | $37,783 | 100 | 48 | 52 | Average | Low |
| **Cast Iron Pipe** | Constructed | 1,248.42 | $711,672 | 50 | 55 | 2 | Very Poor | Low |
| **Clay** | Constructed | 398.83 | $181,625 | 50 | 48 | 12 | Poor | Low |
| **Concrete** | Constructed | 76,481.21 | $52,732,727 | 100 | 34 | 66 | Good | Moderate |
| **Corrugated Steel Pipe** | Constructed | 3,641.81 | $2,551,740 | 50 | 31 | 18 | Poor | Moderate |
| **High Density Polyethylene** | Constructed | 385.98 | $195,587 | 100 | 11 | 89 | Very Good | Low |
| **Perforated Corrugated Steel Pipe** | Constructed | 347.66 | $161,662 | 50 | 26 | 24 | Average | Low |
| **Plastic** | Constructed | 1,844.54 | $808,314 | 100 | 32 | 66 | Good | Low |
| **Polyethylene** | Constructed | 392.77 | $206,946 | 100 | 34 | 66 | Good | Moderate |
| **PVC** | Constructed | 33,156.92 | $16,497,778 | 100 | 12 | 88 | Very Good | Low |
| **Reinforced Concrete** | Constructed | 1,706.48 | $2,281,507 | 100 | 16 | 84 | Good | Moderate |
| **Steel** | Constructed | 1,382.68 | $787,735 | 50 | 38 | 12 | Poor | Moderate |
| **Total** | | **121,070.98** | **$77,155,077** | | | | | |

Table 2.11 provides Storm Water Mains as an example of the type of detail being provided to County staff in the asset inventory spreadsheet (please note that this table does not include Unassumed Storm Mains). Knowing the attributes as pipe material type and length will provide insight to County staff to prioritize CCTV inspections of these older pipes and develop a Capital replacement plan.

It is also important to note that Burnside was provided limited Storm Pond attribute information and had to make many assumptions based on the data provided. It is recommended that the County review the calculations for Replacement Costs of County Storm Ponds moving forward.

The County has started a new program to locate and inspect all County crossroad culverts. The current value of this asset type is expected to be included as part of the Road asset value; however, crossroad culverts become critical during extreme weather events. This newly budgeted project will provide key information to County engineers to ensure water is appropriately moving and not building up in areas which can harm other municipal or private assets.

Another positive action that the County is taking is looking into a Storm Water Utility model for urban storm sewers. This way, this very important asset type will have its own funding source for capital improvements and maintenance, like the water and wastewater systems.

### 2.5.1 County Municipal Drains

Municipal drainage infrastructure provides an important outlet to agricultural lands and rural settlements. The successful growth of crops depends on a suitable soil environment for germination, root anchorage, and plant growth. Lands that are subject to excess soil moisture and overland flooding require adequate outfalls for private drainage systems to achieve a successful standard of agriculture. Approximately 200 $km^2$+ of property in the County is affected by one or more Municipal Drainage watersheds. There are approximately 276 km of municipal drains constructed under the *Drainage Act* and 48 km of privately managed drains (Mutual Agreement or Requisition / Award). The County has completed approximately 49 km of drain cleanouts since fall 2021. There are approximately 45 km of municipal drains scheduled to be cleaned out between July 2024 and March 2025.

In January 2021, the County took a proactive approach to municipal drain maintenance from reactive. A proactive approach to drainage includes a schedule for future maintenance of the County's drains, including proposed years to complete cleanouts and brushing, frequency of recurring maintenance, and a recommended preventative inspection rotation. This proactive approach is believed to be an excellent example to other Municipalities.

Maintaining and repairing municipal drainage infrastructure is paid for proportionately by the landowners where the municipal drain flows. The County only pays for the proportion of where these municipal drains cross County land.

Currently, the County has 13 drainage reports in various stages of design:

- Two in Section 4 Petition Reports – which will create new drainage systems.
- Three in Section 76 Assessment Schedule Reports.
- Six in Section 78 Improvement Reports.
- Two in a combination of Section 4 and Section 78 Reports.

The Section 78 Improvement Reports will replace existing systems that no longer provide sufficient outlet.

More information related to Municipal drains are recommended to be added to future asset management plans.

## 2.6 Facility Assets

County facility assets total $117 million in replacement costs or 5.6% of the County's tax-based asset inventory. Table 2.12 through Table 2.16 expand on the County Facility asset values. Based on weighted average, the condition of these facility assets is good with moderate risk of failure.

Some facilities have very limited asset information with respect to the building structure and asset components. It is recommended that the County undertake a complete Facility Assessment project to ensure that all components of each building are listed within these categories:

- Substructure
- Structure
- Exterior Enclosure
- Interior
- Equipment
- Mechanical
- Electrical
- Site Works
  - Above-ground
  - Below-ground

This will ensure that a better understanding of future maintenance and component costs are identified. There is concern that the County's Long-term Financial Strategy will underestimate the true financial needs of some of the County facilities due to the current lack of information.

It needs to be noted that the County has generators at their fire halls and Burford Administration Office, as well as many portable units. The County is in the process of obtaining quotes to have connections installed for some of their facilities. Larger County community centres should have dedicated generators in case of an emergency.

The County identified Harley Hall and Glen Morris Centennial Hall as older facilities that will not be renovated for accessibility; however, other buildings are either completed or scheduled for the upgrade in the next few years. Currently, there is a Federal program called “Enabling Accessibility Fund – Small Projects Component” which the County is actively pursuing for up to $125,000 for a project that is up to two years in duration.

Public Works yards are expensive facilities and have been identified as buildings that will have an approximate $4,000,000 replacement cost. This value was identified by County staff and incorporated in the replacement costs of these facilities.

**Table 2.12: Administration Facilities**

| Administration Facilities | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Burford Admin Office | $2,766,300 | $1,167,674 | $1,598,626 | $4,135,097 | 5.0 | Average | 36 | 16 | 22 | High |
| Burford Records Building | $68,045 | $28,855 | $39,190 | $395,880 | 8.0 | Good | 63 | 10 | 53 | Low |
| Paris Admin Office | $1,323,879 | $550,001 | $773,878 | $2,057,917 | 6.0 | Average | 41 | 18 | 24 | Moderate |
| Russel Heights Seniors Complex | $997,192 | $21,458 | $975,734 | $1,270,784 | 9.0 | Very Good | 26 | 3 | 23 | Moderate |
| Cemeteries | $654,077 | $219,122 | $407,265 | $940,858 | 5.0 | Average | 45 | 15 | 31 | Moderate |
| **Total** | **$4,158,223** | **$1,746,529** | **$2,411,694** | **$6,588,893** | **5.0** | **Average** | **39** | **16** | **24** | **High** |

**Table 2.13: Works Yard Facilities**

| Works Yard Facilities | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Paris Transfer Station | $943,148 | $19,351 | $923,797 | $1,201,913 | 9.0 | Very Good | 36 | 3 | 33 | Low |
| Mt. Pleasant Yard | $631,712 | $375,211 | $256,501 | $4,695,786 | 4.0 | Poor | 47 | 40 | 7 | High |
| Mt Vernon Yard | $491,558 | $346,216 | $145,342 | $4,557,169 | 4.0 | Poor | 46 | 51 | 1 | High |
| Paris Yard | $654,127 | $445,162 | $208,966 | $4,882,663 | 4.0 | Poor | 47 | 28 | 19 | High |
| South Dumfries Yard | $432,039 | $258,512 | $173,527 | $3,921,288 | 4.0 | Poor | 47 | 32 | 16 | High |
| **Total** | **$3,152,585** | **$1,444,451** | **$1,708,133** | **$19,258,820** | **4.0** | **Poor** | **46** | **36** | **12** | **High** |

**Table 2.14: Emergency Services Facilities**

| Emergency Services Facilities | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (weighted average) | | Useful Life (weighted average) | Age (weighted average) | Remaining Life (weighted average) | Risk (weighted average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| #1 Paris Fire Station | $1,898,636 | $659,447 | $1,239,189 | $2,855,308 | 6.0 | Average | 42 | 16 | 26 | High |
| #2 Airport Fire Station | $120,665 | $69,139 | $51,525 | $184,659 | 4.0 | Poor | 26 | 25 | 4 | High |
| #3 Burford Fire Station | $485,674 | $308,858 | $176,816 | $789,791 | 4.0 | Poor | 39 | 27 | 13 | High |
| #4 Cainsville Fire Station | $2,391,601 | $33,136 | $2,358,465 | $2,890,629 | 10.0 | Very Good | 43 | 2 | 41 | Low |
| #5 Mt. Pleasant Fire Station | $1,139,924 | $309,245 | $830,679 | $1,606,120 | 7.0 | Good | 38 | 11 | 27 | Moderate |
| #6 Onondaga Fire Station | $2,937,637 | $87,948 | $2,849,689 | $3,590,640 | 9.0 | Very Good | 44 | 3 | 41 | Moderate |
| #7 St. George Fire Station | $684,007 | $354,771 | $329,236 | $1,099,946 | 5.0 | Average | 40 | 23 | 18 | High |
| #8 Scotland Fire Station | $2,493,404 | $20,934 | $2,472,470 | $3,014,677 | 10.0 | Very Good | 44 | 2 | 42 | Moderate |
| Henry St. Ambulance Station | $425,630 | $65,318 | $360,312 | $534,943 | 6.0 | Average | 9 | 4 | 5 | Moderate |
| Bethel Road OPP Station | $10,368,361 | $150,655 | $10,217,706 | $13,213,055 | 9.0 | Very Good | 43 | 3 | 40 | Moderate |
| **Total** | **$22,945,539** | **$2,059,452** | **$20,886,088** | **$29,779,768** | **8.0** | **Good** | **42** | **6** | **36** | **Moderate** |

**Table 2.15: Community Centre Facilities**

| Community Centre Facilities | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Airport Community Centre | $213,518 | $128,912 | $84,606 | $336,331 | 5.0 | Average | 32 | 26 | 5 | Moderate |
| Brant Sports Complex | $21,058,588 | $5,444,457 | $15,614,131 | $29,865,138 | 7.0 | Good | 42 | 12 | 30 | Moderate |
| Burford Arena and Community Centre | $5,873,414 | $2,108,492 | $3,764,922 | $8,627,256 | 6.0 | Average | 38 | 17 | 21 | Moderate |
| Cainsville Community Centre | $145,425 | $106,577 | $38,848 | $245,233 | 4.0 | Poor | 38 | 35 | 3 | High |
| Cobblestone Commons | $417,863 | $73,257 | $344,606 | $603,136 | 8.0 | Good | 54 | 13 | 41 | Low |
| Glen Morris Centennial Hall | $136,163 | $83,787 | $52,376 | $231,473 | 4.0 | Poor | 47 | 34 | 14 | High |
| Green Lane Sports Complex | $1,210,438 | $454,410 | $756,029 | $1,753,351 | 6.0 | Average | 31 | 14 | 17 | Moderate |
| Mt. Pleasant Community Centre | $227,736 | $149,735 | $78,001 | $370,729 | 4.0 | Poor | 39 | 27 | 11 | High |

| Community Centre Facilities | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| Oakland Centre and Office | $193,457 | $113,732 | $79,726 | $313,586 | 5.0 | Average | 36 | 34 | 8 | Moderate |
| Pinegrove Howell Com Centre | $57,582 | $10,483 | $47,099 | $79,275 | 7.0 | Good | 35 | 14 | 26 | Low |
| Paris Bawcutt Centre | $685,228 | $62,574 | $622,655 | $936,479 | 9.0 | Very Good | 49 | 7 | 42 | Low |
| Scotland Community Centre | $1,886,282 | $250,490 | $1,635,793 | $2,564,658 | 8.0 | Good | 35 | 7 | 29 | Moderate |
| South Dumfries Arena and Comm | $5,101,344 | $1,703,603 | $3,397,741 | $7,455,481 | 6.0 | Average | 40 | 15 | 25 | Moderate |
| Syl Apps Arena and Comm Centre | $1,202,942 | $730,204 | $472,738 | $1,862,869 | 3.0 | Poor | 29 | 24 | 9 | High |
| **Total** | **$38,409,980** | **$11,420,711** | **$26,989,269** | **$55,244,996** | **7.0** | **Good** | **40.0** | **14.0** | **26.0** | **Moderate** |

**Table 2.16: Library Facilities**

| Library Facilities | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Burford Public Library | $1,027,762 | $366,287 | $661,475 | $1,504,757 | 6.0 | Average | 42 | 15 | 28 | Moderate |
| Glen Morris Public Library | $40,046 | $24,799 | $15,247 | $53,457 | 4.0 | Poor | 5 | 6 | 0 | High |
| Oakland Scotland Library | $448,169 | $189,018 | $259,151 | $670,740 | 5.0 | Average | 39 | 15 | 23 | Moderate |
| Paris Public Library | $1,944,136 | $998,506 | $945,631 | $3,066,155 | 4.0 | Poor | 39 | 25 | 15 | High |
| St. George Public Library | $588,309 | $282,604 | $305,705 | $921,005 | 5.0 | Average | 39 | 20 | 19 | High |
| **Total** | **$4,048,423** | **$1,861,214** | **$2,187,209** | **$6,216,114** | **5.0** | **Average** | **39** | **21** | **19** | **High** |

## 2.7 Parks

The County Parks amount to approximately $19 million replacement or 1% of the total replacement cost of County assets, not including land costs. The weighted average of all the Parks identified assets is Good.

Table 2.17 provides a summary of the Parks asset data. Please note that “Parks and Paths” category is a grouping of parks information that did not have sufficient data to be separated out as an individual park location.

**Table 2.17: Parks Summary**

| Parks | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Parks and Rec Service Office | $435,635 | $109,746 | $325,889 | $613,149 | 7.0 | Good | 44 | 11 | 33 | Low |
| Parks and Paths | $7,575,479 | $1,543,725 | $5,889,869 | $10,298,127 | 7.0 | Good | 36 | 9 | 25 | Moderate |
| Mt. Pleasant Community Park | $145,290 | $45,802 | $99,488 | $200,391 | 6.0 | Average | 25 | 10 | 15 | Moderate |
| Mt. Pleasant Nature Fish Park | $179,445 | $45,962 | $133,483 | $257,001 | 7.0 | Good | 41 | 12 | 28 | Moderate |
| Paris Lions Park | $5,368,512 | $1,100,395 | $4,268,117 | $7,465,530 | 7.0 | Good | 39 | 10 | 30 | Moderate |
| Optimist Park | $81,376 | $41,333 | $40,043 | $119,333 | 5.0 | Average | 21 | 18 | 7 | Moderate |
| **Total** | **$13,785,736** | **$2,886,962** | **$10,756,889** | **$18,953,532** | **7.0** | **Good** | **37** | **10** | **27** | **Moderate** |

## 2.8 Emergency Equipment

The Emergency Equipment category is made up of both Ambulance and Fire equipment that was not identified as hosted in one of their facilities. We believe this equipment is very important and needs to be identified. The total replacement cost for this asset grouping is $4.8 million or 0.2% with respect to the total of tax-based County assets. There is a concern that the weighted average condition of this asset grouping is Poor and remaining life expectancy of 5 years. This leads us to believe that the County will need to be investing in replacing these assets over the next 5 years. We suggest that the Count review this equipment and develop a replacement schedule to ensure that these critical departments do not experience any equipment failures.

County staff have indicated that the Ambulance equipment is old but has been well maintained. We have not received any additional information with respect to a replacement schedule for these assets so we can only provide analysis based on the information received.

Table 2.18 provides a summary of the Emergency Equipment grouping of assets.

**Table 2.18: Emergency Equipment Summary**

| Emergency Equipment | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Ambulance Equipment | $994,488 | $536,608 | $457,880 | $1,336,158 | 2.0 | Very Poor | 7 | 6 | 2 | High |
| Fire Equipment | $2,604,141 | $805,522 | $1,798,619 | $3,459,664 | 5.0 | Average | 12 | 6 | 6 | Moderate |
| **Total** | **$3,598,629** | **$1,342,130** | **$2,256,499** | **$4,795,821** | **4.0** | **Poor** | **11** | **6** | **5** | **Moderate** |

## 2.9 Information Technology and Solar Equipment

Information Technology (IT) has become a major requirement for municipal operations. This equipment is a requirement for County staff to do their job that serves the public. Proper maintenance of these assets is becoming more and more expensive.

The County IT equipment based on the information provided has a replacement value of $3.2 million with a weighted average poor condition. As many IT assets have a short lifecycle three to five years, the “Poor” condition assessment may be due to older information being provided for this project. It may also be that the identified useful life of these assets needs to be extended. It is recommended that the IT asset data be updated to ensure appropriate up to date equipment is being used.

The County has taken a progressive step for helping the environment by investing in solar panels which have mostly been placed on facility roof tops. This action truly provides leadership action to the community. The replacement cost of these solar panels is estimated at $1.7 million, with a weighted average good condition.

Table 2.19 provides a summary of the IT and solar panel equipment.

**Table 2.19: Information Technology and Solar Panel Equipment**

| IT and Solar Equipment | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| IT Equipment | $2,310,158 | $1,808,379 | $501,778 | $3,188,501 | 4.0 | Poor | 6 | 9 | 1 | Moderate |
| Solar Arrays | $1,285,703 | $237,372 | $1,048,331 | $1,722,125 | 7.0 | Good | 20 | 6 | 14 | Moderate |
| **Total** | **$3,595,861** | **$2,045,752** | **$1,550,109** | **$4,910,626** | **5.0** | **Average** | **11** | **8** | **6** | **Moderate** |

## 2.10 Vehicles

The County has a variety of vehicles that are used by many departments. The total replacement cost of vehicles is $33.8 million with a weighted average of Average condition.

The Public Works fleet of vehicles has been identified with a weighted average remaining life of 3 years which can become very expensive for the County. It is recommended that this department review their fleet vehicles and develop a 10-year replacement plan to ensure that roads are well maintained.

Table 2.20 provides a summary of vehicles information by department.

**Table 2.20: County Vehicles Summary**

| Vehicles | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Ambulance | $2,495,739 | $1,231,516 | $1,264,222 | $3,329,032 | 4.6 | Average | 7 | 6 | 2 | High |
| Administration | $97,423 | $41,092 | $56,332 | $130,276 | 4.0 | Poor | 8 | 6 | 2 | High |
| Building | $284,240 | $116,652 | $167,588 | $383,258 | 4.7 | Average | 10 | 7 | 4 | High |
| Cemetery | $247,983 | $139,575 | $108,409 | $344,758 | 4.4 | Poor | 9 | 10 | 2 | Moderate |
| Fire | $8,412,484 | $3,275,897 | $5,136,587 | $11,664,580 | 5.7 | Average | 20 | 11 | 9 | Moderate |
| Parks and Facilities - Burford | $412,222 | $162,237 | $249,986 | $551,476 | 5.4 | Average | 12 | 7 | 5 | Moderate |
| Parks and Facilities - Paris | $775,894 | $283,884 | $492,010 | $1,036,707 | 5.2 | Average | 10 | 7 | 4 | Moderate |
| Parks and Facilities - St George | $417,514 | $191,562 | $225,951 | $576,437 | 4.8 | Average | 11 | 8 | 4 | Moderate |
| Parks - Recreation | $155,191 | $54,581 | $100,611 | $207,978 | 5.3 | Average | 9 | 7 | 4 | Moderate |
| PW-Fleet | $11,352,367 | $6,107,586 | $5,244,781 | $15,582,309 | 4.6 | Average | 10 | 9 | 3 | High |
| **Total** | **$24,651,057** | **$11,604,582** | **$13,046,476** | **$33,806,811** | **5.0** | **Average** | **13** | **9** | **5** | **Moderate** |

## 2.11 Solid Waste Assets

The County has provided two solid waste facilities asset data (Biggars site, and Paris site) which total $3.9 million in replacement costs and a weighted average Good condition. Staff have indicated that the Paris site is closed and requires additional monitoring. It is unsure if the Paris site assets will need to be replaced or if the County will be able to make use of these assets in another location.

Table 2.21 provides a summary of the data provided. It is recommended that a review of the Solid Waste assets is completed to ensure that an up-to-date asset inventory is recorded.

**Table 2.21: Solid Waste Site Asset Summary**

| Solid Waste Sites | 2021 Historic Cost | 2021 Accumulated Amortization | 2021 Net Book Value | 2023 Replacement Cost | Condition (Weighted Average) | | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Value | Text | | | | Text |
| Biggars | $944,046 | $184,310 | $759,736 | $1,348,505 | 7.0 | Good | 46 | 11 | 34 | Moderate |
| Paris | $2,345,361 | $351,062 | $1,994,299 | $2,551,073 | 8.0 | Good | 51 | 9 | 42 | Moderate |
| **Total** | **$3,289,407** | **$535,372** | **$2,754,035** | **$3,899,578** | **8.0** | **Good** | **49** | **10** | **39** | **Moderate** |

## 2.12 Water Ratepayers Supported Assets

The County water ratepayer supported assets provide potable water to many communities across the County. These assets total $264 million in 2023 replacement cost value which is 10.1% of all the County assets. Table 2.22 provides a summary of all of the water ratepayers supported assets. A more detailed review of these assets was delivered to the County staff in the asset inventory spreadsheets. An example of two key Water asset types summary details are found in Table 2.22 for Water Facilities and Table 2.23 for Water mains.

Each Water ratepayers supported asset component identified in Table 2.22 is critical to the acquiring, treatment, and distribution of potable water to the Brant County communities with sufficient quantity and pressure. As this is a Water ratepayers supported asset grouping, we shall only comment on the condition of the system based on the documented age of these assets.

In general, the condition of the water assets are Average with Moderate risk of failure. The County is maintaining the appropriate water distribution levels of service. The water quality and pressure are at acceptable levels for the current number of homes being serviced. The Mount Pleasant water system was intentionally designed without Fire rated pressure; however, this is overcome with the local Fire Department having a water tanker that can be shuttled to provide fire safety.

**Table 2.22: Summary of Water Facilities Assets**

| Water Facility Assets | Replacement Cost | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Condition (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|
| | | | | | Text | Text |
| Airport Tank Facility | $5,612,730 | 44 | 6 | 39 | Good | Low |
| Airport Pumping Station | $5,794,501 | 38 | 2 | 36 | Very Good | Low |
| Baird Street Valve Building | $296,930 | 25 | 16 | 12 | Average | Moderate |
| Bethel Water Treatment Plant | $9,774,674 | 35 | 10 | 25 | Good | Moderate |
| Burford Administration Office Scada | $164,443 | 4 | 14 | 0 | Average | Moderate |
| Cainsville Meter Chamber | $58,594 | 10 | 12 | 0 | Average | Moderate |
| Cainsville Elevated Tank | $2,408,765 | 13 | 14 | 0 | Average | Moderate |
| Brant County Water Meters | $3,010,809 | 20 | 3 | 17 | Very Good | Low |
| Gilbert Pumping Station | $15,016,337 | 48 | 37 | 18 | Average | Moderate |
| Mt. Pleasant Pumping Station | $8,766,979 | 46 | 12 | 12 | Good | Moderate |
| North Paris Elevated Tank | $3,847,802 | 44 | 12 | 6 | Good | Low |
| Oak Park Elevated Tank | $2,727,723 | 44 | 21 | 24 | Average | Moderate |
| Parkhill Pumping Station | $1,074,735 | 35 | 13 | 8 | Good | Moderate |
| Sharpe Pumping Station | $10,032,346 | 62 | 19 | 15 | Good | Moderate |

| Water Facility Assets | Replacement Cost | Useful Life (Weighted Average) | Age (Weighted Average) | Remaining Life (Weighted Average) | Condition (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|
| St George Bulk Fill Depot | $196,488 | 21 | 39 | 3 | Poor | Moderate |
| St. George Pumping Station | $2,898,869 | 37 | 20 | 10 | Average | Moderate |
| St. George Elevated Tank | $2,901,946 | 45 | 28 | 18 | Average | Moderate |
| Telfer Pumping Station | $2,679,625 | 40 | 20 | 4 | Average | Moderate |
| Unknown Location | $30,000 | 75 | 1 | 74 | Very Good | Low |
| **Total** | **$77,294,296** | | | | | |

**Table 2.23: Summary of Water Main Assets**

| Water Main Assets | Status | Length (m) | Replacement Cost | Useful Life | Age (Weighted Average) | Remaining Life (Weighted Average) | Condition (Weighted Average) | Risk (Weighted Average) |
|---|---|---|---|---|---|---|---|---|
| Material | | | | | | | Text | Text |
| | Abandoned | 6,714.21 | | | | | | |
| Asbestos Concrete | Constructed | 23,377.21 | $13,857,429 | 100 | 51 | 49 | Average | Moderate |
| Cast Iron Pipe | Constructed | 26,162.49 | $15,352,451 | 50 | 57 | 3 | Very Poor | High |
| Concrete Pressure Pipe | Constructed | 1,244.14 | $1,566,455 | 100 | 27 | 73 | Good | Moderate |
| Copper | Constructed | 585.83 | $197,209 | 50 | 19 | 31 | Average | Moderate |
| Ductile Iron | Constructed | 50,078.18 | $29,851,156 | 50 | 38 | 13 | Poor | High |
| High Density Polyethylene | Constructed | 1,529.12 | $873,532 | 100 | 27 | 73 | Good | Moderate |
| PVC | Constructed | 59,155.48 | $41,781,617 | 100 | 19 | 81 | Good | Low |
| Steel | Constructed | 102.60 | $89,260 | 50 | 52 | 0 | Very Poor | High |
| Transite | Constructed | 85.30 | $51,261 | 50 | 58 | 0 | Very Poor | High |
| Total | | 162,320.35 | $103,620,371 | | | | | |

Table 2.23 highlights some water main pipes that are approaching their end of life based on their age and identified useful life. These values may misdirect the reader as asset age was used to establish the approximate condition of these assets. For example, some cast iron pipes can outlive their 50-year identified useful life under favourable soil conditions. Without this information the project analysis is using a conservative approach. It is recommended that the County undertake water main inspections for the high-risk areas.

## 2.13 Wastewater Ratepayers Supported Assets

The County ratepayers supported wastewater assets provide an environmentally acceptable safe process of returning to nature used water supplies. The wastewater system provides services for the Brant County urban communities. These assets total $267 million in 2023 replacement cost value which is 13% of all the County's assets.

Table 2.4 provides a summary of all of the wastewater ratepayers supported assets.

Table 2.24 and Table 2.25 provide some further expanded wastewater asset information for Wastewater Facilities and Wastewater Mains. Full details of all the wastewater asset inventory were provided to County staff for their use.

Each wastewater ratepayer supported asset component identified in Table 2.24 is critical to the acquiring, treatment and returning of wastewater back to the environment. As wastewater is a ratepayers supported asset grouping, we shall only comment on the condition and capacity of the system.

In general, the wastewater system is relatively new and therefore identifies as in Good condition. There are some older parts of the County's urban areas that we recommend having CCTV scans completed within the next 5 to 10 years to ensure that the wastewater gravity mains are still not beyond 2/3 of their life expectancy. This then will provide the County with the ability to install as required gravity main liners in the future and therefore extend the life of the gravity mains for potentially an additional 30 years.

**Table 2.24: Summary of Wastewater Facility Assets**

| Wastewater Facility Assets | Replacement Cost | Useful Life (weighted average) | Age (weighted average) | Remaining Life (weighted Average) | Condition (weighted Average) | Risk (weighted average) |
|---|---|---|---|---|---|---|
| | | | | | Text | Text |
| Airport Wastewater Treatment Facility | $2,262,967 | 70 | 8 | 62 | Good | Moderate |
| Biosolid Storage Facility | $1,381,512 | 76 | 7 | 69 | Very Good | Low |
| Brant 403 Business Park Sewage Pumping Station | $1,445,752 | 45 | 10 | 35 | Good | Moderate |
| Cainsville Sewage Treatment Facility | $2,632,206 | 65 | 37 | 28 | Poor | High |
| Grand River Sewage Pumping Station | $1,215,349 | 57 | 20 | 37 | Average | High |
| Grandville Sewage Pumping Station | $1,753,384 | 62 | 13 | 49 | Good | Moderate |
| MacPherson Drive Sewage Pumping Station | $1,200,609 | 54 | 25 | 30 | Poor | High |
| Paris Links Sewage Pumping Station | $1,052,494 | 60 | 40 | 23 | Poor | High |
| Paris Sewage Treatment Facility | $26,807,620 | 58 | 41 | 22 | Poor | High |
| St George Sewage Treatment Facility | $9,503,358 | 46 | 38 | 14 | Very Poor | High |
| Willow Street Sewage Pumping Station | $6,855,512 | 74 | 26 | 48 | Average | Moderate |
| Total | $56,110,761 | | | | | |

As outlined above an asset displaying a High Risk in summary tables should be used as a trigger to look deeper into these assets. For example, the Grand River Sewage Pumping Station displays Poor condition and High risk. This facility has 4 important assets (generator, and three pumps) that are coming to the end of their identified useful lives. Please note that inspections of these facilities were not undertaken for this project and age-based conditions were used. Also, we understand that the generators are run monthly, and load tested annually by a contractor. Also, wastewater pumping systems are inspected regularly and maintained with sufficient redundancy.

Also, the County uses a contractor to operate and maintain the wastewater facilities and will make recommendations to the County when equipment needs to be replaced or rehabilitated.

**Table 2.25: Summary of Wastewater Main Assets**

| Wastewater Main Assets | Status | Length (m) | Replacement Cost | Useful Life | Age (weighted average) | Remaining Life (weighted Average) | Condition (weighted Average) | Risk (weighted average) |
|---|---|---|---|---|---|---|---|---|
| Material | | | | | | | Text | Text |
| | Abandoned | 378.98 | | | | | | |
| Asbestos Concrete | Constructed | 19,241.21 | $26,800,756 | 100 | 46 | 54 | Average | Moderate |
| Cast Iron Pipe | Constructed | 17.19 | $22,733 | 50 | 45 | 5 | Average | High |
| Clay | Constructed | 257.10 | $303,891 | 50 | 61 | 1 | Average | High |
| Concrete | Constructed | 15,962.65 | $33,052,014 | 100 | 46 | 54 | Average | Moderate |
| Ductile Iron | Constructed | 387.69 | $170,105 | 50 | 33 | 17 | Average | Moderate |
| High Density Polyethylene | Constructed | 2,883.68 | $6,300,422 | 100 | 11 | 89 | Very Good | Low |
| Polyethylene | Constructed | 432.91 | $764,877 | 100 | 38 | 62 | Average | Moderate |
| PVC | Constructed | 57,645.52 | $69,717,903 | 100 | 22 | 78 | Good | Moderate |
| STEEL | Constructed | 134.12 | $182,131 | 50 | 55 | 3 | Average | High |
| **Total** | | **96,962.07** | **$137,314,833** | | | | | |

Table 2.25, similar to Table 2.23 shows iron and steel material pipes coming to the end of their identified lifecycle; therefore, due to age-based condition assessments may only be a trigger for more deeper investigation. Please note that there were many gaps in the data provided so estimates were made on size, but lengths in these gaps were left with no data. It is recommended that the County review and fill in any missing information/data.

## 2.14 Data Accuracy and Completeness

An important element of this asset management plan is ensuring that tools and procedures are in place to maintain accuracy and completeness of the asset data and calculations moving forward. As time passes, assets are used, maintained, improved, disposed of, and replaced.

All of these lifecycle events can trigger changes to the asset database used within the asset management plan. Therefore, tools and procedures are essential to ensure the asset data remains accurate and complete. This includes the timing of condition assessments for each asset type and what should be included within the condition assessment procedures.

As noted above the County's asset inventory had many gaps of information and approximations were made to be able to complete this project. It is recommended that the County use the asset inventory spreadsheets provided to staff as a starting point and that the highlighted cells be verified and corrected were required.

Also as noted above we recommend that the County undertake facility assessments using qualified engineers to ensure the proper breakdown of appropriate assets for asset management purposes as well as asset condition, maintenance and rehabilitation plans and remaining life information.

# 3.0 Expected Levels of Service

The County has been offering and maintaining for its residents and visitors, good service levels, during challenging economic times. The Province has demanded via Ontario Regulation 588/17 that municipalities complete asset management plans on a regular basis to ensure that appropriate investments are being made in municipal infrastructure. Reviewing past records has shown that some investments were being made into maintaining and replacing the County's assets. It is important to note that the long-term objective of the County needs to be asset sustainability. In general, the County is performing maintenance activities when required and has moved forward with proactive investigations of asset types requiring more detailed assessments.

## 3.1 Scope and Process

A levels of service (LOS) analysis gives the County an opportunity to document the levels of service that are currently being provided and compare it to the levels of service that will ensure the assets achieve their full lifecycle potential. This can be done through a review of current practices and procedures, an examination of trends or issues facing the County and / or through an analysis of performance measures and targets that staff can use to measure performance.

Expected LOS can be impacted by a number of factors, including:

- Legislative requirements (e.g., minimum maintenance standards for roads, etc.).
- Strategic planning goals and objectives.
- Resident expectations.
- Visitor expectations.
- Council expectations.
- Financial or resource constraints.

The previous task of determining the state of the County's local infrastructure establishes the asset inventory and condition, as well as asset management policies and principles to guide the refinement and upkeep of asset infrastructure. The LOS analysis utilizes this information and factors in the impact of asset service level targets. It is important to document an expected LOS that is realistic to the community. It is common to strive for the highest LOS; however, these service levels usually come at a cost. It is also helpful to consider the risk associated with a certain LOS. Therefore, expected LOS should be determined in a way that balances both level of investment and associated risk to the County.

Burnside received both verbal and documented confirmation of maintenance practices that the County staff undertake. We recommend that the County continue to make use of updating their Road Needs Study and the biannual bridge inspections and analysis utilizing the most up to date MTO bridge / culvert degradation models. We also

recommend that the County undertake a full facilities assessment project. This will not only expand on the current identified assets but properly breakdown facilities into asset groupings that will help better budget both maintenance and replacement of the facility components when required. These engineering-based inspection practices provide historic condition information as well as information related to any changes to asset maintenance. This will also help better determine the remaining life of the municipality's assets.

This information will help not only identify the current County needs but also future requirements due to Levels of Service changes. Ensuring that appropriate levels of service are determined and recorded helps during the County's future growth.

The strategy of investing more often in smaller amounts which provides higher levels of service and better asset condition with an over all lower total cost over the lifecycle of the asset is recommended.

## 3.2 Current Levels of Service versus Expected Levels of Service

The County's current LOS has resulted in the current state of infrastructure as discussed in the previous section of the report. The current LOS also relates to the risk assessment discussed in later report sections. Regarding the cost of this LOS, the County has established an operating and capital budget for the current year that includes the cost of providing this LOS. After many discussions with County staff, it was determined that over the 10-year project timeline the first 6 years will require approximately $839.4 thousand annual increase in LOS funding for tax-based assets. The greatest contributor to this increase comes from the road assets. The last 4 years of the 10 year project period is estimated to require $3.3 million additional annual investment in LOS, of which $3.1 million is for roads assets.

Table 3.1 to Table 3.9 outline broad LOS descriptions with identified additional costs to achieve enhanced expected LOS. This analysis was noted through discussions with the County's staff and engineering best practices. Based on the information provided the County is both budgeting and completing appropriate levels of service. The Levels of Service cost impact analysis was factored into the cost strategy discussed in Section 4 of this report.

**Table 3.1: Road Expected Levels of Service**

| Roadway Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Safe Roads** | Meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02 and Amendments. | Meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02 and Amendments. | Regulation Standard | | County uses digital equipment to track and stay compliant with Ont. Regulation 239/02 and amendments |
| **Fix Public Identified Issues Quickly** | Track complaints and resolve them as per requirements | Track complaints by road segment so that history can be recorded. | Respond to Public Inquiry within 24 hours | | County prioritizes issues and resolves within scheduled operations services. County uses a tracking system. |
| **Maintain Road System Network Condition for safe use** | Road Maintenance is completed regularly and when required | Maintain adequate road network condition index to ensure safe roads | Assess Road Conditions every 2 years with minor updates in offsetting years | $95,000 | County provides this level of service. Cost reflects Capital budget required for Road Needs Study completed every 2 years starting in 5 years time as current consultant may retire. The next Road Needs Study is expected in 2025 with a potential cost of $95,000. |
| **Hardtop Roads are Clean and Clear** | Street sweeping completed annually | Maintain clean safe roads | | | County has two street sweeper machines and have sufficient budget to complete this level of service |
| **Follow Best Practice for Asphalt Roads** | Using all standard maintenance practices | Completing a regular crack seal program. | | $200,000 | County has a 10 year plan with budgeted maintenance requirements to complete this level of service. County is now using funding to complete full overlays as a holding strategy on roads until time for reconstruction. Cost is for additional funding to fully implement plan. |
| **Surface Treatment Roads are well maintained** | Using all standard maintenance practices | Meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02 and Amendments. | | | County does not use slurry seal program and have not seen sufficient evidence of adding life to the road surface |
| **Gravel Roads are well maintained and Dust Inhibited** | Gravel roads are smoothed when required, and Calcium Chloride to reduce segregation and separation of gravel surface | Gravel roads are smoothed when required, and Calcium Chloride applied for greater stability of surface material | | | County provides this level of service |
| **Safe and well maintained Roadsides** | County provides brushing, ditching, grass mowing, and shoulder maintenance to ensure roadsides are safe and well maintained. | Roadsides are clear of obstructions and well maintained for safe road travel. | | | County received a $200,000 a year increase in budget and is now sufficient for the number of staff to complete this level of service |
| **Winter Road Maintenance** | Winter roads are cleared and safe based on Minimum Maintenance Standards | Roads are maintained and meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02 and Amendments. | | | County provides this level of service |
| **Weather forecast information** | Township staff check weather forecasts minimum 3 times per day in the Winter months (October 1 - April 30) | Weather forecasts are reviewed three times per day during the Winter Maintenance months. | | | County provides this level of service |
| **Traffic Counts are completed regularly** | Traffic counts are updated as required | Clear understanding of traffic counts are updated | | | County provides this level of service |

| Roadway Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Traffic Control Lights are well maintained** | Requests for traffic signals at intersections are reviewed upon request, as part of the Brant Safe Streets program or through the TMP. | Meet Provincial Standards | | | County provides this level of service |
| **Sufficient Street Lighting for safe travel** | Street lighting is reviewed using the TAC manual – Guide For Design of Roadway Lighting as required to determine warrants. | Meet Provincial Standards | | | County provides this level of service |
| **Sidewalks are safe and well maintained** | Sidewalks are inspected annually as per Minimum Maintenance Standards | Meet Provincial Standards | | $20,000 | County provides this level of service. Cost is for increasing maintenance activity |
| **Guardrails are safe and well maintained** | County started a guardrail inspection program in 2023. Once completed a multi-year program will be developed to address deficiencies. | Meet Provincial Standards | | | County provides this level of service |
| **Complaints are Tracked** | County started a guardrail inspection program in 2023. | Meet Provincial Standards | | | County provides this level of service |

$295,000 Capital
$20,000 LOS

**Table 3.2: Bridge Expected Levels of Service**

| Bridge Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Safe Bridges** | Maintain good bridge condition with 1 bridge having load limit. | Maintain good condition and no-load limits. | MTO bridge guides | | Brant Mill Bridge is closed. Mechanic Street footbridge has a 3.1 tonne load limit. Lions Park Pedestrian footbridge has a 5.9 tonne load limit |
| **Bridges Maintained** | Follow Bridge Inspection Report recommendations for Bridge and Culvert maintenance. | Proactive Bridge and Culvert maintenance (based on bridge inspection report). | | | County provides this level of service |
| **Proper Bridge Spring Maintenance** | County washes and sweeps bridges every spring | Blowing out Expansion Joints and Washing of Bridges in Spring | | | County provides this level of service |
| **Bridge Inspections** | Bridge inspections (i.e., using OSIM forms) required every 2 years. | Bridge inspections (i.e. using current OSIM forms) required every 2 years. | Completed every 2 years | | County provides this level of service |
| **Retaining Walls are safe and well maintained** | Retaining walls are currently being inventoried and all retaining wall's 1.0m in height or higher will be added to the OSIM inspections starting in 2026. | Meet Provincial Standards | | | County provides this level of service |

**Table 3.3: Storm Water Expected Levels of Service**

| Storm Water Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Effective Storm Water Management** | Investigate and respond based on public complaints/concerns | Proper flows and clear system with little to no inhibitors | No storm water back-up incidents | | County provides this level of service |
| **Cross Road Culverts are Appropriately Sized and Maintained** | Cross Road Culverts inspections is a new program implemented in 2023 | Climate Change and / or Extreme Weather events do not cause adverse issues with the Municipal Road network | | | County is expecting to act on information identified from the new inspection program. |
| **Catch Basins are clear and well Maintained** | Catch Basin cleaned every two years | Annual Catch Basin cleaning | | | County provides sufficient level of service |
| **Storm Water Mains are clear and well Maintained** | County is working on a maintenance program for annual inspection of Oil Separators | Regular inspection for condition and no physical obstructions | | | County is working on a maintenance program for annual inspection of Oil Separators |
| **Discharge Points are clear and well Maintained** | County will be exploring engineering best practices moving forward for inspection of discharge points | Regular inspection for condition and no physical obstructions | | | County will be exploring engineering best practices moving forward for inspection of discharge points |

**Table 3.4: Facilities Expected Levels of Service**

| Facilities Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Facilities are clean and safe for Public Use** | Meet all legislative requirements. | Meet all Provincial legislative requirements. | Provincial Guidelines | | County provides this level of service |
| **Source Water is well Protected** | Source water protection zones are maintained and mapped in County GIS | Maintaining appropriate Zoning and Planning to ensure Source Water Protection | | | County provides this level of service |
| **Wells are well Maintained** | Appropriate maintenance is undertaken when required. | Appropriate maintenance is undertaken when required | | | County provides this level of service. Oakland Community Centre is having a new well installed in 2024. |
| **Water Treatment Processes Meet Legislative Requirements** | Water systems are getting upgraded at Community Halls in 2024. MOE Approvals are received where necessary. | Meet all Provincial legislative requirements. | Provincial Guidelines | | County provides this level of service |
| **Well Maintained Generators where applicable** | Tested and well maintained. | Tested and well-maintained generator | | | Fire Halls and Burford Administration Office have generators. The County has many portable units but is in the process of obtaining quotes to have connections installed for some facilities. For new Facilities the County is seeking back-up natural gas generators or portable connections (Community Centres). |
| **Safe Wastewater Treatment Structures (Tanks and Septic Beds)** | Regular Septic maintenance is done annually or as required. | Meet legislative requirement (Building Code, Fire Code, Health and Safety, etc.) | Provincial Guidelines | | Burford Community Centre septic tank is being replaced in 2024. Oakland Community Centre is having septic system repairs in 2024. |
| **Facilities meet all Fire Code Requirements** | Meet all Fire Code requirements based on year of construction. | Meet all Provincial legislative requirements. | Provincial Guidelines | | County provides this level of service |
| **Well Maintained Emergency Services Equipment** | Equipment is replaced as required | Meet all manufacturers maintenance schedules | | | County provides this level of service |
| **Heating Systems are inspected and maintained** | Meet all manufacturers maintenance schedules | Meet all manufacturers maintenance schedules | Manufacturers Maintenance Schedule | | Regular maintenance and inspections done annually. |
| **Air ducts are cleaned as required** | Cleaned as required. | Meet standard maintenance schedules | | | County provides this level of service |
| **Well-Maintained on-site properties** | Maintained by staff or contacted | Safe on-site properties | | $75,000 | County can use more assistance in maintaining facility on site properties. |

| Facilities Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Fix Public Identified Issues Quickly** | Complaints are tracked via online messages, phone calls and emails, which are forwarded to staff for follow-up. | Track complaints by facility/property so that history can be recorded. | Respond to Public Inquiry within days | | County responds within hours, days or weeks depending on the issue. Recommend a formal tracking system to ensure no issues are lost or not responded to. |
| **Facilities have Handicap Accessibility** | County has an annual ESA inspection | Meet all Provincial legislative requirements. | | $30,000 | Older facilities as Harley Hall and Glenn Morris Centennial Hall will not be renovated for accessibility. All other buildings are completed or are scheduled for upgrades in the next few years. |
| | | | | $105,000 | Capital |

**Table 3.5: Parks Expected Levels of Service**

| Parks Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Parks are Safe and well maintained** | Regular maintenance and standard levels of service are established. Visual - weekly in spring/summer, Monthly inspections documented for parks, playgrounds. Signage posted for Nov – April – no maintenance for parks and trails. | Meet all Provincial legislative requirements. | Provincial Guidelines | | County provides this level of service |
| **Trails are safe well maintained** | Visual – weekly in spring/summer, Monthly written inspections. Regular grooming on stone dust trails, weekly garbage removal spring/summer, monthly fall/winter (no plowing or salting in winter on most trails, some urban pathways are maintained for school routes). Crack sealing, repairs done when required for paved trails. | Safe and well-maintained trails | | | County provides this level of service |
| **Playground Structures are Safe** | Visual weekly inspections, written monthly. Third-party playground inspections done every 3 years. | Meet all Provincial legislative requirements. | | | County provides this level of service |
| **Splashpad structures are safe and well maintained** | Splashpads – daily inspections in season, testing every 2 hours, one landscape fountain is inspected weekly | Meet all Provincial legislative requirements. | | | County provides this level of service |
| **Fix Public Identified Issues Quickly** | Complaints are tracked via online messages, phone calls and emails, which are forwarded to staff for follow-up. | Track complaints by park/asset so that history can be recorded. | | $10,000 | County responds within hours, days or weeks depending on the issue. Recommend a formal tracking system to ensure no issues are lost or not responded to. |
| | | | | $10,000 | Capital |

**Table 3.6: Vehicles and Equipment Expected Levels of Service**

| Vehicles and Equipment Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Vehicles are Safe and well maintained** | Meet all manufacturers maintenance schedules | Meet all manufacturers maintenance schedules | Manufacturers Maintenance Schedule | | County provides this level of service |
| **Equipment is safe and well maintained** | Meet all manufacturers maintenance schedules | Meet all manufacturers maintenance schedules | Manufacturers Maintenance Schedule | | County provides this level of service |
| **IT Data is Secure** | Meet all current IT Safety Protocols, with Backup and Redundancy Processes are implemented | Meet all current IT Safety Protocols, with Backup and Redundancy Processes are implemented | IT Standards | | County provides this level of service |
| **IT Hardware and Software are well Maintained** | Meet all manufacturers maintenance schedules | Meet all manufacturers maintenance schedules | Manufacturers Maintenance Schedule | $75,000 | IT Consultant is to add staff and therefore increase costs to maintain service levels |
| | | | | $75,000 | |

**Table 3.7: Solid Waste Expected Levels of Service**

| Solid Waste Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Solid Waste sites are Safe and Well Maintained** | Provincial standards are being met at our Biggars Lane Landfill and Close Burford Landfill site. The MECP has asked the County to complete addition sampling and sample interpretation due to offsite monitoring well results at our Closed Paris Landfill site. At this time it is unknown whether mitigating measures will be required. | Meet all Provincial legislative requirements | | $1,000 | County needs to provide additional monitoring of the Closed Paris site |
| **Closed Waste Sites are Monitored** | Two sites have monitoring programs | Meet all Provincial legislative requirements | | | County provides this level of service |
| **Complaints Tracked** | Staff use a Complaint Form. Complaints are investigated ASAP. Staff follow up a complaint with a phone call or letter advising of the corrective action undertaken. All complaints are retained and summarized in an Annual Report. | Document and track all complaints with reasonable response times | | | County provides this level of service |
| | | | | $1,000 | |

**Table 3.8: Water Expected Levels of Service**

| Water Assets Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Source Water is well Protected** | Maintaining appropriate Zoning and Planning to ensure Source Water Protection | Maintaining appropriate Zoning and Planning to ensure Source Water Protection | | | County provides this level of service |
| **Production Wells are well Maintained** | Appropriate maintenance is undertaken when required | Appropriate maintenance is undertaken when required | | | County is completing this LOS, via Contractor. Video inspections occur once every 5 years or sooner if required. Cost is in current operating budget |
| **Treatment Processes Meet Legislative Requirements** | Meet all legislative requirements. | Meet all Provincial legislative requirements. | Provincial Guidelines | | County provides this level of service |
| **Well Maintained Generator** | Tested and well-maintained generator | Tested and well-maintained generator | | | Run monthly by operators, load tested yearly and inspected by contractor, Serviced yearly by contractor. |
| **Backup Power Supply** | All Production Wells and Pump Houses have appropriate backup power | All Production Wells and Pump Houses have appropriate backup power | | | All treatment plants and booster stations have backup power. |
| **Appropriate Water Storage for Distribution Network** | Currently there are no water storage or distribution shortages | Water Storage meets the needs of the Water Distribution Network | | | County currently provides this level of service |
| **Efficient Water Distribution System** | Water losses are tracked and within allowable limits | Water Losses are tracked and minimized | | | County currently provides this level of service, with annual leak detection in Paris and all other systems every 4 years or as required |
| **System Valves are exercised and well maintained** | System valves are turned every 5 years | System valves are exercised and well maintained | | | County provides this level of service |
| **Scada System Software Adjustments** | County receives annual upgrades of Scada software | Scada System is reviewed and well maintained to ensure appropriate water quality and quantity distribution | | | County provides this level of service |
| **Sufficient Water pressure for Fire Protection** | County has sufficient fire protection in all systems except Mt Pleasant. The fire department is setup with tanker shuttle to provide fire protection. | Water Pressure meets Fire Protection Standards of 50psi | | | County provides this level of service |
| **Safe Pumphouse Buildings** | Meet legislative requirement (Building Code, Fire Code, Health and Safety, etc.) | Meet legislative requirement (Building Code, Fire Code, Health and Safety, etc.) | | | County provides this level of service |
| **Heating Systems are inspected and maintained** | Heating systems are well maintained to ensure proper operations | Heating systems are well maintained to ensure proper operations | | | County provides this level of service |
| **Hydrant Inspection and Valve turning** | County exercise all hydrants once per year | Hydrants are inspected and valves exercised completing any required maintenance | | | County provides this level of service |

| Water Assets Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Hydrants are Flushed and Swabbed** | County flush and swab all hydrants once per year | Flushing Program meets Guideline Standards | | | County provides this level of service |

**Table 3.9: Wastewater Expected Levels of Service**

| Wastewater Assets Expected Strategic LOS | Current LOS | Expected LOS | Benchmark (if Applicable) | Estimated Increase in Cost from Current to Expected LOS | Cost Description |
|---|---|---|---|---|---|
| **Treatment Processes Meet Legislative Requirements** | Meet all legislative requirements. | Meet all Provincial legislative requirements. | Provincial Guidelines | | County provides this level of service, using a contractor |
| **Safe Treatment Buildings** | Appropriate maintenance is undertaken when required | Appropriate maintenance is undertaken when required | | $300,000 | Paris WPCP is currently has ESA deficiency, cost estimate to rectify |
| **Well Maintained Generator** | Tested and well-maintained generator | Tested and well-maintained generator | | | Run monthly by operators, load tested yearly and inspected by contractor, Serviced yearly by contractor. |
| **Clean and well-Maintained Treatment Facilities** | County has contractor providing this service | Proactive facility maintenance. | | | County provides this level of service, using a contractor |
| **Well Maintained Pumps** | Pumps are inspected regularly and maintained with sufficient redundancy | Proactive pump maintenance. | | | County provides this level of service, using a contractor |
| **Efficient Collection System** | No significant known issues | Wastewater mains are clear of obstructions, infiltration and leaking. | | | County currently provides this level of service |
| **UV Disinfectant System is Well Maintained** | UV Lights and system parts are well maintained as per manufacturers manual | Proactive UV System maintenance | | | County provides this level of service, using a contractor |
| **Out Buildings are Well Maintained** | Tank cleanout and inspections are completed regularly | Proactive maintenance is completed | | | County provides this level of service, using a contractor |
| **Manholes well maintained** | County inspects and cleans out Manholes every 6 years | Inspection and Appropriate Maintenance of Manholes | | | County provides this level of service |
| **Minimize Incidents of bypass** | County has had 3 bypass events at St. George WPCP in 2023 | Wastewater treatment facility is operating effectively and efficiently minimizing potential treatment bypass | | $50,000 | County is taking corrective action to fix the issue |

| | | | | | |
|---|---|---|---|---|---|
| **Scada System Software Adjustments** | Scada system is modified to ensure appropriate treatment and water quality before release into the environment | Scada system is modified to ensure appropriate treatment and water quality before release into the environment | | | County provides this level of service |
| **Track Complaints** | County tracks and follows up on all complaints | Document and track all complaints by system segment to ensure a well-maintained system | | | County provides this level of service |
| | | | | $350,000 | Capital |

## 3.3 County Growth

The County continues to grow, and potentially will expand with new developments over the next ten years. The new developments over the next ten years will add roads, storm water, water, and wastewater assets to the County asset inventory. Some detailed information was made available for this Asset Management Plan and is summarized in Table 3.10 through Table 3.121.

Table 3.10 shows that the County will be assuming $32.8 million in Storm Water assets. This is an 15% increase with respect to current constructed and assumed storm water assets.

**Table 3.10: Unassumed Storm Water Assets**

| Storm Unassumed Assets | Material | Length (m) | Replacement Cost | Useful Life | Age (Weighted Average) | Remaining Life (Weighted Average) |
|---|---|---|---|---|---|---|
| Storm Mains | Concrete | 11,268.38 | $14,676,642 | 100 | 3 | 97 |
| | PVC | 6,679.60 | $3,442,442 | 100 | 4 | 96 |
| Storm Service Lines | PVC | 2,264.51 | $679,352 | 100 | 4 | 96 |
| Storm Culverts | Concrete | | $63,819 | 100 | 13 | 87 |
| | Corrugated Steel Pipe | | $117,395 | 50 | 20 | 30 |
| | High Density Polyethylene | | $25,626 | 100 | 9 | 91 |
| Storm Catch Basins | Catchbasin | | $2,742,000 | 80 | 5 | 75 |
| | Ditch Inlet Catchbasin | | $66,000 | 80 | 7 | 73 |
| | Double Catchbasin | | $841,500 | 80 | 5 | 76 |
| Catch Basin Leads | Concrete | 923.64 | $546,637 | 100 | 4 | 96 |
| | PVC | 4,900.46 | $2,165,010 | 100 | 3 | 97 |
| Storm Manholes | Catchbasin Manhole | | $574,000 | 100 | 7 | 93 |
| | Ditch Inlet Catchbasin Manhole | | $11,000 | 100 | 19 | 82 |
| | Double Catchbasin Manhole | | $98,000 | 100 | 6 | 94 |
| | Manhole | | $6,300,000 | 100 | 5 | 95 |
| Storm Subdrains | Perforated Subdrain | 903.28 | $270,983 | 100 | 8 | 92 |
| | Reinforced Concrete | 3.00 | $900 | 100 | 19 | 81 |
| Storm Discharge Points | Concrete Headwall | | $175,000 | 100 | 6 | 92 |
| | Inlet | | $2,500 | 50 | 13 | 35 |
| | Outlet | | $25,000 | 50 | 7 | 41 |
| Storm Ponds | | | | | | |
| **Total** | | **26,942.87** | **$32,823,807** | | | |

Table 3.11 identifies the currently unassumed County's water asset network which totals $19.6 million or 7% increase in water rate supported assets.

**Table 3.11: Unassumed Water Assets**

| Water Unassumed Assets | Material | Length (m) | Replacement Cost | Useful Life | Age (Weighted Average) | Remaining Life (Weighted Average) |
|---|---|---|---|---|---|---|
| Water Mains | Cast Iron Pipe | 860.65 | $478,092 | 100 | 4 | 96 |
| | Copper | 72.11 | $21,632 | 50 | 5 | 45 |
| | PVC | 16,891.71 | $10,165,381 | 100 | 4 | 96 |
| Water Valves | Hydrant Valve | | $682,000 | 50 | 4 | 46 |
| | Water Valve | | $982,500 | 50 | 4 | 46 |
| Hydrants | Hydrant | | $2,445,000 | 50 | 2 | 46 |
| Water Curb Stops | Water Curb Stops | | $1,998,000 | 50 | 5 | 45 |
| Water Service Lines | Copper | 7,564.75 | $1,664,962 | 50 | 3 | 47 |
| | PEX | 3,155.61 | $694,621 | 100 | 1 | 99 |
| | PVC | 1,052.50 | $515,305 | 100 | 2 | 98 |
| **Total** | | **29,597.33** | **$19,647,493** | | | |

Table 3.12 provides a summary of currently unassumed ratepayers supported wastewater assets, totalling approximately $35.9 million or 13% increase from the County's wastewater asset inventory.

These known unassumed assets when assumed by the County will cause for increased efforts for staff to maintain and ensure appropriate levels of service are provided to County residence and visitors.

**Table 3.12: Unassumed Wastewater Assets**

| Wastewater Unassumed Assets | Material / Description | Length (m) | Replacement Cost | Useful Life | Age (Weighted Average) | Remaining Life (Weighted Average) |
|---|---|---|---|---|---|---|
| Wastewater Facility | Pinehurst Sewage Pumping Station | | $1,500,000 | 100 | 1 | 99 |
| Wastewater Mains | Concrete | 460.58 | $721,104 | 100 | 3 | 97 |
| | High Density Polyethylene | 602.40 | $658,118 | 100 | 1 | 99 |
| | PVC | 15,020.24 | $17,288,214 | 100 | 3 | 97 |
| Wastewater Manholes | Wastewater Manholes | | $3,990,000 | 100 | 4 | 94 |
| Wastewater Service Lines | PVC | 12,565.50 | $11,702,491 | 100 | 3 | 97 |
| **Total** | | **28,648.71** | **$35,859,926** | | | |

# 4.0 Asset Management Strategy

## 4.1 Scope and Process

The asset management strategy provides the recommended course of actions required to maintain (or move towards) a sustainable asset position while delivering the levels of service discussed in the previous section. The course of actions, when combined, form a long-term operating and capital forecast that includes:

- **Non-infrastructure solutions:** Reduce costs and / or extend expected useful life estimates.
- **Maintenance activities:** Regularly scheduled activities to maintain existing levels of service levels, or repairs needed due to unplanned events.
- **Renewal / Rehabilitation:** Significant repairs or maintenance planned to maintain the levels of service and increase the remaining life of assets.
- **Replacement / Disposal:** Complete disposal and replacement of assets when renewal or rehabilitation is no longer an option.

Priority identification becomes a critical process during the development of an asset management strategy. Priorities have been determined based on assessment of the overall risk of asset failure, which is determined by looking at both the probability of an asset failing, as well as the consequences of asset failure. The consequences of the municipality not meeting desired levels of service must also be considered in determining risk. As discussed in Section 3.0, adding enhanced levels of service results in both operating and capital budget impacts over the 10-year forecast period has to be taken into consideration, with the overall objective of reaching sustainable levels while mitigating risk.

## 4.2 Risk Assessment

The risk of an asset failing is defined by the following calculation:

**Risk of Asset Failure = Probability of Failure X Consequence of Failure**

Probability of failure has been linked to the condition assessment for each asset, assuming that an asset in “very good” condition has a “rare” probability of failure. The following table outlines the probability factor tied to each condition rating.

**Table 4.1: Probability of Failure Matrix**

| Condition (value 0-10) | Condition | Probability of Failure |
|---|---|---|
| 9 to 10 | Very Good | Rare |
| 7 to 8 | Good | Unlikely |
| 5 to 6 | Average | Possible |
| 3 to 4 | Poor | Likely |
| 1 to 2 | Very Poor | Almost Certain |

Consequence of failure has been determined by examining each asset type separately. Consequence refers to the impact on the municipality if a particular asset were to fail.

Types of impacts include the following:

- Cost Impacts: the cost of failure to the County (i.e., capital replacement, rehabilitation, fines and penalties, damages, etc.).
- Social impacts: potential injury or death to residents / public.
- Environmental impacts: the impact of the asset failure on the environment.
- Service delivery impacts: the impact of the asset failure on the County's ability to provide services at desired levels.

Each type of impact was reviewed and consequence of failure for each asset type was determined by using the information contained in Table 4.2 as a guide to assess the level of impact. Levels of impact were documented as ranging from "significant" to "insignificant".

**Table 4.2: Consequence of Failure Matrix**

| | Cost | Social | Environmental | Service Delivery |
|---|---|---|---|---|
| **Significant** | Significant Cost – Difficult to Recover | Death, Serious Injury | Long-term Impact – Permanent | Major Interruptions |
| **Major** | Substantial Cost – Multi-year Budget Impacts | Major Injury | Long-term Impact – Fixable | Significant Interruptions |
| **Moderate** | Considerable Cost – Requires Revisions to Budget | Moderate Injury | Medium-term Impact – Fixable | Moderate Interruptions |
| **Minor** | Small/Minor Cost – within Budget Allocations | Minor Injury | Short-term/Minor Impact – Fixable | Minor Interruptions |
| **Insignificant** | Negligible or Insignificant Cost | No Injury | No Impact | No Interruptions |

With both probability of failure and consequence of failure documented, total risk of asset failure was determined using the matrix contained in Table 4.3.

Total risk has been classified under the following categories:

- Extreme Risk (E): Risk beyond acceptable levels.
- High Risk (H): Risk slightly beyond acceptable levels.
- Medium/Moderate Risk (M): Risk at acceptable levels, monitoring required to ensure risk does not become high.
- Low Risk (L): Very little risk.

**Table 4.3: Total Risk of Asset Failure Matrix**

| Probability of Failure | Consequence of Failure | | | | |
|---|---|---|---|---|---|
| | Significant | Major | Moderate | Minor | Insignificant |
| Almost Certain | E | E | H | H | M |
| Likely | E | H | H | M | M |
| Possible | H | H | M | M | L |
| Unlikely | H | M | M | L | L |
| Rare | M | M | L | L | L |

Risk levels can be reduced or mitigated through planned maintenance, rehabilitation and / or replacement of an asset. An objective of this asset management plan is to identify ways to reduce risk levels where they are deemed to be too high, as well as ensure assets are maintained in a way that keeps risk at acceptable levels.

## 4.3 Climate Change

Over the past decade there has been increased numbers of extreme weather events which are putting greater stress on municipal infrastructure, and pressure to ensure levels of service are maintained. Climate change poses a real risk management question which needs to be addressed within the context of municipal decision making.

Some climate change projections (Federation of Canadian Municipalities):

- Warmer summer temperatures.
- Warmer winter temperatures.
- More intense storms.
- Longer droughts.
- Increased frequency and amount of ice.
- Summers stretching longer.
- Sea level rising.

The County of Brant has witnessed some of these climate change projections already causing potential challenges with road washouts from extreme weather events, or quick winter thaw runoff. Many roads as well as crossroad culverts have not been designed for such intense high-volume rainstorms.

Identifying areas of concern will help the County to design road and storm water assets to improve resiliency to extreme weather events. This type of investment will reduce risk of failure of infrastructure and ensure appropriate levels of service are maintained for the public.

Another factor to climate change issues is the materials used in asset construction. The focus is to reduce the total carbon footprint on the construction of infrastructure assets. Investing in infrastructure with a long-term view provides both better levels of service as well as reducing the total carbon footprint.

As noted above the County is undertaking a project to inspect the crossroad culverts to determine condition and a true remaining life. This type of project will provide guidance to the County on the crossroad culverts that need to be replaced and potentially increased in size for better water flow during extreme weather events. The County is also taking proactive measures with respect to the maintenance of the municipal drains across the County. This will also help the County make good progress to becoming a more climate change resilient municipality.

Another climate action the County has taken is by investing in solar panels. This investment shows leadership in making use of current technology to help offset the ever-increasing need for electricity across the province. Every step that can be taken is a step in the right direction of reaching climate targets and goals.

## 4.4 Long-term Forecast

For many years, lifecycle costing has been used in the field of engineering to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use recently in the management of capital assets. By definition, lifecycle costs are **all** the costs which are incurred during the lifecycle of a capital asset, from the time it is purchased or constructed, to the time it is taken out of service for disposal/replacement.

In defining the long-term forecast for the County's asset management strategy, costs incurred through an asset's lifecycle, the asset's condition, expected LOS, and risk were considered and documented. Please note that current LOS costs are not included in the values and need to be added in a Financial Strategy. The additional or increased cost for expected LOS is included in the total costs presented. Asset replacement analysis in forecasting the County's asset replacement needs are summarized in Figure 4.1 (uninflated) and Figure 4.2 (inflated) which we are calling Asset Strategy based on expected levels of service for tax supported assets. Figures 4.3 and Figure 4.4 are rate supported replacement forecasting of Water assets (uninflated and inflated respectively). Figures 4.5 and Figure 4.6 are rate supported replacement forecasting of Wastewater assets (uninflated and inflated respectively).

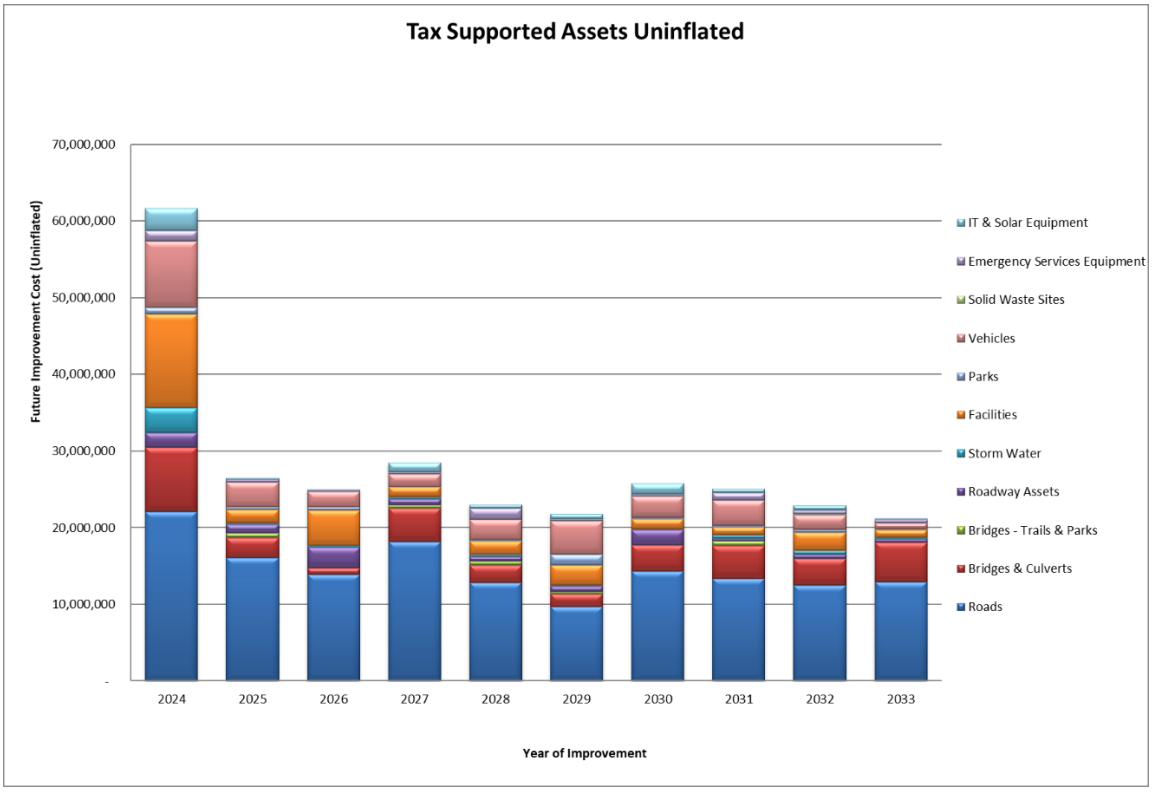
The asset strategy incorporated all of the information discussed above in this report and based on the information provided by the County, past reports, staff input, and understanding of the asset's reaction in their current environment as well as the expected asset maintenance levels, and the current asset condition, which is expected to produce a reduced asset potential risk of failure. The outcome of this approach was

to provide appropriate asset service levels, and the assets were expected to meet or exceed their useful life which reduces expected infrastructure deficits. In total, $281.2 million (uninflated) and $303.6 million (inflated) are shown as tax based asset maintenance, improvement, rehabilitation and replacement needs over the 10-year forecast. This is the recommended asset strategy for the County of Brant.

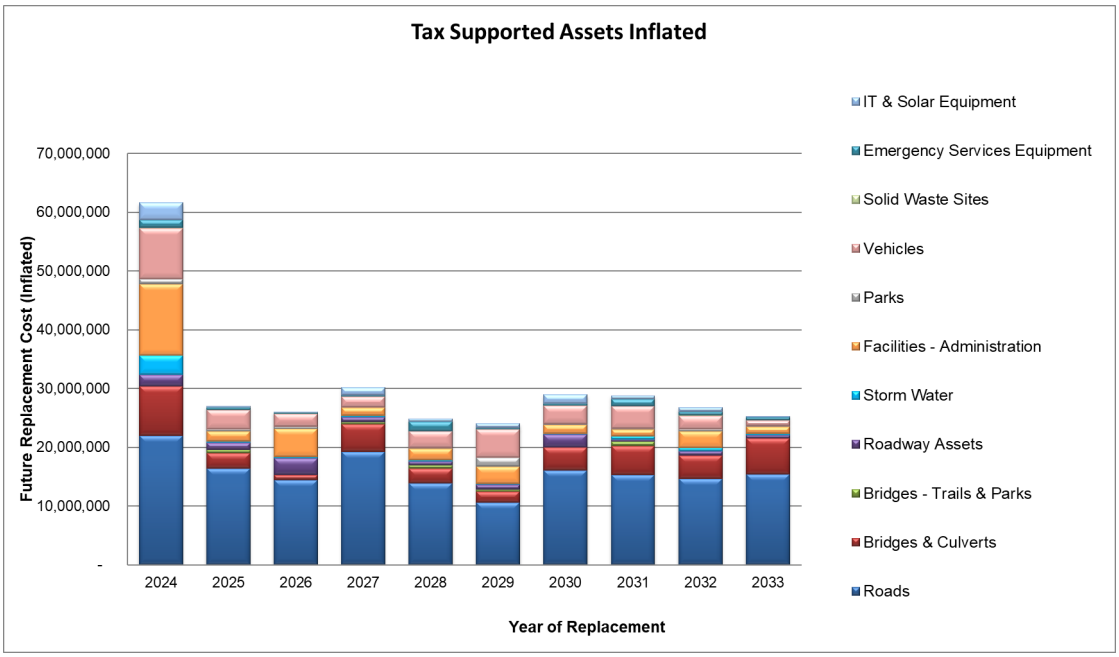
Assets like Bridges, major culverts, Facilities are not expected to be replaced for usually 50-80 years. It needs to be stated, these assets need to ensure to have reserve funding for their rehabilitation / replacement schedule in the future. A Financial Strategy completed by the County's consultant will provide the County with an investment plan into their reserve accounts.

For the recommended asset strategy to be feasible, the expected level of service adjustments discussed in Section 3 are needed in conjunction with the current level of service amounts in order to effectively maintain and rehabilitate the assets as required.

**Figure 4.1: Proposed Asset Strategy Based on Expected Levels of Service for Tax Supported Assets (uninflated)**



## Figure 4.2: Proposed Asset Strategy Based on Expected Levels of Service for Tax Supported Assets (inflated)




## Figure 4.3: Proposed Asset Strategy Based on Expected Levels of Service for Water Ratepayers Supported Assets (uninflated)

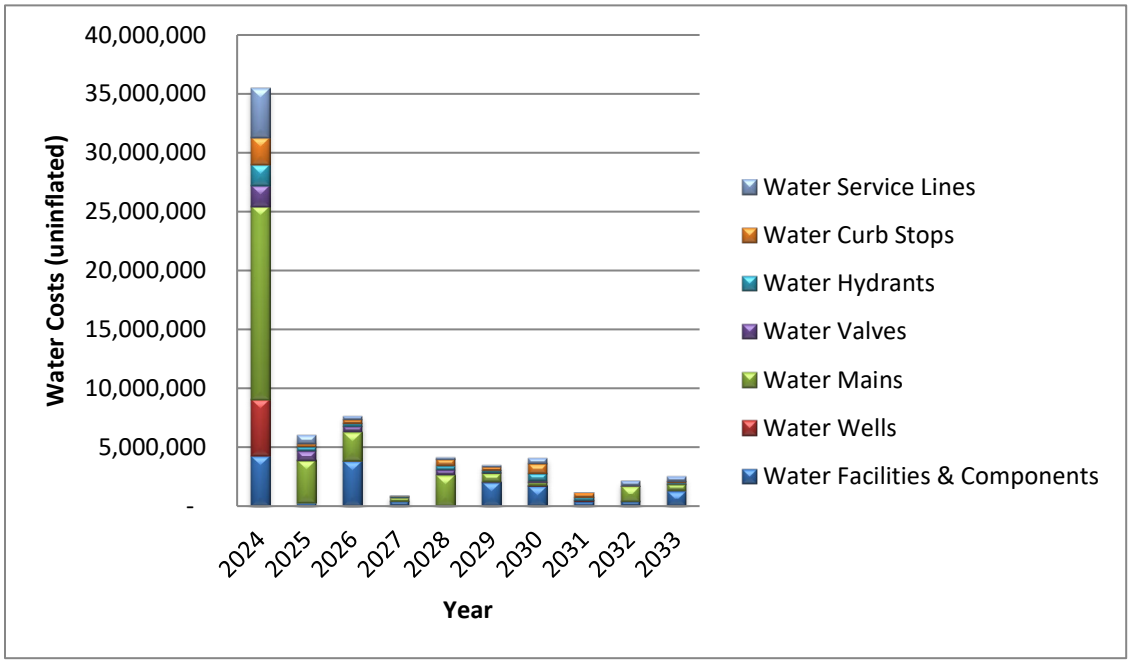


**Figure 4.4: Proposed Asset Strategy Based on Expected Levels of Service for Water Ratepayers Supported Assets (inflated)**

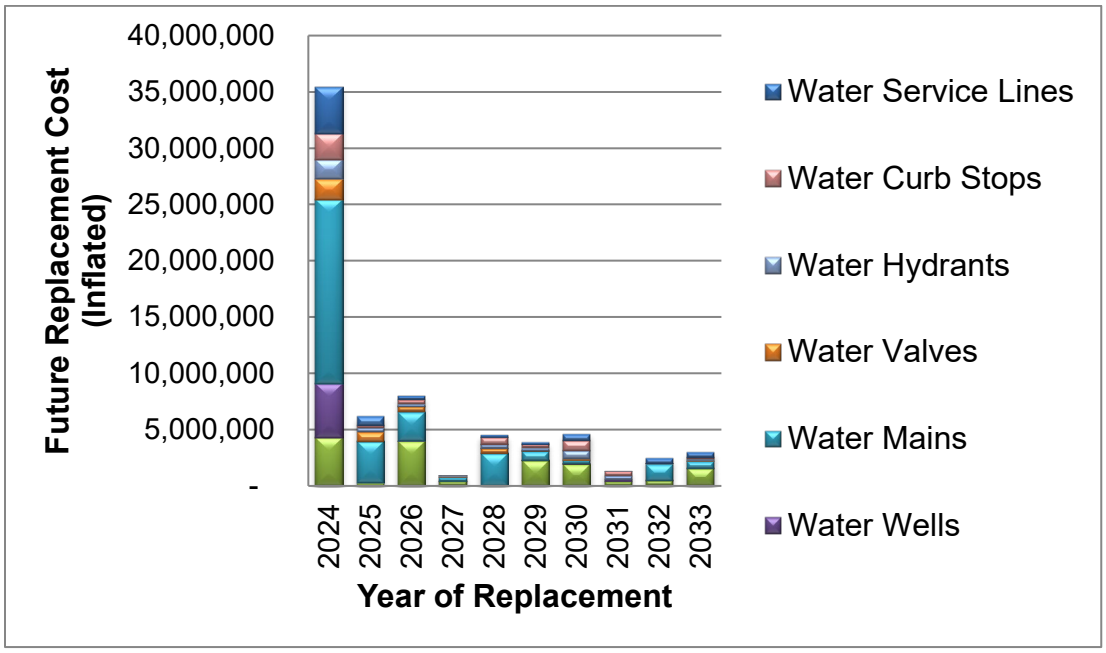



**Figure 4.5: Proposed Asset Strategy Based on Expected Levels of Service for Wastewater Ratepayers Supported Assets (uninflated)**

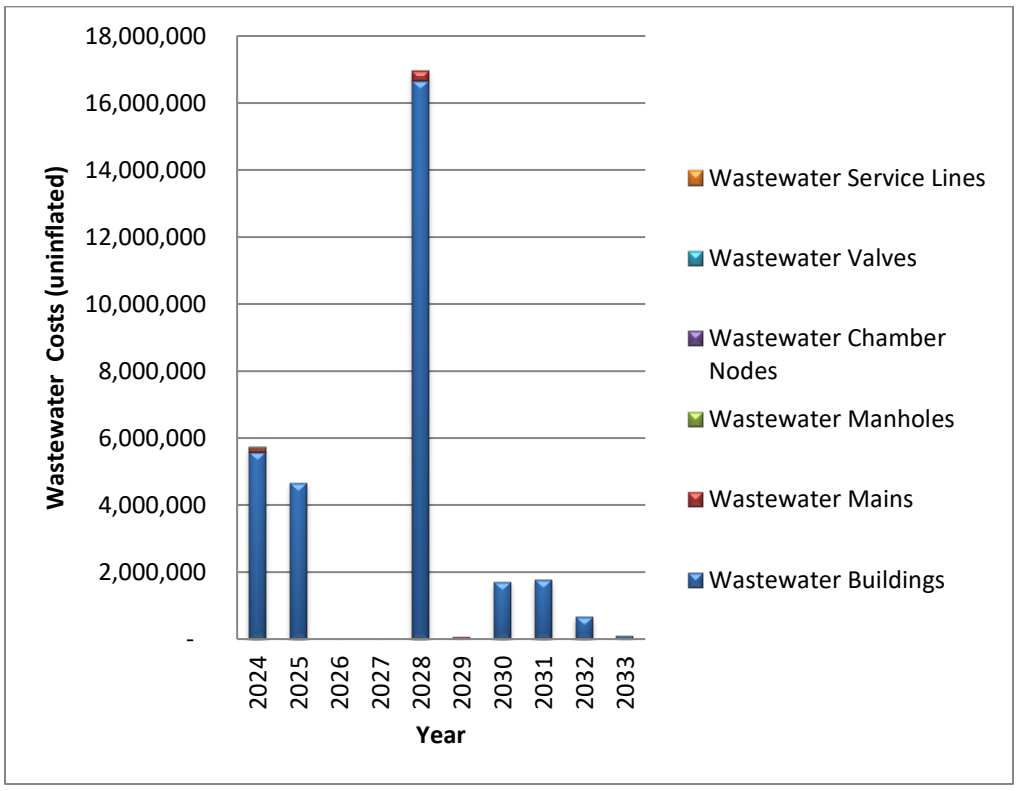
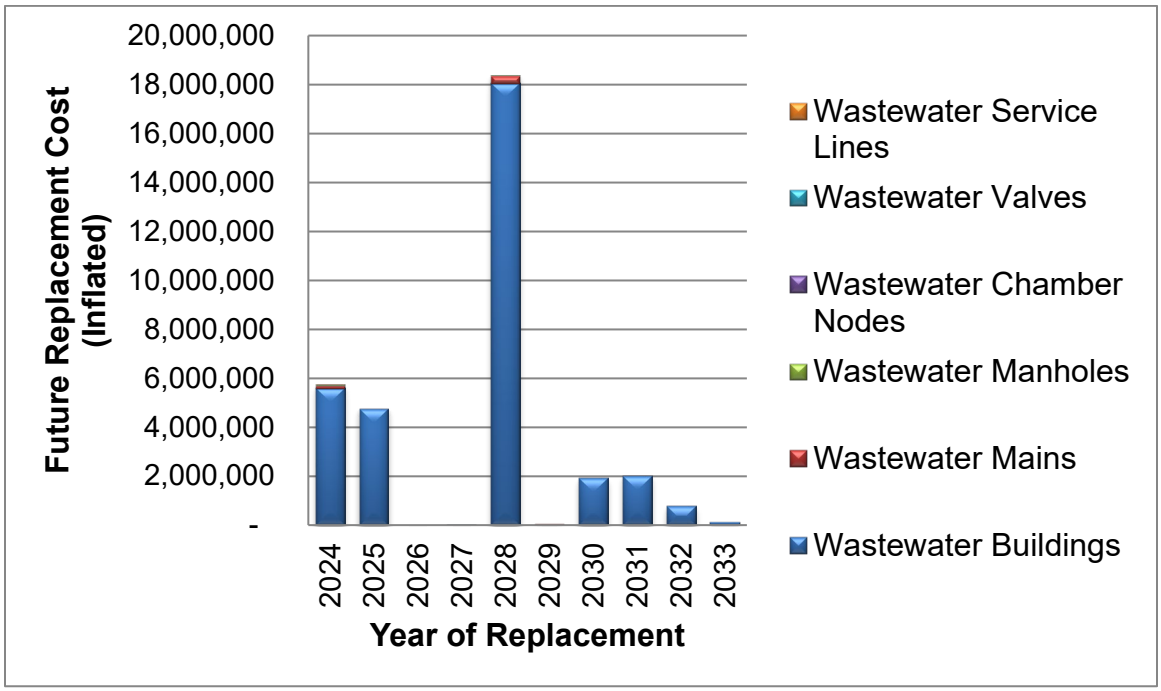


**Figure 4.6: Proposed Asset Strategy Based on Expected Levels of Service for Wastewater Ratepayers Supported Assets (inflated)**



# 5.0 Financing Strategy

As noted above the County is having a consultant provide a complete Financial Strategy which includes the data used in this asset management plan for core assets. Please note that current LOS values are not included in our summaries. The values identified in LOS are increases as identified by County staff and part of our analysis.

# 6.0 Recommendations

The following recommendations have been provided for the County of Brant's consideration:

- That this Asset Management Plan for all County tangible capital assets be received and approved by County Council.
- That consideration of this Asset Management Plan be given as part of the annual budgeting process to ensure sufficient capital funds are available to fund capital requirements over the 10-year period.
- The current level of funding for asset replacement and renewal at the County is not expected to sufficiently fund required capital needs or close the infrastructure funding gap. As such, it is recommended that the following be considered:
  - That the "levels of service" strategies discussed in this report be approved.
  - The County explore a Storm Water Utility as a source of revenue for urban storm systems.
  - The County undertake a Facilities Assessment project using qualified engineers.
  - The County review the asset data provided to County Staff and correct any assumptions that were made to produce this report.
  - The County increase in asset management funding as will be outlined in the County's consultants Financial Strategy when delivered.
  - The County updates the financing strategy every 5 years as per legislation or when there is significant change.
  - That this Asset Management Plan be updated as per the County's Asset Management Strategy Policy.
  - The County consider the capital priorities identified within this report when applying for future grants or deciding on how to utilize Gas Tax, OCIF funding, and / or other funding that becomes available.

Substantial investment in asset capital needs will be required over the 10-year forecast period and beyond. Through the recommendations provided above, proactive steps will be made to increase capital investment, as well as reduce the annual infrastructure funding gap for the County's tax supported assets. Enhanced maintenance plans will assist in maintaining adequate asset conditions, mitigate asset risk as well as potentially defer capital needs within the forecast period. In addition, the County of Brant is recommended to pursue all available capital grants wherever possible to further reduce the infrastructure funding gap.

Through the creation of this plan, the County has been provided with Excel spreadsheets in which amendments and revisions can be made as needed by County staff. It is anticipated that this plan adopted by the County of Bant Council will be monitored and updated frequently as part of the budget process, with refinements and

specific recommendations being provided with respect to the priority of each individual project.

R.J. Burnside & Associates Limited