



Asset Management Plan Report

Version 1.2

Municipality of Tweed
County of Hastings, Ontario

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1.0 Introduction

1.1 Municipal Information

The Municipality of Tweed (Municipality) is an amalgamated municipality in southern and central Hastings County, Ontario, comprised of the former geographic Township of Grimsthorpe, Township of Elzevir, Township of Hungerford, and the Village of Tweed.

Based on 2016 Census data (Statistics Canada, 2019), the Municipality had a population of 6,044 (Table 1). Per 2016 Census data (Statistics Canada, 2019), the land area of the Municipality was approximately 953 square kilometres (km²); however, based on mapping data provided by the County of Hastings (2019), the land area of the Municipality, including the geographic Township of Grimsthorpe, Elzevir, and Hungerford (and the Village of Tweed) was approximately 975 km². For the purposes of this study, the approximate land area of 975 km² has been used. The Municipality's population density per km² is reportedly 6.3, based on Statistics Canada's reported land area, and 6.2 based on the County of Hastings reported land area. As of 2016, there were reportedly 3,023 private dwellings within the municipality, with 2,569 dwellings occupied by usual residents.

The Municipality's operating budget in 2018 (total municipal expenditures) was approximately \$6,800,000.

This Asset Management Plan (AMP; Version 1.2) Report has been prepared in general accordance with the requirements of Ontario Regulation (O.Reg.) 588/17 – Asset Management Planning for Municipal Infrastructure (Appendix A).

1.2 Purpose and Scope (Updated August 2021)

This AMP Report is intended to be a resource tool for the Municipality in decision-making processes with respect to the quantification, management, maintenance, upgrade, and replacement of municipal infrastructure and assets, to assess how assets are managed in a way that continues to provide the current level of service expected by the Municipality and its ratepayers in future, and provide a financial assessment of municipal assets with a focus on the five (5) and ten (10) year planning horizon, and with consideration of a thirty (30) year and total life expectancy planning period. This AMP Report is a tool to be reviewed concurrently with municipal budgets, financial reports, financial information returns, audited tangible capital asset reports, and any other reports or documents relevant to municipal asset management and infrastructure project planning.

The purpose of this AMP Report is to summarize the work completed by the Municipality in 2019 with respect to asset management planning (Version 1.0 of AMP; Greenview, 2019d), with a specific focus on meeting (or exceeding) the requirements of O.Reg. 588/17 (Appendix A), as well as to integrate work completed in 2020/2021 with respect to Stormwater Assets (Version 1.1 of AMP; Greenview, 2021b) and to update specific Water Supply Services assets (Version 1.2 of AMP). The Province of Ontario's requirements for an AMP were first published in the document entitled *Building Together – Guide for Municipal Asset Management Plans* (Guide; Ministry of Infrastructure, 2012), and this AMP Report has been prepared with consideration of the requirements of the Guide, in addition to O.Reg. 588/17.

The scope of this AMP Report (Version 1.2) is consistent with the requirements of the Guide (Ministry of Infrastructure, 2012), and the selected core asset categories as prescribed by the Municipality for this project. With respect to the requirements of O.Reg. 588/17, this AMP Report (Version 1.2) includes the review of all core municipal assets. The scope of this AMP Report (Version 1.2) includes the following applicable core asset categories:

1. Roads.
2. Bridges and Large Culverts.
3. Water Supply Services (*Updated – August 2021*).
4. Wastewater Services.
5. Stormwater Assets (*New – June 2021*).

2.0 State of Local Infrastructure

The following sections are intended to provide a summary of the detailed review of municipal core assets including:

1. Table Summary.
2. Definitions.
3. Proposed Data Verification and Condition Assessment Policy.
4. Roads.
5. Bridges and Large Culverts.
6. Water Supply Services (*Updated – August 2021*).
7. Wastewater Services.
8. Stormwater Assets (*New – June 2021*).

2.1 Table Summary (*Updated August 2021*)

In 2019, 2020, and 2021, Greenview Environmental Management Limited (Greenview) completed a detailed review of all core assets, including roads, bridges and large culverts, water supply services, wastewater services, and stormwater assets for the Municipality. Reviews of related documents and data sources were completed by Greenview, including:

1. Mapping data for the road, water and wastewater systems, and stormwater assets of the Municipality available from the County of Hastings.
2. 2018 OSIM Bridge Inspection Report, and related documents on bridges and large culverts in the Municipality, as prepared by Jewel Engineering Inc.
3. Historical drinking water system reports for the Municipality's water supply system, as prepared by the Ontario Clean Water Agency (OCWA).
4. Historical drinking water system inspection reports for the Municipality's water supply system, as prepared by the Ontario Ministry of the Environment, Conservation, and Parks (MECP).
5. Other drinking water system-related documents (as were available).
6. Historical wastewater reports for the Municipality's wastewater system, as prepared by OCWA.
7. Environmental Compliance Approvals (ECAs) for various components of the Municipality's wastewater services.
8. Other wastewater system-related documents (as were available).
9. 2018 Tangible Capital Assets Report and 2018 Continuity of Reserves and Reserve Funds, as prepared by Baker Tilly KDN LLP.
10. Field observation and topographic surveying of pertinent stormwater asset infrastructure to assess resiliency of stormwater infrastructure.
11. Assessment of authority flood mapping as it relates to flooding potential in the Municipality.
12. Other historical Municipal information, as may have been available.

Additionally, multiple in-person and teleconference meetings were held with Public Works staff and Greenview, to discuss any gaps in data that became apparent through the development of this AMP Report (Versions 1.0, 1.1, and 1.2).

The focus of much of the work related to the AMP Report (Version 1.0; Greenview, 2019d) concentrated on Tables 4a to 4d (Detailed Summary of Municipal Assets) and on Tables 5a to 5d (Financial Assessment and Projections), while the focus of AMP Report (Version 1.1) was to integrate new information on stormwater assets into the AMP (Tables 4e and 5e). As part of this AMP Report (Version 1.2), specific updates were applied to water supply services Asset IDs WS21-76 and WS21-88 and related tables.

The following sub-sections describe each of the relevant Table sets of this AMP Report (Version 1.2).

2.1.1 Table 1 – Municipal Study Area Characteristics

Table 1 – Municipal Study Area Characteristics summarizes specific municipal characteristics available from Statistics Canada and from the County of Hastings, including current population, households, land area, and population density. This table was included in the AMP Report in order to provide additional context to the Municipality's core assets.

2.1.2 Tables 2a/2b/2c/2d/2e – Core Asset Summary Tables (*Updated August 2021*)

Tables 2a, 2b, 2c, 2d, and 2e are summary tables that have been prepared in order to easily identify pertinent asset management planning details for the Municipality, including data that specifically is reported in order to satisfy Community Level of Service (qualitative descriptions) and/or Technical Levels of Service (technical metrics) requirements of O.Reg. 588/17.

2.1.3 Table 3a – General Summary of Municipal Assets (*Updated August 2021*)

Table 3a – General Summary of Municipal Assets is a summary of the financial assessment and projections from Tables 5a to 5e for the core assets of the Municipality.

Table 3a includes the dollars available from current municipal reserve accounts recommended to be applied to pertinent assets (in column “2019”), and recommendations for municipal dollars to be saved in applicable reserve accounts in Years 2 through 10, in order to replace/upgrade assets in specific asset categories at the end of their useful lifespan.

Table 3a also includes columns that sum the municipal reserve dollars required to replace/upgrade assets in each asset category for a Total – 10 Year, Total – 30 year, and Total Required Reserve (Replacement Cost) perspective.

Additionally, the Estimated Borrowing Cost and the Difference between borrowing money to replace/upgrade assets and saving municipal reserve dollars for the replacement/upgrade of assets has also been calculated, based on Infrastructure Ontario's lending rate as of July 8, 2019 on Tables 5a to 5d, and the lending rate as of June 23, 2021 for Table 5e.

2.1.4 Tables 3b and 3c – Municipal Reserves (*Updated August 2021*)

Tables 3b and 3c are tables that are specific to the Municipality's reserve accounts.

As part of the AMP Report (Version 1.0; Greenview, 2019d), Tables 3b (Municipal Reserves and Allocation Summary) and 3c (Detailed Municipal Reserves Allocation Calculations) were created in an effort to correlate current Municipal reserves that would apply to each asset category. Current reserves were divided into reserves that are applicable to the AMP and to reserves that are not applicable to the AMP. Reserves that were applicable to the AMP, whether directly to specific assets categories, operating departments, or specific assets, or generally to asset categories, were used to reduce the Projected Contributions to Reserves in Tables 5a to 5d. As part of Version 1.1 of the AMP, stormwater assets were added to Tables 3b and 3c; however, no specific funds were included to stormwater related assets as no known funds were understood to be allocated within municipal reserves specific to stormwater assets. Minor changes were applied to Tables 3b and 3c as part of Version 1.2 of the AMP with respect to the specific changes to Asset IDs WS21-76 and WS21-88 and related tables.

On Table 3b – Municipal Reserves and Allocation Summary, current reserves are apportioned to municipal asset categories, either specifically if the reserve account is specific to a particular asset type or non-specifically if the reserve account is related to a general asset category. For example, the Municipality has a reserve account named “Public Works – Bridges” and the funds in that account have been divided between the Municipality's bridges and large culverts based on the total replacement/upgrade cost of both asset types.

Table 3c – Detailed Municipal Reserves Allocation Calculations is related to Table 3b, such that it describes in

detail exactly how Municipal reserves have been, or not been, applied to Municipal core assets. It details a Summary of Reserves Applicable to Core Assets and a Summary of Reserves Not Applicable to Core Assets.

The intent of Table 3c is to provide the reader of the AMP Report with more detailed information about the allocation of Municipal reserves as well as providing context and direct linkages between the AMP Report and the Municipality's annual Continuity of Reserves and Reserve Funds and the annual Consolidated Financial Statements, as prepared by the Municipality's auditors.

2.1.5 Tables 4a/4b/4c/4d/4e – Detailed Summary of Municipal Assets (*Updated August 2021*)

Tables 4a (Roads), 4b (Bridges and Large Culverts), 4c (Water Supply Services), 4d (Wastewater Services), and 4e (Stormwater Assets) have been prepared in general accordance with O.Reg. 588/17 – Asset Management Planning for Municipal Infrastructure and Building Together – Guide for Municipal Asset Management Plans (Guide; Ministry of Infrastructure, 2012).

Asset-specific information is included based on the asset category in question; however, Tables 4a/4b/4c/4d/4e all include general asset information like Asset ID, Asset Name, Year in Service, Asset Life Expectancy, Projected Replacement or Upgrade Year, details from the Municipality's Tangible Capital Asset Report (as applicable and as available), Replacement and/or Maintenance Cost (or equivalent), Condition Rating, and Current Level of Service.

2.1.6 Tables 5a/5b/5c/5d/5e – Financial Assessment and Projections (*Updated August 2021*)

Tables 5a (Roads), 5b (Bridges and Large Culverts), 5c (Water Supply Services), 5d (Wastewater Services), and 5e (Stormwater Assets) have been prepared in general accordance with O.Reg. 588/17 – Asset Management Planning for Municipal Infrastructure and Building Together – Guide for Municipal Asset Management Plans (Guide; Ministry of Infrastructure, 2012).

Tables 5a/b/c/d/e have been provided in order to itemize the amount of money required to be put into reserves on an annual basis for each asset in order to replace/upgrade each asset at the end of their remaining useful life. Values included in the column for "2019" represent the current reserve values calculated for each asset, based on known 2018 reserve fund values as prepared by the Municipality's auditors (as shown in the column "Current Reserves 2018). Similarly for updates related to stormwater assets are included starting with the year "2021" on Table 5e. The column on Tables 5a/b/c/d/e named "Reserve Planning Balance" has been designed to take the values identified in the column "Current Reserves (2018) and subtract that value from "Reconstruction/Rehabilitation Cost" in the case of road assets, "Total Upgrade Cost" in the case of bridge and large culvert assets, and from "Replacement and/or Upgrade Cost" in the case of water supply services and wastewater services assets. Updates to the AMP tables and report related to more recent Tangible Capital Asset Reports and related municipal reserves were beyond the scope of Versions 1.1 and 1.2 of the AMP Report, which was focused solely on the addition and incorporation of stormwater assets to the AMP Report (Version 1.1) and minor changes to Asset IDs WS21-76 and WS21-88 (Version 1.2). Future AMP updates can consider overall updates of this nature.

Additionally, the "Total Reserve (30 Year)" and "Total Required Reserve" have been reported for each specific asset, as well as a column that indicates the "Estimated Borrowing Cost" for replacement of each asset based on current lending rates from Infrastructure Ontario (IO), as of July 8, 2019. The lending rate as of June 23, 2021 was also included for Table 5e. The difference in cost between borrowing and saving sufficient monies for asset replacement is indicated in the column "Difference (Borrowing – Savings)".

Given the significant cost of many of the core assets from a replacement or upgrade perspective, it is unlikely that all of the noted assets with a Projected Replacement or Upgrade Year of 2019 (or previous), or a poor condition rating, can be replaced/ upgraded at the time of the noted Upgrade Year. It is recommended that the Municipality determine the priority status of replacement or upgrade for each of the noted assets based on the condition rating, current level of service, available funding options, and capital budgets. Consideration of

alternative maintenance options that could extend the asset life expectancy or improve the condition rating of each asset, and/or alternative funding opportunities are recommended to be investigated, in particular for the very high-value assets.

2.1.7 Tables 6a/6b/6c/6d/6e – Priority Assets Recommended for Further Review *(Updated August 2021)*

Tables 6a/6b/6c/6d/6e have been prepared to provide a summary reference for any assets that have been recommended as priorities for further review, upgrade, or replacement by the Municipality as part of their asset management planning initiatives.

Details on assets recommended for further review are included in Section 6.0 – Priorities and Recommendations of the AMP Report Version 1.2.

2.2 Definitions *(Updated June 2021)*

The following is a select list of definitions which explain some elements of the Detailed Summary of Municipal Assets Tables (4a to 4e), for review considerations. In cases where the definition of a specific element was understood to be self-evident, they were not included below.

Item	Definition	Example
Asset ID	An Asset ID tag was assigned to each asset to allow for easier reference and sorting purposes. The year the Asset ID was created is included in the naming convention.	<ul style="list-style-type: none"> Roads = R19-01 Stormwater Assets = STW20-06
Detailed Asset Description	Used to describe assets that share similar characteristics with each other. Detailed Asset Descriptions vary dependent on asset groups.	<ul style="list-style-type: none"> LCB (low class bituminous pavement) Bridge
Geographic Township	Used to define the location of the asset in the Municipality.	<ul style="list-style-type: none"> Hungerford, Elzevir, Grimsthorpe
Year in Service / or Last Upgrade Year	Age of the asset, year asset was purchased, the year the asset was put into service, or the year the asset was last upgraded. Year in Service is always a “year”.	<ul style="list-style-type: none"> 2015
Asset Life Expectancy	The number of years the asset is anticipated to be useful/functional.	<ul style="list-style-type: none"> Bridges = based on OSIM reports Roads = based on estimates and PCI values Water/Wastewater/Stormwater assets - based on estimates of the Municipality, information from OCWA, and/or industry standards
Projected Replacement or Upgrade Year	The year an asset should be replaced and or upgraded. Estimated based on the sum of the current year and Asset Life Expectancy.	<ul style="list-style-type: none"> Alexander Street <ul style="list-style-type: none"> Current Year = 2019 Asset Life Expectancy = 11 years Projected Replacement or Upgrade Year = (2019 + 11) = 2030
Tangible Capital Asset Report Financials	Based on information prepared by Municipal auditors in a Tangible Capital Assets Report, and applied to assets directly or shared amongst assets on a per unit basis (i.e. in the case of linear assets). Includes Original Value (Starting Balance), Accumulated Amortization, Additions and Betterments, and Ending Value (Net Book Value).	<ul style="list-style-type: none"> Net Book Value = (Original Value – Accumulated Amortization + Additions and Betterments)

Replacement and/or Upgrade Cost	<p>Anticipated total cost of replacement/upgrade/maintenance of an asset (as applicable).</p> <p>For roads, "Replacement and/or Upgrade Cost" replaced with "Reconstructions / Rehabilitation Cost".</p> <p>For bridges, "Replacement and/or Upgrade Cost" replaced with "Total Upgrade Cost".</p>	<ul style="list-style-type: none"> • New road, bridge, water asset, wastewater asset
Condition Rating	<p>A scale which identifies the current condition of a given asset.</p> <p>Roads = Condition Rating based on established Pavement Condition Index (PCI), with Good = PCI > 75, Fair = PCI < 75 and > 50, and Poor = PCI < 50.</p> <p>Bridges = Condition Rating based on Bridge Condition Index (BCI), with Good = BCI >70, Fair = BCI < 70 and > 60, and Poor = BCI < 60.</p> <p>Other assets = Scale using Good, Fair, or Poor rating, based on observations from Municipal Staff and/or consultants.</p>	<ul style="list-style-type: none"> • Alexander Street <ul style="list-style-type: none"> - PCI = 88 - Condition Rating = Good
Current Level of Service	<p>Defined as the level of service required for the asset to be maintained to meet the service requirements of the Municipality and its ratepayers.</p> <p>Includes consideration of social, political, environmental, and economic outcomes that the Municipality delivers.</p> <p>The scale is from one (1) to five (5), where one (1) is very low priority and five (5) is very high priority.</p>	<ul style="list-style-type: none"> • High Class Bituminous (HCB) roads with a Municipal Class of 2 (5 = very high priority) • Gravel roads with a Municipal Class of 6 with no exit (1 – very low priority)

2.3 Proposed Data Verification and Condition Assessment Policy

In accordance with Section 7 of O.Reg. 588/17, this AMP Report should be re-evaluated at a minimum of every five (5) years; however, it is recommended that this AMP Report be reviewed annually as part of the Municipality's budgeting process, in order to incorporate priority items and actions, and update information relevant to this AMP Report (i.e. current Condition Ratings, new studies, new assets, etc.).

Other studies (and/or updates to studies) to establish qualitative descriptions and technical metrics for core assets and/or all assets should be completed by a municipality every two (2) years, in accordance with Section 5 (2) of O.Reg. 588/17.

Tangible Capital Asset Report information for each asset could be updated annually, based on the results of each year's audited Tangible Capital Assets Report by the Municipality's auditors.

Asset Life Expectancies could be updated following completion of significant maintenance/upgrade activities, in order to note the anticipated extended life of the asset and prolong the Projected Replacement or Upgrade Year.

Replacement and/or Upgrade Costs could be updated as new/more current information becomes available, as applicable.

Condition Ratings could be updated by the Municipality on an as-needed basis, based on municipal review/observations and/or by third-party investigations (i.e. consultant reviews). The ideal case would be to update Condition Ratings annually, and at a minimum every two (2) years.

2.4 Roads

The following information in this section is based on Table 4a – Detailed Summary of Municipal Assets (Roads), which was prepared using information from the Road Needs Study (Greenview, 2019a), 2018 Tangible Capital Assets Report (Baker Tilly, 2019), and information provided by the Municipality. This information is reported in order to meet with the requirements of O.Reg. 588/17. This information can be found directly on Table 2a – 2019 Road Network Summary.

Based on the 2019 Road Needs Study (Greenview, 2019a) and information provided by the Municipality, the Municipality maintains a road network with a total road length of approximately 410.74 km. The respective road surface types and total lengths are as follows:

Road Type	Number of Road Sections	Total Length in Kilometres (km)	No. of Lane Kilometres (km)	Percentage of Total Road Network
Gravel	166	253.89	507.79	61.81%
HCB	103	30.60	61.20	7.45%
LCB	106	126.25	252.50	30.74%
TOTAL	375	410.74	821.48	100.00%

Road information by Geographic Township is summarized as follows:

Road Type	Grimsthorpe Township	Elzevir Township	Hungerford Township (& Village of Tweed)	Multi-Township Road Sections (Hungerford & Elzevir)	TOTAL
	Total Length in Kilometres (km)				
Gravel	0.00	55.96	189.58	8.36	253.89
High Class Bituminous (HCB)	0.00	0.28	30.32	0.00	30.60
Low Class Bituminous (LCB)	0.26	25.80	100.19	0.00	126.25
<i>Percentage of Total Road Network</i>	<i>0.06%</i>	<i>19.97%</i>	<i>77.93%</i>	<i>2.03%</i>	<i>100.00%</i>
TOTAL	0.26	82.04	320.09	8.36	410.74

Road information by Municipal Road Class is summarized as follows:

Municipal Road Class	Total Length in Kilometres (km)	Percentage of Total Road Network (%)
Class 2	0.58	0.14%
Class 3	16.22	3.95%
Class 4	75.12	18.29%
Class 5	15.89	3.87%
Class 6	302.94	73.75%
TOTAL	410.74	100.00%

Road Information by Municipal Road Class Description is summarized as follows:

Municipal Road Class Description	Total Length in Kilometres (km)	No. of Lane Kilometres (km)	Percentage of Total Road Network (%)	Land Area – Municipality of Tweed (km ²)	Road Density (km/km ²)
Arterial	0.58	1.15	0.14%	975	0.0012
Major Collector	27.36	54.73	6.66%		0.056
Minor Collector	62.74	125.48	15.27%		0.129
Local	319.81	639.61	77.86%		0.656
Partially Maintained	0.26	0.51	0.06%		0.00053
TOTAL	410.74	821.48	100.00%	975	0.421

Road information by Pavement Condition Index (PCI) is summarized as follows:

Road Type	Average PCI	Average Condition Rating	% PCI 75-100	% PCI 50-75	% PCI <50
		(good / fair / poor)	Good	Fair	Poor
High Class Bituminous (HCB)	81.25	Good	17.87%	9.33%	0.27%
Low Class Bituminous (LCB)	70.11	Fair	10.13%	17.33%	0.80%
Gravel	73.01	Fair	22.40%	21.33%	0.53%
TOTAL	74.45	Fair	50.40%	48.00%	1.60%

The anticipated total required maintenance cost (gravel roads) and/or replacement cost (LCB/HCB roads) for each road surface type, based on industry standards and information supplied by the Municipality are:

Road Surface Type	Anticipated Total Replacement and/or Maintenance Cost (30-Year)
Gravel	\$ 7,500,000
High Class Bituminous (HCB)	\$ 6,566,911
Low Class Bituminous (LCB)	\$ 16,212,229
TOTAL	\$ 30,279,140

In accordance with the requirements of Section 5 (2) of O.Reg. 588/17 regarding the average age of each road surface type, the following average ages of road sections within the Municipality by pavement type are as follows:

Road Surface Type	Average Road Section Age
Gravel	Zero (0) years
High Class Bituminous (HCB)	17 years
Low Class Bituminous (LCB)	9 years

With respect to gravel road sections, maintenance operations are completed annually (and on-going), and therefore the average age of gravel road sections may be described as zero (0) years. The age of various road sections are not interpreted to represent a best practice for managing road assets. It is recommended that the Municipality utilize more quantitative measures for managing road assets, like Pavement Condition Index (PCI) to plan for road asset improvements. Available information on the average age of each road asset category are included on Table 4a.

The above noted summaries of road data are included in the 2019 Road Needs Study (Greenview, 2019a), and has been included here to satisfy the requirements of O.Reg. 588/17. Detailed mapping completed in order to satisfy the requirements of O.Reg. 588/17 with respect to community levels of service (qualitative descriptions), with a focus on the connectivity of roads, pavement types, and current condition rating are included in the 2019 Road Needs Study (Greenview, 2019a). Assumptions and notes related to roads are included on Table 4a – Detailed Summary of Municipal Assets (Roads).

The financial strategy for the upgrade and/or replacement of municipal roads are discussed in Section 5.0 of this report and in Table 5a.

2.5 Bridges and Large Culverts

The following information in this section is based on Table 4b – Detailed Summary of Municipal Assets (Bridges and Large Culverts), which was prepared using information from the 2018 OSIM Bridge Inspection Submission

(Jewell Engineering, 2019), the Municipality's 2018 Tangible Capital Assets Report, and information provided by the Municipality. This information can be found directly on Table 2b – 2019 Bridges and Large Culvert Summary.

Based on the 2018 OSIM Bridge Inspection Submission (Jewell Engineering, 2019), the Municipality maintains a total of fifty-two (52) bridges and/or large culverts (> 3.0 metres) that are inspected every two (2) years, at a minimum. The following details are provided as a summary of the bridge and large culvert assets for the Municipality (Table 4b):

Structure Type	Quantity	Average Age (years)	Replacement and/or Upgrade Cost
Bridges	45	29	\$ 23,804,500
Culverts	7	7	\$ 1,265,000
TOTAL	52	16	\$ 25,069,500

In accordance with the requirements of O.Reg. 588/17, the community levels of service (qualitative descriptions) for the bridges and large culverts in the Municipality include provision for traffic from motor vehicles, heavy transport vehicles, emergency vehicles, pedestrians, and cyclists. With respect to technical levels of service (technical metrics), the following is a summary of the % Load Restrictions and % Dimensional Restrictions of the Municipality's bridges and large culvert, as noted on Table 2b.

Structure Type	Quantity	% Loading Restrictions	% Dimensional Restriction
Bridges	45	44%	58%
Culverts	7	0%	14%
TOTAL	52	38%	52%

Additional details on the Municipality's bridges and large culverts can be found in the 2018 OSIM Bridge Inspection Submission (Jewell Engineering, 2018) and on Table 4b.

Assumptions and notes related to bridges and large culverts are included on Table 4b – Detailed Summary of Municipal Assets (Bridges & Large Culverts).

The financial strategy for the upgrade and/or replacement of Municipal bridges and large culverts is discussed in Section 5.0 of this report and in Table 5b.

2.6 Water Supply Services *(Updated August 2021)*

The following information in this section is based on Table 4c – Detailed Summary of Municipal Assets (Water Supply Services), which was prepared using information from applicable water supply services-related documentation (as included as appendices in the Water Asset Study, Greenview, 2019b), the Municipality's 2018 Tangible Capital Assets Report, and information provided by the Municipality. This information can be found directly on Table 2c – 2019 Water Supply Services Summary. As part of this AMP Report Version 1.2, updates to Asset IDs WS21-67 and WS21-88 were applied, which corresponding changes to the following data:

Asset Description & Class		Construction Material	Quantity	Units	Average Age (years)	Replacement and/or Maintenance Cost
Building	Distribution		1	#	22	\$ 1,500,000
Building	Treatment		1	#	21	\$ 1,000,000
Equipment	Distribution		5	#	7	\$ 2,085,000
Water Main	Distribution	Cast Iron	7,570	m	82	\$ 7,257,190
Water Main	Distribution	PVC	8,002	m	17	\$ 6,801,887
Equipment	Hydrant		97	#	20	\$ 970,000
Equipment	Treatment		8	#	14	\$ 275,000
TOTAL		-	-	-	33	\$ 19,889,077

With respect to technical levels of service (technical metrics), the following is a summary of the requirements of O.Reg. 588/17 for water supply services assets:

Percentage of Properties Connected to Municipal Water System	Percentage of Properties where Fire Flow is Available	No. of Connection Days per Year where a Boil Water Advisory Notice is in Place Compared to the Total Number of Properties Connected to the Municipal Water System	No. of Connection-Days per Year Due to Water Main Breaks Compared to the Total Number of Properties Connected to the Municipal Water System
= (730 / 4,695)	= (730 / 4,695)	= (730 x 2) / 730	= (10 x 2) / 730
= 15.5%	= 15.5%	= 2	= 0.027

Detailed mapping completed in order to satisfy the requirements of O.Reg. 588/17 with respect to community levels of service (qualitative descriptions), with a focus on the areas of the Municipality that are connected to the municipal water system and have fire flow, are included in the Water Asset Study (Greenview, 2019b). Assumptions and notes related to water supply services are included on Table 4c – Detailed Summary of Municipal Assets (Water Supply Services).

The financial strategy for the upgrade and/or replacement of the Municipality's water supply services assets are discussed in Section 5.0 of this report and in Table 5c.

2.7 Wastewater Services

The following information in this section is based on Table 4d – Detailed Summary of Municipal Assets (Wastewater Services), which was prepared using information from applicable wastewater services-related documentation (as included as appendices in the Wastewater Asset Study, Greenview, 2019c), the Municipality's 2018 Tangible Capital Assets Report, and information provided by the Municipality. This information can be found directly on Table 2d – 2019 Wastewater Services Summary.

Asset Description and Class		Sewer Type	Quantity	Units	Average Age (years)	Replacement and/or Maintenance Cost
Facility	Distribution		2	#	44	\$ 450,000
Equipment	Distribution		5	#	5	\$ 98,000
Equipment	Treatment		3	#	15	\$ 155,000
Land	Treatment		2	#	44	\$ 200,000
Sewer	Distribution	PVC	6,982	m	16	\$ 3,490,965
Sewer	Distribution	Asbestos Cement	6,146	m	81	\$ 3,072,868
Sewer	Distribution	Forcemain	1,570	m	44	\$ 785,000
TOTAL		-	-	-	45	\$ 8,251,833

With respect to technical levels of service (technical metrics), the following is a summary of the requirements of O.Reg. 588/17 for wastewater services assets:

Percentage of Properties Connected to the Municipal Wastewater System	No. of Events per Year Where Combined Sewer Flow in the Municipal Wastewater System Exceeds System Capacity Compared to the Total Number of Properties Connected to the Municipal Wastewater System	No. of Connection-Days per Year Due to Wastewater Backups Compared to the Total Number of Properties Connected to the Municipal Wastewater System	No. of Effluent Violations per Year Due to Wastewater Discharge Compared to the Total Number of Properties Connected to the Municipal Wastewater System
= (730 / 4,695)	The municipal wastewater system does not have combined sewers.	No connection-days occur when a wastewater service issue arises, as there are no interruptions in service as bypassing and/or discharges are undertaken to avoid backups.	= (3 / 730)
= 15.5%			= 0.004

Detailed mapping (and related information) completed in order to satisfy the requirements of O.Reg. 588/17 with respect to community levels of service (qualitative descriptions), with a focus on the areas of the Municipality that are connected to the municipal wastewater system, are included in the Wastewater Asset Study (Greenview, 2019c). Assumptions and notes related to wastewater services are included on Table 4d – Detailed Summary of Municipal Assets (Wastewater Services).

The financial strategy for the upgrade and/or replacement of the Municipality's wastewater services assets are discussed in Section 5.0 of this report and in Table 5d.

2.8 Stormwater Assets (New June 2021)

The following information in this section is based on Table 4e – Detailed Summary of Municipal Assets (Stormwater Assets), which was prepared using information from applicable stormwater services-related documentation (as included as appendices in the Stormwater Asset Study, Greenview, 2021a), the Municipality's 2018 Tangible Capital Assets Report, and information provided by the Municipality. This information can be found directly on Table 2e – 2020 Stormwater Asset Summary.

Based on information presented in the Stormwater Asset Study (Greenview, 2021a), seven (7) catchment areas were identified within the Village of Tweed, and five (5) catchment areas in the Municipality's hamlets, including Actinolite, Marlbank, Queensborough, Stoco, and Thomasburg. The catchment area in Actinolite was not reviewed in detail, as it is understood that there are no known stormwater assets located within the hamlet.

Asset Description	Number of Catchment Areas	Total Hectares (ha)	Total Inlet Structures (#)	Total Outlet Structures (#)	Total Properties At Risk to Flooding to 100-year Storm (#)	Total Systems Not Resilient to a 5-year Storm (#)	Average Age (years)	Replacement and/or Maintenance Cost
Catchment Area (Small)	7	8	20	6	61	0	25	\$ 160,000
Catchment Area (Medium)	2	12	49	2	5	1	32	\$ 490,000
Catchment Area (Large)	2	110	226	3	0	1	37	\$ 1,960,000
Catchment Area (Multi)	1	30	61	individual outlets	10	-	37	\$ 610,000
TOTAL	12	160	356	11	76	2	35	\$ 3,220,000

Detailed mapping (and related information) completed in order to satisfy the requirements of O.Reg. 588/17 with respect to community levels of service (qualitative descriptions), with a focus on stormwater catchment areas of the Municipality, are included in the Stormwater Asset Study (Greenview, 2021a). Assumptions and notes related to stormwater assets are included on Table 4e – Detailed Summary of Municipal Assets (Stormwater Assets).

With the exception of the stormwater assets in the hamlet of Stoco (approximately 10 years old), the exact ages of stormwater assets within the Municipality are not well defined, as their various installation dates are understood to predate current senior staff's experience at the Municipality. For this reason, a review of the known asset ages for wastewater assets in the vicinity of the stormwater catchment areas was completed, with estimated installation dates ranges for stormwater-related assets established as likely between 1983 and 1988. If additional information on the various ages of stormwater assets within the Municipality becomes available, the Year in Service for assets within the catchment areas could be updated accordingly in future.

With respect to technical levels of service (technical metrics), the following is a summary of the requirements of O.Reg. 588/17 for stormwater assets:

Percentage of Properties in Municipality that are Resilient to 100-year Storm	Percentage of Municipal Stormwater Management System Resilient to a 5-year Storm
$= (4,870 \text{ Total Properties in Municipality}) - (76 \text{ Properties At Risk to 100-year Storm}) \div (4,870 \text{ Total Properties in Municipality}) \times 100\%$	$= (\text{Total Number of Inlet Structures} - \text{Inlet Structures in Tweed East}) \div (\text{Total Number of Inlet Structures}) \times 100\%$
= 98.44%	92.42%

The financial strategy for the upgrade and/or replacement of the Municipality's stormwater assets are discussed in Section 5.0 of this report and in Table 5e.

3.0 Current Levels of Service *(Updated August 2021)*

For the purposes of this AMP Report, level of service is defined as the level of service required for an asset to be maintained to meet the service requirements of the Municipality and its ratepayers. Determination of current level of service includes consideration of social, political, environmental, and economic outcomes that the Municipality delivers. For the purposes of Version 1.2 AMP Report and associated tables, the scale is from one (1) to five (5), where one (1) is very low priority and five (5) is very high priority.

Generally, the current and desired level of service for service issues for each asset category are understood to be relatively consistent. At this time, it is understood that the Municipality does not have the resources (i.e. budget) to increase the level of service for its assets in the short-term, and it is the Municipality’s objective to maintain their existing asset base in the best and most effective way possible, given their existing resources. Current levels of service as established by the Municipality as part of this Version 1.2 AMP Report are included in Tables 4a to 4e in columns labeled “Current Level of Service”.

As part of any re-evaluation of this AMP Report (as described in Section 2.3 of this AMP Report), levels of service should be concurrently re-evaluated.

The following are descriptions of the current level of service and performance measures review for each of the asset categories included in this Version 1.2 AMP Report.

3.1 Roads

Gravel roads are currently understood to have the following service issues: grading, resurfacing, calcium treatment, brushing, ditching, winter plowing, winter sanding/salting, washout repairs, and shoulder maintenance.

Similarly, paved roads (including HCB and LCB) are currently understood to have the following service issues: sweeping, patching/potholes, shoulder maintenance, resurfacing/sealant, brushing, winter plowing, winter sanding/salting, ditching, and washout repairs.

Current levels of service for the Municipality’s roads were reported as part of this AMP Report in Table 4a, and were dependent on pavement type (HCB, LCB, or gravel) and the Municipal Classes identified in the Municipality’s *Level of Service Policy – Minimum Maintenance Standards* (Municipality of Tweed, 2018) and in general accordance with O.Reg. 239/02 – Minimum Maintenance Standards for Municipal Highways.

For the purposes of this AMP Report, the following Levels or Service have been designated to specific road sections as follows:

Municipal Road Class	Level of Service (1 = very low, 5 = very high)
Road Class 2 (Arterial)	5
Road Class 3 (Major Collector)	4
Road Class 4 (Minor Collector)	3
Road Class 5 (Local)	2
Road Class 6 (Local or Partially-Maintained)	1

In a general sense, HCB and LCB roads within the Municipality were determined to have the highest level of service (generally values of 5, 4, or 3), whereas gravel roads were determined to have lower levels of service (generally between 2 and 1). The lowest levels of service for road sections in the Municipality were determined to be gravel road sections that do not connect with other roads (i.e. dead-ends).

Table 4a identifies all road sections evaluated as part of this AMP Report and their respective Current Levels of Service.

3.2 Bridges and Large Culverts

Bridges and large culverts are currently understood to have the following service issues: sweeping, blockages, damage (i.e. guide rails), supports (bridges only), winter plowing, winter sanding/salting, surface, and failure. Service issues should be noted in biennial (every 2 years) OSIM reports, as prepared by a Professional Engineer.

Levels of Service for each bridge and large culvert within the Municipality have been reported based on the road on which the bridge or large culvert is located and the Level of Service for that road section, as noted above in Section 3.1 of this AMP Report.

Table 4b identifies all bridges and large culverts evaluated as part of this AMP Report and their respective Current Levels of Service.

3.3 Water Supply Services

All water supply services assets connected to the Municipality's water services system are considered critical to public health and safety and any issues, whether minor or major, should be addressed equally. This applies to assets related to the process or chemical feed system, mechanical and electrical systems, wells, water mains, hydrants, service connections, pumps, valves and related equipment.

Levels of Service for all elements of the Municipality's water supply services are understood to be very high (Level of Service = 5), given their importance to public health and safety (i.e. safe drinking water, fire services, etc.).

Table 4c identifies all water supply services assets evaluated as part of this AMP Report and their respective Current Levels of Service.

3.4 Wastewater Services

All wastewater services assets connected to the Municipality's wastewater services are considered critical to public health and safety and any issues, whether minor or major, should be addressed equally. This applies to assets related to the sanitary sewers, process and chemical feed system, mechanical and electrical systems, service connections, pumps, valves and related equipment.

Levels of Service for all elements of the Municipality's wastewater services are understood to be very high (Level of Service = 5), given their importance to public health and safety (i.e. protection from contamination, safe drinking water, etc.).

Table 4d identifies all wastewater services assets evaluated as part of this AMP Report and their respective Current Levels of Service.

3.5 Stormwater Assets *(New June 2021)*

Stormwater assets connected to the Municipality's stormwater catchment areas were reviewed by the Municipality as part of the asset assessment activities, and stormwater assets in catchment areas located within the Village of Tweed were generally designated with higher Levels of Service than stormwater assets in catchment areas associated with the hamlets located in the Municipality (as stormwater assets in the Municipality's hamlets were generally less complex than those located within the Village of Tweed). This applies to assets related to catchbasins, piping, headwalls, outlets, and related assets.

Levels of Service for elements of the Municipality's stormwater assets within the Village of Tweed were understood to be medium to very high (Levels of Service = 3 to 5), while within the Municipality's hamlets they were understood to be low (Level of Service = 2).

Table 4e identifies all stormwater assets evaluated as part of this AMP Report and their respective Current Levels of Service.

4.0 Procurement and Options Analysis

The following sections discuss procurement methods and options analysis for the Municipality's assets reviewed as part of this AMP Report.

4.1 Procurement Methods

Procurement of new or replacement assets should be completed in accordance with any applicable Municipality procurement bylaws.

Due to the rural nature of many parts of the Municipality and the distance of the Municipality from large urban centres, challenges with regards to procurement of services or products are anticipated, as there are generally fewer available service providers in the vicinity of the Municipality than in more densely populated areas. Depending on the circumstances, the rural nature of the Municipality can have positive and negative impacts on the cost of procurement of products and services. In cases where local service providers are available, the cost for services are generally expected to be less than city prices; however, where no local service providers are available, then the cost for services are generally expected to be elevated as distance-related factors emerge (i.e. elevated mobilization costs, etc.).

Multi-municipal cooperation in new or replacement projects for assets and services could be considered as part of the Municipality's procurement methods. Multi-municipal cooperation as part of procurement methods can have a positive effect from an economies of scale perspective, with the potential of financial benefits to all parties involved.

If any amendments to the Municipality's procurement bylaw are required to enter into multi-municipal agreements or partnerships, they should be considered by the Municipality on a per project basis.

As part of the budgeting of future projects, the Municipality should consider the design-build-finance-maintain model for budgeting purposes (i.e. AFP model), in order to apply due consideration to the total lifecycle costs of asset-related projects.

4.2 Options Analysis Review *(Updated June 2021)*

Options analysis could be considered when the Municipality is reviewing maintenance, upgrade, or replacement of assets. This can help the Municipality to provide the needed level of service for its assets to its ratepayers.

Options analysis generally involves the following process of establishing project alternatives:

1. Option identification.
2. Feasibility analysis.
3. Option selection.

Financial assessment and projections for each asset category are included Tables 5a to 5e of this AMP Report, and discussed in Section 5.0. Financial projections were developed in straight-line amortizations. If necessary, for any future asset replacement activities, more detailed reviews of replacement costs could be developed, and this AMP Report should be updated accordingly with any new or updated information.

Direct benefits and costs for an asset upgrade or replacement project should be considered on a per asset basis as part of an options analysis process, with specific consideration of the following (as may be applicable):

- Efficiencies and network effects.
 - Ontario Regulation [O.Reg.] 397/11 - Energy Conservation and Demand Management Plans.
 - Labour and vehicle operating cost savings.
 - Multi-municipal cooperation.
 - Performance improvements.

- Investment scheduling and waste minimization.
 - Delay projects that could be impacted by any expansion activities (i.e. roads).
 - Coordinate multiple asset upgrades/replacements (i.e. roads, water supply services, wastewater services, stormwater assets).
- Health and Safety.
 - Accident reduction.
 - Property damage reduction.
 - Injury reduction.
- Environmental Impacts.
 - Greenhouse gas emissions.
 - Nutrient loading.
 - Groundwater and surface water impacts.
 - Drainage impacts/improvements.
 - Climate change.

Indirect benefits and costs for an asset upgrade or replacement project should be considered on a per asset basis, with specific consideration of the following (as may be applicable):

- Municipal well-being and health.
- Amenity values.
 - Public facilities (i.e. washrooms, parks, etc.).
- Culturally/historically significant assets.
 - Historical buildings.
 - Parks and land improvements.
- Municipal image.

As this AMP Report is designed to be an asset planning tool for the Municipality, an assessment of the risks associated with all potential asset maintenance, upgrade, or replacement should be considered using an approach that allows for comparative analysis of the options available. Risks associated with each option could be based on quantitative data (if available). In instances when quantitative data is not available as part of the comparative analysis review, qualitative measures could be utilized with the intent of determining the probability of the occurrence of risk events.

Due to the fact that the Municipality is a small, rural municipality with limited resources, additional study focused on quantitative data gathering with respect to specific risk assessments could be reviewed in future as part of updates to this AMP Report, if deemed valuable by the Municipality (Section 5.5 of this AMP Report).

For any review of this AMP Report, any opportunities to save resources by coordinating solutions to multiple problems concurrently should be explored. Specifically, and as part of any decision-making process, the following opportunities should be considered:

1. Multi-municipal cooperation and contract negotiation.
2. Joint service boards.
3. Shared and/or uploading of services to the upper tier (i.e. County of Hastings).

5.0 Financial Strategy

The following sections discuss the financial strategy for the Municipality's assets reviewed as part of this AMP Report.

5.1 Summary and Definitions *(Updated August 2021)*

The financial strategy for the Municipality was developed with the assistance of Municipal staff and Greenview, and is considered the critical component of this AMP Report. The financial strategy is designed to employ basic fundamentals and assumptions, such that the Municipality could amend and/or update this AMP Report in future years as information and data becomes available.

Tables 5a to 5e – Financial Assessment and Projections describe the core municipal assets included in this AMP Report by asset category including:

- Table 5a - Financial Assessment and Projections – Roads.
- Table 5b - Financial Assessment and Projections – Bridges & Large Culverts.
- Table 5c - Financial Assessment and Projections – Water Supply Services *(Updated – August 2021)*.
- Table 5d - Financial Assessment and Projections – Wastewater Services.
- Table 5e - Financial Assessment and Projections – Stormwater Assets *(New – June 2021)*.

Based on the scope of this AMP Report, Tables 5a to 5e account for an all-inclusive review of the replacement (or upgrade) costs for each core asset, and consideration has been given by the Municipality relative to non-infrastructure solutions, maintenance activities, renewal/rehabilitation activities, replacement activities, disposal activities, and expansion activities associated with the replacement costs identified.

A practical and detailed review was completed by the Municipality and Greenview in the determination of replacement costs, including, but not limited to, actual expenditures on similar assets and/or research completed by the Municipality or Greenview on actual costs of replacement within the last two (2) to three (3) years (where possible).

A summary of the financial assessment and projections of Tables 5a to 5e is included in Table 3a – General Summary of Municipal Assets. As noted in Section 2.0 of this AMP Report, Tables 3b (Municipal Reserves and Allocation Summary) and 3c (Detailed Municipal Reserves Allocation Calculations) were created in an effort to correlate current Municipality reserves that would apply to each asset category. Current reserves were divided into reserves that are applicable to this AMP Report and to reserves that are not applicable to this AMP Report. Reserves that are applicable to this AMP Report, whether directly to specific assets categories, operating departments, or specific assets, or generally to asset categories, were used to reduce the Projected Contributions to Reserves in Table 5a to 5e. As noted in Section 2.0, the Municipality should complete a detailed review on their current reserve funds to determine if any other reserve funds (or portions of reserve funds) could be applied against any core asset categories in this AMP Report.

Tables 5a to 5e incorporate pertinent information required from Tables 4a to 4e, as well as detailing the proposed annual contributions to reserves required to upgrade/replace each municipal asset over its remaining useful life. In the event that an asset has already reached its projected replacement or upgrade year, then the proposed annual contribution to reserves is determined to be equal to the replacement cost of the asset; however, if the asset has not reached the projected replacement or upgrade year, then the value included for Year 1 is equal to the amount of available reserves calculated for the given asset, and the cost of upgrade/replacement (replacement cost) is divided over the remaining useful life years.

Proposed annual contributions to reserves are determined with focus on the five (5) and ten (10) year planning horizon, and with consideration of the thirty (30) year and total life expectancy planning perspective. The proposed annual contributions to reserves (for each year) are the recommended total monies to be saved per year by the Municipality in order to replace/upgrade each asset at the end of its useful life.

For comparison purposes, the estimated borrowing cost is calculated based on the cost for the Municipality to borrow the required monies from Infrastructure Ontario to upgrade/replace each asset, consistent with recent lending rates. Lending rates can be updated on Tables 5a to 5e at any time, to reflect the most recent rates available when this AMP Report is under review by the Municipality. The term of the loan is assumed to be generally equal to asset life expectancy, rounded up to the nearest five (5) years, to a maximum of a thirty (30) year lending term. Additionally, the difference in cost to the Municipality between borrowing or saving the required funds to upgrade/replace each asset is calculated and identified as difference (borrowing – savings). This calculation is designed to illustrate the monetary benefits to the Municipality of saving money (as part of their reserves) in advance of asset upgrade/replacement, in comparison to the high costs of borrowing; however, in some cases, borrowing money to upgrade and/or replace a municipal asset may be the appropriate action (as may be applicable).

The proposed annual contributions to reserves and associated replacement costs assume the Municipality will need to obtain all funds required to upgrade/replace each asset without the assistance of Federal or Provincial funding, grants, or any other assistance.

Assumptions and notes associated with Tables 5a to 5e are included on each individual table.

5.2 Integration with Municipal Budgets

The financial strategy was developed with a cost-based approach, using real-life upgrade/replacement costs for assets, as currently understood by the Municipality. This AMP Report is not directly integrated with municipal budgets and is designed to be an independent, third-party review of the actual assets owned and managed by the Municipality.

This AMP Report should be reviewed, updated, and utilized with consideration of future municipal budgets, existing municipal reserves, Financial Information Returns (FIR), audited Financial Reports, audited Tangible Capital Asset Reports, and any other pertinent financial or planning documents of the Municipality.

On an annual basis, or at least every two (2) years, it is recommended that any new municipal assets not represented in this AMP Report be included for future planning purposes.

5.3 Maintenance Versus Upgrade/Replacement of Assets

As the upgrade and/or replacement costs of each asset are understood to be generally costly to the Municipality, particularly in years where multiple assets require at least some level of upgrade or replacement, maintenance activities on assets should be strongly considered as a viable alternative.

Maintenance activities can be used to prolong the asset life expectancy, improve the condition rating of the asset, and in some cases revise the year in service of the asset where maintenance activities improved the condition of the asset to a like-new state.

The benefits of an appropriate maintenance schedule for municipal assets include, but may not be limited to, the following:

- Increasing available funds to be used in other maintenance, upgrades, or replacement of assets.
- Prolonging asset life expectancies beyond accounting-based estimates/pre-determined values.
- Allowing for additional years for the Municipality to save/budget for replacement assets.

5.4 Assumptions on Future Changes in Population and Economic Activity

Given the small, rural nature of the Municipality, significant changes in population and economic activity are not expected within the next 10-year and 30-year planning horizons. Conditions are anticipated to remain generally consistent with current Statistics Canada data (Table 1). Per Statistics Canada, the population percent change

in the Municipality between 2011 to 2016 was -0.2%, which was interpreted to represent a generally steady-state for the Municipality's population.

Based on the above, the following is interpreted to be pertinent to lifecycle activities for municipal assets:

1. Maintaining levels of service at current levels for municipal assets is interpreted to be possible, based on the current tax base.
2. Lifecycle activities for specific core municipal assets should be considered on a case-by-case basis by Municipal Staff and/or consultants, but in general, lifecycle activities for similar assets (i.e. roads, bridges, etc.) should be conducted in a consistent manner, and be based on appropriate studies/reviews and technical metrics.
3. As part of the determination of lifecycle activities that differ from replacement/upgrade (or similar), the Municipality should also consider if risk elements are subsequently increased as it pertains to level of service on a case-by-case basis for any municipal asset.
4. Decision-making processes with respect to level of service and risk should be completed with consideration of the lowest cost alternative, whilst maintaining the desired level of service for its ratepayers over the short and long-term planning horizons.

5.5 Detailed Risk Assessments and Asset Management Planning Activities

A detailed risk assessment for the core assets of the Municipality was not part of the scope of the AMP Report (Version 1.2). However, in future it may be desirable for the Municipality to consider analysing their core assets from a risk management perspective. Risk may be defined in various way; however, the following two (2) examples of the definition of risk are interpreted to be useful for establishing context:

1. Federation of Canadian Municipalities (FCM) Definition:
 - The product of the likelihood and consequence of an undesirable event or circumstance (i.e. Risk = (Likelihood X Consequence)).
2. ISO 55000:2014 – Asset Management Definition:
 - The effect of uncertainty on objectives (or result to be achieved). An effect is a deviation from the expected – either positive or negative.

Risk management involves a focus on identifying and assessing risk and determining methods to mitigate the risk from multiple potential risk elements: Examples of risk elements include:

1. Deteriorating or aging assets.
2. Threats to public health and safety.
3. Natural disasters.
4. Climate change.
5. Downgrading Level of Service of assets.

As part of risk assessment activities, there are many tools that can be utilized including the Bowtie model, Risk Matrix model, and Decision Tree model, among others. The appropriate model to utilize should be examined at the time of implementation of detailed risk assessments for municipal assets.

5.6 Determination of Priority Assets for Replacement/Upgrade *(Updated June 2021)*

The determination of priority assets for replacement or upgrade should be considered based upon multiple factors, rather than on a singular element (i.e. Projected Replacement or Upgrade Year). It is recommended that the determination of a priority asset for replacement or upgrade should, at a minimum, consider the following aspects, as indicated in Tables 4a to 4e:

1. Year in Service.
2. Asset Life Expectancy.
3. Projected Replacement or Upgrade Year.
4. Condition Rating (or PCI/BCI, in case of road or bridge assets).
5. Current Level of Service.

Determination of priority assets for replacement or upgrade should also consider available municipal budget monies, available municipal reserves, or any Federal or Provincial funding or grants available at that time. Any special projects, as determined by the Municipality prior to the development of this AMP Report, should also be considered for priority asset status (as may be applicable).

6.0 Priorities and Recommendations *(Updated August 2021)*

Based on the data presented in Tables 4a to 4e, and Tables 5a to 5e, the following is a summary of the priority assets, by category, that should be considered for replacement and/or upgrade (or additional review) by the Municipality as part of this AMP Report (Version 1.2).

6.1 Roads

Based on the details presented in Table 4a – Detailed Summary of Municipal Assets (Roads) and related field investigations of the Municipality’s roads in the 2019 Road Needs Study (Greenview, 2019a), the following priority road sections are recommended to be investigated further as part of future road reconstruction/rehabilitation, and/or maintenance opportunities. The priority road sections for further investigation were determined by the following procedure:

1. Sorting the data for all road sections by pavement type, based on the PCI (lowest to highest).
2. Sorting the top ten (10) road sections with the lowest PCI by Current Level of Service (highest level of service = 5, lowest level of service = 1), and then by PCI value.

The top five (5) road sections with the lowest PCI values were then selected and included the sections below. In cases where road sections in the top 10 had identical PCI values and Current Levels of Service, then they were included, in order to not preferentially select road sections based on alphabetical order. For this reason, both Sections 6.1.1 (HCB Road Sections) and 6.1.3 (Gravel Road Section) have six (6) road sections identified below, and Section 6.1.2 (LCB Road Sections) has seven (7) road sections identified in their respective table.

It is recommended that the Municipality consider population density and traffic volumes (i.e. established through traffic studies) in order to further review the above noted list of potential priority road sections for reconstruction, rehabilitation and/or maintenance.

Priority road assets recommended for further review are summarized in Table 6a of this AMP Report.

6.1.1 HCB Road Sections

The following HCB road sections have been identified as assets that should be considered for additional review as part of asset management planning initiatives in the Municipality. Six (6) HCB road sections are included below:

Asset ID	Asset Name	Detailed Asset Desc.	Road Location From	Road Location To	Section Length (m)	Asset Life Expectancy	PCI (0-100)	Current Level of Service	Recon. / Rehab. Cost
R19-194	Marlbank Road	HCB	Bethel Road	Mulrone Lane	703	5	57	4	\$ 158,619
R19-200	Marlbank Road	HCB	East Hungerford Road	St. Edmunds Road	397	5	57	4	\$ 88,123
R19-205	Marlbank Road	HCB	Mulrone Lane	Kenner Court	886	6	60	4	\$ 190,163
R19-286	Quinns Lane	HCB	Victoria Street	Colborne Street	95	4	46	2	\$ 13,943
R19-149	James Street North	HCB	Jamieson Street	Hannah Street	100	5	56	2	\$ 20,271
R19-268	Pomeroy Court	HCB	College Street	End	52	5	56	2	\$ 5,915

6.1.2 LCB Road Sections

The following LCB road sections have been identified as assets that should be considered for additional review as part of asset management planning initiatives in the Municipality. Seven (7) LCB road sections are included below:

Asset ID	Asset Name	Detailed Asset Desc.	Road Location From	Road Location To	Section Length (m)	Asset Life Expectancy	PCI (0-100)	Current Level of Service	Recon. / Rehab. Cost
R19-245	Napanee Road	LCB	Moneymore Road	Municipal Boundary	2,015	4	41	3	\$ 270,804
R19-244	Napanee Road	LCB	Marlbank Road	Moneymore Road	561	4	44	3	\$ 73,231
R19-334	Store Street	LCB	Hungerford Street	Highway 37	333	5	50	2	\$ 38,778
R19-313	Sexsmith Road	LCB	Highway 7	End	264	4	49	1	\$ 37,950
R19-47	Charles Road	LCB	Charles Court	End	470	5	50	1	\$ 59,083
R19-296	Rapids Road	LCB	Martin Road	Marrisett Road	1,498	5	50	1	\$ 186,000
R19-342	Sulphide Road	LCB	Potter Settlement Road	Peter Street	1,850	5	50	1	\$ 260,231

6.1.3 Gravel Road Sections

The following gravel road sections have been identified as assets that should be considered for additional review as part of asset management planning initiatives in the Municipality. Six (6) gravel road sections are included below:

Asset ID	Asset Name	Detailed Asset Desc.	Road Location From	Road Location To	Section Length (m)	Asset Life Expectancy	PCI (0-100)	Current Level of Service	Recon. / Rehab. Cost
R19-160	Kaladar Street	Gravel	Bridgewater Road	Highway 37	215	n/a	52	2	To be determined
R19-150	James Street South	Gravel	George Street	River Street	134	n/a	55	2	To be determined
R19-266	Peterson Road	Gravel	Highway 7	End	560	n/a	44	1	To be determined
R19-14	Bethel Road	Gravel	Mulrone Lane	End	80	n/a	48	1	To be determined
R19-80	Deroche Road	Gravel	Conchie Road	Deroche Lane	1,422	n/a	50	1	To be determined
R19-175	Lingham Lake Road	Gravel	Boundary	End	6,500	n/a	50	1	To be determined

6.2 Bridges and Large Culverts

Based on a review of the 2018 OSIM Bridge Inspection Submission (Jewell Engineering, 2019), specific repair and rehabilitation requirements were noted for the Municipality's bridges and large culverts. Details regarding

each bridge or large culvert are included on Table 4b – Detailed Summary of Municipal Assets (Bridges and Large Culverts).

Based on the details presented in Table 4b – Detailed Summary of Municipal Assets (Bridges and Large Culverts), and reported in the 2018 OSIM Bridge Inspection Submission (Jewell Engineering, 2019), the following priority bridges and large culverts are recommended to be investigated further as part of future repairs, reconstruction/rehabilitation, replacement and/or maintenance opportunities. The priority bridges and large culverts for further investigation were determined by the following procedure:

1. Sorting the data for all bridges and large culverts based on the Bridge Condition Index (BCI) from lowest BCI to highest BCI.
2. Sorting the top ten (10) bridges and large culverts with the lowest BCI by Current Level of Service (highest level of service = 5, lowest level of service = 1), and then by BCI value.

The top five (5) bridges and large culverts recommended for further review based on the above-noted process are as follows:

Asset ID	Asset Name	Detailed Asset Desc.	Asset Life Expectancy Remaining (years)	Condition Rating	BCI (0-100)	Current Level of Service	Replacement and/or Upgrade Cost
BC19-39	Reynolds Culvert (Bridge #38)	Culvert	10	Poor	44.76	3	\$510,000
BC19-41	Rocky Alter Bridge (Bridge #12)	Bridge	5	Poor	21.13	1	\$855,000
BC19-26	Lost Channel Bridge (Bridge #6)	Bridge	5	Poor	23.06	1	\$2,158,000
BC19-13	East Red Bridge (Bridge #30)	Bridge	5	Poor	27.83	1	\$495,000
BC19-05	Catons Bridge North Structure (Bridge #8)	Bridge	5	Poor	28.42	1	\$1,555,000

Given that the Catons Bridge South Structure (Bridge #7) also has a similarly poor BCI rating as its North Structure counterpart (Bridge #8), it is recommended that it be included in any further investigations for repairs, reconstruction/rehabilitation, or replacement activities as they are located in approximately the same location. Similarly, the West Red Bridge (Bridge #31) reportedly has a poor condition rating and a BCI of 50.93, similar to its East Red Bridge counterpart, so consideration of further investigations of the West Red Bridge concurrently with investigations at the East Red Bridge are recommended. Details regarding the West Red Bridge and the Catons Bridge South Structure are as follows:

Asset ID	Asset Name	Detailed Asset Desc.	Asset Life Expectancy Remaining (years)	Condition Rating	BCI (0-100)	Current Level of Service	Replacement and/or Upgrade Cost
BC19-06	Catons Bridge South Structure (Bridge #7)	Bridge	5	Poor	31.17	1	\$ 1,555,000
BC19-52	West Red Bridge (Bridge #31)	Bridge	5	Poor	50.93	1	\$ 815,000

Priority bridge and large culvert assets recommended for further review are summarized in Table 6b of this AMP Report.

6.3 Water Supply Services (Updated August 2021)

Based on the details presented in Table 4c – Detailed Summary of Municipal Assets (Water Supply Services),

and reported in the Water Asset Study (Greenview, 2019b), the following priority water supply services assets are recommended to be investigated further as part of future repairs, reconstruction/rehabilitation, replacement and/or maintenance opportunities. The priority water supply services assets for further investigation were determined by the following procedure:

1. Sorting the data for all water supply services assets based on the condition rating, from lowest (poor) to highest (good).

Given that the current level of service for all water supply services assets were understood to have the highest level of service (Level of Service = 5), further sorting by current level of service was not deemed to be significant, and an alternative method of priority sorting was required.

The following alternative priority sorting methodology was utilised:

1. Given that water supply services assets that were identified as having a “poor” condition rating were dominantly Fire Hydrants, all Fire Hydrant assets with a “poor” condition rating were then sorted by Year in Service (or Last Upgrade Year). The five (5) oldest Fire Hydrants with a “poor” condition rating were identified as follows:

Asset ID	Asset Name	Detailed Asset Desc.	Asset Class	Year in Service	Condition Rating	Additional Information	Replacement and/or Upgrade Cost
WS19-187	Fire Hydrant (No. 82)	Equipment	Hydrant	1931	Poor	Leaking from operating nut. Formerly #429.	\$ 10,000
WS19-199	Fire Hydrant (No. 94)	Equipment	Hydrant	1949	Poor	Leaking from operating nut. Caps need gaskets. To be replaced. Formerly #432.	\$ 10,000
WS19-198	Fire Hydrant (No. 93)	Equipment	Hydrant	1950	Poor	To be replaced. Formerly #433.	\$ 10,000
WS19-185	Fire Hydrant (No. 80)	Equipment	Hydrant	1953	Poor	To be replaced. Formerly #406.	\$ 10,000
WS19-175	Fire Hydrant (No. 70)	Equipment	Hydrant	1969	Poor	Caps need new gaskets. Formerly #415.	\$ 10,000

The replacement and/or upgrade costs of approximately \$10,000 per hydrant represent the cost to replace and install a full, new hydrant; however, based on observations of deficiencies in 2019 (i.e. during the fire flow testing completed by Lakeshore Hydrant Services Inc.), only two (2) of the five (5) hydrants noted above are understood to require replacement. It is recommended that as many of the Fire Hydrants identified on Table 4c as requiring maintenance only (not replacement) be considered as part of municipal budgeting in the short-term planning period. Ultimately, thirty-three (33) Fire Hydrants in the Village of Tweed were identified as being in “poor” condition, and require either maintenance or replacement (Table 4c).

As it pertains to other water supply services assets (excluding Fire Hydrants), the following sorting methodology was conducted in order to determine water supply services assets for further investigation:

1. Sorting the data for all water supply services assets based on the condition rating, from lowest (poor) to highest (good), followed by sorting on Year in Service (or Last Upgrade Year).

The sorting of water supply services assets (excluding Fire Hydrants) by this methodology resulted in an asset set of Water Mains of similar age and construction material, with the exception of WS21-67 which was understood to have a “poor” condition rating and others identified as “fair”:

Asset ID	Asset Name	Asset Class	Construction Material	Location		Length (m)	Year in Service	Condition Rating	Replacement and/or Upgrade Cost
				Location From	Location To				
WS21-67	Water Main	Distribution	Cast Iron	Moira River North Connection		91	1930	Poor	\$ 900,000
				Bridge Street East	Moira Street				
WS19-31	Water Main	Distribution	Cast Iron	Hungerford Road		291	1925	Fair	\$ 246,992
				Park Avenue	Metcalfe Street				
WS19-33	Water Main	Distribution	Cast Iron	James Street North		112	1925	Fair	\$ 95,200
				Jamieson Street East	End (South-East)				
WS19-34	Water Main	Distribution	Cast Iron	James Street South		74	1925	Fair	\$ 62,900
				River Street East	End (North-West)				
WS19-35	Water Main	Distribution	Cast Iron	Jamieson Street East		95	1925	Fair	\$ 80,750
				Mary Street	Colborne Street				
WS19-36	Water Main	Distribution	Cast Iron	Jamieson Street East		97	1925	Fair	\$ 82,450
				Louisa Street	Mary Street				
WS19-37	Water Main	Distribution	Cast Iron	Jamieson Street East		94	1925	Fair	\$ 79,900
				James Street North	Louisa Street				
WS19-38	Water Main	Distribution	Cast Iron	Jamieson Street East		97	1925	Fair	\$ 82,450
				Colborne Street	Victoria Street North				

Priority water supply services assets recommended for further review are summarized in Table 6c of this AMP Report.

6.4 Wastewater Services

Based on the details presented in Table 4d – Detailed Summary of Municipal Assets (Wastewater Services), and reported in the Wastewater Asset Study (Greenview, 2019c), the following priority wastewater services assets are recommended to be investigated further as part of future repairs, reconstruction/rehabilitation, replacement and/or maintenance opportunities. The priority wastewater services assets for further investigation were determined by the following procedure:

1. Sorting the data for all wastewater services assets based on the condition rating, from lowest (poor) to highest (good), followed by sorting on Year in Service (or Last Upgrade Year).

The sorting of wastewater services assets by this methodology resulted in an asset set of Sewer Mains of

generally similar age and construction material:

Asset ID	Asset Name	Asset Class	Construction Material	Location		Length (m)	Year in Service	Condition Rating	Replacement and/or Upgrade Cost
				Location From	Location To				
WW19-70	Sewer Mains	Distribution	Asbestos Cement	Moira Street		291	1930	Poor	\$ 145,500
				Highway 37	Old Bogart Road				
WW19-71	Sewer Mains	Distribution	Asbestos Cement	Moira Street		240	1930	Poor	\$ 120,000
				Old Bogart Road	Arthur Street				
WW19-14	Sewer Mains	Distribution	Asbestos Cement	Arthur Street		263	1931	Poor	\$ 131,500
				Brooklyn Road	Louisa Street				
WW19-31	Sewer Mains	Distribution	Asbestos Cement	Hannah Street		92	1925	Fair	\$ 46,000
				Louisa Street	James Street North				
WW19-38	Sewer Mains	Distribution	Asbestos Cement	James Street North		105	1925	Fair	\$ 52,500
				Jamieson Street East	Hannah Street				
WW19-39	Sewer Mains	Distribution	Asbestos Cement	James Street South		128	1925	Fair	\$ 64,000
				River Street East	George Street				
WW19-41	Sewer Mains	Distribution	Asbestos Cement	Jamieson Street East		102	1925	Fair	\$ 51,000
				Colborne Street	Victoria Street North				
WW19-42	Sewer Mains	Distribution	Asbestos Cement	Jamieson Street East		96	1925	Fair	\$ 48,000
				Colborne Street	Mary Street				
WW19-43	Sewer Mains	Distribution	Asbestos Cement	Jamieson Street East		90	1925	Fair	\$ 45,000
				Louisa Street	James Street North				
WW19-44	Sewer Mains	Distribution	Asbestos Cement	Jamieson Street East		97	1925	Fair	\$ 48,500
				Mary Street	Louisa Street				

In addition to the above noted Sewer Main sections that are recommended for further review, the Municipality has an immediate need to expand the capacity of their existing waste stabilization ponds. The existing two (2) waste stabilization ponds are understood to be in fair condition at this time; however, their volumetric capacity is understood to be insufficient for the volumes of wastewater requiring treatment, resulting in unplanned and

planned wastewater discharges to the adjacent Stoco Lake. A new waste stabilization pond is required to address the deficiency in wastewater flow generated in the Village of Tweed.

Priority wastewater services assets recommended for further review are summarized in Table 6d of this AMP Report.

6.5 Stormwater Assets (New June 2021)

Based on the details presented in Table 4e – Detailed Summary of Municipal Assets (Stormwater Assets), and reported in the Stormwater Asset Study (Greenview, 2021a), the following priority stormwater assets are recommended to be investigated further as part of future repairs, reconstruction/rehabilitation, replacement and/or maintenance opportunities. The priority stormwater assets for further investigation were determined by the following procedure:

1. Sorting the data for all stormwater assets based on the current level of service, whether the catchment area systems were interpreted to be resilient to a 5-year storm, and condition rating, from lowest (poor) to highest (good).

The sorting of stormwater assets by this methodology resulted in an asset set recommended for further review as follows:

Asset ID	Asset Name, Description, Area (ha)	Inlets (#)	Outlets (#)	Number of Properties At Risk of Flooding to 100-year Storm	Systems Resilient to a 5-year Storm	Year in Service	Condition Rating	Level of Service	Replacement and/or Upgrade Cost
STW20-06	Tweed Centre Catchment Area (Large) 60 ha	172	1	0	No	1983	fair	5	\$ 1,720,000
STW20-09	Tweed East Catchment Area (Medium) 6 ha	27	1	0	No	1988	fair	4	\$ 270,000
STW20-12	Tweed North Catchment Area (Multi) 30 ha	61	individual outlets	10	Yes	1983	fair	4	\$ 610,000
STW20-01	Actinolite Catchment Area (Small) 1 ha	unknown	unknown	10	unknown	unknown	unknown	unknown	unknown

With respect to further review of the above noted stormwater related assets, the following additional review activities are recommended:

1. Stormwater catchment areas of Tweed Centre (STW20-06) and Tweed East (STW20-09) are recommended to be reviewed in additional detail, in order to better establish whether there are any undetermined factors that influenced the calculations of whether the two (2) catchment area systems were resilient to a 5-year storm. Based on available information at the time of completion of the Stormwater Asset Study (Greenview, 2021a), the Estimated Inlet Flow rates for both Tweed Centre and Tweed East were larger than the Estimated Outlet Flow rates, resulting in both catchment area systems being identified as not resilient to a 5-year storm. Additional study is recommended to confirm or disprove these preliminary calculations.
2. Based on the review of the Tweed North catchment area (STW20-12), the stormwater systems in this catchment area were determined to be complex, with an unknown quantity of outlets identified as a data gap, with assumed discharge to the Moira River. Additional study is recommended in this area to further establish the quantity of outlets and better understand how stormwater is managed in the catchment area.
3. At the time of completion of the Stormwater Asset Study, it was understood that there were no known stormwater assets located within the small catchment area associated with the hamlet of Actinolite (STW20-01); however, if any stormwater assets are identified within the hamlet of Actinolite in the future, then additional study is recommended to be completed in the catchment area to establish specific locations of any/all inlet and outlet locations, and related components, and have them integrated into the Municipality's Asset Management Planning documents.

Priority stormwater assets recommended for further review are summarized in Table 6e of this AMP Report.

6.6 Coordination of Asset Replacements/Upgrades *(Updated June 2021)*

Given the interconnection of surficial linear assets (i.e. roads, bridges and large culverts) and sub-surface linear assets (i.e. water mains, sewer mains, stormwater assets, etc.), the Municipality should consider combining asset replacements/upgrades where the upgrade/replacement of one (1) asset may impact other asset categories in the same area (i.e. if a water main requires replacement, also consider replacement of the sewer mains, stormwater assets, and road pavement surface in the same area). Similarly, the Municipality may consider extending a replacement schedule for a given asset in order to time its replacement with a planned replacement schedule for another related asset.

Financial benefits (i.e. cost savings) may be attained with this asset management approach.

6.7 Recommendations for Future Asset Management Planning Activities *(Updated June 2021)*

It is recommended that, as part of any future development of this AMP Report, the Municipality should consider completing a detailed operational review of all assets, with a focus on the potential for decreasing the quantity of existing Municipal assets (i.e. buildings, vehicles, etc.) while at the same time maintaining the current level of service expected by its ratepayers. Inclusion of all Municipal asset categories in a future AMP is required by no later than July 1, 2023, per Section 5 (1) of O.Reg. 588/17 (Appendix A).

Updates to studies related to Municipality assets should be completed in accordance with timelines outlined in O.Reg. 588/17 (as applicable).

As noted in Section 5.5, it is recommended that the Municipality consider conducting a detailed risk analysis for municipal assets as part of future asset management planning activities to further assist in the decision-making process of establishing priority assets for additional review, upgrade and/or replacement.

7.0 Closing

Greenview has prepared this Asset Management Plan Report (Version 1.2) in order to meet with the requirements of O.Reg. 588/17 – Asset Management Planning for Municipal Infrastructure, including the following core asset categories:

1. Roads.
2. Bridges and Large Culverts.
3. Water Supply Services (*Updated August 2021*).
4. Wastewater Services.
5. Stormwater Assets (*New June 2021*)

This report is governed by the attached statement of service conditions and limitations (Appendix B).

All respectfully submitted by,

Greenview Environmental Management Limited



Dan Hagan, P.Geol.
Senior Project Manager / Geologist



Tyler H. Peters, P.Eng.
Project Director

8.0 Selected References

- Greenview, 2019a. 2019 Road Needs Study. Greenview Environmental Management Limited, August 30, 2019.
- Greenview, 2019b. Water Asset Study – Municipal Water System. Greenview Environmental Management Limited, August 30, 2019.
- Greenview, 2019c. Wastewater Asset Study – Municipal Wastewater System. Greenview Environmental Management Limited, August 30, 2019.
- Greenview, 2019d. 2019 Asset Management Plan Report (Version 1.0). Greenview Environmental Management Limited, December 06, 2019.
- Greenview, 2021a. Stormwater Asset Study. Greenview Environmental Management Limited, June 2021.
- Greenview, 2021b. Asset Management Plan Report (Version 1.1). Greenview Environmental Management Limited, June 28, 2021.
- Jewell Engineering Inc., 2019. Municipality of Tweed – 2018 OSIM Bridge Inspection Report. Jewell Engineering Inc., January 24, 2019.
- Ontario Ministry of Transportation (MTO), 2016. Manual for Condition Rating of Flexible Pavements – Distress Manifestations (SP-024). MTO Highway Standards Branch, 2016.
- Ontario Ministry of Transportation (MTO), 1989. Manual for Condition Rating of Surface-Treated Pavements – Distress Manifestations (SP-021). MTO Research and Development Branch, August 1989.
- Ontario Ministry of Transportation (MTO), 1989. Manual for Condition Rating of Gravel Surface Roads (SP-025). MTO Research and Development Branch, August 1989.
- Ontario Regulation 232/02 – Minimum Maintenance Standards for Municipal Highways.
- Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure.
- Queen’s Printer for Ontario, 2012. Building Together – Guide for Municipal Asset Management Plans, Infrastructure Ontario. 2012.
- Quinte Conservation Authority Flood Mapping, 2009 & 1983.
- Statistics Canada, 2019. Census Profile, 2016 Census, Municipality of Tweed.
<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3512030&Geo2=PR&Code2=01&SearchText=Tweed&SearchType=Begins&SearchPR=01&B1=All&GeoLevel=PR&GeoCode=3512030&TABID=1&type=0>

Tables





Table 1
Municipal Study Area Characteristics
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Population ¹	6,044
Population Percent Change (2011 to 2016) ^{1,2}	-0.2%
Total Households ¹	3,023
<i>Permenant Households</i> ¹	2,569
<i>Seasonal Households</i> ³	454
Land Area (square kilometres) ¹	953
Land Area (square kilometres) ⁴	975
Population Density (population per square kilometres) ¹	6.3
Population Density (population per square kilometres) ⁴	6.2

Notes:

1. Data from Statistics Canada (September 13, 2019).
2. Percentage (%).
3. Calculated from data from Statistics Canada.
4. Land area based on information provided by County of Hastings (2019).



Table 2a
2019 Road Network Summary
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Road Network Summary

Road Type	No. of Road Sections	Total Length in Kilometres (km)	No. of Lane Kilometres (km)	Percentage of Total Road Network (%)	Replacement and/or Maintenance Cost
Gravel	166	253.89	507.79	61.81%	\$ 250,000
High Class Bituminous (HCB)	103	30.60	61.20	7.45%	\$ 6,566,911
Low Class Bituminous (LCB)	106	126.25	252.50	30.74%	\$ 16,212,229
TOTAL	375	410.74	821.48	100.00%	\$ 23,029,140

Road Information by Geographic Township

Road Type	Grimsthorpe Township	Elzevir Township	Hungerford Township (& Village of Tweed)	Multi-Township Road Sections (Hungerford/Elzevir)	TOTAL
	Total Length in Kilometres (km)				
Gravel	0.00	55.96	189.58	8.36	253.89
High Class Bituminous (HCB)	0.00	0.28	30.32	0.00	30.60
Low Class Bituminous (LCB)	0.26	25.80	100.19	0.00	126.25
Percentage of Total Road Network	0.06%	19.97%	77.93%	2.03%	100.00%
TOTAL	0.26	82.04	320.09	8.36	410.74

Road Information by Municipal Road Class

Municipal Road Class	Total Length in Kilometres (km)	Percentage of Total Road Network (%)
Class 2	0.58	0.14%
Class 3	16.22	3.95%
Class 4	75.12	18.29%
Class 5	15.89	3.87%
Class 6	302.94	73.75%
TOTAL	410.74	100.00%

Road Information by Municipal Road Class Description

Municipal Road Class Description	Total Length in Kilometres (km)	No. of Lane Kilometres (km)	Percentage of Total Road Network (%)	Municipal Land Area (km ²)	Road Density (km/km ²)
Arterial	0.58	1.15	0.14%	975	0.0012
Major Collector	27.36	54.73	6.66%		0.056
Minor Collector	62.74	125.48	15.27%		0.129
Local	319.81	639.61	77.86%		0.656
Partially Maintained	0.26	0.51	0.06%		0.00053
TOTAL	410.74	821.48	100.00%	-	0.421

Road Information by Pavement Condition Index (PCI)

Road Type	Average PCI	Average Condition Rating (good / fair / poor)	% PCI 75-100	% PCI 50-75	% PCI <50
			Good	Fair	Poor
Gravel	73.01	Fair	22.40%	21.33%	0.53%
High Class Bituminous (HCB)	81.25	Good	17.87%	9.33%	0.27%
Low Class Bituminous (LCB)	70.11	Fair	10.13%	17.33%	0.80%
TOTAL	74.45	Fair	50.40%	48.00%	1.60%



Table 2b
2019 Bridges and Large Culvert Summary
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Bridge Detail Summary

Structure Type	Quantity	% Loading Restrictions	% Dimensional Restriction	Average Age (years)	Rehabilitation Cost	Replacement Cost	Additional Investigations	Total Upgrade Cost
Bridges	45	44%	58%	29	\$ 1,767,500	\$ 21,846,000	\$ 191,000	\$ 23,804,500
Culverts	7	0%	14%	7	\$ -	\$ 1,250,000	\$ 15,000	\$ 1,265,000
TOTAL	52	38%	52%	16	\$ 1,767,500	\$ 23,096,000	\$ 206,000	\$ 25,069,500

Description of Traffic that is Supported by Municipal Bridges and Large Culverts
- Motor Vehicles
- Heavy Transport Vehicles
- Emergency Vehicles
- Pedestrians
- Cyclists



Table 2c
2019 Water Supply Services Summary
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Updated: Version 1.2

Water Supply Services Detail Summary

Asset Description and Class		Construction Material (Cast Iron / PVC)	Quantity	Units	Average Age (years)	Replacement and/or Maintenance Cost
Building	Distribution		1	#	22	\$ 1,500,000
Building	Treatment		1	#	21	\$ 1,000,000
Equipment	Distribution		5	#	7	\$ 2,085,000
Water Main	Distribution	Cast Iron	7,570	m	82	\$ 7,257,190
Water Main	Distribution	PVC	8,002	m	17	\$ 6,801,887
Equipment	Hydrant		97	#	20	\$ 970,000
Equipment	Treatment		8	#	14	\$ 275,000
TOTAL			-	-	33	\$ 19,889,077

Percentage of Properties Connected to Municipal Water System	Percentage of Properties where Fire Flow is Available	No. of Connection Days per Year where a Boil Water Advisory Notice is in Place Compared to the Total Number of Properties Connected to the Municipal Water System	No. of Connection-Days per Year Due to Water Main Breaks Compared to the Total Number of Properties Connected to the Municipal Water System
= (730 / 4,695)	= (730 / 4,695)	= (730 x 2) / 730	= (10 x 2) / 730
= 15.5%	= 15.5%	= 2	= 0.027
-	-	-	-



Table 2d
2019 Wastewater Services Summary
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Wastewater Services Detail Summary

Asset Description and Class		Sewer Type (PVC / Asbestos Cement / Forcemain)	Quantity	Units	Average Age (years)	Replacement and/or Maintenance Cost
Facility	Distribution		2	#	44	\$ 450,000
Equipment	Distribution		5	#	5	\$ 98,000
Equipment	Treatment		3	#	15	\$ 155,000
Land	Treatment		2	#	44	\$ 200,000
Sewer	Distribution	PVC	6,982	m	16	\$ 3,490,965
Sewer	Distribution	Asbestos Cement	6,146	m	81	\$ 3,072,868
Sewer	Distribution	Forcemain	1,570	m	44	\$ 785,000
TOTAL		-	-	-	45	\$ 8,251,833

Percentage of Properties Connected to the Municipal Wastewater System	No. of Events per Year Where Combined Sewer Flow in the Municipal Wastewater System Exceeds System Capacity Compared to the Total Number of Properties Connected to the Municipal Wastewater System	No. of Connection-Days per Year Due to Wastewater Backups Compared to the Total Number of Properties Connected to the Municipal Wastewater System	No. of Effluent Violations per Year Due to Wastewater Discharge Compared to the Total Number of Properties Connected to the Municipal Wastewater System
= (730 / 4,695)	The municipal wastewater system does not have combined sewers.	No connection-days occur when a wastewater service issue arises, as there are no interruptions in service as bypassing and/or discharges are undertaken to avoid backups.	= (3 / 730)
= 15.5%			= 0.004
-	-	-	-



Table 2e
2020 Stormwater Asset Summary
Asset Management Planning (2020)
Municipality of Tweed
169.20.003

New: Version 1.1

Stormwater Assets Detail Summary

Asset Description	Number of Catchment Areas	Total Hectares (ha)	Total Inlet Structures (#)	Total Outlet Structures (#)	Total Properties At Risk to Flooding to 100-year Storm (#)	Total Systems Not Resilient to a 5-year Storm (#)	Average Age (years)	Replacement and/or Maintenance Cost
Catchment Area (Small)	7	8	20	6	61	0	25	\$ 160,000
Catchment Area (Medium)	2	12	49	2	5	1	32	\$ 490,000
Catchment Area (Large)	2	110	226	3	0	1	37	\$ 1,960,000
Catchment Area (Multi)	1	30	61	individual outlets	10	0	37	\$ 610,000
TOTAL	12	160	356	11	76	2	35	\$ 3,220,000

Percentage of Properties in Municipality that are Resilient to 100-year Storm	Percentage of Municipal Stormwater Management System Resilient to a 5-year Storm
$= (4,870 \text{ Total Properties in Municipality}) - (76 \text{ Properties At Risk to 100-year Storm}) \div (4,870 \text{ Total Properties in Municipality}) \times 100\%$	$= (\text{Total Number of Inlet Structures} - \text{Inlet Structures in Tweed East}) \div (\text{Total Number of Inlet Structures}) \times 100\%$
= 98.44%	92.42%



Table 3a
General Summary of Municipal Assets
Asset Management Planning (2020)
Municipality of Tweed
169.20.003

Updated: Version 1.2

Asset Type	Detailed Asset Description			Projected Contributions to Reserves											TOTAL - 10 year (Replacement Cost)	TOTAL - 30 Year (Replacement Cost)	Total Required Reserve (Replacement Cost)	Estimated Borrowing Cost (Replacement Cost)	Difference (Borrowing - Savings)	Total 30 Year (Maintenance Cost - Gravel Roads)
				Years 1 to 5					Years 6 to 10											
				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028							
Roads	High Class Bituminous (HCB)			\$ -	\$ 688,081	\$ 688,081	\$ 688,081	\$ 688,081	\$ 684,595	\$ 621,640	\$ 562,515	\$ 462,253	\$ 389,253	\$ 5,472,579	\$ 6,566,911	\$ 6,566,911	\$ 8,037,955	\$ 1,471,043		
	Low Class Bituminous (LCB)			\$ -	\$ 2,309,399	\$ 2,309,399	\$ 2,309,399	\$ 2,309,399	\$ 2,213,903	\$ 2,000,288	\$ 1,271,353	\$ 885,539	\$ 347,963	\$ 15,956,642	\$ 16,212,229	\$ 16,212,229	\$ 19,843,905	\$ 3,631,676		
	Gravel			\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 2,500,000	\$ -	\$ -	\$ -	\$ -	\$ 7,500,000	
	SUB-TOTAL			\$ 250,000	\$ 3,247,480	\$ 3,247,480	\$ 3,247,480	\$ 3,247,480	\$ 3,148,498	\$ 2,871,928	\$ 2,083,868	\$ 1,597,792	\$ 987,216	\$ 23,929,221	\$ 22,779,140	\$ 22,779,140	\$ 27,881,859	\$ 5,102,719	\$ 7,500,000	
Bridges and Large Culverts	Bridges			\$ 551,408	\$ 6,709,181	\$ 5,302,537	\$ 4,948,434	\$ 4,948,434	\$ 268,901	\$ 268,901	\$ 268,901	\$ 268,901	\$ 268,901	\$ 23,804,500	\$ 23,804,500	\$ 23,804,500	\$ 35,871,759	\$ 12,067,259		
	Culverts			\$ 29,303	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 1,265,000	\$ 1,265,000	\$ 1,265,000	\$ 1,906,269	\$ 641,269		
	SUB-TOTAL			\$ 580,711	\$ 6,846,480	\$ 5,439,837	\$ 5,085,734	\$ 5,085,734	\$ 406,201	\$ 406,201	\$ 406,201	\$ 406,201	\$ 406,201	\$ 25,069,500	\$ 25,069,500	\$ 25,069,500	\$ 37,778,028	\$ 12,708,528		
Water Supply Services	Building	Distribution		\$ 43,655	\$ 18,671	\$ 18,671	\$ 18,671	\$ 18,671	\$ 18,671	\$ 18,671	\$ 18,671	\$ 18,671	\$ 18,671	\$ 211,695	\$ 585,116	\$ 1,500,000	\$ 2,260,398	\$ 760,398		
	Building	Treatment		\$ 29,103	\$ 17,980	\$ 17,980	\$ 17,980	\$ 17,980	\$ 17,980	\$ 17,980	\$ 17,980	\$ 17,980	\$ 17,980	\$ 190,919	\$ 550,511	\$ 1,000,000	\$ 1,506,932	\$ 506,932		
	Equipment	Distribution		\$ 60,680	\$ 59,134	\$ 59,134	\$ 59,134	\$ 59,134	\$ 59,134	\$ 42,629	\$ 42,629	\$ 42,629	\$ 42,629	\$ 526,867	\$ 1,379,447	\$ 2,085,000	\$ 3,141,953	\$ 1,056,953		
	Water Main	Distribution	Cast Iron	\$ 211,207	\$ 5,268,533	\$ 305,512	\$ 305,512	\$ 305,512	\$ 305,512	\$ 113,061	\$ 105,909	\$ 105,909	\$ 105,909	\$ 7,132,576	\$ 7,257,190	\$ 7,257,190	\$ 10,936,091	\$ 3,678,901		
	Water Main	Distribution	PVC	\$ 197,956	\$ 82,588	\$ 82,588	\$ 82,588	\$ 82,588	\$ 82,588	\$ 82,588	\$ 82,588	\$ 82,588	\$ 82,588	\$ 941,246	\$ 2,593,001	\$ 6,801,887	\$ 10,249,981	\$ 3,448,093		
	Equipment	Hydrant		\$ 28,230	\$ 145,146	\$ 67,474	\$ 67,474	\$ 54,529	\$ 39,966	\$ 36,082	\$ 31,228	\$ 31,228	\$ 31,228	\$ 532,585	\$ 925,050	\$ 970,000	\$ 1,461,724	\$ 491,724		
	Equipment	Treatment		\$ 8,003	\$ 27,784	\$ 27,784	\$ 27,784	\$ 27,784	\$ 16,861	\$ 16,861	\$ 16,861	\$ 16,861	\$ 16,861	\$ 203,443	\$ 275,000	\$ 275,000	\$ 386,652	\$ 111,652		
SUB-TOTAL			\$ 578,835	\$ 5,619,836	\$ 579,143	\$ 579,143	\$ 566,198	\$ 540,712	\$ 327,872	\$ 315,865	\$ 315,865	\$ 315,865	\$ 9,739,331	\$ 13,565,315	\$ 19,889,077	\$ 29,943,730	\$ 10,054,652			
Wastewater Services	Facility	Distribution		\$ 31,566	\$ 7,472	\$ 7,472	\$ 7,472	\$ 7,472	\$ 7,472	\$ 7,472	\$ 7,472	\$ 7,472	\$ 7,472	\$ 98,814	\$ 248,255	\$ 308,000	\$ 678,119	\$ 228,119		
	Equipment	Distribution		\$ 6,874	\$ 12,708	\$ 5,269	\$ 5,269	\$ 5,269	\$ 5,269	\$ 5,269	\$ 5,269	\$ 5,269	\$ 5,269	\$ 61,736	\$ 98,000	\$ 98,000	\$ 128,837	\$ 30,837		
	Equipment	Treatment		\$ 10,873	\$ 15,489	\$ 15,489	\$ 15,489	\$ 15,489	\$ 15,489	\$ 15,489	\$ 3,866	\$ 3,866	\$ 3,866	\$ 115,408	\$ 155,000	\$ 155,000	\$ 218,193	\$ 63,193		
	Land	Treatment		\$ 14,029	\$ 30,995	\$ 30,995	\$ 30,995	\$ 30,995	\$ 30,995	\$ 30,995	\$ 30,995	\$ -	\$ -	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 301,386	\$ 101,386	
	Sewer	Distribution	PVC	\$ 244,878	\$ 83,255	\$ 40,906	\$ 40,906	\$ 40,906	\$ 40,906	\$ 40,906	\$ 40,906	\$ 40,906	\$ 40,906	\$ 40,906	\$ 655,377	\$ 1,473,488	\$ 3,536,465	\$ 5,329,212	\$ 1,792,747	
	Sewer	Distribution	Asbestos Cement	\$ 215,550	\$ 1,762,669	\$ 152,595	\$ 152,595	\$ 152,595	\$ 152,595	\$ 152,595	\$ 62,676	\$ 62,676	\$ 62,676	\$ 62,676	\$ 2,839,304	\$ 3,016,193	\$ 3,027,368	\$ 4,562,037	\$ 1,534,669	
	Sewer	Distribution	Forcemain	\$ 55,065	\$ 23,546	\$ 23,546	\$ 23,546	\$ 23,546	\$ 23,546	\$ 23,546	\$ 23,546	\$ 23,546	\$ 23,546	\$ 266,981	\$ 737,907	\$ 785,000	\$ 1,182,942	\$ 397,942		
SUB-TOTAL			\$ 578,835	\$ 1,936,135	\$ 276,273	\$ 276,273	\$ 276,273	\$ 276,273	\$ 186,353	\$ 143,735	\$ 143,735	\$ 143,735	\$ 4,237,621	\$ 5,928,843	\$ 8,251,833	\$ 12,400,727	\$ 4,148,893			
Stormwater Assets	Catchment Area (Small)			\$ -	\$ -	\$ -	\$ 2,364	\$ 2,364	\$ 2,364	\$ 2,364	\$ 2,364	\$ 2,364	\$ 2,364	\$ 16,546	\$ 68,547	\$ 160,000	\$ 240,482	\$ 80,482		
	Catchment Area (Medium)			\$ -	\$ -	\$ -	\$ 7,206	\$ 7,206	\$ 7,206	\$ 7,206	\$ 7,206	\$ 7,206	\$ 7,206	\$ 50,441	\$ 208,971	\$ 490,000	\$ 736,475	\$ 246,475		
	Catchment Area (Large)			\$ -	\$ -	\$ -	\$ 31,111	\$ 31,111	\$ 31,111	\$ 31,111	\$ 31,111	\$ 31,111	\$ 31,111	\$ 217,778	\$ 902,222	\$ 1,960,000	\$ 2,945,899	\$ 985,899		
	Catchment Area (Multi)			\$ -	\$ -	\$ -	\$ 9,683	\$ 9,683	\$ 9,683	\$ 9,683	\$ 9,683	\$ 9,683	\$ 9,683	\$ 67,778	\$ 280,794	\$ 610,000	\$ 916,836	\$ 306,836		
	SUB-TOTAL			\$ -	\$ -	\$ -	\$ 50,363	\$ 50,363	\$ 50,363	\$ 50,363	\$ 50,363	\$ 50,363	\$ 50,363	\$ 352,542	\$ 1,460,533	\$ 3,220,000	\$ 4,839,691	\$ 1,619,691		
ALL ASSETS				TOTAL Projected Contributions to Reserves											TOTAL (10 year)	TOTAL (30 Year)	Total Required Reserve (Replacement Cost)	Estimated Borrowing Cost (Replacement Cost)	Difference (Borrowing - Savings)	Total 30 Year (Maintenance Cost - Gravel Roads)
				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028							
				\$ 1,988,381	\$ 17,649,931	\$ 9,542,732	\$ 9,238,992	\$ 9,226,047	\$ 4,422,046	\$ 3,842,717	\$ 3,000,032	\$ 2,513,956	\$ 1,903,380	\$ 63,328,215	\$ 68,803,332	\$ 79,209,551	\$ 112,844,035	\$ 33,634,484	\$ 7,500,000	

Notes:
1. See Notes and Assumptions from Tables 4 and 5.



Table 3b
Municipal Reserves and Allocation Summary
Asset Management Planning (2020)
Municipality of Tweed
169.20.003

Updated: Version 1.2

Summary of Reserves Applicable to Core Assets (from above)						
Asset Type	Detailed Asset Description			2018 Reserves (Non-Specific)	2018 Reserves (Specific)	2018 Reserves (Apportioned)
Roads	Gravel			\$ -	\$ 250,000	\$ 250,000
	High Class Bituminous (HCB)			\$ -	\$ -	\$ -
	Low Class Bituminous (LCB)			\$ -	\$ -	\$ -
	SUB-TOTAL			\$ -	\$ 250,000	\$ 250,000
Bridges & Large Culverts	Bridges			\$ 551,408	\$ -	\$ 551,408
	Culverts			\$ 29,303	\$ -	\$ 29,303
	SUB-TOTAL			\$ 580,711	\$ -	\$ 580,711
Water Supply Services	Building	Distribution		\$ 43,655	\$ -	\$ 43,655
	Building	Treatment		\$ 29,103	\$ -	\$ 29,103
	Equipment	Distribution		\$ 60,680	\$ -	\$ 60,680
	Water Main	Distribution	Cast Iron	\$ 211,207	\$ -	\$ 211,207
	Water Main	Distribution	PVC	\$ 197,956	\$ -	\$ 197,956
	Equipment	Hydrant		\$ 28,230	\$ -	\$ 28,230
	Equipment	Treatment		\$ 8,003	\$ -	\$ 8,003
SUB-TOTAL			\$ 578,835	\$ -	\$ 578,835	
Wastewater Services	Facility	Distribution		\$ 31,566	\$ -	\$ 31,566
	Equipment	Distribution		\$ 6,874	\$ -	\$ 6,874
	Equipment	Treatment		\$ 10,873	\$ -	\$ 10,873
	Land	Treatment		\$ 14,029	\$ -	\$ 14,029
	Sewer	Distribution	PVC	\$ 244,878	\$ -	\$ 244,878
	Sewer	Distribution	Asbestos Cement	\$ 215,550	\$ -	\$ 215,550
	Sewer	Distribution	Forcemain	\$ 55,065	\$ -	\$ 55,065
SUB-TOTAL			\$ 578,835	\$ -	\$ 578,835	
Stormwater Assets	Stormwater Assets			\$ -	\$ -	\$ -
	SUB-TOTAL			\$ -	\$ -	\$ -
TOTAL						\$ 1,988,381

Summary of Reserves Not Applicable to Core Assets	
Municipal Reserve Fund	2018 Reserves
Working Capital	\$ 319,147
Public Works	\$ 78,676
Public Works - Winter Maintenance	\$ 100,000
Public Works - Overtime Overage	\$ 15,000
Public Works - Contingencies	\$ 15,000
Community Improvement Plan	\$ 53,780
Arena	\$ 106,323
Fire Equipment	\$ -
Firehall	\$ 68,742
Fire - Equip Mtce	\$ 20,000
Firefighter Wage Overage	\$ 15,000
Municipal Building	\$ 79,032
Heritage	\$ 43,000
Hamlets	\$ 45,096
Parks	\$ 58,456
Aggregate	\$ 118,132
Waste Site	\$ 1,157,084
TOTAL	\$ 2,292,468

TOTAL 2018 Reserves (from Consolidated Financial Statements)	
Applicable 2018 Reserves	\$ 1,988,381
Not Applicable 2018 Reserves	\$ 2,292,468
TOTAL	\$ 4,280,850



Table 3c
Detailed Municipal Reserves Allocation Calculations
Asset Management Planning (2020)
Municipality of Tweed
169.20.003

Updated: Version 1.2

Reserves Applicable to Core Assets	2018 Reserves	Asset Type	Table No.	Detailed Asset Description	Specific Asset	% of Reserves Applied to Assets	Portion of Reserve Based on %
Annual Gravel Budget (Average)	\$ 250,000	Roads	4a	Gravel	Gravel Roads Only (annual maintenance)	100%	\$ 250,000
Public Works - Bridges	\$ 580,711	Bridges & Large Culverts	4b	Bridges		95%	\$ 551,408
		Bridges & Large Culverts	4b	Culverts		5%	\$ 29,303
Water and Sewer	\$ 989,115	Water Supply Services	4c	Water Supply Services		50%	\$ 494,557
		Wastewater Services	4d	Wastewater Services		50%	\$ 494,557
Village Infrastructure	\$ 168,556	Water Supply Services	4c	Water Supply Services		50%	\$ 84,278
		Wastewater Services	4d	Wastewater Services		50%	\$ 84,278
SUBTOTAL	\$ 1,988,381					SUBTOTAL	\$ 1,988,381

Summary of Reserves Applicable to Core Assets (from above)	
Asset Type	Reserve Total
Roads	\$ 250,000
Bridges & Large Culverts	\$ 580,711
Water Supply Services	\$ 578,835
Wastewater Services	\$ 578,835
Stormwater Assets	\$ -
Total Reserves Applicable to Core Assets	\$ 1,988,381

Summary of Reserves Not Applicable to Core Assets	
Asset Type	Reserve Total
Working Capital	\$ 319,147
Public Works	\$ 78,676
Public Works - Winter Maintenance	\$ 100,000
Public Works - Overtime Overage	\$ 15,000
Public Works - Contingencies	\$ 15,000
Community Improvement Plan	\$ 53,780
Arena	\$ 106,323
Fire Equipment	\$ -
Firehall	\$ 68,742
Fire - Equip Mtce	\$ 20,000
Firefighter Wage Overage	\$ 15,000
Municipal Building	\$ 79,032
Heritage	\$ 43,000
Hamlets	\$ 45,096
Parks	\$ 58,456
Aggregate	\$ 118,132
Waste Site	\$ 1,157,084
Total Reserves Not Applicable to Core Assets	\$ 2,292,468
Total Reserves (as of December 31, 2018)	\$ 4,280,850

Notes: Reserve values per the 2018 Consolidated Financial Statements for Municipality of Tweed.



Table 4a
Detailed Summary of Municipal Assets (Roads)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class			Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class												Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-01	Alexander Street	HC	Local	5	Hungerford	Hungerford	Elvis Lane	Lakeview Lane	320	6.6	0.5	2010	11	2030	\$ 25,018	\$ 12,330	\$ -	\$ 12,688	\$ 61,875	7.90	9.30	88	Good	2		
R19-02	Alexander Street	HC	Local	5	Hungerford	Hungerford	Elvis Lane	Louisa Street	136	6.6	0.5	2010	11	2030	\$ 10,633	\$ 5,240	\$ -	\$ 5,392	\$ 26,297	8.00	9.06	86	Good	2		
R19-03	Allore Court	Gravel	Local	6	Hungerford	Hungerford	Allore Road	End	560	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 551	7.40	-	70	Fair	1	Apply calcium chloride to reduce dust. Brushing required.	
R19-04	Allore Road	Gravel	Local	6	Hungerford	Hungerford	Courneya Road	East Hungerford Road	1,493	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,470	7.40	-	74	Fair	1	Routine maintenance. Bridge in section.	
R19-05	Allore Road	Gravel	Local	6	Hungerford	Hungerford	Otter Creek Road	Courneya Road	1,480	6.20	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,457	7.10	-	75	Good	1	Routine maintenance.	
R19-06	Allore Road	Gravel	Local	6	Hungerford	Hungerford	Stoco Road	Bogart Road	1,748	6.4	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,721	7.40	-	75	Good	1	Routine maintenance.	
R19-07	Ann Street	HC	Local	5	Hungerford	Hungerford	Queen Street	End	161	4.0	0.5	1993	7	2026	\$ 32,160	\$ 30,552	\$ -	\$ 1,608	\$ 20,381	6.50	7.26	65	Fair	2	Cul-de-sac at end of section.	
R19-08	Arthur Street	HC	Local	5	Hungerford	Hungerford	Louisa Street	Brooklyn Road	268	8.0	0.5	1996	9	2028	\$ 83,124	\$ 79,314	\$ -	\$ 3,810	\$ 61,456	7.50	8.20	77	Good	2	Catch basins in section.	
R19-09	Asselstine Road	Gravel	Local	6	Hungerford	Hungerford	Luffman Road	Marlbank Road	2,600	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,560	7.90	-	77	Good	1	Routine maintenance.	
R19-10	Barry Road	LCB	Local	6	Elzevir	Elzevir	Queensborough Road	Boundary	1,215	5.5	1.5	2018	10	2029	\$ 241,543	\$ 106,275	\$ -	\$ 135,269	\$ 145,477	8.20	-	81	Good	1	Gravel on surface starting to washboard.	
R19-11	Bethel Road	Gravel	Local	6	Hungerford	Hungerford	Carss Road	Uens Road	1,223	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,204	8.10	-	76	Good	1	Routine maintenance. Bridge in section.	
R19-12	Bethel Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	Mulrone Lane	336	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 331	8.20	-	80	Good	1	Routine maintenance.	
R19-13	Bethel Road	LCB	Local	6	Hungerford	Hungerford	Marlbank Road	St. Edmunds Road	310	5.0	0.5		8	2027	Unknown				\$ 31,316	7.50	-	70	Fair	1		
R19-14	Bethel Road	Gravel	Local	6	Hungerford	Hungerford	Mulrone Lane	End	80	3.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 79	5.10	-	48	Poor	1	Brushing and grading required. Tall grass in mid-lane.	
R19-15	Bethel Road	Gravel	Local	6	Hungerford	Hungerford	St. Edmunds Road	Trillium Road	1,286	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,266	7.80	-	78	Good	1	Brushing required.	
R19-16	Bethel Road	Gravel	Local	6	Hungerford	Hungerford	Trillium Road	Carss Road	896	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 882	8.10	-	80	Good	1	Routine maintenance.	
R19-17	Bethel Road	Gravel	Local	6	Hungerford	Hungerford	Uens Road	Highway 37	788	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 776	8.10	-	82	Good	1	Routine maintenance.	
R19-18	Black River Road	Gravel	Local	6	Elzevir	Elzevir	Highway 7	Black River Lane	1,660	5.8	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,635	7.10	-	69	Fair	1	Brushing required.	
R19-19	Black River Road	Gravel	Local	6	Elzevir	Elzevir	Highway 7	Kehoe Lane	1,563	6.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,539	7.90	-	75	Good	1	Brushing and grading required.	
R19-20	Black River Road	Gravel	Local	6	Elzevir	Elzevir	Highway 7	Kehoe Road	284	6.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 280	7.70	-	75	Good	1	Routine maintenance.	
R19-21	Bogart Road	Gravel	Local	6	Hungerford	Hungerford	Allore Road	Sulphide Road	920	6.4	n/a	2019	n/a	Annually	From Operations Budget				\$ 906	8.00	-	78	Good	1	Routine maintenance.	
R19-22	Bogart Road	Gravel	Local	6	Hungerford	Hungerford	Stoco Road	Allore Road	785	6.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 773	8.20	-	80	Good	1	Routine maintenance.	
R19-23	Bosley Road	LCB	Local	6	Elzevir	Elzevir	1002 m SE of Queensborough Road	Queensborough Road	1,002	5.0	0.6	2018	10	2029	\$ 108,466	\$ 17,690	\$ -	\$ 90,776	\$ 102,323	8.20	-	80	Good	1	Bridge in section.	
R19-24	Bosley Road	Gravel	Local	6	Elzevir	Elzevir	Croft Road	Ramsay Road	166	5.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 163	7.40	-	73	Fair	1	Routine maintenance.	
R19-25	Bosley Road	Gravel	Local	6	Elzevir	Elzevir	Queensborough Road	Croft Road	1,804	6.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,776	7.30	-	75	Good	1	Routine maintenance.	
R19-26	Bosley Road	Gravel	Local	6	Elzevir	Elzevir	Ramsay Road	1002 m S of Queensborough Road	1,275	5.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,255	6.60	-	70	Fair	1	Routine maintenance.	
R19-27	Bridge Street East	HC	Local	5	Hungerford	Hungerford	Victoria Street	Colborne Street	80	9.5	1.0	1992	6	2025	\$ 28,111	\$ 28,111	\$ -	\$ -	\$ 21,867	6.30	7.26	64	Fair	2		
R19-28	Bridge Street West	HC	Local	5	Hungerford	Hungerford	Metcalf Street	Victoria Street	99	9.5	0.5	1992	9	2028	\$ 27,214	\$ 27,214	\$ -	\$ -	\$ 26,516	7.90	8.17	78	Good	2	Moderate curb and gutter cracking and separation.	
R19-29	Bridgewater Road	LCB	Local	6	Hungerford	Hungerford	563 m NW of Ekblad Road	Quarry Street	145	6.0	1.0	2016	7	2026	\$ 19,623	\$ 2,355	\$ -	\$ 17,269	\$ 17,683	7.00	-	68	Fair	1		
R19-30	Bridgewater Road	Gravel	Local	6	Elzevir	Elzevir	Ekblad Road	563 m NW of Ekblad Road	563	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 554	7.50	-	72	Fair	1	Routine maintenance.	



Table 4a
Detailed Summary of Municipal Assets (Roads)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class			Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class												Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-31	Bridgewater Road	Gravel	Local	6	Hungerford	Elzevir	Labarge Road	Ekblad Road	2,415	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,378	7.40	-	70	Fair	1	Brushing required.	
R19-32	Bridgewater Road	Gravel	Local	6	Hungerford	Hungerford	Labarge Road	Potter Settlement Road	480	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 473	7.80	-	75	Good	1	Routine maintenance.	
R19-33	Bridgewater Road	LCB	Local	6	Hungerford	Hungerford	Quarry Street	Highway 37	124	6.0	1.0	2016	9	2028	\$ 16,781	\$ 2,014	\$ -	\$ 14,768	\$ 15,122	8.00	-	78	Good	1		
R19-34	Brinson Road	Gravel	Local	6	Hungerford	Hungerford	Rapids Road	End	845	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 832	7.80	-	75	Good	1	Brushing required.	
R19-35	Brooklyn Road	HC	Local	5	Hungerford	Hungerford	Arthur Street	Minnie Avenue	66	8.5	0.0	1997	8	2027	\$ 21,555	\$ 20,567	\$ -	\$ 988	\$ 15,619	7.90	7.55	73	Fair	2	No shoulder, edge of pavement drops right into ditch.	
R19-36	Brooklyn Road	HC	Local	5	Hungerford	Hungerford	Arthur Street	Moir Street	30	8.5	1.0	1997	8	2027	\$ 9,798	\$ 9,349	\$ -	\$ 449	\$ 7,430	8.00	7.26	70	Fair	2	Distortion around catch basins.	
R19-37	Brooklyn Road	HC	Local	5	Hungerford	Hungerford	St. Joseph Street	End	76	6.0	1.0	1997	5	2024	\$ 24,821	\$ 23,683	\$ -	\$ 1,138	\$ 13,942	6.50	6.51	58	Fair	2	Severe cracking.	
R19-38	Brooklyn Road	HC	Local	5	Hungerford	Hungerford	St. Joseph Street	Minnie Avenue	31	7.5	0.5	1997	7	2026	\$ 10,124	\$ 9,660	\$ -	\$ 464	\$ 6,711	7.40	7.26	68	Fair	2		
R19-39	Brooks Road	Gravel	Local	6	Hungerford	Hungerford	Courneya Road	Stoco Road	900	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 886	8.00	-	80	Good	1	Routine maintenance.	
R19-40	Camp Road	Gravel	Local	6	Hungerford	Hungerford	Quin-Mo-Lac Road	Franks Road	1,578	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,554	6.80	-	64	Fair	1	Routine maintenance.	
R19-41	Carss Road	Gravel	Local	6	Hungerford	Hungerford	Lost Channel Road	Bethel Road	1,445	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,423	7.90	-	75	Good	1	Two bridges in section. Grading required on bridges.	
R19-42	Carter Street	LCB	Local	6	Hungerford	Hungerford	Highway 37	Rapids Road	465	6.0	0.5	2014	10	2029	\$ 18,808	\$ 9,404	\$ -	\$ 9,404	\$ 54,149	8.10	-	82	Good	1		
R19-43	Cary Road	Gravel	Local	6	Hungerford	Hungerford	East Hungerford Road	Maribank Road	2,780	5.80	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,737	7.50	-	78	Good	1	Brushing required.	
R19-44	Centre Street	LCB	Local	5	Elzevir	Elzevir	Highway 37	Hungerford Street	134	6.0	0.5	2003	7	2026	\$ 4,498	\$ 4,498	\$ -	\$ -	\$ 15,604	7.50	-	67	Fair	2		
R19-45	Chapman Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	Bethel Road	774	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 762	8.30	-	81	Good	1	Routine maintenance.	
R19-46	Charles Court	LCB	Local	6	Hungerford	Hungerford	Charles Road	End	290	5.0	0.5	2003	8	2027	\$ 6,142	\$ 5,527	\$ -	\$ 614	\$ 29,295	7.50	-	72	Fair	1		
R19-47	Charles Road	LCB	Local	6	Hungerford	Hungerford	Charles Court	End	470	6.6	0.5	2003	5	2024	\$ 9,954	\$ 8,958	\$ -	\$ 995	\$ 59,083	5.40	-	50	Poor	1		
R19-48	Charles Road	LCB	Local	6	Hungerford	Hungerford	Greenwood Road	Charles Court	420	6.6	0.5	2003	8	2027	\$ 8,895	\$ 8,005	\$ -	\$ 889	\$ 52,798	8.10	-	72	Fair	1		
R19-49	Clare Street	LCB	Local	6	Hungerford	Hungerford	Carter Street	Johnston Road	433	6.3	0.5	1997	10	2029	\$ 8,876	\$ 8,876	\$ -	\$ -	\$ 52,093	8.20	-	84	Good	1		
R19-50	Clare Street	LCB	Local	6	Hungerford	Hungerford	Highway 37	Thomas Street	745	6.0	0.5	1997	9	2028	\$ 15,272	\$ 15,272	\$ -	\$ -	\$ 86,755	7.90	-	77	Good	1		
R19-51	Clare Street	LCB	Local	6	Hungerford	Hungerford	Thomas Street	Thomasburg Road	50	6.3	1.5	1997	10	2029	\$ 1,025	\$ 1,025	\$ -	\$ -	\$ 6,565	8.00	-	80	Good	1		
R19-52	Clare Street	LCB	Local	6	Hungerford	Hungerford	Thomasburg Road	Carter Street	150	6.3	1.0	1997	9	2028	\$ 3,075	\$ 3,075	\$ -	\$ -	\$ 18,871	8.00	-	77	Good	1	Distortion around catch basins.	
R19-53	Clareview Road	Gravel	Local	6	Hungerford	Hungerford	Dennison Road	End	650	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 640	7.50	-	72	Fair	1	Brushing required. Apply calcium chloride for dust control.	
R19-54	Clareview Road	Gravel	Local	6	Hungerford	Hungerford	Deshane Road	Dennison Road	1,200	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,182	8.00	-	74	Fair	1	Apply calcium chloride to reduce dust. Routine maintenance.	
R19-55	Clarke Road	Gravel	Local	6	Elzevir	Elzevir	Flinton Road	End	512	4.2	n/a	2019	n/a	Annually	From Operations Budget				\$ 504	6.90	-	62	Fair	1	Brushing required.	
R19-56	Colborne Street	HC	Local	5	Hungerford	Hungerford	Bridge Street East	Spring Street East	203	6.8	0.5	2002	10	2029	\$ 75,762	\$ 60,610	\$ -	\$ 15,152	\$ 40,034	8.10	8.75	84	Good	2		
R19-57	Colborne Street	HC	Local	5	Hungerford	Hungerford	Jamieson Street East	River Street East	253	6.6	0.5	2002	7	2026	\$ 94,423	\$ 75,538	\$ -	\$ 18,885	\$ 48,920	7.70	6.97	67	Fair	2	Severe alligator cracking in centerline.	
R19-58	Colborne Street	HC	Local	5	Hungerford	Hungerford	Spring Street East	Jamieson Street	190	6.8	0.5	2002	10	2029	\$ 70,910	\$ 56,728	\$ -	\$ 14,182	\$ 37,470	8.40	8.63	84	Good	2	Manholes in section.	
R19-59	Cold Water Road	Gravel	Local	6	Hungerford	Hungerford	Napanee Road	End	450	4.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 443	7.50	-	69	Fair	1	Apply calcium chloride to reduce dust. Routine maintenance.	
R19-60	College Street	HC	Local	5	Hungerford	Hungerford	Katharine Street	Hungerford Road	248	7.3	1.0	2006	12	2031	\$ 120,948	\$ 72,569	\$ -	\$ 48,379	\$ 53,457	7.80	9.66	91	Good	2	Manhole in section.	



Table 4a
Detailed Summary of Municipal Assets (Roads)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class			Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class												Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-61	College Street	LCB	Local	5	Hungerford	Hungerford	Pomeroy Court	Katharine Street	61	7.3	1.0	2006	10	2029	\$ 29,749	\$ 17,850	\$ -	\$ 11,900	\$ 13,149	6.80	8.80	80	Good	2	Utilities under road leading to minor distortions.	
R19-62	College Street	LCB	Local	5	Hungerford	Hungerford	River Street West	Pomeroy Court	316	7.3	1.0	2006	11	2030	\$ 154,111	\$ 92,466	\$ -	\$ 61,644	\$ 68,114	7.70	8.95	85	Good	2		
R19-63	Colonization Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	Horrigan Road	1,400	4.20	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,379	8.20	-	83	Good	1	Routine maintenance.	
R19-64	Colonization Road	Gravel	Local	6	Hungerford	Hungerford	Moneymore Road	Horrigan Road	4,740	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 4,667	7.90	-	74	Fair	1	Brushing required.	
R19-65	Conchie Road	Gravel	Local	6	Hungerford	Hungerford	Deroche Road	Marlbank Road (West)	775	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 763	8.30	-	79	Good	1	Routine maintenance.	
R19-66	Conchie Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road (East)	Deroche Road	1,167	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,149	8.10	-	79	Good	1	Culverts need to be cleaned out. Brushing required.	
R19-67	Cosy Cove Lane	Gravel	Local	6	Hungerford	Hungerford	Sulphide Road	End	565	4.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 556	5.50	-	53	Fair	1	Routine maintenance.	
R19-68	Countryman Road	Gravel	Local	6	Hungerford	Hungerford	Murphy Road	Highway 37	1,757	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,730	8.30	-	84	Good	1	Routine maintenance.	
R19-69	Countryman Road	Gravel	Local	6	Hungerford	Hungerford	Rapids Road	End	2,770	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,728	8.30	-	85	Good	1	Routine maintenance.	
R19-70	Countryman Road	Gravel	Local	6	Hungerford	Hungerford	Rapids Road	Murphy Road	1,970	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,940	7.50	-	70	Fair	1	Routine maintenance.	
R19-71	Courmeya Road	Gravel	Local	6	Hungerford	Hungerford	Allore Road	Brooks Road	2,435	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,398	8.40	-	82	Good	1	Routine maintenance. Bridge in section.	
R19-72	Courmeya Road	Gravel	Local	6	Hungerford	Hungerford	Brooks Road	Stoco Road	2,046	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,015	8.20	-	79	Good	1	Routine maintenance.	
R19-73	Croft Road	Gravel	Local	6	Elzevir	Elzevir	Bosley Road	End	721	3.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 710	6.20	-	60	Fair	1	Grading required. Routine maintenance.	
R19-74	Crookston Road	LCB	Major Collector	3	Hungerford	Hungerford	Rapids Road	College Street	3,835	7.0	1.2	2016	13	2032	\$ 1,258,345	\$ 151,001	\$ -	\$ 1,107,344	\$ 810,455	9.00	9.88	96	Good	4	New pavement.	
R19-75	Crookston Road	LCB	Major Collector	4	Hungerford	Hungerford	Rapids Road	Reavie Lane	915	7.0	1.2	2016	13	2032	\$ 300,231	\$ 36,028	\$ -	\$ 264,203	\$ 193,368	8.40	9.89	95	Good	3		
R19-76	Crookston Road	LCB	Major Collector	4	Hungerford	Hungerford	Reavie Lane	Municipal Boundary	725	7.0	1.2	2016	13	2032	\$ 237,888	\$ 28,547	\$ -	\$ 209,341	\$ 153,215	8.50	9.86	95	Good	3	Bridge in section.	
R19-77	Declair Road	LCB	Local	6	Elzevir	Elzevir	Queensborough Road	Rockies Road	838	6.0	1.2		5	2024	Unknown				\$ 104,038	6.50	-	58	Fair	1	Manual patching required.	
R19-78	Declair Road	Gravel	Local	6	Elzevir	Elzevir	Rockies Road	End	1,500	5.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,477	6.70	-	65	Fair	1	Culverts need to be cleaned out. Apply calcium chloride to reduce dust. Repair sinkhole in shoulder.	
R19-79	Dennison Road	Gravel	Local	6	Hungerford	Hungerford	Clareview Road	End	1,262	4.40	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,243	8.10	-	75	Good	1	Brushing required. Apply calcium chloride for dust control.	
R19-80	Deroche Road	Gravel	Local	6	Hungerford	Hungerford	Conchie Road	Deroche Lane	1,422	4.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,400	5.70	-	50	Poor	1	Brushing and grading required.	
R19-81	Deshane Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	Clareview Road	4,165	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 4,101	8.00	-	82	Good	1		
R19-82	East Hungerford Road	LCB	Local	6	Hungerford	Hungerford	1878 m East of Stoco Road	Stoco Road	1,878	5.3	0.5	2013	6	2025	\$ 44,178	\$ 26,507	\$ -	\$ 17,671	\$ 196,958	7.20	-	64	Fair	1	Brushing required.	
R19-83	East Hungerford Road	Gravel	Local	6	Hungerford	Hungerford	Allore Road	3226 m West of Allore Road	3,226	6.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 3,177	7.20	-	70	Fair	1	Brushing required.	
R19-84	East Hungerford Road	Gravel	Local	6	Hungerford	Hungerford	Allore Road	Cary Road	1,018	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,002	7.90	-	77	Good	1	Routine maintenance.	
R19-85	East Hungerford Road	Gravel	Local	6	Hungerford	Hungerford	Cary Road	Kinlin Road (Tweed Road)	7,515	5.40	n/a	2019	n/a	Annually	From Operations Budget				\$ 7,400	7.80	-	82	Good	1	Brushing required.	
R19-86	Ekblad Road	Gravel	Local	6	Hungerford	Elzevir	Bridgewater Road	Potter Settlement Road	2,989	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,943	7.00	-	67	Fair	1	Routine maintenance.	
R19-87	Elvis Lane	Gravel	Partially Maintained	5	Hungerford	Hungerford	Alexander Street	End	41	6.00	1.0	2019	n/a	Annually	From Operations Budget				\$ 40	7.80	-	81	Good	2	Routine maintenance.	
R19-88	Elzevir Road	Gravel	Local	6	Elzevir	Elzevir	Flinton Road	Boundary	6,454	5.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 6,355	6.50	-	61	Fair	1	Routine maintenance.	
R19-89	Ervine Road	Gravel	Local	6	Hungerford	Hungerford	Windmill Road	Vanderwater Road	3,025	6.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,979	8.20	-	81	Good	1	Routine maintenance.	
R19-90	Esker Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	Uens Road	619	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 610	7.90	-	78	Good	1	Routine maintenance.	



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			Description	Municipal Class	Geographic Township START ^{2,3}	Geographic Township END ^{2,3}									Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-91	Esker Road	Gravel	Local	6	Hungerford	Hungerford	Uens Road	Lost Channel Road	1,466	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,444	8.10	-	80	Good	1	Brushing required.
R19-92	Esker Road	Gravel	Local	6	Hungerford	Hungerford	Vanderwater Road	Lost Channel Road	3,262	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 3,212	7.40	-	82	Good	1	Routine maintenance. Bridge in section.
R19-93	Farrell Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	Flynn Road	430	6.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 423	8.30	-	76	Good	1	Brushing required.
R19-94	Flatrock Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	Flatrock Lane	2,280	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,245	7.20	-	70	Fair	1	Routine maintenance.
R19-95	Flinton Road	LCB	Minor Collector	4	Elzevir	Elzevir	Clarke Road	Highway 7	483	6.2	1.0	2008	6	2025	\$ 21,452	\$ 17,688	\$ -	\$ 3,764	\$ 60,393	6.80	-	63	Fair	3	
R19-96	Flinton Road	LCB	Minor Collector	4	Elzevir	Elzevir	Elzevir Road	Boundary	3,106	6.7	1.5	2008	6	2025	\$ 137,949	\$ 113,745	\$ -	\$ 24,204	\$ 429,410	7.50	-	60	Fair	3	Moderate potholing in midlane.
R19-97	Flinton Road	LCB	Minor Collector	4	Elzevir	Elzevir	Forbes Road	Clarke Road	760	7.0	1.4	2008	8	2027	\$ 33,754	\$ 27,832	\$ -	\$ 5,922	\$ 107,754	7.50	-	70	Fair	3	
R19-98	Flinton Road	LCB	Minor Collector	4	Elzevir	Elzevir	Robinson Road North	Elzevir Road	7,062	6.1	1.2	2008	6	2025	\$ 313,650	\$ 258,619	\$ -	\$ 55,031	\$ 887,645	7.80	-	61	Fair	3	Bridge in section. Distortion at pavement edge. Moderate potholing over culverts.
R19-99	Flinton Road	LCB	Minor Collector	4	Elzevir	Elzevir	Robinson Road North	Forbes Road	644	6.8	1.2	2008	8	2027	\$ 28,602	\$ 23,584	\$ -	\$ 5,018	\$ 87,903	7.80	-	73	Fair	3	
R19-100	Flynn Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	End	1,380	5.60	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,359	7.90	-	77	Good	1	Brushing required.
R19-101	Forbes Road	Gravel	Local	6	Elzevir	Elzevir	Flinton Road	End	923	4.9	n/a	2019	n/a	Annually	From Operations Budget				\$ 909	8.10	-	83	Good	1	Routine maintenance.
R19-102	Franklin Street	LCB	Local	5	Hungerford	Hungerford	Queen Street	End	380	4.6	1.0	1992	7	2026	\$ 75,243	\$ 75,243	\$ -	\$ -	\$ 56,049	5.10	8.25	65	Fair	2	Very poor condition.
R19-103	French Settlement Court	Gravel	Local	6	Hungerford	Hungerford	French Settlement Road	Latendre Lane	817	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 804	7.60	-	71	Fair	1	Brushing required.
R19-104	French Settlement Road	Gravel	Local	6	Hungerford	Hungerford	Cassidy Lane	Palmtree Road	1,158	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,140	7.80	-	74	Fair	1	Brushing required.
R19-105	French Settlement Road	Gravel	Local	6	Hungerford	Hungerford	French Settlement Court	Cassidy Lane	318	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 313	7.70	-	75	Good	1	Brushing required.
R19-106	French Settlement Road	LCB	Local	6	Hungerford	Hungerford	Palmtree Road	Victoria Street North	1,335	6.5	1.0	2017	10	2029	\$ 240,333	\$ 175,183	\$ -	\$ 65,150	\$ 173,104	8.40	-	81	Good	1	
R19-107	French Settlement Road	Gravel	Local	6	Hungerford	Hungerford	Rapids Road	French Settlement Court	3,066	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 3,019	7.50	-	73	Fair	1	Routine maintenance. Bridge in section.
R19-108	French Settlement Road North	Gravel	Local	6	Elzevir	Elzevir	Highway 7	End	3,493	5.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 3,439	6.80	-	65	Fair	1	Brushing and grading required.
R19-109	Fuller Road	LCB	Local	6	Hungerford	Hungerford	Rapids Road	Robinson Road	415	7.0	1.0	2017	10	2029	\$ 16,927	\$ 846	\$ -	\$ 16,081	\$ 57,013	7.80	-	80	Good	1	
R19-110	Gabe Lindsay Avenue	LCB	Local	5	Hungerford	Hungerford	Metcalf Street	End	70	6.6	1.0		8	2027	Unknown				\$ 13,920	7.00	7.86	72	Fair	2	Cul-de-sac at end of section.
R19-111	Gallagher Road	LCB	Local	6	Hungerford	Hungerford	Highway 37	End	460	6.0	1.0	2002	5	2024	\$ 10,844	\$ 10,844	\$ -	\$ -	\$ 56,097	6.80	-	59	Fair	1	
R19-112	Geen Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	End	600	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 591	7.60	-	78	Good	1	Brushing required.
R19-113	Genereaux Road	Gravel	Local	6	Elzevir	Elzevir	Highway 7	Price Road	824	5.2	n/a	2019	n/a	Annually	From Operations Budget				\$ 811	7.20	-	70	Fair	1	Brushing required.
R19-114	George Street	Gravel	Local	5	Hungerford	Hungerford	James Street South	End	96	5.00	0.5	2019	n/a	Annually	From Operations Budget				\$ 95	6.50	-	59	Fair	2	Grading required. Routine maintenance.
R19-115	George Street	LCB	Local	5	Hungerford	Hungerford	Louisa Street	James Street South	94	6.0	0.5	1987	7	2026	\$ 50,447	\$ 50,447	\$ -	\$ -	\$ 16,727	5.90	7.93	67	Fair	2	
R19-116	Greenwood Road	LCB	Local	6	Hungerford	Hungerford	Charles Road	McRae Court	515	6.6	0.5	2012	13	2032	\$ 61,622	\$ 26,355	\$ -	\$ 35,267	\$ 99,580	9.30	9.93	97	Good	1	New pavement.
R19-117	Greenwood Road	LCB	Local	6	Hungerford	Hungerford	Charles Road	Stoco Road	1,468	6.6	0.5	2012	12	2031	\$ 175,653	\$ 75,125	\$ -	\$ 100,528	\$ 283,851	8.80	9.53	93	Good	1	Bridge in Section. Approach slab joints for bridge are rough. New pavement.
R19-118	Greenwood Road	LCB	Local	6	Hungerford	Hungerford	Sulphide Road	McRae Court	240	6.6	1.0	2012	13	2032	\$ 28,717	\$ 12,282	\$ -	\$ 16,435	\$ 47,726	9.20	9.81	96	Good	1	New pavement.
R19-119	Hannah Street	LCB	Local	5	Hungerford	Hungerford	Louisa Street	James Street North	95	6.0	1.0		7	2026	Unknown				\$ 17,428	6.80	7.55	69	Fair	2	
R19-120	Hawkins Bay Road	Gravel	Local	6	Hungerford	Hungerford	170m West of Scootamatta Lane	North Hawkins Bay Road	1,075	5.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,059	7.90	-	81	Good	1	



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Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class			Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class												Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-121	Hawkins Bay Road	Gravel	Local	6	Hungerford	Hungerford	Hawkins Lane	End	164	4.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 161	6.00	-	62	Fair	1		
R19-122	Hawkins Bay Road	LCB	Local	6	Hungerford	Hungerford	Highway 37	End	125	5.0	1.0		5	2024	Unknown				\$ 13,315	6.50	-	58	Fair	1	Bridge closed.	
R19-123	Hawkins Bay Road	Gravel	Local	6	Hungerford	Hungerford	North Hawkins Bay Road	Hawkins Lane	655	4.4	n/a	2019	n/a	Annually	From Operations Budget				\$ 645	6.90	-	72	Fair	1		
R19-124	Hawkins Bay Road	LCB	Local	6	Hungerford	Hungerford	Scootamatta Lane	50 m E of Scootamatta Lane	50	5.3	1.1	2019	9	2028	Unknown				\$ 5,612	8.10	-	76	Good	1	Gravel on surface	
R19-125	Hawkins Bay Road	LCB	Local	6	Hungerford	Hungerford	Scootamatta Lane	170 m W of Scootamatta Lane	170	5.3	0.5	2019	8	2027	Unknown				\$ 17,960	6.30	-	71	Fair	1	Gravel on surface starting to washboard.	
R19-126	Heron Road	Gravel	Local	6	Elzevir	Elzevir	Queensborough Road	End	855	4.8	n/a	2019	n/a	Annually	From Operations Budget				\$ 842	6.60	-	62	Fair	1	Culverts need to be cleaned out. Apply calcium chloride to reduce dust.	
R19-127	Highway 37	HCB	Arterial	2	Hungerford	Hungerford	Moir Street	Sulphide Road	177	8.0	2.0		13	2032	From Operations Budget				\$ 43,509	9.30	9.71	95	Good	5		
R19-128	Highway 37	HCB	Arterial	2	Hungerford	Hungerford	Sulphide Road	180 m N of Sulphide Road	180	8.0	1.5		13	2032	From Operations Budget				\$ 43,256	9.20	9.78	96	Good	5		
R19-129	Highway 37	HCB	Arterial	2	Hungerford	Hungerford	Victoria Street North	Moir Street	219	9.6	2.0		13	2032	From Operations Budget				\$ 62,832	9.40	9.86	97	Good	5	Bridge in section.	
R19-130	Hogs Back Road	Gravel	Local	6	Hungerford	Hungerford	Moneymore Road (East)	Tyner Road	5,613	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 5,527	7.80	-	77	Good	1	Brushing required.	
R19-131	Hogs Back Road	Gravel	Local	6	Hungerford	Hungerford	Tyner Road	Moneymore Road (West)	2,428	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,391	7.50	-	72	Fair	1	Brushing required.	
R19-132	Holdcroft Street	LCB	Local	5	Hungerford	Hungerford	Victoria Street North	End	250	6.6	1.0	2011	9	2028	\$ 29,163	\$ 2,926	\$ -	\$ 26,237	\$ 32,802	8.00	-	75	Good	2		
R19-133	Hollister Road	Gravel	Local	6	Hungerford	Hungerford	Sulphide Road	Lynch Road	1,755	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,728	7.60	-	74	Fair	1	Routine maintenance.	
R19-134	Horrigan Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	Colonization Road	4,094	4.20	n/a	2019	n/a	Annually	From Operations Budget				\$ 4,031	7.80	-	73	Fair	1	Brushing required. Apply calcium chloride for dust control.	
R19-135	Hungerford Road	HCB	Local	5	Hungerford	Hungerford	College Street	Park Avenue	147	6.6	1.0	1987	13	2032	\$ 38,707	\$ 38,707	\$ -	\$ -	\$ 29,232	8.60	9.95	96	Good	2	Catch basin in section.	
R19-136	Hungerford Road	HCB	Local	5	Hungerford	Hungerford	College Street	Village Boundary	152	6.6	0.5	1987	13	2032	\$ 40,024	\$ 40,024	\$ -	\$ -	\$ 29,391	8.50	9.96	96	Good	2		
R19-137	Hungerford Road	HCB	Local	5	Hungerford	Hungerford	Park Avenue	Metcalf Street	294	7.5	1.0	1987	7	2026	\$ 77,414	\$ 77,414	\$ -	\$ -	\$ 65,260	7.00	7.16	66	Fair	2	Distortion around manholes.	
R19-138	Hungerford Street	HCB	Local	5	Elzevir	Elzevir	Highway 37	Centre Street	180	6.0	0.5	2007	9	2028	\$ 18,279	\$ 16,548	\$ -	\$ 1,731	\$ 32,031	7.00	8.27	76	Good	2		
R19-139	Hungerford Street	HCB	Local	5	Elzevir	Elzevir	Highway 37	Store Street	99	6.0	0.5	2007	11	2030	\$ 10,054	\$ 9,102	\$ -	\$ 952	\$ 17,617	7.50	9.06	85	Good	2		
R19-140	Hungerford Street	LCB	Local	5	Elzevir	Elzevir	Store Street	Centre Street	245	6.0	0.5	2003	7	2026	\$ 24,880	\$ 22,524	\$ -	\$ 2,356	\$ 28,530	7.30	-	65	Fair	2		
R19-141	Hunt Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	Murphy Road	1,213	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,194	8.40	-	85	Good	1	Routine maintenance.	
R19-142	Hunt Road	Gravel	Local	6	Hungerford	Hungerford	Morton Road	Rapids Road	1,808	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,780	8.30	-	79	Good	1	Routine maintenance.	
R19-143	Hunt Road	Gravel	Local	6	Hungerford	Hungerford	Murphy Road	Morton Road	170	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 167	8.60	-	84	Good	1	Routine maintenance.	
R19-144	Hunt Road	Gravel	Local	6	Hungerford	Hungerford	Rapids Road	End	760	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 748	8.20	-	80	Good	1	Brushing required.	
R19-145	Industrial Park Road	LCB	Local	6	Hungerford	Hungerford	Highway 37	End	200	6.8	1.0	2002	5	2024	\$ 4,506	\$ 4,506	\$ -	\$ -	\$ 26,705	6.70	-	59	Fair	1	Hydro Yard located on section.	
R19-146	Isaac Street	HCB	Local	5	Hungerford	Hungerford	Pringle Street	End	150	6.6	1.0	2006	10	2029	\$ 49,163	\$ 29,498	\$ -	\$ 19,665	\$ 29,829	7.70	8.56	81	Good	2	Distortion around manholes.	
R19-147	James Road	Gravel	Local	6	Elzevir	Elzevir	Upper Flinton Road	End	114	5.3	n/a	2019	n/a	Annually	From Operations Budget				\$ 112	8.60	-	83	Good	1	Routine maintenance.	
R19-148	James Street	HCB	Local	5	Hungerford	Hungerford	Queen Street	End	60	4.0	0.0	2002	9	2028	\$ 2,940	\$ 2,940	\$ -	\$ -	\$ 7,265	7.40	8.20	77	Good	2	Severe edge cracking. Residences very close to road.	
R19-149	James Street North	HCB	Local	5	Hungerford	Hungerford	Jamieson Street	Hannah Street	100	6.8	1.0	1987	5	2024	\$ 30,695	\$ 30,695	\$ -	\$ -	\$ 20,271	5.80	6.71	56	Fair	2	Severe edge breaking.	
R19-150	James Street South	Gravel	Local	5	Hungerford	Hungerford	George Street	River Street	134	6.50	n/a	2019	n/a	Annually	\$ 34,966	\$ 34,966	\$ -	\$ -	\$ 132	5.80	-	55	Fair	2	Grading required. Routine maintenance.	



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169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class			Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class												Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-151	Jamieson Street East	HC	Local	5	Hungerford	Hungerford	Colborne Street	Mary Street	100	6.8	1.0	1987	7	2026	\$ 31,228	\$ 29,796	\$ -	\$ 1,431	\$ 20,400	6.50	7.76	69	Fair	2	Distortion around manholes.	
R19-152	Jamieson Street East	HC	Local	5	Hungerford	Hungerford	Louisa Street	James Street North	100	6.8	1.0		7	2026	\$ 31,228	\$ 29,796	\$ -	\$ 1,431	\$ 20,271	6.10	7.69	66	Fair	2	Severe ravelling.	
R19-153	Jamieson Street East	HC	Local	5	Hungerford	Hungerford	Mary Street	Louisa Street	100	6.8	2.0	1996	10	2029	\$ 31,228	\$ 29,796	\$ -	\$ 1,431	\$ 21,371	7.70	8.56	81	Good	2	Severe transverse cracking. Manhole in section.	
R19-154	Jamieson Street East	HC	Local	5	Hungerford	Hungerford	Victoria Street	Colborne Street	92	6.6	0.5		10	2029	\$ 28,730	\$ 27,413	\$ -	\$ 1,317	\$ 17,789	7.40	8.92	83	Good	2		
R19-155	Jamieson Street West	HC	Local	5	Hungerford	Hungerford	Victoria Street	Metcalf Street	101	6.5	1.0	2008	11	2030	\$ 97,750	\$ 48,875	\$ -	\$ 48,875	\$ 19,825	8.40	8.94	86	Good	2	Poor centerline joint. Severe ravelling.	
R19-156	Jane Street East	HC	Local	5	Hungerford	Hungerford	Victoria Street	End	85	4.0	2.0	1987	5	2024	\$ 21,086	\$ 21,086	\$ -	\$ -	\$ 12,162	5.00	7.45	57	Fair	2		
R19-157	Jane Street West	HC	Local	5	Hungerford	Hungerford	Victoria Street	End	47	5.0	1.0	1989	8	2027	\$ 16,559	\$ 16,559	\$ -	\$ -	\$ 7,415	7.20	7.98	74	Fair	2	Cul-de-sac at end of section.	
R19-158	Johnston Road	LCB	Local	6	Hungerford	Hungerford	Highway 37	Rapids Road	333	6.0	0.3	2014	10	2029	\$ 16,398	\$ 9,767	\$ -	\$ 6,632	\$ 37,862	8.50	-	84	Good	1		
R19-159	Johnston Road	LCB	Local	6	Hungerford	Hungerford	Rapids Road	Boundary	310	6.0	0.3	2014	11	2030	\$ 15,266	\$ 9,092	\$ -	\$ 6,174	\$ 35,247	8.50	-	85	Good	1		
R19-160	Kaladar Street	Gravel	Local	5	Hungerford	Hungerford	Bridgewater Road	Highway 37	215	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 212	6.00	-	52	Fair	2	Grading required. Routine maintenance.	
R19-161	Kanata Lane	Gravel	Local	6	Hungerford	Hungerford	Sulphide Road	End	580	4.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 571	6.10	-	57	Fair	1	Grading required. Routine maintenance.	
R19-162	Karen Court	LCB	Local	6	Hungerford	Hungerford	McCrea Court	End	215	5.5	0.5	2002	5	2024	\$ 5,446	\$ 5,446	\$ -	\$ -	\$ 23,378	6.80	-	58	Fair	1	Cul-de-sac at end of section.	
R19-163	Katharine Street	HC	Local	5	Hungerford	Hungerford	Park Avenue	College Street	130	6.0	0.5	1993	8	2027	\$ 38,884	\$ 38,884	\$ -	\$ -	\$ 23,134	7.20	7.72	72	Fair	2	Manholes in section.	
R19-164	Katharine Street	HC	Local	5	Hungerford	Hungerford	Park Avenue	Metcalf Street	330	6.0	0.5	1993	9	2028	\$ 98,705	\$ 98,705	\$ -	\$ -	\$ 58,724	6.60	8.70	78	Good	2		
R19-165	Kehoe Road	Gravel	Local	6	Elzevir	Elzevir	Black River Road	Kehoe Lane	421	5.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 415	8.00	-	75	Good	1	Fill in washouts. Routine maintenance.	
R19-166	Kenner Court	LCB	Local	6	Hungerford	Hungerford	Marlbank Road	End	511	6.0	1.0	2011	8	2027	\$ 16,998	\$ 13,598	\$ -	\$ 3,400	\$ 62,316	7.80	-	72	Fair	1		
R19-167	King Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	End	469	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 462	7.50	-	73	Fair	1	Brushing required.	
R19-168	King Street	LCB	Local	6	Elzevir	Elzevir	Bosley Road	Queensborough Road	180	5.5	0.5	2007	6	2025	\$ 16,932	\$ 15,380	\$ -	\$ 1,552	\$ 19,572	6.20	-	60	Fair	1	Gravel on road surface.	
R19-169	Kinlin Road	Gravel	Local	6	Hungerford	Hungerford	Prevost Road	East Hungerford Road (Tweed Road)	5,773	5.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 5,684	7.80	-	76	Good	1	Brushing required. Two bridges in section.	
R19-170	Kinlin Road	Gravel	Local	6	Hungerford	Hungerford	Prevost Road	Otter Creek Road	2,061	6.1	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,029	7.80	-	74	Fair	1	Brushing required.	
R19-171	Labarge Road	Gravel	Local	6	Hungerford	Hungerford	2220 m North of Lynch Road	Bridgewater Road	2,066	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,034	7.80	-	75	Good	1	Brushing required.	
R19-172	Labarge Road	Gravel	Local	6	Hungerford	Hungerford	Bridgewater Road	130 m North of Bridgewater	130	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 128	6.50	-	67	Fair	1	Routine maintenance.	
R19-173	Labarge Road	LCB	Local	6	Hungerford	Hungerford	Lynch Road	2220 m North of Lynch Road	2,220	6.0	1.0		7	2026	Unknown				\$ 270,729	7.20	-	66	Fair	1		
R19-174	Lajoie Road	Gravel	Local	6	Hungerford	Hungerford	Sulphide Road	End	870	5.00	1.0	2019	n/a	Annually	From Operations Budget				\$ 857	7.50	-	74	Fair	1	Routine maintenance.	
R19-175	Lingham Lake Road	Gravel	Local	6	Elzevir	Elzevir	Boundary	End	6,500	6.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 6,400	5.50	-	50	Poor	1	Brushing and grading required.	
R19-176	Lost Channel Court	Gravel	Local	6	Hungerford	Hungerford	Lost Channel Road	End	250	4.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 246	7.50	-	72	Fair	1	Brushing required.	
R19-177	Lost Channel Road	Gravel	Local	6	Hungerford	Hungerford	Esker Road	Maines Road	1,073	6.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,057	8.20	-	82	Good	1	Brushing required. Two bridges in section.	
R19-178	Lost Channel Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	Esker Road	1,625	6.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,600	8.40	-	84	Good	1	Routine maintenance.	
R19-179	Lost Channel Road	Gravel	Local	6	Hungerford	Hungerford	Maines Road	Cars Road	1,350	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,329	8.00	-	78	Good	1	Brushing required.	
R19-180	Lost Channel Road	Gravel	Local	6	Hungerford	Hungerford	Old Hungerford Road	Tweedsmuir Lane	625	6.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 615	8.20	-	83	Good	1	Routine maintenance.	



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			Description	Municipal Class												Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-181	Lost Channel Road	Gravel	Local	6	Hungerford	Hungerford	Tweedsmuir Lane	Carss Road	390	6.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 384	8.30	-	81	Good	1	Brushing required.	
R19-182	Louisa Street	HCB	Local	5	Hungerford	Hungerford	George Street	River Street	112	6.6	0.5	2013	11	2030	\$ 118,243	\$ 29,561	\$ -	\$ 88,682	\$ 21,656	8.30	8.99	87	Good	2	Manholes in section.	
R19-183	Louisa Street	HCB	Local	5	Hungerford	Hungerford	Hannah Street	George Street	80	6.6	0.5	2013	12	2031	\$ 84,459	\$ 21,115	\$ -	\$ 63,345	\$ 15,469	8.20	9.57	92	Good	2	Manholes in section.	
R19-184	Louisa Street	HCB	Local	5	Hungerford	Hungerford	Jamieson Street	Hannah Street	112	6.8	0.5	2013	12	2031	\$ 118,243	\$ 29,561	\$ -	\$ 88,682	\$ 22,088	8.80	9.57	93	Good	2		
R19-185	Louisa Street	HCB	Local	5	Hungerford	Hungerford	Jamieson Street	Arthur Street	204	6.8	0.5	2013	11	2030	\$ 215,372	\$ 53,843	\$ -	\$ 161,529	\$ 40,231	7.90	9.16	87	Good	2	Bridge in section. Approach slab joints are rough on bridge.	
R19-186	Luffman Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	Asselstine Road	1,044	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,028	8.00	-	76	Good	1	Brushing required.	
R19-187	Luffman Road	LCB	Local	6	Hungerford	Hungerford	Queen Street	Asselstine Road	462	5.5	0.3		7	2026	Unknown				\$ 49,219	7.30	-	68	Fair	1		
R19-188	Lynch Road	LCB	Local	6	Hungerford	Hungerford	Highway 37	Old Troy Road	35	7.0	2.0	2012	10	2029	\$ 4,900	\$ 3,430	\$ -	\$ 1,470	\$ 5,193	8.00	-	80	Good	1		
R19-189	Lynch Road	LCB	Local	6	Hungerford	Hungerford	Hollister Road	Labarge Road	99	6.3	1.0	2012	9	2028	\$ 13,860	\$ 9,702	\$ -	\$ 4,158	\$ 12,455	7.90	-	77	Good	1		
R19-190	Lynch Road	Gravel	Local	6	Hungerford	Hungerford	Labarge Road	End	602	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 593	7.40	-	72	Fair	1	Routine maintenance.	
R19-191	Lynch Road	LCB	Local	6	Hungerford	Hungerford	Old Troy Road	Hollister Road	934	7.0	2.0	2012	6	2025	\$ 130,757	\$ 91,530	\$ -	\$ 39,227	\$ 138,588	6.80	-	62	Fair	1		
R19-192	Maines Road	Gravel	Local	6	Hungerford	Hungerford	Lost Channel Road	Old Hungerford Road	1,644	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,619	7.80	-	73	Fair	1	Apply calcium chloride to reduce dust. Routine maintenance.	
R19-193	Marlbank Road	LCB	Major Collector	4	Hungerford	Hungerford	Asselstine Road	Luffman Road	1,588	6.8	1.2	2015	8	2027	\$ 161,033	\$ 136,571	\$ -	\$ 24,462	\$ 215,529	7.90	-	74	Fair	3		
R19-194	Marlbank Road	HCB	Major Collector	3	Hungerford	Hungerford	Bethel Road	Mulroney Lane	703	7.0	2.5	1991	5	2024	\$ 71,289	\$ 60,459	\$ -	\$ 10,829	\$ 158,619	6.10	6.63	57	Fair	4		
R19-195	Marlbank Road	HCB	Major Collector	4	Hungerford	Hungerford	Colonization Road	Conchie Road	2,424	7.3	0.5	1991	11	2030	\$ 245,809	\$ 208,468	\$ -	\$ 37,340	\$ 509,165	7.70	9.03	85	Good	3	Moderate flushing beginning.	
R19-196	Marlbank Road	LCB	Major Collector	4	Hungerford	Hungerford	Conchie Road	Old Hungerford Road	2,940	7.0	0.5	2009	7	2026	\$ 298,134	\$ 252,845	\$ -	\$ 45,289	\$ 387,731	7.30	-	69	Fair	3		
R19-197	Marlbank Road	LCB	Major Collector	4	Hungerford	Hungerford	Conchie Road West	Conchie Road East	1,585	7.0	0.5	2009	8	2027	\$ 160,729	\$ 136,313	\$ -	\$ 24,416	\$ 209,032	7.50	-	70	Fair	3		
R19-198	Marlbank Road	LCB	Major Collector	4	Hungerford	Hungerford	Deshane Road	Cary Road	3,620	7.0	0.5	2009	7	2026	\$ 367,090	\$ 311,327	\$ -	\$ 55,764	\$ 477,410	7.20	-	65	Fair	3		
R19-199	Marlbank Road	LCB	Major Collector	4	Hungerford	Hungerford	Deshane Road	Flynn Road	1,292	7.3	1.0	2015	9	2028	\$ 131,017	\$ 111,114	\$ -	\$ 19,902	\$ 182,481	8.00	-	75	Good	3	Slight wheel track rutting beginning.	
R19-200	Marlbank Road	HCB	Major Collector	3	Hungerford	Hungerford	East Hungerford Road	St. Edmunds Road	397	7.5	1.0	1991	5	2024	\$ 40,258	\$ 34,143	\$ -	\$ 6,116	\$ 88,123	5.70	6.92	57	Fair	4	Bridge in section. Severe cracking throughout section.	
R19-201	Marlbank Road	LCB	Major Collector	4	Hungerford	Hungerford	Farrell Road	McGrath Road	1,145	7.5	1.5	2015	8	2027	\$ 116,110	\$ 98,472	\$ -	\$ 17,638	\$ 172,433	7.70	-	73	Fair	3		
R19-202	Marlbank Road	LCB	Major Collector	4	Hungerford	Hungerford	Flynn Road	Farrell Road	462	6.8	1.5	2015	9	2028	\$ 46,850	\$ 39,733	\$ -	\$ 7,117	\$ 64,229	7.80	-	75	Good	3		
R19-203	Marlbank Road	HCB	Major Collector	3	Hungerford	Hungerford	Highway 37	Kenner Court	574	7.0	2.0	1991	6	2025	\$ 58,207	\$ 49,365	\$ -	\$ 8,842	\$ 126,355	7.00	6.54	60	Fair	4	Severe cracking throughout section.	
R19-204	Marlbank Road	LCB	Major Collector	4	Hungerford	Hungerford	Luffman Road	Queen Street	1,940	6.8	2.0	2015	8	2027	\$ 196,728	\$ 166,844	\$ -	\$ 29,884	\$ 280,375	7.80	-	74	Fair	3	Severe alligator cracking and moderate distortion.	
R19-205	Marlbank Road	HCB	Major Collector	3	Hungerford	Hungerford	Mulroney Lane	Kenner Court	886	7.0	1.5	1991	6	2025	\$ 89,846	\$ 76,198	\$ -	\$ 13,648	\$ 190,163	6.50	6.73	60	Fair	4	Bridge in section. Severe cracking throughout section.	
R19-206	Marlbank Road	HCB	Major Collector	4	Hungerford	Hungerford	Old Hungerford Road	Stoco Road	1,457	6.8	2.0	1991	7	2026	\$ 147,749	\$ 125,305	\$ -	\$ 22,444	\$ 311,377	7.20	7.40	69	Fair	3		
R19-207	Marlbank Road	HCB	Major Collector	3	Hungerford	Hungerford	St. Edmunds Road	Bethel Road	875	7.0	2.0	1991	8	2027	\$ 88,730	\$ 75,252	\$ -	\$ 13,479	\$ 192,615	7.00	7.74	71	Fair	4	Severe cracking and manual patching throughout section.	
R19-208	Marrisset Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	Rapids Road	1,653	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,628	7.40	-	71	Fair	1	Brushing required.	
R19-209	Martin Road	Gravel	Local	6	Hungerford	Hungerford	Rapids Road	Highway 37	1,697	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,671	8.30	-	79	Good	1	Brushing required.	
R19-210	Martin Road	Gravel	Local	6	Hungerford	Hungerford	Robinson Road	Rapids Road	923	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 909	8.20	-	85	Good	1	Brushing required.	



Table 4a
Detailed Summary of Municipal Assets (Roads)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class			Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class												Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-211	Mary Street	HC	Local	5	Hungerford	Hungerford	Jamieson Street	End (Lumber Yard)	83	6.8	0.5	1987	6	2025	\$ 10,908	\$ 10,908	\$ -	\$ -	\$ 16,369	6.40	6.83	60	Fair	2	Heavy truck traffic on section from Lumber Yard.	
R19-212	Mary Street	HC	Local	5	Hungerford	Hungerford	River Street East	End (Lumber Yard)	88	6.6	0.5	1989	11	2030	\$ 16,252	\$ 16,252	\$ -	\$ -	\$ 17,016	8.00	9.28	88	Good	2	Heavy truck traffic on section from Lumber Yard.	
R19-213	Mary Street	HC	Local	5	Hungerford	Hungerford	Spring Street East	Jamieson Street	179	6.8	0.5	1989	10	2029	\$ 23,524	\$ 23,524	\$ -	\$ -	\$ 35,301	8.20	8.61	83	Good	2		
R19-214	Matilda Street	HC	Local	5	Hungerford	Hungerford	Queen Street	Franklin Street	100	5.2	0.5	1989	5	2024	\$ 19,732	\$ 19,732	\$ -	\$ -	\$ 15,741	5.70	7.04	58	Fair	2		
R19-215	McCarnon Avenue	HC	Local	5	Hungerford	Hungerford	River Street West	Metcalf Street	240	6.0	0.5	2008	13	2032	\$ 88,550	\$ 44,275	\$ -	\$ 44,275	\$ 42,708	9.00	9.80	96	Good	2	New pavement.	
R19-216	McClellan Street	HC	Local	5	Hungerford	Hungerford	Pomeroy Avenue	River Street West	313	7.0	0.5	1987	7	2026	\$ 81,142	\$ 81,142	\$ -	\$ -	\$ 63,737	6.80	7.45	68	Fair	2		
R19-217	McCrea Court	LCB	Local	6	Hungerford	Hungerford	Greenwood Road	Karen Court	135	5.3	0.5	2002	10	2029	\$ 3,104	\$ 3,104	\$ -	\$ -	\$ 14,158	8.40	-	82	Good	1		
R19-218	McCrea Court	LCB	Local	6	Hungerford	Hungerford	Karen Court	End	452	5.3	0.5	2002	6	2025	\$ 10,391	\$ 10,391	\$ -	\$ -	\$ 47,404	7.00	-	62	Fair	1	Cul-de-sac at end of section.	
R19-219	McGowan Street	HC	Local	5	Hungerford	Hungerford	Pringle Street	Victoria Street South	140	6.6	0.5	2006	12	2031	\$ 67,699	\$ 40,619	\$ -	\$ 27,080	\$ 27,070	8.50	9.74	94	Good	2		
R19-220	McGowan Street	HC	Local	5	Hungerford	Hungerford	River Street West	Pringle Street	165	6.6	0.5	2006	12	2031	\$ 79,788	\$ 47,873	\$ -	\$ 31,916	\$ 31,904	8.80	9.71	94	Good	2	Manhole in section.	
R19-221	McGrath Court	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	McGrath Road	220	4.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 217	8.20	-	80	Good	1	Routine maintenance.	
R19-222	McGrath Road	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	End	1,500	4.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,477	8.00	-	74	Fair	1	Apply calcium chloride to reduce dust. Brushing required.	
R19-223	Meeks Road	Gravel	Local	6	Hungerford	Hungerford	Moneymore Road	Marlbank Road	2,325	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,289	7.90	-	75	Good	1	Brushing required.	
R19-224	Metcalf Street	HC	Local	5	Hungerford	Hungerford	Bridge Street West	Gabe Lindsay Avenue	134	7.0	0.5	1998	11	2030	\$ 69,518	\$ 69,518	\$ -	\$ -	\$ 27,287	8.30	9.06	87	Good	2		
R19-225	Metcalf Street	HC	Local	5	Hungerford	Hungerford	Gabe Lindsay Avenue	End	263	7.0	0.5	1998	10	2029	\$ 136,442	\$ 136,442	\$ -	\$ -	\$ 53,555	7.50	8.70	82	Good	2	Catch basins in section.	
R19-226	Metcalf Street	HC	Local	5	Hungerford	Hungerford	Jamieson St West	Pomeroy Avenue	159	11.5	0.5	2008	12	2031	\$ 451,800	\$ 225,539	\$ -	\$ 226,261	\$ 50,752	8.40	9.62	93	Good	2	Very wide road section to allow for roadside parking.	
R19-227	Metcalf Street	HC	Local	5	Hungerford	Hungerford	Katharine Street	Bridge Street West	208	11.5	0.5	2008	12	2031	\$ 591,034	\$ 295,045	\$ -	\$ 295,989	\$ 66,393	8.50	9.62	93	Good	2	Very wide road section to allow for roadside parking.	
R19-228	Metcalf Street	HC	Local	5	Hungerford	Hungerford	Pomeroy Avenue	Katharine Street	57	11.5	0.5	2008	13	2032	\$ 161,966	\$ 80,854	\$ -	\$ 81,112	\$ 18,194	8.80	9.88	96	Good	2	Manholes and water valves in surface of road.	
R19-229	Metcalf Street	HC	Local	5	Hungerford	Hungerford	River Street West	Jamieson St West	194	7.0	0.5	2008	11	2030	\$ 551,253	\$ 275,186	\$ -	\$ 276,067	\$ 39,504	7.90	9.28	88	Good	2		
R19-230	Minnie Avenue	HC	Local	5	Hungerford	Hungerford	Brooklyn Road	Old Bogart Road	272	7.3	0.5	1997	9	2028	\$ 290,052	\$ 276,758	\$ -	\$ 13,294	\$ 57,134	7.50	7.96	75	Fair	2		
R19-231	Moir Street	HC	Local	5	Hungerford	Hungerford	Highway 37	Old Bogart Road	294	9.5	0.0	1996	8	2027	\$ 94,150	\$ 89,834	\$ -	\$ 4,315	\$ 77,126	7.40	7.55	71	Fair	2		
R19-232	Moir Street	HC	Local	5	Hungerford	Hungerford	Old Bogart Road	Brooklyn Road	215	9.5	0.0	1996	9	2028	\$ 68,851	\$ 65,695	\$ -	\$ 3,156	\$ 56,402	6.50	8.82	79	Good	2		
R19-233	Moneymore Road	LCB	Minor Collector	4	Hungerford	Hungerford	Colonization Road	Hogs Back Road	297	6.5	1.0	2018	12	2031	\$ 13,648	\$ 9,523	\$ -	\$ 4,124	\$ 38,511	8.90	-	90	Good	3	New pavement.	
R19-234	Moneymore Road	LCB	Minor Collector	4	Hungerford	Hungerford	Hogs Back Road	Meeks Road	1,101	6.5	1.0	2018	12	2031	\$ 50,593	\$ 35,304	\$ -	\$ 15,290	\$ 142,762	9.40	-	92	Good	3	New pavement.	
R19-235	Moneymore Road	LCB	Minor Collector	4	Hungerford	Hungerford	Hogs Back Road	Old Hungerford Road	9,847	6.5	1.0	2013	6	2025	\$ 452,491	\$ 315,745	\$ -	\$ 136,745	\$ 1,276,817	7.10	-	61	Fair	3	Bridge in section.	
R19-236	Moneymore Road	LCB	Minor Collector	4	Hungerford	Hungerford	Meeks Road	Tyner Road	4,015	6.5	1.0	2013	10	2029	\$ 184,498	\$ 128,742	\$ -	\$ 55,756	\$ 520,607	8.80	-	80	Good	3	New pavement.	
R19-237	Moneymore Road	LCB	Minor Collector	4	Hungerford	Hungerford	Napanee Road	Hogs Back Road	1,507	6.8	0.5	2018	11	2030	\$ 69,250	\$ 48,322	\$ -	\$ 20,928	\$ 192,931	9.10	-	89	Good	3	New pavement.	
R19-238	Moneymore Road	LCB	Minor Collector	4	Hungerford	Hungerford	Old Hungerford Road	Municipal Boundary	1,525	6.5	1.0	2013	7	2026	\$ 70,077	\$ 48,899	\$ -	\$ 21,178	\$ 197,740	7.50	-	69	Fair	3		
R19-239	Moneymore Road	LCB	Minor Collector	4	Hungerford	Hungerford	Tyner Road	Colonization Road	936	6.5	1.0	2018	12	2031	\$ 43,011	\$ 30,013	\$ -	\$ 12,998	\$ 121,367	9.00	-	91	Good	3	New pavement.	
R19-240	Moores Road	Gravel	Local	6	Elzevir	Elzevir	Upper Flinton Road	Robinson Road North	1,564	4.8	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,540	7.20	-	80	Good	1	Routine maintenance.	



Table 4a
Detailed Summary of Municipal Assets (Roads)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class			Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class	Description											Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-241	Morton Road	Gravel	Local	6	Hungerford	Hungerford	Hunt Road	Highway 37	780	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 768	7.80	-	75	Good	1	Routine maintenance.	
R19-242	Mothers Road	Gravel	Local	6	Elzevir	Elzevir	Black River Road	End	111	5.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 109	7.70	-	73	Fair	1	Routine maintenance.	
R19-243	Murphy Road	Gravel	Local	6	Hungerford	Hungerford	Hunt Road	Countryman Road	1,438	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,416	7.70	-	74	Fair	1	Routine maintenance.	
R19-244	Napanee Road	LCB	Minor Collector	4	Hungerford	Hungerford	Marlbank Road	Moneymore Road	561	6.2	1.5	2013	4	2023	\$ 46,707	\$ 42,871	\$ -	\$ 3,836	\$ 73,231	5.40	-	44	Poor	3		
R19-245	Napanee Road	LCB	Minor Collector	4	Hungerford	Hungerford	Moneymore Road	Municipal Boundary	2,015	6.5	1.5	2013	4	2023	\$ 167,764	\$ 153,985	\$ -	\$ 13,778	\$ 270,804	5.70	-	41	Poor	3		
R19-246	Napanee Road	LCB	Minor Collector	4	Hungerford	Hungerford	Queen Street	Youngs Road	1,706	6.5	0.5	2013	7	2026	\$ 142,037	\$ 130,372	\$ -	\$ 11,666	\$ 211,827	7.40	-	69	Fair	3		
R19-247	North Hawkins Bay Road	Gravel	Local	6	Elzevir	Elzevir	Hawkins Bay Road	End (681 m N of Hawkins Bay Road)	681	5.6	n/a	2019	n/a	Annually	From Operations Budget				\$ 671	7.40	-	75	Good	1		
R19-248	Old Bogart Road	LCB	Local	6	Hungerford	Hungerford	Minnie Avenue	Moirra Street	122	7.3	1.0	1996	8	2027	\$ 80,526	\$ 76,835	\$ -	\$ 3,691	\$ 26,297	7.20	7.98	74	Fair	1		
R19-249	Old Bogart Road	LCB	Local	6	Hungerford	Hungerford	Minnie Avenue	Sulphide Road	891	5.3	0.5	2011	7	2026	\$ 25,876	\$ 20,700	\$ -	\$ 5,175	\$ 93,445	7.40	-	67	Fair	1		
R19-250	Old Hungerford Road	LCB	Local	6	Hungerford	Hungerford	Lost Channel Road	Windmill Lane	470	6.0	0.5	2013	10	2029	\$ 23,115	\$ 10,558	\$ -	\$ 12,557	\$ 54,732	8.40	-	80	Good	1	New pavement.	
R19-251	Old Hungerford Road	LCB	Local	6	Hungerford	Hungerford	Maines Road	Lost Channel Road	2,290	6.0	0.5	2013	8	2027	\$ 112,623	\$ 51,442	\$ -	\$ 61,181	\$ 266,671	7.80	-	71	Fair	1	New pavement.	
R19-252	Old Hungerford Road	LCB	Local	6	Hungerford	Hungerford	Moneymore Road	Vanderwater Road	3,005	6.5	0.5	2013	7	2026	\$ 147,787	\$ 67,504	\$ -	\$ 80,283	\$ 373,118	7.20	-	68	Fair	1	Longitudinal man-made deep cuts in the road surface.	
R19-253	Old Hungerford Road	LCB	Local	6	Hungerford	Hungerford	Vanderwater Road	Maines Road	1,633	7.0	1.0	2013	8	2027	\$ 80,311	\$ 36,683	\$ -	\$ 43,628	\$ 224,344	7.50	-	72	Fair	1	New pavement.	
R19-254	Old Hungerford Road	LCB	Local	6	Hungerford	Hungerford	Windmill Road	Marlbank Road	1,869	6.5	0.5	2013	9	2028	\$ 91,918	\$ 41,985	\$ -	\$ 49,933	\$ 232,066	8.50	-	78	Good	1	New pavement.	
R19-255	Old Troy Road	LCB	Local	6	Hungerford	Hungerford	Highway 37	Lynch Road	1,125	5.0	1.0	2002	6	2025	\$ 26,989	\$ 26,989	\$ -	\$ -	\$ 119,834	7.00	-	61	Fair	1		
R19-256	Otter Creek Road	Gravel	Local	6	Hungerford	Hungerford	Kinlin Road	Allore Road	1,115	6.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,098	8.20	-	80	Good	1	Routine maintenance.	
R19-257	Otter Creek Road	Gravel	Local	6	Hungerford	Hungerford	Prevost Road	Kinlin Road	1,690	5.4	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,664	7.60	-	74	Fair	1	Routine maintenance.	
R19-258	Otter Creek Road	Gravel	Local	6	Hungerford	Hungerford	Sulphide Road	Turcotte Road	1,730	5.6	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,703	7.00	-	74	Fair	1	Routine maintenance.	
R19-259	Otter Creek Road	Gravel	Local	6	Hungerford	Hungerford	Turcotte Road	Prevost Road	425	6.6	n/a	2019	n/a	Annually	From Operations Budget				\$ 418	8.00	-	81	Good	1	Routine maintenance.	
R19-260	Palmateer Road	Gravel	Local	6	Hungerford	Hungerford	1514 m West of French Settlement Road	Rapids Road	2,382	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,345	7.50	-	70	Fair	1	Routine maintenance.	
R19-261	Palmateer Road	LCB	Local	6	Hungerford	Hungerford	French Settlement Road	1514 m West of French Settlement Road	1,514	6.0	0.0	2012	9	2028	\$ 66,609	\$ 46,626	\$ -	\$ 19,984	\$ 167,978	7.80	-	75	Good	1		
R19-262	Palmer Road	Gravel	Local	6	Hungerford	Hungerford	Highway 37	End	640	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 630	7.50	-	70	Fair	1	Brushing required.	
R19-263	Park Avenue	LCB	Local	5	Hungerford	Hungerford	Hungerford Road	Katharine Street	212	6.0	0.3	1991	7	2026	\$ 52,990	\$ 52,990	\$ -	\$ -	\$ 37,142	6.20	7.50	65	Fair	2		
R19-264	Park Avenue	LCB	Local	5	Hungerford	Hungerford	Katharine Street	McClellan Street	120	6.0	0.5	1991	10	2029	\$ 29,994	\$ 29,994	\$ -	\$ -	\$ 21,354	7.00	8.89	81	Good	2		
R19-265	Peter Street	Gravel	Partially Maintained	6	Hungerford	Hungerford	Sulphide Road	End	120	6.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 118	6.00	-	60	Fair	1	Routine maintenance.	
R19-266	Peterson Road	Gravel	Local	6	Elzevir	Elzevir	Highway 7	End	560	5.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 551	5.00	-	44	Poor	1	Brushing and grading required.	
R19-267	Pomeroy Avenue	LCB	Local	5	Hungerford	Hungerford	McClellan Street	Metcalf Street	294	6.0	0.5	1993	8	2027	\$ 92,730	\$ 92,730	\$ -	\$ -	\$ 52,317	7.20	7.69	71	Fair	2		
R19-268	Pomeroy Court	LCB	Local	5	Hungerford	Hungerford	College Street	End	52	3.5	0.5	1987	5	2024	\$ 26,692	\$ 26,692	\$ -	\$ -	\$ 5,915	6.30	6.44	56	Fair	2	Walking trail at end of section.	
R19-269	Potter Settlement Road	Gravel	Local	6	Hungerford	Hungerford	Bridgewater Road	Sulphide Road	4,117	5.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 4,054	7.60	-	73	Fair	1	Routine maintenance.	
R19-270	Potter Settlement Road	Gravel	Local	6	Hungerford	Elzevir	Highway 7	Ekblad Road	2,951	5.7	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,906	7.80	-	73	Fair	1	Culverts need to be cleaned out.	



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			Description	Municipal Class	Description											Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-271	Potter Settlement Road	Gravel	Local	6	Hungerford	Hungerford	Labarge Road	Bridgewater Road	607	5.3	n/a	2019	n/a	Annually	From Operations Budget				\$ 598	8.40	-	79	Good	1	Brushing and grading required.	
R19-272	Prevost Road	Gravel	Local	6	Hungerford	Hungerford	Otter Creek Road	Kinlin Road	971	4.4	n/a	2019	n/a	Annually	From Operations Budget				\$ 956	5.90	-	55	Fair	1	Brushing and grading required. Bridge in section.	
R19-273	Price Road	Gravel	Local	6	Elzevir	Elzevir	Genereaux Road	End	318	5.8	n/a	2019	n/a	Annually	From Operations Budget				\$ 313	7.00	-	72	Fair	1	Brushing required. Routine maintenance.	
R19-274	Price Road	Gravel	Local	6	Elzevir	Elzevir	Highway 7	Genereaux Road	148	6.8	n/a	2019	n/a	Annually	From Operations Budget				\$ 146	7.50	-	76	Good	1	Routine maintenance.	
R19-275	Pringle Street	LCB	Local	5	Hungerford	Hungerford	McGowan Street	Isaac Street	100	6.6	1.0	2006	11	2030	\$ 44,246	\$ 28,760	\$ -	\$ 15,486	\$ 19,886	7.90	9.42	89	Good	2	Longitudinal man-made deep cuts in the road surface.	
R19-276	Quarry Street	LCB	Local	5	Hungerford	Hungerford	Bridgewater Road	End	84	6.0	1.0		8	2027	From Operations Budget				\$ 10,244	7.20	-	70	Fair	2	Gravel on road surface.	
R19-277	Queen Street	Gravel	Local	4	Hungerford	Hungerford	(Gravel joint) 780 m N of Maribank Road	End	454	4.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 447	7.20	-	70	Fair	3	Apply calcium chloride to reduce dust. Routine maintenance.	
R19-278	Queen Street	LCB	Local	4	Hungerford	Hungerford	Maribank Road	(Gravel joint) 780 m N of Maribank Road	780	7.3	1.0	1995	8	2027	\$ 205,054	\$ 195,656	\$ -	\$ 9,398	\$ 168,130	6.80	8.15	74	Fair	3	Severe cracking.	
R19-279	Queensborough Road	LCB	Minor Collector	4	Elzevir	Elzevir	2728 m NW of Highway 7	Bosley Road	2,029	6.7	1.0	2007	5	2024	\$ 69,251	\$ 52,633	\$ -	\$ 16,618	\$ 269,354	6.70	-	59	Fair	3	Microseal over existing surface.	
R19-280	Queensborough Road	LCB	Minor Collector	4	Elzevir	Elzevir	Barry Road	Township Boundary	536	6.0	0.5	2012	9	2028	\$ 18,294	\$ 13,904	\$ -	\$ 4,390	\$ 62,417	8.40	-	76	Good	3		
R19-281	Queensborough Road	LCB	Minor Collector	4	Elzevir	Elzevir	Declair Road	Barry Road	2,555	7.3	1.0	2012	8	2027	\$ 87,203	\$ 66,277	\$ -	\$ 20,926	\$ 360,866	7.80	-	74	Fair	3	Microseal over existing surface. Severe cracking on bridge leading to distortion.	
R19-282	Queensborough Road	LCB	Minor Collector	4	Elzevir	Elzevir	Heron Road	Declair Road	1,685	6.9	1.4	2010	7	2026	\$ 57,510	\$ 43,709	\$ -	\$ 13,801	\$ 236,301	7.00	-	67	Fair	3	Microseal over existing surface. Frequent edge breaking.	
R19-283	Queensborough Road	LCB	Minor Collector	4	Elzevir	Elzevir	Highway 7	2728 m NW of Highway 7	2,728	6.8	1.0	2012	8	2027	\$ 93,108	\$ 70,765	\$ -	\$ 22,343	\$ 366,357	8.10	-	73	Fair	3	Culverts need to be cleaned out. Frequent potholing throughout section.	
R19-284	Quin-Mo-Lac Road	LCB	Minor Collector	4	Hungerford	Hungerford	Hungerford Road	Rapids Road	3,870	7.0	0.5	2016	8	2027	\$ 243,910	\$ 73,173	\$ -	\$ 170,737	\$ 510,380	8.00	-	74	Fair	3		
R19-285	Quin-Mo-Lac Road	LCB	Minor Collector	4	Hungerford	Hungerford	Rapids Road	Camp Road	2,471	7.0	1.0	2016	8	2027	\$ 155,737	\$ 46,721	\$ -	\$ 109,016	\$ 339,469	8.10	-	74	Fair	3		
R19-286	Quinns Lane	LCB	Partially Maintained	5	Hungerford	Hungerford	Victoria Street	Colborne Street	95	5.0	0.0	1989	4	2023	\$ 24,532	\$ 24,532	\$ -	\$ -	\$ 13,943	5.50	5.82	46	Poor	2	Severe cracking throughout section.	
R19-287	Ramsay Road	Gravel	Local	6	Elzevir	Elzevir	Bosley Road	Boundary (Plow turnaround)	850	4.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 837	6.00	-	60	Fair	1	Brushing and grading required.	
R19-288	Rapids Court	Gravel	Local	6	Hungerford	Hungerford	Rapids Road	End	550	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 542	5.40	-	52	Fair	1	Brushing required.	
R19-289	Rapids Road	LCB	Local	6	Hungerford	Hungerford	Countryman Road	Crookston Road	1,418	6.8	1.0	2007	8	2027	\$ 168,850	\$ 153,107	\$ -	\$ 15,744	\$ 189,336	8.00	-	70	Fair	1		
R19-290	Rapids Road	Gravel	Local	6	Hungerford	Hungerford	Crookston Road	1297 m North of Crookston Road	1,297	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,277	7.70	-	73	Fair	1	Routine maintenance.	
R19-291	Rapids Road	Gravel	Local	6	Hungerford	Hungerford	French Settlement Road	Rapids Court	1,843	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,815	7.50	-	70	Fair	1	Routine maintenance.	
R19-292	Rapids Road	LCB	Local	6	Hungerford	Hungerford	Fuller Road	Johnston Road	1,045	6.5	0.5	2014	10	2029	\$ 124,435	\$ 112,833	\$ -	\$ 11,602	\$ 129,753	8.40	-	81	Good	1		
R19-293	Rapids Road	LCB	Local	6	Hungerford	Hungerford	Hunt Road	Countryman Road	1,405	6.8	1.0	2007	7	2026	\$ 167,302	\$ 151,703	\$ -	\$ 15,599	\$ 187,600	7.40	-	65	Fair	1		
R19-294	Rapids Road	LCB	Local	6	Hungerford	Hungerford	Hunt Road	Martin Road	1,518	6.8	1.0	2007	9	2028	\$ 180,758	\$ 163,904	\$ -	\$ 16,854	\$ 202,689	7.90	-	75	Good	1	Longitudinal man-made deep cuts in the road surface.	
R19-295	Rapids Road	LCB	Local	6	Hungerford	Hungerford	Marrisset Road	Fuller Road	353	6.5	0.5	2007	9	2028	\$ 42,034	\$ 38,115	\$ -	\$ 3,919	\$ 43,830	8.40	-	79	Good	1		
R19-296	Rapids Road	LCB	Local	6	Hungerford	Hungerford	Martin Road	Marrisset Road	1,498	6.5	0.5	2003	5	2024	\$ 178,377	\$ 161,745	\$ -	\$ 16,632	\$ 186,000	5.50	-	50	Poor	1		
R19-297	Rapids Road	Gravel	Local	6	Hungerford	Hungerford	Palmateer Road	French Settlement Road	762	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 750	6.90	-	72	Fair	1	Routine maintenance.	
R19-298	Rapids Road	LCB	Local	6	Hungerford	Hungerford	Quin-Mo-Lac Road	151 m South of Quin-Mo-Lac Road	151	6.8	1.0	2007	9	2028	\$ 17,981	\$ 16,304	\$ -	\$ 1,677	\$ 20,162	7.80	-	77	Good	1		
R19-299	Rapids Road	Gravel	Local	6	Hungerford	Hungerford	Quin-Mo-Lac Road	Palmateer Road	2,470	7.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,432	7.40	-	70	Fair	1	Routine maintenance. Bridge in section.	
R19-300	Rapids Road	Gravel	Local	6	Hungerford	Hungerford	Rapids Court	Boundary	1,368	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,347	7.50	-	72	Fair	1	Brushing and grading required. Bridge in section.	



Table 4a
Detailed Summary of Municipal Assets (Roads)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class		Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class											Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-301	River Street	Gravel	Local	5	Hungerford	Hungerford	Louisa Street	James Street South	100	6.50	1.0	2019	n/a	Annually	From Operations Budget				\$ 98	6.40	-	61	Fair	2	Routine maintenance.
R19-302	River Street East	HCB	Local	5	Hungerford	Hungerford	Colborne Street	Victoria Street	105	6.6	0.5	2009	11	2030	\$ 199,477	\$ 86,902	\$ -	\$ 112,575	\$ 20,303	8.50	9.13	88	Good	2	Severe ravelling throughout section.
R19-303	River Street East	HCB	Local	5	Hungerford	Hungerford	Louisa Street	Mary Street South	96	6.6	0.5	2009	11	2030	\$ 182,379	\$ 79,453	\$ -	\$ 102,926	\$ 18,562	8.40	9.04	87	Good	2	
R19-304	River Street East	HCB	Local	5	Hungerford	Hungerford	Mary Street South	Colborne Street	92	6.6	0.5	2009	11	2030	\$ 174,780	\$ 76,143	\$ -	\$ 98,637	\$ 17,789	8.30	9.28	89	Good	2	
R19-305	River Street West	HCB	Local	5	Hungerford	Hungerford	College Street	McClellan Street	186	7.0	0.5	2009	12	2031	\$ 353,360	\$ 153,941	\$ -	\$ 199,419	\$ 37,875	8.80	9.57	93	Good	2	Manhole in section.
R19-306	River Street West	HCB	Local	5	Hungerford	Hungerford	McCarnon Avenue	Metcalf Street	123	7.0	0.5	2009	12	2031	\$ 233,673	\$ 101,800	\$ -	\$ 131,874	\$ 25,047	8.60	9.66	93	Good	2	
R19-307	River Street West	HCB	Local	5	Hungerford	Hungerford	McClellan Street	McCarnon Street	257	7.0	0.5	2009	12	2031	\$ 488,244	\$ 212,703	\$ -	\$ 275,541	\$ 52,333	8.70	9.42	92	Good	2	New pavement. Catch basins in section.
R19-308	River Street West	HCB	Local	5	Hungerford	Hungerford	Victoria Street	Metcalf Street	107	6.6	0.5	2009	12	2031	\$ 203,277	\$ 88,557	\$ -	\$ 114,719	\$ 20,689	8.60	9.28	90	Good	2	Severe ravelling. Longitudinal man-made deep cuts in the road surface.
R19-309	Robinson Road	Gravel	Local	6	Hungerford	Hungerford	Fuller Road	Martin Road	1,493	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,470	8.10	-	73	Fair	1	Routine maintenance.
R19-310	Robinson Road North	Gravel	Local	6	Elzevir	Elzevir	Moore's Road	Flinton Road	2,385	5.4	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,348	7.50	-	73	Fair	1	Brushing and grading on bridge required.
R19-311	Robinson Road North	Gravel	Local	6	Elzevir	Elzevir	Upper Flinton Road	Moore's Road	2,471	4.7	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,433	7.40	-	76	Good	1	Routine maintenance.
R19-312	Rockies Road	Gravel	Local	6	Elzevir	Elzevir	Declair Road	End	8,238	5.3	n/a	2019	n/a	Annually	From Operations Budget				\$ 8,112	6.10	-	53	Fair	1	Culverts need to be cleaned out. Apply calcium chloride to reduce dust. Brushing required.
R19-313	Sexsmith Road	LCB	Local	6	Elzevir	Elzevir	Highway 7	End	264	6.7	2.0		4	2023	Unknown				\$ 37,950	6.00	-	49	Poor	1	Gravel on road surface.
R19-314	Sheffield Boundary Road	Gravel	Local	6	Hungerford	Hungerford	Deshane Road	End (3 Civic address)	510	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 502	6.70	-	64	Fair	1	Repair sinkhole. Apply calcium chloride to reduce dust.
R19-315	Sherry Court	Gravel	Local	6	Hungerford	Hungerford	Sherry Road	End	725	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 714	8.40	-	82	Good	1	Routine maintenance.
R19-316	Sherry Road	Gravel	Local	6	Hungerford	Hungerford	Sherry Court	End	850	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 837	8.20	-	81	Good	1	Routine maintenance.
R19-317	Sherry Road	Gravel	Local	6	Hungerford	Hungerford	Vanderwater Road	Sherry Court	760	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 748	8.10	-	80	Good	1	Brushing required.
R19-318	Smith Road	Gravel	Local	6	Hungerford	Hungerford	Moneymore Road	End	2,512	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,473	8.20	-	77	Good	1	Brushing required.
R19-319	Spring Street East	HCB	Local	5	Hungerford	Hungerford	Colborne Street	Mary Street	75	6.8	0.5	1987	11	2030	\$ 40,037	\$ 40,037	\$ -	\$ -	\$ 14,791	8.00	9.18	88	Good	2	Catch basins in section.
R19-320	Spring Street West	HCB	Local	5	Hungerford	Hungerford	Victoria Street	Metcalf Street	105	9.5	1.0	2002	13	2032	\$ 34,442	\$ 27,554	\$ -	\$ 6,888	\$ 28,700	9.50	10.00	98	Good	2	Very recently rehabilitated.
R19-321	St. Edmunds Road	LCB	Local	6	Hungerford	Hungerford	Marlbank Road	Bethel Road	951	6.0	0.5	2002	7	2026	\$ 24,098	\$ 24,098	\$ -	\$ -	\$ 110,744	7.60	-	67	Fair	1	
R19-322	St. Joseph Street	HCB	Local	5	Hungerford	Hungerford	Alexander Street	Brooklyn Road	343	6.6	1.0	1990	10	2029	\$ 80,160	\$ 80,160	\$ -	\$ -	\$ 68,209	7.30	8.85	82	Good	2	
R19-323	Station Road	Gravel	Local	6	Hungerford	Hungerford	Sulphide Road	End	815	4.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 803	7.00	-	66	Fair	1	Routine maintenance.
R19-324	Stoco Road	Gravel	Local	6	Hungerford	Hungerford	245 m North of Greenwood Road	Brooks Road	1,265	5.50	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,246	8.10	-	77	Good	1	Routine maintenance.
R19-325	Stoco Road	Gravel	Local	6	Hungerford	Hungerford	Allore Road	Bogart Road	1,614	6.3	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,589	8.10	-	77	Good	1	Routine maintenance.
R19-326	Stoco Road	Gravel	Local	6	Hungerford	Hungerford	Brooks Road	Bogart Road	995	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 980	7.80	-	80	Good	1	Routine maintenance.
R19-327	Stoco Road	LCB	Local	6	Hungerford	Hungerford	Courneya Road	Trudeau Lane	280	6.8	0.5	2015	9	2028	\$ 32,923	\$ 27,829	\$ -	\$ 5,094	\$ 35,847	7.80	-	78	Good	1	
R19-328	Stoco Road	LCB	Local	6	Hungerford	Hungerford	East Hungerford Road	Courneya Road	1,600	6.8	0.5	1991	6	2025	\$ 188,131	\$ 159,024	\$ -	\$ 29,107	\$ 204,838	6.90	-	61	Fair	1	Houses very close to road.
R19-329	Stoco Road	LCB	Local	6	Hungerford	Hungerford	Greenwood Road	245 m North of Greenwood Road	245	6.8	0.5	2015	10	2029	\$ 28,808	\$ 24,351	\$ -	\$ 4,457	\$ 31,366	8.00	-	81	Good	1	
R19-330	Stoco Road	LCB	Local	6	Hungerford	Hungerford	Hughes Lane	Greenwood Road	240	6.8	0.5	2015	9	2028	\$ 28,220	\$ 23,854	\$ -	\$ 4,366	\$ 30,726	8.00	-	77	Good	1	



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Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class				Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class	Geographic Township START ^{2,3}	Geographic Township END ^{2,3}									Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-331	Stoco Road	LCB	Local	6	Hungerford	Hungerford	Marlbank Road	East Hungerford Road	78	6.8	1.0	1991	7	2026	\$ 9,171	\$ 7,752	\$ -	\$ 1,419	\$ 10,415	7.30	-	68	Fair	1	
R19-332	Stoco Road	LCB	Local	6	Hungerford	Hungerford	Trudeau Lane	Hughes Lane	661	6.8	0.5	2015	9	2028	\$ 77,722	\$ 65,697	\$ -	\$ 12,025	\$ 84,623	8.30	-	79	Good	1	
R19-333	Store Street	LCB	Local	5	Hungerford	Hungerford	Highway 37	Hungerford Street	153	6.0	0.5	2007	7	2026	\$ 16,056	\$ 15,076	\$ -	\$ 979	\$ 17,817	6.90	-	65	Fair	2	
R19-334	Store Street	LCB	Local	5	Elzevir	Elzevir	Hungerford Street	Highway 37	333	6.0	0.5	2003	5	2024	\$ 34,944	\$ 32,813	\$ -	\$ 2,131	\$ 38,778	5.40	-	50	Poor	2	
R19-335	Sulphide Road	LCB	Minor Collector	3	Hungerford	Hungerford	Bogart Road	Greenwood Road	2,080	6.0	1.0	2001	6	2025	\$ 84,993	\$ 84,993	\$ -	\$ -	\$ 253,656	7.00	-	61	Fair	1	
R19-336	Sulphide Road	LCB	Minor Collector	3	Hungerford	Hungerford	Bogart Road	Potter Settlement Road	1,212	6.0	1.0	2001	6	2025	\$ 49,525	\$ 49,525	\$ -	\$ -	\$ 147,803	6.60	-	60	Fair	1	Road under construction at time of inspection.
R19-337	Sulphide Road	LCB	Minor Collector	3	Hungerford	Hungerford	Highway 37	Hollister Road	985	7.3	1.0	2001	9	2028	\$ 40,249	\$ 40,249	\$ -	\$ -	\$ 139,120	8.30	-	75	Good	4	
R19-338	Sulphide Road	LCB	Minor Collector	3	Hungerford	Hungerford	Hollister Road	Lajoie Road	578	7.3	1.0	2001	8	2027	\$ 23,618	\$ 23,618	\$ -	\$ -	\$ 81,636	8.00	-	70	Fair	4	
R19-339	Sulphide Road	LCB	Minor Collector	3	Hungerford	Hungerford	Lajoie Road	Greenwood Road	2,243	7.3	1.0	2001	6	2025	\$ 91,654	\$ 91,654	\$ -	\$ -	\$ 316,799	7.00	-	62	Fair	4	
R19-340	Sulphide Road	Gravel	Local	6	Hungerford	Hungerford	Otter Creek Road	End (Boundary)	3,107	5.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 3,059	6.50	-	68	Fair	1	Brushing required. Routine maintenance.
R19-341	Sulphide Road	Gravel	Local	6	Hungerford	Hungerford	Peter Street	Otter Creek Road	2,930	5.6	n/a	2019	n/a	Annually	From Operations Budget				\$ 2,885	7.80	-	75	Good	1	Routine maintenance.
R19-342	Sulphide Road	LCB	Minor Collector	3	Hungerford	Hungerford	Potter Settlement Road	Peter Street	1,850	6.5	2.0	2001	5	2024	\$ 75,595	\$ 75,595	\$ -	\$ -	\$ 260,231	6.00	-	50	Poor	1	Road under construction at time of inspection.
R19-343	Thomas Street	LCB	Local	6	Hungerford	Hungerford	Highway 37	Clare Street	141	5.3	0.5	2001	7	2026	\$ 3,315	\$ 3,315	\$ -	\$ -	\$ 14,788	7.20	-	69	Fair	1	
R19-344	Thomasburg Road	LCB	Local	6	Hungerford	Hungerford	Clare Street	Boundary	315	5.5	0.5	2001	9	2028	\$ 7,388	\$ 7,388	\$ -	\$ -	\$ 34,251	7.90	-	75	Good	1	
R19-345	Trillium Road	Gravel	Local	6	Hungerford	Hungerford	Bethel Road	Clear Lane	250	6.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 246	7.70	-	75	Good	1	Apply calcium chloride to reduce dust. Routine maintenance.
R19-346	Turcotte Road	Gravel	Local	6	Hungerford	Hungerford	Otter Creek Road	Boundary	5,222	4.5	n/a	2019	n/a	Annually	From Operations Budget				\$ 5,142	6.30	-	55	Fair	1	Brushing and grading required. Apply calcium chloride to reduce dust.
R19-347	Tweedsmuir Crescent & Lane	Gravel	Local	6	Hungerford	Hungerford	Lost Channel Road	Tweedsmuir Lane	1,175	3.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,157	7.80	-	74	Fair	1	Routine maintenance.
R19-348	Tyner Road	Gravel	Local	6	Hungerford	Hungerford	Moneymore Road	Hogs Back Road	1,254	6.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,235	7.60	-	74	Fair	1	Brushing required.
R19-349	Uens Road	Gravel	Local	6	Hungerford	Hungerford	Bethel Road	Esker Road	1,640	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,615	7.80	-	78	Good	1	Brushing required.
R19-350	Upper Flinton Road	Gravel	Local	6	Elzevir	Elzevir	Highway 7	Robinson Road North	845	6.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 832	7.90	-	75	Good	1	Routine maintenance.
R19-351	Upper Flinton Road	Gravel	Local	6	Elzevir	Elzevir	James Road	Township Boundary	3,957	6.2	n/a	2019	n/a	Annually	From Operations Budget				\$ 3,896	7.10	-	73	Fair	1	Routine maintenance.
R19-352	Upper Flinton Road	Gravel	Local	6	Elzevir	Elzevir	Moore's Road	James Road	1,435	5.4	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,413	7.30	-	75	Good	1	Routine maintenance.
R19-353	Upper Flinton Road	Gravel	Local	6	Elzevir	Elzevir	Robinson Road North	Moore's Road	1,257	5.4	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,238	8.40	-	79	Good	1	Culverts need to be cleaned out. Shoulder washed out.
R19-354	Van Der Wey Court	Gravel	Local	6	Hungerford	Hungerford	Marlbank Road	End	135	4.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 133	7.70	-	73	Fair	1	Apply calcium chloride to reduce dust. Routine maintenance.
R19-355	Vanderwater Road	Gravel	Local	6	Hungerford	Hungerford	Ervine Road	End	775	5.00	n/a	2019	n/a	Annually	From Operations Budget				\$ 763	8.20	-	80	Good	1	Brushing required.
R19-356	Vanderwater Road	LCB	Local	6	Hungerford	Hungerford	Esker Road	Sherry Road	547	6.8	2.0	2009	8	2027	\$ 18,242	\$ 16,250	\$ -	\$ 1,992	\$ 79,054	8.00	-	72	Fair	1	Bridge in section.
R19-357	Vanderwater Road	LCB	Minor Collector	4	Hungerford	Hungerford	Highway 37	Esker Road	2,352	6.0	0.5	2009	6	2025	\$ 78,438	\$ 69,870	\$ -	\$ 8,567	\$ 273,890	6.60	-	60	Fair	3	
R19-358	Vanderwater Road	LCB	Local	6	Hungerford	Hungerford	Old Hungerford Road	Ervine Road	3,780	6.5	0.5	2009	8	2027	\$ 126,061	\$ 112,292	\$ -	\$ 13,769	\$ 469,346	7.20	-	70	Fair	1	
R19-359	Vanderwater Road	LCB	Local	6	Hungerford	Hungerford	Sherry Road	Old Hungerford Road	1,020	6.8	1.0	2009	8	2027	\$ 34,016	\$ 30,301	\$ -	\$ 3,715	\$ 136,194	8.00	-	72	Fair	1	
R19-360	Varty Road	Gravel	Local	6	Elzevir	Elzevir	Highway 7	End	1,511	5.0	n/a	2019	n/a	Annually	From Operations Budget				\$ 1,488	7.00	-	65	Fair	1	Brushing required.



Table 4a
Detailed Summary of Municipal Assets (Roads)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Gravel / LCB / HCB) ^{1,2}	Road Class		Geographic Township START ^{2,3}	Geographic Township END ^{2,3}	Road Location From ²	Road Location To ²	Section Length (m) ²	Road Width (m)	Shoulder Width (m)	Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Reconstruction / Rehabilitation Cost ^{1,2}	Ride Comfort Rating (RCR; 0 - 10)	Distress Manifestation Index (DMI; 0 - 10)	Pavement Condition Index (PCI; 0 - 100)	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information / Comments
			Description	Municipal Class											Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹							
R19-361	Victoria Street North	HCB	Local	5	Hungerford	Hungerford	Bridge Street West	Highway 37	284	9.6	2.0	2017	13	2032	\$ 208,416	\$ 8,651	\$ -	\$ 199,765	\$ 81,480	9.40	9.86	97	Good	2	New pavement. Longitudinal man-made deep cuts in the road surface.
R19-362	Victoria Street North	HCB	Local	5	Hungerford	Hungerford	French Settlement Road	Holdcroft Street	399	6.5	0.5	2017	13	2032	\$ 292,810	\$ 12,154	\$ -	\$ 280,656	\$ 76,125	9.40	9.59	95	Good	2	Poor centerline joint resulting in severe cracking.
R19-363	Victoria Street North	HCB	Local	5	Hungerford	Hungerford	Holdcroft Street	Highway 37	562	6.5	1.0	2017	13	2032	\$ 412,429	\$ 17,119	\$ -	\$ 395,310	\$ 110,315	9.50	9.86	97	Good	2	New pavement.
R19-364	Victoria Street North	HCB	Local	5	Hungerford	Hungerford	Jamieson Street West	Spring Street West	188	14.1	2.0	2017	13	2032	\$ 137,966	\$ 5,727	\$ -	\$ 132,239	\$ 75,664	9.50	10.00	98	Good	2	Very wide road section to allow for roadside parking. New pavement.
R19-365	Victoria Street North	HCB	Local	5	Hungerford	Hungerford	Quinns Lane	Bridge Street West	62	14.1	2.0	2017	13	2032	\$ 45,499	\$ 1,889	\$ -	\$ 43,611	\$ 24,953	9.40	10.00	98	Good	2	Very wide road section to allow for roadside parking. New pavement.
R19-366	Victoria Street North	HCB	Local	5	Hungerford	Hungerford	River Street West	Jamieson Street West	220	14.1	2.0	2017	13	2032	\$ 161,449	\$ 6,701	\$ -	\$ 154,748	\$ 88,543	9.50	10.00	98	Good	2	Very wide road section to allow for roadside parking. New pavement.
R19-367	Victoria Street North	HCB	Local	5	Hungerford	Hungerford	Spring Street West	Quinns Lane	156	14.1	2.0	2017	13	2032	\$ 114,482	\$ 4,752	\$ -	\$ 109,730	\$ 62,785	9.50	10.00	98	Good	2	Very wide road section to allow for roadside parking. New pavement.
R19-368	Victoria Street South	HCB	Local	5	Hungerford	Hungerford	Highway 37	Jane Street West	310	9.8	2.0	2018	13	2032	\$ 227,496	\$ 9,443	\$ -	\$ 218,054	\$ 90,532	9.30	9.86	97	Good	2	New pavement.
R19-369	Victoria Street South	HCB	Local	5	Hungerford	Hungerford	Jane Street West	McGowan Street	143	9.8	2.0	2018	13	2032	\$ 104,942	\$ 4,356	\$ -	\$ 100,586	\$ 41,762	9.50	10.00	98	Good	2	New pavement.
R19-370	Victoria Street South	HCB	Local	5	Hungerford	Hungerford	McGowan Street	River Street West	270	9.8	2.0	2018	13	2032	\$ 198,142	\$ 8,224	\$ -	\$ 189,918	\$ 78,850	9.30	9.78	96	Good	2	New pavement.
R19-371	Victoria Varty Road	Gravel	Local	6	Hungerford	Hungerford	Bogart Road	End	1,015	4.5	n/a	2019	n/a	Annually	From Operations Budget			\$ 999	7.50	-	75	Good	1	Brushing required. Apply calcium chloride for dust control.	
R19-372	Weslemkoon Lake Road	LCB	Local	6	Grimsthorpe	Grimsthorpe	2107 m North of Pine View Ridge Road	1569 Weslemkoon Lake Road	255	6.0	1.0		5	2024	Unknown			\$ 31,097	6.50	-	57	Fair	1		
R19-373	William Street	HCB	Local	5	Hungerford	Hungerford	Queen Street	Franklin Street	95	6.3	0.3	1992	7	2026	\$ 19,244	\$ 19,244	\$ -	\$ -	\$ 17,428	6.40	7.57	67	Fair	2	
R19-374	Windmill Road	Gravel	Local	6	Hungerford	Hungerford	Old Hungerford Road	Windmill Lane	1,099	5.0	n/a	2019	n/a	Annually	From Operations Budget			\$ 1,082	7.80	-	77	Good	1	Routine maintenance.	
R19-375	Youngs Road	Gravel	Local	6	Hungerford	Hungerford	Highway 41	Napanee Road	3,533	5.50	n/a	2019	n/a	Annually	From Operations Budget			\$ 3,479	7.40	-	67	Fair	1	Apply calcium chloride to reduce dust. Routine maintenance.	

Road Type	No. of Road Sections	Average Age (years)	Total Length in Kilometres (km)	Percentage of Total Road Network (%)	Replacement and/or Maintenance Cost
Gravel	166	0	253.89	61.81%	\$ 250,000
High Class Bituminous (HCB)	103	17	30.60	7.45%	\$ 6,566,911
Low Class Bituminous (LCB)	106	9	126.25	30.74%	\$ 16,212,229
TOTAL	375	7	410.74	100.00%	\$ 23,029,140

Notes:

1. Data from Municipality of Tweed, Tangible Capital Assets (2018) and/or provided by Municipality.
2. Roads Needs Study (Greenview, 2019).
3. Data Provided from Municipality of Tweed (Gap Analysis Meetings).
4. Level of Service: 1 = very low priority, 5 = very high priority.

Selected Focus Items

YEAR
2019



Table 4b
Detailed Summary of Municipal Assets (Bridges & Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ¹	Structure Type	Total Deck Length (m)	Overall Structure Width (m)	Total Deck Area (m ²)	Roadway Width (m)	No. of Spans (#)	Span Lengths (m)	Culvert Diameter (m) ²	No. of Culverts ¹	Loading Restriction (Y / N)	Dimensional Restriction (Y / N)	Geographic Township ¹	Structure Location	Municipal Road Class	UTM Coordinates			Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials							Bridge Condition Index (BCI) ²	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (Identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)	
																	Zone	Northing	Easting				Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹	Rehabilitation Cost	Replacement Cost	Additional Investigations					Total Upgrade Cost
BC19-01	Black Creek Bridge (Bridge #21)	Bridge	T-Beam	13.30	10.30	137.00	9.10	1	12.30	n/a	n/a	N	N	Hungerford	Sulphide Road, 3.2 km East of Highway #37	3	18T	4929688	318540	2016	10	2028	\$ 54,369	\$ 3,762	\$ -	\$ 50,606	\$ -	\$ 1,450,000	\$ 5,000	\$ 1,455,000	62.63	Fair	4	Structure Evaluation = \$5,000. The municipality should review the adequacy of the barrier system and remove the constructed beaver dam beneath the bridge. Replace (6-10 years) = \$1,230,000. Associated work includes: Traffic Control = \$30,000. Environmental Study = \$5,000. Contingencies = \$185,000.
BC19-02	Bogart Road Bridge (Bridge #17)	Culvert	Arch Culvert	19.00	5.80	98.80	5.20	1	15.10	15.1	1	N	Y	Hungerford	Bogart Road, 1.3 km South of Sulphide Road	6	18T	4929840	321007	2014	-	n/a	\$ 852,766	\$ 56,851	\$ -	\$ 795,915	\$ -	\$ -	\$ -	\$ -	75.00	Good	1	Good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-03	Boundary Bridge (Bridge #29)	Bridge	Through Truss	30.40	4.80	145.90	4.30	1	30.20	n/a	n/a	N	Y	Hungerford	Hawkins Bay Road, 0.1 km West of highway #37	6	18T	4933941	314635	1930	1	2019	\$ 2,628	\$ 2,628	\$ -	\$ -	\$ -	\$ 1,400,000	\$ -	\$ 1,400,000	51.06	Poor	1	Structure was closed following this OSIM inspection as a result of deteriorated condition of steel stringers, wooden deck and other superstructure components. Replace - Replace Superstructure (within 1 year) = \$1,400,000.
BC19-04	Bradshaw Bridge (Bridge #36)	Bridge	T-Beam	20.10	5.70	114.60	4.70	2	4.55	n/a	n/a	Y	N	Elzevir	Flinton Road, 1.2 km North of Highway #7	4	18T	4937264	316458	1921	5	2023	\$ 2,185	\$ 2,185	\$ -	\$ -	\$ -	\$ 1,030,000	\$ 5,000	\$ 1,035,000	47.00	Poor	3	Structure Evaluation = \$5,000. Recommend replacement due to the deterioration of the structure. Replace (1-5 years) = \$1,030,000.
BC19-05	Catons Bridge North Structure (Bridge #8)	Bridge	T-Beam	40.20	5.50	221.10	4.30	3	12, 12, 12	n/a	n/a	Y	Y	Hungerford	Carss Road, 1.3 km South of Bethel Road	6	18T	4922321	317575	1913	5	2023	\$ 2,497	\$ 2,497	\$ -	\$ -	\$ -	\$ 1,550,000	\$ 5,000	\$ 1,555,000	28.42	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to severe deterioration of the structure. Replace (1-5 years) = \$1,550,000
BC19-06	Catons Bridge South Structure (Bridge #7)	Bridge	T-Beam	40.20	5.50	221.10	4.30	3	12, 12, 12	n/a	n/a	Y	Y	Hungerford	Carss Road, 1.3 km South of Bethel Road	6	18T	4922264	317569	1913	5	2023	\$ 2,497	\$ 2,497	\$ -	\$ -	\$ -	\$ 1,550,000	\$ 5,000	\$ 1,555,000	31.17	Poor	1	Structure Evaluation (1-5 years) = \$5,000. Recommend replacement due to severe deterioration of the structure. Replace (1-5 years) = \$1,550,000
BC19-07	Clements Bridge (Bridge #13)	Bridge	I-Beams or Girders	12.00	4.90	58.80	4.60	1	7.00	n/a	n/a	N	Y	Hungerford	Kinlin Road, 0.4 km South of Prevost Road	6	18T	4930857	325454	2011	5	2023	\$ 54,369	\$ 8,694	\$ -	\$ 45,674	\$ 65,000	\$ -	\$ 10,000	\$ 75,000	68.08	Fair	1	Underwater Investigation = \$10,000. Limited inspection of bridge due to high water level. Girders - Minor concrete repair (1-5 years) = \$25,000. Railing system - Replace (1-5 years) = \$40,000.
BC19-08	Crookston Culvert (Bridge #24)	Culvert	Rectangular Culvert	6.40	6.70	153.60	6.70	1	5.60	5.8	1	N	N	Hungerford	Crookston Road, 7.5 km East of Highway #7	3	18T	4925922	310315	1970	-	n/a	\$ 269	\$ 269	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	76.83	Good	4	Generally in good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.



Table 4b
Detailed Summary of Municipal Assets (Bridges & Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ¹	Structure Type	Total Deck Length (m)	Overall Structure Width (m)	Total Deck Area (m ²)	Roadway Width (m)	No. of Spans (#)	Span Lengths (m)	Culvert Diameter (m) ²	No. of Culverts ¹	Loading Restriction (Y / N)	Dimensional Restriction (Y / N)	Geographic Township ¹	Structure Location	Municipal Road Class	UTM Coordinates			Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials							Bridge Condition Index (BCI) ²	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (Identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)	
																	Zone	Northing	Easting				Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹	Rehabilitation Cost	Replacement Cost	Additional Investigations					Total Upgrade Cost
BC19-09	Doran's Bridge (Bridge #14)	Bridge	I-Beams or Girders	22.00	5.90	129.80	5.00	1	19.00	n/a	n/a	N	N	Hungerford	Kinlin Road, 0.1 km South of Otter Creek Road	6	18T	4929941	323925	2007	-	n/a	\$ 657,144	\$ 96,381	\$ -	\$ 560,763	\$ -	\$ -	\$ -	\$ -	74.88	Good	1	Structure is in good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-10	Dowling Bridge (Bridge #51)	Bridge	I-Beams or Girders	12.60	4.50	56.70	4.00	1	7.40	n/a	n/a	Y	Y	Hungerford	Hungerford Road, 1.8 km East of Colonization Road	6	18T	4927597	326513	2008	5	2023	\$ 28,350	\$ 3,780	\$ -	\$ 24,570	\$ -	\$ 580,000	\$ 5,000	\$ 585,000	54.66	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to the condition of the original structure. Original structure should have been completely replaced rather than bridged over. Replace (1-5 years) = \$580,000.
BC19-11	Downey Rapids South Structure (Bridge #27)	Bridge	T-Beam	26.80	5.50	147.40	4.20	2	12.3, 12.3	n/a	n/a	Y	Y	Hungerford	Rapids Road, 2.6km South of Highway #7	6	18T	4931268	309975	1914	5	2023	\$ 1,691	\$ 1,691	\$ -	\$ -	\$ -	\$ 1,330,000	\$ 5,000	\$ 1,335,000	35.84	Poor	1	Structure Evaluation = \$5,000. Recommend replacement of the bridge due to the deterioration of the structure. Replace (1-5 years) = \$1,330,000.
BC19-12	Downy Rapids North Structure (Bridge #28)	Bridge	T-Beam	7.20	5.50	39.60	4.20	1	6.10	n/a	n/a	Y	Y	Hungerford	Rapids Road, 2.6km South of Highway #7	6	18T	4931302	309950	1914	5	2023	\$ 460	\$ 460	\$ -	\$ -	\$ -	\$ 500,000	\$ 5,000	\$ 505,000	55.84	Poor	1	Structure Evaluation = \$5,000. Recommend replacement of the bridge due to deterioration of the structure. Replace (1-5 years) = \$500,000.
BC19-13	East Red Bridge (Bridge #30)	Bridge	T-Beam	8.50	5.40	39.10	4.20	1	7.60	n/a	n/a	Y	Y	Elzevir	Black River Road, 1.4 km West of North Hawkings Bay Road	6	18T	4934202	311698	1930	5	2023	\$ 828	\$ 828	\$ -	\$ -	\$ -	\$ 490,000	\$ 5,000	\$ 495,000	27.83	Poor	1	Structure Evaluation (1-5 years) = \$5,000. Recommend replacement due to the deterioration of the structure. Replace (1-5 years) = \$490,000.
BC19-14	Forbes Culvert (Bridge #37)	Culvert	Round Culvert	5.70	18.40	34.20	8.50	2	3.5, 3.5	3.5	2	N	N	Elzevir	Forbes Road, 0.7 km West of Flinton Road	6	18T	4937532	315916	1991	10	2028	\$ 1,041	\$ 1,041	\$ -	\$ -	\$ -	\$ 450,000	\$ -	\$ 450,000	67.21	Fair	1	Budget for replacement due to corrosion of steel. Railing Systems - Install barrier system (1-5 years) = \$20,000. Replace (6-10 years) = \$430,000.
BC19-15	Gordon Bridge (Bridge #41)	Culvert	Round Culvert	5.55	9.20	51.06	7.00	3	1.85, 1.85, 1.85	1.85	3	N	N	Elzevir	Bosley Road, 0.6 km South of Queensborough Road	6	18T	4939942	308483	2011	-	n/a	\$ 224,126	\$ 25,024	\$ -	\$ 199,102	\$ -	\$ -	\$ -	\$ -	75.00	Good	1	Generally in good condition. Install hazard markers at ends of guiderail. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-16	Graham's Bridge (Bridge #25)	Bridge	T-Beam	7.00	14.10	98.70	7.80	1	6.10	n/a	n/a	N	N	Hungerford	Quin Mo Lac Road, 1.2 km East of Camp Road	4	18T	4927652	310733	1930	10	2028	\$ 1,782	\$ 1,782	\$ -	\$ -	\$ 80,000	\$ -	\$ 10,000	\$ 90,000	68.78	Fair	3	Detailed Deck Condition Survey = \$10,000. Recommend upgrading barrier system in future. Fill added to bridge has created surcharge loading. Barrier/Parapet Walls - Replace barrier system with future rehabilitation (6-10 years) = \$60,000. Minor Rehab (1-5 years) = \$20,000.



Table 4b
Detailed Summary of Municipal Assets (Bridges & Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ¹	Structure Type	Total Deck Length (m)	Overall Structure Width (m)	Total Deck Area (m ²)	Roadway Width (m)	No. of Spans (#)	Span Lengths (m)	Culvert Diameter (m) ²	No. of Culverts ¹	Loading Restriction (Y / N)	Dimensional Restriction (Y / N)	Geographic Township ¹	Structure Location	Municipal Road Class	UTM Coordinates			Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials							Bridge Condition Index (BCI) ²	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (Identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)		
																	Zone	Northing	Easting				Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹	Rehabilitation Cost	Replacement Cost	Additional Investigations					Total Upgrade Cost	
BC19-17	Greatrix Bridge (Bridge #35)	Bridge	T-Beam	7.30	5.60	40.90	-	1	6.50	n/a	n/a	Y	Y	Elzevir	Robinson Road, 0.3 km East of Flinton Road	6	18T	4937686	317173	1925	5	2023	\$ 713	\$ 713	\$ -	\$ -	\$ -	\$ 510,000	\$ 5,000	\$ 515,000	38.53	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to deterioration of the structure. Replace (1-5 years) = \$510,000.	
BC19-18	Hawkins Bridge (Bridge #22)	Bridge	I-Beams or Girders	9.10	11.70	118.20	6.50	1	9.10	n/a	n/a	N	N	Hungerford	Sulphide Road, 5.3 km East of Highway #7	3	18T	4931421	320657	1930	5	2023	\$ 2,124	\$ 2,124	\$ -	\$ -	\$ 400,000	\$ -	\$ 8,000	\$ 408,000	57.61	Poor	4	Detailed Deck Condition Survey = \$8,000. The municipality should review the adequacy of the barrier system. A deck condition survey is recommended in the future to confirm scope of work and costs. Budget for rehab within the next 10 years. Minor Rehab - Rehab includes new barrier system and concrete patch repairs with possibility of concrete overlay (1-5 years) = \$400,000.	
BC19-19	Horrigan Bridge (Bridge #45)	Bridge	I-Beams or Girders	7.00	4.70	32.90	4.50	1	5.40	n/a	n/a	N	Y	Hungerford	Horrigan Road, 1.3 km West of Maribank	6	18T	4923851	328529	2008	1	2019	\$ 16,500	\$ 2,200	\$ -	\$ 14,300	\$ 40,000	\$ -	\$ -	\$ 40,000	70.83	Good	1	The adequacy of the barrier system should be reviewed. Railing Systems - Replace barrier system on deck and approaches (within 1 year) = \$40,000.	
BC19-20	Joe Allore Bridge (Bridge #48)	Bridge	Half-Through Truss	18.50	5.50	101.75	5.50	1	16.00	n/a	n/a	Y	Y	Hungerford	Allore Road, 0.2 km Northwest of Otter Creek Road	6	18T	4929476	322894	1908	5	2023	\$ 1,038	\$ 1,038	\$ -	\$ -	\$ -	\$ 920,000	\$ 5,000	\$ 925,000	62.86	Fair	1	Structure Evaluation = \$5,000. Recommend replacement due to deterioration of the structure. Replace (1-5 years) = \$920,000.	
BC19-21	Joe Trudeau Bridge (Bridge #49)	Bridge	Half-Through Truss	19.50	5.50	107.00	5.00	1	18.50	n/a	n/a	Y	Y	Hungerford	Courmeya Road, 0.5 km West of Allore Road	6	18T	4927957	322867	1930	5	2023	\$ 1,872	\$ 1,872	\$ -	\$ -	\$ -	\$ 960,000	\$ 5,000	\$ 965,000	50.02	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to deterioration of structure. Replace (1-5 years) = \$960,000.	
BC19-22	Kennedy's Bridge (Bridge #4)	Bridge	Rigid Frame, Vertical Legs	8.00	6.20	49.60	4.60	1	7.30	n/a	n/a	N	Y	Hungerford	Esker Road, 1.1 km North of Concession Road 4	6	18T	4919425	315792	2008	-	n/a	\$ 400,000	\$ 53,333	\$ -	\$ 346,667	\$ -	\$ -	\$ -	\$ -	\$ -	73.94	Good	1	Structure in good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-23	Kerr's Bridge (Bridge #3)	Bridge	I-Beams or Girders	32.50	9.50	810.00	-	3	32.5, 32.5, 32.5	n/a	n/a	N	N	Hungerford	Vanderwater Road, 2.6 km East of Highway #37	4	18T	4918091	315519	1991	-	n/a	\$ 1,672,628	\$ 621,199	\$ -	\$ 1,051,429	\$ -	\$ -	\$ -	\$ -	\$ -	74.39	Good	3	The municipality should review the adequacy of the barrier. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-24	Kinlin Bridge (Bridge #50)	Bridge	Half-Through Truss	16.00	5.10	70.40	4.50	2	7.7	n/a	n/a	Y	Y	Hungerford	Kinlin Road, 3.5 km East of Prevost Road	6	18T	4931105	328433	1930	3	2021	\$ 1,260	\$ 1,260	\$ -	\$ -	\$ -	\$ 720,000	\$ 5,000	\$ 725,000	47.29	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to the deterioration of the structure. Structure has 2-3 years of remaining service life. Replace (1-5 years) = \$720,000.	



Table 4b
Detailed Summary of Municipal Assets (Bridges & Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ¹	Structure Type	Total Deck Length (m)	Overall Structure Width (m)	Total Deck Area (m ²)	Roadway Width (m)	No. of Spans (#)	Span Lengths (m)	Culvert Diameter (m) ²	No. of Culverts ¹	Loading Restriction (Y / N)	Dimensional Restriction (Y / N)	Geographic Township ¹	Structure Location	Municipal Road Class	UTM Coordinates			Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials							Bridge Condition Index (BCI) ²	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (Identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)		
																	Zone	Northing	Easting				Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹	Rehabilitation Cost	Replacement Cost	Additional Investigations					Total Upgrade Cost	
BC19-25	Lingham Lake Bridge (Bridge #43)	Bridge	Box Beams of Girders	26.00	4.30	111.80	4.30	1	24.10	n/a	n/a	N	Y	Elzevir	Lingham Lake Road, 5.7km east of Cooper Road	6	18T	4949854	308002	2016	-	n/a	\$ 1,602	\$ 1,602	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	74.95	Good	1	Bridge Superstructure replaced in 2015. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-26	Lost Channel Bridge (Bridge #6)	Bridge	T-Beam	53.80	5.70	306.70	4.50	4	12, 12, 12, 12	n/a	n/a	Y	Y	Hungerford	Lost Channel Road, 2.7 km East of Highway #37	6	18T	4921289	316389	1920	5	2023	\$ 6,616	\$ 6,616	\$ -	\$ -	\$ -	\$ 2,150,000	\$ 8,000	\$ 2,158,000	23.06	Poor	1	Structure Evaluation (1-5 years) = \$8,000. Recommend replacement due to severe deterioration of structure. Review load posting. Replace (1-5 years) = \$2,150,000	
BC19-27	Maines Bridge (Bridge #9)	Bridge	I-Beams or Girders	30.80	9.30	286.40	7.40	1	30.00	n/a	n/a	N	N	Hungerford	Bethel Road, 1.9 km East of Highway #37	6	18T	4923390	317166	1986	-	n/a	\$ 379,839	\$ 162,065	\$ -	\$ 217,774	\$ -	\$ -	\$ -	\$ -	\$ -	73.46	Good	1	The municipality should review the adequacy of the barrier. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-28	Marbank Bridge (Bridge #2)	Bridge	Rigid Frame, Vertical Legs	4.50	13.20	73.80	13.20	1	3.90	n/a	n/a	N	N	Hungerford	Queen Street, 0.3 km North of Marbank Road West	4	18T	4922415	333346	1980	5	2023	\$ 10,449	\$ 5,294	\$ -	\$ 5,155	\$ 120,000	\$ -	\$ 10,000	\$ 130,000	65.34	Fair	3	Detailed Deck condition Survey = \$10,000. Recommend to undertake a deck condition survey in the future to confirm scope of work and costing. Deck Top (Thick Slab) - Concrete Repairs, Waterproof and pave (1-5 years) = \$45,000. Soffit (Thick Slab) - Concrete repairs (1-5 years) = \$30,000. Railing Systems - Install code compliant barrier (1-5 years) = \$45,000.	
BC19-29	Marbank Culvert (Bridge #46)	Culvert	Frame, Inclined Legs	4.20	11.00	46.20	5.50	1	3.60	3.6	1	N	N	Hungerford	Napanee Road, 200m East of Luffman Road	4	18T	4922556	333389	2007	-	n/a	\$ 262,858	\$ 38,552	\$ -	\$ 224,305	\$ -	\$ -	\$ -	\$ -	\$ -	74.87	Good	3	Good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-30	Marbank Road Bridge (Bridge #44)	Bridge	Rigid Frame, Vertical Legs	4.60	12.20	63.40	7.00	1	4.60	n/a	n/a	N	N	Hungerford	Marbank Road, 2.2 km East of Colonization Road	3	18T	4924961	327544	1930	-	n/a	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	74.10	Good	4	In good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-31	Marrison Bridge (Bridge #34)	Bridge	T-Beam	8.40	5.60	47.00	4.50	1	7.60	n/a	n/a	N	Y	Elzevir	Upper Flinton Road, 5 km East of Moore's Road	6	18T	4942217	322980	1930	10	2028	\$ 846	\$ 846	\$ -	\$ -	\$ -	\$ 590,000	\$ 5,000	\$ 595,000	51.28	Poor	1	Structure Evaluation = \$5,000. Budget for replacement due to age and condition of bridge. Replace (6-10 years) = \$590,000.	
BC19-32	Marshe Bridge (Bridge #26)	Bridge	Rigid Frame, Vertical Legs	8.10	6.15	49.80	5.50	1	7.20	n/a	n/a	N	N	Hungerford	French Settlement Road, 1.5 km East of Rapids Road	6	18T	4930552	312705	2008	-	n/a	\$ 475,000	\$ 69,667	\$ -	\$ 405,333	\$ -	\$ -	\$ -	\$ -	\$ -	74.91	Good	1	Structure is in good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.



Table 4b
Detailed Summary of Municipal Assets (Bridges & Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ¹	Structure Type	Total Deck Length (m)	Overall Structure Width (m)	Total Deck Area (m ²)	Roadway Width (m)	No. of Spans (#)	Span Lengths (m)	Culvert Diameter (m) ²	No. of Culverts ¹	Loading Restriction (Y / N)	Dimensional Restriction (Y / N)	Geographic Township ¹	Structure Location	Municipal Road Class	UTM Coordinates			Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials							Bridge Condition Index (BCI) ²	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (Identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)		
																	Zone	Northing	Easting				Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹	Rehabilitation Cost	Replacement Cost	Additional Investigations					Total Upgrade Cost	
BC19-33	Maurice Rivers Bridge (Bridge #15)	Bridge	Hybrid	8.70	7.50	66.99	7.00	1	7.10	n/a	n/a	N	Y	Hungerford	Allore Road, 0.1 km East of Stoco Road	6	18T	4929290	323042	2009	5	2023	\$ 177,801	\$ 21,336	\$ -	\$ 156,465	\$ 10,000	\$ -	\$ -	\$ 10,000	66.66	Fair	1	The municipality should review the adequacy of the guardrail. Railing Systems - Raise railing to standard height (1-5 years) = \$10,000.	
BC19-34	Morton Memorial Bridge (Bridge #19)	Bridge	Through Truss	62.80	5.30	333.00	4.80	2	30.00	n/a	n/a	N	Y	Hungerford	Pedestrian walkway, Bridge Street East and Colborne Street	6	18T	4927793	316036	1920	-	n/a	\$ 7,176	\$ 7,176	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	71.12	Good	1	Good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-35	Otter Creek Bridge (Bridge #47)	Bridge	Half-Through Truss	21.00	4.50	94.50	4.50	1	19.00	n/a	n/a	Y	Y	Hungerford	Prevost Road, 0.25 km North of Kinlin Road	6	18T	4930995	325238	1931	5	2023	\$ 1,610	\$ 1,610	\$ -	\$ -	\$ -	\$ 850,000	\$ 5,000	\$ 855,000	53.15	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to the deterioration of the structure. Replace (1-5 years) = \$850,000.	
BC19-36	Paul Clement Bridge (Bridge #16)	Bridge	I-Beams or Girders	20.45	7.00	143.00	7.00	1	20.45	n/a	n/a	N	N	Hungerford	Greenwood Road, 0.4 km North of Stoco Road	6	18T	4927796	319425	2010	-	n/a	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	88.29	Good	1	Bridge is in good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-37	Queensborough Bridge (Bridge #42)	Bridge	I-Beams or Girders	13.80	6.40	88.30	5.10	1	13.30	n/a	n/a	Y	N	Elzevir	Queensborough Road, 5.2 km East of Cooper Road	4	18T	4940472	308656	1925	5	2023	\$ 1,531	\$ 1,531	\$ -	\$ -	\$ -	\$ 791,000	\$ 5,000	\$ 796,000	53.82	Poor	3	Structure Evaluation = \$5,000. Recommend Replacement due to the deterioration of the structure. Posts - Replace damaged posts (within 1 year) = \$1,000. Replace (1-5 years) = \$790,000.	
BC19-38	Rapids Bridge (Bridge #52)	Bridge	Rigid Frame, Vertical Legs	6.00	5.30	31.80	4.50	1	5.00	n/a	n/a	Y	Y	Hungerford	Rapids Road, 0.5 km North of Quin Mo Lac Road	6	18T	4927656	311456	1930	5	2023	\$ 576	\$ 576	\$ -	\$ -	\$ -	\$ 400,000	\$ 5,000	\$ 405,000	42.93	Poor	1	Structure Evaluation = \$5,000. Recommend replacement of the bridge due to deterioration of the structure. No load limit signs are posted. Signs should be installed immediately. Replace (1-5 years) = \$400,000.	
BC19-39	Reynolds Culvert (Bridge #38)	Culvert	Round Culvert	6.60	16.20	39.60	7.30	2	2.6, 2.6	2.6	2	N	N	Elzevir	Flinton Road, 2.2 kms north of Highway #7	4	18T	4938405	317029	1995	10	2028	\$ 1,106	\$ 1,106	\$ -	\$ -	\$ -	\$ 500,000	\$ 10,000	\$ 510,000	44.76	Poor	3	Underwater Investigation = \$10,000. Budget for replacement within the next 10 years due to deteriorating steel. Steel cables are loose and should be tightened. Replace (6-10 years) = \$500,000.	
BC19-40	Robinson Bridge (Bridge #32)	Bridge	Box Beams of Girders	26.60	8.40	258.00	8.10	1	26.00	n/a	n/a	N	N	Elzevir	Upper Flinton Road, 0.2 km North of Highway #7	6	18T	4936586	320878	1992	-	n/a	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	74.29	Good	1	Structure is in good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.



Table 4b
Detailed Summary of Municipal Assets (Bridges & Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ¹	Structure Type	Total Deck Length (m)	Overall Structure Width (m)	Total Deck Area (m ²)	Roadway Width (m)	No. of Spans (#)	Span Lengths (m)	Culvert Diameter (m) ²	No. of Culverts ¹	Loading Restriction (Y / N)	Dimensional Restriction (Y / N)	Geographic Township ¹	Structure Location	Municipal Road Class	UTM Coordinates			Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials							Bridge Condition Index (BCI) ²	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (Identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)		
																	Zone	Northing	Easting				Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹	Rehabilitation Cost	Replacement Cost	Additional Investigations					Total Upgrade Cost	
BC19-41	Rocky Alter Bridge (Bridge #12)	Bridge	T-Beam	17.10	5.50	94.00	5.50	1	10.10	n/a	n/a	Y	Y	Hungerford	Allore Road, 1.1 km East of Hungerford Road	6	18T	4927847	323481	1930	5	2023	\$ 1,746	\$ 1,746	\$ -	\$ -	\$ -	\$ 850,000	\$ 5,000	\$ 855,000	21.13	Poor	1	Structure Evaluation (1-5 years) = \$5,000. Replacement is recommended due to the deterioration of the structure. Replace (1-5 years) = \$850,000.	
BC19-42	Ross Bridge (Bridge #40)	Bridge	T-Beam	13.00	5.80	75.40	4.90	0	11.10	n/a	n/a	Y	Y	Elzevir	Bosley Road, 1.8 km West of Queensborough Road	6	18T	4938826	309889	1923	5	2023	\$ 1,305	\$ 1,305	\$ -	\$ -	\$ -	\$ 770,000	\$ 5,000	\$ 775,000	30.33	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to deterioration of the structure. Replace (1-5 years) = \$770,000.	
BC19-43	Sagonaska Bridge (Bridge #18)	Bridge	I-Beams or Girders	95.00	13.00	1233.70	10.00	3	31.5, 31.5, 31.5	n/a	n/a	N	N	Hungerford	Highway 37, 10m north of Victoria Street North	2	18T	4928067	315800	1997	10	2028	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000	72.71	Good	5	Deck Top (Thin Slab) - Waterproof and pave (6-10 years) = \$100,000	
BC19-44	Scotchwoman Bridge (Bridge #39)	Bridge	T-Beam	20.10	5.70	114.60	4.70	0	18.20	n/a	n/a	Y	N	Elzevir	Flinton Road, 1 km south of North Addington Boundary	4	18T	4945408	321487	1921	5	2023	\$ 2,185	\$ 2,185	\$ -	\$ -	\$ -	\$ 1,030,000	\$ 5,000	\$ 1,035,000	53.16	Poor	3	Structure Evaluation = \$5,000. Recommend replacement due to the deterioration of the structure. Replace (1-5 years) = \$1,030,000.	
BC19-45	Sherry's Bridge (Bridge #5)	Bridge	I-Beams or Girders	33.50	8.00	268.00	4.70	1	33.00	n/a	n/a	N	Y	Hungerford	Lost Channel Road, 2.3 km East of Highway #37	6	18T	4921181	315997	2007	-	n/a	\$ 912,700	\$ 123,612	\$ -	\$ 789,088	\$ -	\$ -	\$ -	\$ -	\$ -	74.97	Good	1	Bridge is in good condition. No maintenance, rehabilitation, replacement, or additional investigations recommended.
BC19-46	Stoco Bridge (Bridge #11)	Bridge	Box Beams of Girders	52.80	12.30	649.40	8.50	0	17.6, 17.6, 17.6	n/a	n/a	N	N	Hungerford	Maribank Road, 3.2 km East of Highway #37	4	18T	4925209	318877	1964	10	2028	\$ 73,670	\$ 52,060	\$ -	\$ 21,610	\$ 200,000	\$ -	\$ 10,000	\$ 210,000	73.42	Good	3	Detailed Deck condition Survey = \$10,000. The municipality should review the adequacy of the barrier system. The completion of additional study as noted above is recommended to confirm the scope and cost of future rehabilitation. Deck Top (Thin Slab) - Concrete repairs (6-10 years) = \$20,000. Wearing Surface - Waterproof and pave (6-10 years) = \$100,000. Associated work includes: Other (Mobilization, traffic control and bonding) = \$80,000.	
BC19-47	Storing Bridge (Bridge #33)	Bridge	T-Beam	11.50	5.10	58.70	4.00	1	10.90	n/a	n/a	Y	Y	Elzevir	Upper Flinton Road, 0.9 km East of Moores Road	6	18T	4938635	321306	1940	5	2023	\$ 1,006	\$ 994	\$ -	\$ 12	\$ -	\$ 615,000	\$ 5,000	\$ 620,000	50.64	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to the deterioration of the structure. Railing Systems - Replace Railing (within 1 year) = \$15,000. Replace (1-5 years) = \$600,000.	
BC19-48	Sulphide Creek Bridge (Bridge #23)	Bridge	I-Beams or Girders	7.60	11.60	88.20	10.40	1	6.70	n/a	n/a	N	N	Hungerford	Sulphide Road, 6.1 km East of Highway #37	3	18T	4931910	321259	1959	5	2023	\$ 3,705	\$ 2,914	\$ -	\$ 790	\$ 300,000	\$ -	\$ 10,000	\$ 310,000	55.37	Poor	4	Detailed Deck Condition Survey = \$10,000. The Municipality should review the adequacy of the current barrier system. Budget for rehab in the near future. Recommend a detailed deck condition survey prior to completing rehabilitation. Minor Rehab - Budget for rehabilitation, including new barrier system and concrete repairs (1-5 years) = \$300,000.	



Table 4b
Detailed Summary of Municipal Assets (Bridges & Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ¹	Structure Type	Total Deck Length (m)	Overall Structure Width (m)	Total Deck Area (m ²)	Roadway Width (m)	No. of Spans (#)	Span Lengths (m)	Culvert Diameter (m) ²	No. of Culverts ¹	Loading Restriction (Y / N)	Dimensional Restriction (Y / N)	Geographic Township ¹	Structure Location	Municipal Road Class	UTM Coordinates			Year in Service / or Last Upgrade Year ¹	Asset Life Expectancy (years) ¹	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials							Bridge Condition Index (BCI) ²	Condition Rating (good / fair / poor)	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (Identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)	
																	Zone	Northing	Easting				Original Value (2018 Starting Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018)	Ending Value (2018 Net Book Value) ¹	Rehabilitation Cost	Replacement Cost	Additional Investigations					Total Upgrade Cost
BC19-49	Tweed Bridge (Bridge #20)	Bridge	Box Beams of Girders	52.80	12.30	649.40	8.50	0	17.6, 17.6, 17.6	n/a	n/a	N	N	Hungerford	Louisa Street, 0.1 km North of Jamieson Street	5	18T	4927674	316324	1976	10	2028	\$ 210,179	\$ 117,700	\$ -	\$ 92,479	\$ 17,500	\$ -	\$ 10,000	\$ 27,500	72.96	Good	2	Minor concrete repairs required. Sidewalk and Medians - Minor concrete repairs (6-10 years) = \$5,000. Shafts/ Columns/ Pile - Minor concrete repairs (6-10 years) = \$7,500. Abutment Walls - Minor concrete repairs (6-10 years) = \$5,000.
BC19-50	Waterhouse Culvert (Bridge #1)	Culvert	Round Culvert	4.00	18.00	24.00	6.50	2	2.2	2	2	N	N	Hungerford	Moneymore Road, 2.6 kms East of Village of Moneymore	4	18T	4917564	322618	1995	10	2028	\$ 269	\$ 269	\$ -	\$ -	\$ -	\$ 300,000	\$ 5,000	\$ 305,000	58.98	Poor	3	Underwater Investigation (normal priority) = \$5,000. Replace (6-10 years) = \$300,000. Recommend the municipality install barrier system. Underwater investigation recommended to determine culverts condition.
BC19-51	West Branch Bridge (Bridge #10)	Bridge	I-Beams or Girders	31.10	11.00	342.10	9.10	1	30.20	n/a	n/a	N	N	Hungerford	Marlbank Road, 1.3 km South of Highway #37	4	18T	4925365	317144	1971	5	2023	\$ 50,684	\$ 31,762	\$ -	\$ 18,922	\$ 435,000	\$ -	\$ 10,000	\$ 445,000	68.36	Fair	3	Detailed Deck condition Survey = \$10,000. The completion of a deck condition survey is recommended to confirm scope of work and construction costs. Armouring/Retaining - Replace expansion joints (1-5 years) = \$100,000. Deck Top (Thin Slab) - Concrete repairs, waterproof and- (1-5 years) = \$100,000. Girders - Gider end repair, consider semi integral conversion (1-5 years) = \$35,000. Abutment Walls - Concrete repairs (1-5 years) = \$10,000. Associated Work includes: Approaches = \$20,000. Traffic Control = \$100,000. Other (Access, mobilization and insurance) = \$50,000. Contingencies = \$20,000.
BC19-52	West Red Bridge (Bridge #31)	Bridge	T-Beam	14.60	5.40	78.80	4.20	1	13.70	n/a	n/a	Y	Y	Elzevir	Black River Road, 1.4 km West of North Hawkings Bay Road	6	18T	4934211	311679	1930	5	2023	\$ 1,422	\$ 1,422	\$ -	\$ -	\$ -	\$ 810,000	\$ 5,000	\$ 815,000	50.93	Poor	1	Structure Evaluation = \$5,000. Recommend replacement due to deterioration of the structure. Replace (1-5 years) = \$810,000.

Structure Type	Quantity	% Loading Restrictions	% Dimensional Restriction	Average Age (years)	Rehabilitation Cost	Replacement Cost	Additional Investigations	Total Upgrade Cost
Bridges	45	44%	58%	29	\$ 1,767,500	\$ 21,846,000	\$ 191,000	\$ 23,804,500
Culverts	7	0%	14%	7	\$ -	\$ 1,250,000	\$ 15,000	\$ 1,265,000
TOTAL	52	38%	52%	16	\$ 1,767,500	\$ 23,096,000	\$ 206,000	\$ 25,069,500

- Notes:
1. Data from Municipality of Tweed, Tangible Capital Assets (2018) and/or provided by Municipality.
 2. 2018 OSIM Bridge Inspection Report (Jewell Engineering, January 2019).
 3. Data Provided from Municipality of Tweed (Gap Analysis Meetings).
 4. Level of Service: 1 = very low priority, 5 = very high priority.

Selected Focus Items

YEAR
2019



Table 4c
Detailed Summary of Municipal Assets (Water Supply Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Updated: Version 1.2

Asset ID	Asset Name ¹	Detailed Asset Description (Building / Equipment / Water Main)	Asset Class (Distribution / Hydrant / Treatment)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Water Main Construction Material (Cast Iron / PVC / Other)	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Eastings									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WS19-01	Water Tower	Building	Distribution	Village of Tweed	351 Hungerford Road	18T	4927634	315384			1	#		1997	100	2097	\$ 1,299,991	\$ 928,231	\$ -	\$ 371,760	\$ 1,500,000	Good	5	Replacement and Maintenance costs assumed in \$1.5M valuation. Timeline for replacement outside of 30-year asset management planning scope.
WS19-02	Water Treatment Facility	Building	Treatment	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		1998	75	2073	Unknown				\$ 1,000,000	Good	5	Rated Capacity of 1,633 m ³ /day, 14.1m x 7.8m x 3.5m concrete facility.
WS19-03	Water Main	Water Main	Distribution	Village of Tweed	Alexander Street				Louisa Street	End (South-East)	85	m	Cast Iron	1949	75	2024	\$ 15,944	\$ 3,759	\$ -	\$ 12,185	\$ 72,250	Fair	5	
WS19-04	Water Main	Water Main	Distribution	Village of Tweed	Alexander Street				End (North-West)	Elvis Street	57	m	PVC	2007	100	2107	\$ 13,721	\$ 3,180	\$ -	\$ 10,542	\$ 48,450	Good	5	
WS19-05	Water Main	Water Main	Distribution	Village of Tweed	Alexander Street				Elvis Street	End (South-East)	299	m	PVC	2007	100	2107	\$ 71,977	\$ 16,680	\$ -	\$ 55,297	\$ 254,150	Good	5	
WS19-06	Water Main	Water Main	Distribution	Village of Tweed	Arthur Street				Brooklyn Road	Louisa Street	264	m	Cast Iron	1931	75	2006	\$ 2,569	\$ 2,569	\$ -	\$ -	\$ 224,400	Fair	5	
WS19-07	Water Main	Water Main	Distribution	Village of Tweed	Bridge Street East				Victoria Street North	Colborne Street	80	m	Cast Iron	1931	75	2006	\$ 719	\$ 719	\$ -	\$ -	\$ 68,000	Fair	5	
WS19-08	Water Main	Water Main	Distribution	Village of Tweed	Bridge Street East				Colbourne Street	End (North-East)	25	m	Cast Iron	1931	75	2006	\$ 225	\$ 225	\$ -	\$ -	\$ 21,250	Fair	5	
WS19-09	Water Main	Water Main	Distribution	Village of Tweed	Bridge Street West				Metcaif Street	Victoria Street North	96	m	Cast Iron	1931	75	2006	\$ 913	\$ 913	\$ -	\$ -	\$ 81,600	Fair	5	
WS19-10	Water Main	Water Main	Distribution	Village of Tweed	Brooklyn Road				Arthur Street	Minnie Avenue	67	m	Cast Iron	1931	75	2006	\$ 800	\$ 800	\$ -	\$ -	\$ 56,950	Fair	5	
WS19-11	Water Main	Water Main	Distribution	Village of Tweed	Brooklyn Road				Minnie Avenue	St. Joseph Street	33	m	Cast Iron	1931	75	2006	\$ 394	\$ 394	\$ -	\$ -	\$ 28,050	Fair	5	
WS19-12	Water Main	Water Main	Distribution	Village of Tweed	Brooklyn Road				St. Joseph Street	End (North-East)	68	m	Cast Iron	1931	75	2006	\$ 812	\$ 812	\$ -	\$ -	\$ 57,800	Fair	5	
WS19-13	Water Main	Water Main	Distribution	Village of Tweed	Colborne Street				Bridge Street East	Quinns Lane	64	m	Cast Iron	1930	75	2005	\$ 798	\$ 798	\$ -	\$ -	\$ 54,400	Fair	5	
WS19-14	Water Main	Water Main	Distribution	Village of Tweed	Colborne Street				Spring Street East	Jamieson Street East	189	m	Cast Iron	1930	75	2005	\$ 2,357	\$ 2,357	\$ -	\$ -	\$ 160,650	Fair	5	
WS19-15	Water Main	Water Main	Distribution	Village of Tweed	Colborne Street				Jamieson Street East	River Street East	125	m	Cast Iron	1930	75	2005	\$ 1,563	\$ 1,563	\$ -	\$ -	\$ 106,525	Fair	5	
WS19-16	Water Main	Water Main	Distribution	Village of Tweed	Colborne Street				Quinns Lane	Spring Street East	142	m	Cast Iron	1930	75	2005	\$ 1,771	\$ 1,771	\$ -	\$ -	\$ 120,700	Fair	5	
WS19-17	Water Main	Water Main	Distribution	Village of Tweed	College Street				Hungerford Road	Katharine Street	250	m	Cast Iron	1953	75	2028	\$ 5,220	\$ 5,220	\$ -	\$ -	\$ 212,500	Fair	5	
WS19-18	Water Main	Water Main	Distribution	Village of Tweed	College Street				Katharine Street	Pomeroy Court	67	m	Cast Iron	1953	75	2028	\$ 1,399	\$ 1,399	\$ -	\$ -	\$ 56,950	Fair	5	
WS19-19	Water Main	Water Main	Distribution	Village of Tweed	College Street				Pomeroy Court	River Street West	315	m	Cast Iron	1953	75	2028	\$ 6,577	\$ 6,577	\$ -	\$ -	\$ 267,750	Fair	5	



Table 4c
Detailed Summary of Municipal Assets (Water Supply Services)
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Municipality of Tweed
169.19.003

Updated: Version 1.2

Asset ID	Asset Name ¹	Detailed Asset Description (Building / Equipment / Water Main)	Asset Class (Distribution / Hydrant / Treatment)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Water Main Construction Material (Cast Iron / PVC / Other)	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Eastings									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WS19-20	Water Main	Water Main	Distribution	Village of Tweed	Elvis Lane				Alexander Street	End (North-East)	46	m	PVC	2007	100	2107	\$ 17,924	\$ 3,226	\$ -	\$ 14,698	\$ 39,100	Good	5	
WS19-21	Water Main	Water Main	Distribution	Village of Tweed	Fire Hall				River Street West	End (South-West)	102	m	PVC	2010	100	2110					\$ 86,700	Good	5	
WS19-22	Water Main	Water Main	Distribution	Village of Tweed	Gabe Lindsay Avenue				Metcaif Street	End (South-West)	52	m	Cast Iron	1950	75	2025	\$ -	\$ -	\$ -	\$ -	\$ 44,200	Fair	5	Year in Service estimated based on discussions with Municipality
WS19-23	Water Main	Water Main	Distribution	Village of Tweed	Gateway Community Health Centre				McClellan Street	End (North-East)	53	m	PVC	2000	100	2100					\$ 45,050	Good	5	Year in Service estimated based on discussions with Municipality
WS19-24	Water Main	Water Main	Distribution	Village of Tweed	George Street				Louisa Street	James Street South	91	m	Cast Iron	1930	75	2005	\$ -	\$ -	\$ -	\$ -	\$ 77,350	Fair	5	Year in Service estimated based on discussions with Municipality - 4" cast iron
WS19-25	Water Main	Water Main	Distribution	Village of Tweed	George Street				James Street South	End (North-East)	101	m	Cast Iron	1930	75	2005	\$ -	\$ -	\$ -	\$ -	\$ 85,850	Fair	5	Year in Services estimated based on discussions with Municipality - 4" cast iron
WS19-26	Water Main	Water Main	Distribution	Village of Tweed	Hannah Street				Louisa Street	James Street North	92	m	Cast Iron	1930	75	2005	\$ -	\$ -	\$ -	\$ -	\$ 78,200	Fair	5	
WS19-27	Water Main	Water Main	Distribution	Village of Tweed	Highway 37				Moir Street	End (North-West)	110	m	Cast Iron	1930	75	2005	\$ 24,453	\$ 6,491	\$ -	\$ 17,962	\$ 93,500	Fair	5	
WS19-28	Water Main	Water Main	Distribution	Village of Tweed	Holdcroft Street				End (North-West)	Victoria Street North	240	m	PVC	2001	100	2101	\$ 48,867	\$ 16,615	\$ -	\$ 32,252	\$ 204,000	Good	5	
WS19-29	Water Main	Water Main	Distribution	Village of Tweed	Hungerford Road				College Street	Park Avenue	139	m	PVC	2010	100	2110	\$ 2,610	\$ 469	\$ -	\$ 2,140	\$ 118,150	Good	5	
WS19-30	Water Main	Water Main	Distribution	Village of Tweed	Hungerford Road				College Street	End (North-West)	108	m	PVC	2010	100	2110	\$ 2,028	\$ 365	\$ -	\$ 1,663	\$ 91,800	Good	5	
WS19-31	Water Main	Water Main	Distribution	Village of Tweed	Hungerford Road				Park Avenue	Metcaif Street	291	m	Cast Iron	1925	75	2000	\$ 6,026	\$ 6,026	\$ -	\$ -	\$ 246,992	Fair	5	
WS19-32	Water Main	Water Main	Distribution	Village of Tweed	Isaac Street				Pringle Street	End (South-East)	97	m	PVC	2006	100	2106	\$ 25,308	\$ 6,074	\$ -	\$ 19,234	\$ 82,450	Good	5	
WS19-33	Water Main	Water Main	Distribution	Village of Tweed	James Street North				Jamieson Street East	End (South-East)	112	m	Cast Iron	1925	75	2000	\$ 1,185	\$ 1,185	\$ -	\$ -	\$ 95,200	Fair	5	
WS19-34	Water Main	Water Main	Distribution	Village of Tweed	James Street South				River Street East	End (North-West)	74	m	Cast Iron	1925	75	2000	\$ 1,349	\$ 1,349	\$ -	\$ -	\$ 62,900	Fair	5	
WS19-35	Water Main	Water Main	Distribution	Village of Tweed	Jamieson Street East				Mary Street	Colborne Street	95	m	Cast Iron	1925	75	2000	\$ 963	\$ 963	\$ -	\$ -	\$ 80,750	Fair	5	
WS19-36	Water Main	Water Main	Distribution	Village of Tweed	Jamieson Street East				Louisa Street	Mary Street	97	m	Cast Iron	1925	75	2000	\$ 984	\$ 984	\$ -	\$ -	\$ 82,450	Fair	5	
WS19-37	Water Main	Water Main	Distribution	Village of Tweed	Jamieson Street East				James Street North	Louisa Street	94	m	Cast Iron	1925	75	2000	\$ 953	\$ 953	\$ -	\$ -	\$ 79,900	Fair	5	
WS19-38	Water Main	Water Main	Distribution	Village of Tweed	Jamieson Street East				Colborne Street	Victoria Street North	97	m	Cast Iron	1925	75	2000	\$ 984	\$ 984	\$ -	\$ -	\$ 82,450	Fair	5	



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169.19.003

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Asset ID	Asset Name ¹	Detailed Asset Description (Building / Equipment / Water Main)	Asset Class (Distribution / Hydrant / Treatment)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Water Main Construction Material (Cast Iron / PVC / Other)	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)	
						Zone	Northing	Eastings									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				Replacement and/or Maintenance Cost
WS19-39	Water Main	Water Main	Distribution	Village of Tweed	Jamieson Street West				Metcalf Street	Victoria Street	101	m	PVC	2008	100	2108	\$ 63,578	\$ 10,576	\$ -	\$ 53,002	\$ 85,850	Good	5	
WS19-40	Water Main	Water Main	Distribution	Village of Tweed	Jamieson Street West				Metcalf Street	McCamon Avenue	81	m	PVC	2008	100	2108	\$ 50,989	\$ 8,482	\$ -	\$ 42,506	\$ 68,850	Good	5	
WS19-41	Water Main	Water Main	Distribution	Village of Tweed	Jane Street East				Victoria Street South	End (North-East)	87	m	Cast Iron	1930	75	2005	\$ -	\$ -	\$ -	\$ -	\$ 74,074	Fair	5	Year in Service estimated based on discussions with Municipality
WS19-42	Water Main	Water Main	Distribution	Village of Tweed	Jane Street West				Victoria Street South	End (South-West)	46	m	Cast Iron	1930	75	2005	\$ -	\$ -	\$ -	\$ -	\$ 39,100	Fair	5	Year in Service estimated based on discussions with Municipality
WS19-43	Water Main	Water Main	Distribution	Village of Tweed	Katharine Street				Park Avenue	Metcalf Street	328	m	Cast Iron	1954	75	2029	\$ 6,899	\$ 6,899	\$ -	\$ -	\$ 278,800	Fair	5	
WS19-44	Water Main	Water Main	Distribution	Village of Tweed	Katharine Street				College Street	Park Avenue	137	m	Cast Iron	1954	75	2029	\$ 2,881	\$ 2,881	\$ -	\$ -	\$ 116,450	Fair	5	
WS19-45	Water Main	Water Main	Distribution	Village of Tweed	Louisa Street				St. Joseph Street	Alexander Street	81	m	Cast Iron	1949	75	2024	\$ 6,886	\$ 6,886	\$ -	\$ -	\$ 68,850	Fair	5	
WS19-46	Water Main	Water Main	Distribution	Village of Tweed	Louisa Street				Jamieson Street East	End (North-West)	81	m	PVC	2014	100	2114	\$ 47,338	\$ 4,734	\$ -	\$ 42,604	\$ 68,850	Good	5	
WS19-47	Water Main	Water Main	Distribution	Village of Tweed	Louisa Street				Jamieson Street East	Hannah Street	116	m	PVC	2014	100	2114	\$ 67,793	\$ 6,779	\$ -	\$ 61,013	\$ 98,600	Good	5	
WS19-48	Water Main	Water Main	Distribution	Village of Tweed	Louisa Street				River Street East	George Street	114	m	PVC	2014	100	2114	\$ 66,624	\$ 6,662	\$ -	\$ 59,961	\$ 96,900	Good	5	
WS19-49	Water Main	Water Main	Distribution	Village of Tweed	Louisa Street				Arthur Street	End (South-West)	30	m	Cast Iron	1949	75	2024	\$ 2,550	\$ 2,550	\$ -	\$ -	\$ 25,500	Fair	5	
WS19-50	Water Main	Water Main	Distribution	Village of Tweed	Louisa Street				Arthur Street	Alexander Street	9	m	Cast Iron	1949	75	2024	\$ 765	\$ 765	\$ -	\$ -	\$ 7,650	Fair	5	
WS19-51	Water Main	Water Main	Distribution	Village of Tweed	Louisa Street				George Street	End (North-West)	19	m	PVC	2014	100	2114	\$ 11,104	\$ 1,110	\$ -	\$ 9,994	\$ 16,150	Good	7	
WS19-52	Water Main	Water Main	Distribution	Village of Tweed	Mary Street				Spring Street East	Jamieson Street East	187	m	PVC	2000	100	2100	\$ 1,598	\$ 1,598	\$ -	\$ -	\$ 158,950	Good	5	Year in Service estimated based on discussions with Municipality
WS19-53	Water Main	Water Main	Distribution	Village of Tweed	Mary Street				Jamieson Street East	End (South-East)	78	m	PVC	2000	100	2100	\$ 666	\$ 666	\$ -	\$ -	\$ 66,300	Good	5	Year in Service estimated based on discussions with Municipality
WS19-54	Water Main	Water Main	Distribution	Village of Tweed	Mary Street South				River Street East	End (North-West)	71	m	PVC	1950	100	2050	\$ 930	\$ 930	\$ -	\$ -	\$ 60,350	Good	5	
WS19-55	Water Main	Water Main	Distribution	Village of Tweed	McCamon Avenue				River Street West	Metcalf Street	164	m	PVC	2008	100	2108	\$ 109,831	\$ 22,878	\$ -	\$ 86,953	\$ 139,400	Good	5	
WS19-56	Water Main	Water Main	Distribution	Village of Tweed	McClellan Street				Pomeroy Avenue	River Street West	312	m	Cast Iron	1949	75	2024	\$ 5,084	\$ 5,084	\$ -	\$ -	\$ 265,200	Fair	5	
WS19-57	Water Main	Water Main	Distribution	Village of Tweed	McGowan Street				Victoria Street South	Pringle Street	135	m	PVC	2006	100	2106	\$ 40,038	\$ 9,707	\$ -	\$ 30,331	\$ 114,750	Good	5	



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						Zone	Northing	Eastings									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WS19-58	Water Main	Water Main	Distribution	Village of Tweed	McGowan Street				Pringle Street	End (North-West)	121	m	PVC	2007	100	2107	\$ 35,886	\$ 8,701	\$ -	\$ 27,185	\$ 102,850	Good	5	
WS19-59	Water Main	Water Main	Distribution	Village of Tweed	Metcalf Street				Pomeroy Avenue	Jamieson Street West	159	m	PVC	2008	100	2108	\$ 18,342	\$ 4,866	\$ -	\$ 13,477	\$ 135,150	Good	5	
WS19-60	Water Main	Water Main	Distribution	Village of Tweed	Metcalf Street				Jamieson Street West	River Street West	196	m	PVC	2008	100	2108	\$ 22,610	\$ 5,998	\$ -	\$ 16,613	\$ 166,600	Good	5	
WS19-61	Water Main	Water Main	Distribution	Village of Tweed	Metcalf Street				Katharine Street	Pomeroy Avenue	57	m	PVC	2008	100	2108	\$ 6,575	\$ 1,744	\$ -	\$ 4,831	\$ 48,450	Good	5	
WS19-62	Water Main	Water Main	Distribution	Village of Tweed	Metcalf Street				Katharine Street	Hungerford Street	206	m	PVC	2008	100	2108	\$ 23,764	\$ 6,304	\$ -	\$ 17,460	\$ 175,100	Good	5	
WS19-63	Water Main	Water Main	Distribution	Village of Tweed	Metcalf Street				Gabe Lindsay Avenue	Hungerford Street	137	m	PVC	2008	100	2108	\$ 15,804	\$ 4,192	\$ -	\$ 11,612	\$ 116,450	Good	5	
WS19-64	Water Main	Water Main	Distribution	Village of Tweed	Metcalf Street				Gabe Lindsay Avenue	Victoria Street North	329	m	PVC	2008	100	2108	\$ 37,953	\$ 10,068	\$ -	\$ 27,886	\$ 279,650	Good	5	
WS19-65	Water Main	Water Main	Distribution	Village of Tweed	Minnie Avenue				Old Bogart Road	Brooklyn Road	270	m	PVC	1998	100	2098	\$ 144,856	\$ 59,141	\$ -	\$ 85,715	\$ 229,500	Good	5	Year in Service estimated based on discussions with Municipality
WS19-66	Water Main	Water Main	Distribution	Village of Tweed	Minnie Avenue				Old Bogart Road	End (North-West)	34	m	PVC	1998	100	2098	\$ 18,241	\$ 7,447	\$ -	\$ 10,794	\$ 28,900	Good	5	Year in Service estimated based on discussions with Municipality
WS21-67	Water Main	Water Main	Distribution	Village of Tweed	Moir River North Connection				Bridge Street East	Moir Street	91	m	Cast Iron	1930	75	2005	\$ 20,229	\$ 5,370	\$ -	\$ 14,860	\$ 900,000	Poor	5	Year in Service estimated based on discussions with Municipality. August 27-21 - Decommissioned sometime between 2000 and 2006 (valves turned off), and replacement required. Replacement cost per information provided by Municipality. Entry updated Aug30-21.
WS19-68	Water Main	Water Main	Distribution	Village of Tweed	Moir Street				Old Bogart Road	Arthur Street	225	m	Cast Iron	1930	75	2005	\$ 50,017	\$ 13,276	\$ -	\$ 36,741	\$ 191,250	Fair	5	Year in Service estimated based on discussions with Municipality
WS19-69	Water Main	Water Main	Distribution	Village of Tweed	Moir Street				Highway 37	Old Bogart Road	294	m	Cast Iron	1930	75	2005	\$ 65,356	\$ 17,348	\$ -	\$ 48,008	\$ 249,900	Fair	5	Year in Service estimated based on discussions with Municipality
WS19-70	Water Main	Water Main	Distribution	Village of Tweed	Moir Place Long Term Care Home				River Street West	End (South-East)	96	m	PVC	2000	100	2100	Unknown			\$ 81,600	Good	5		
WS19-71	Water Main	Water Main	Distribution	Village of Tweed	Old Bogart Road				Moir Street	Minnie Avenue	119	m	Cast Iron	1930	75	2005	\$ 13,482	\$ 7,280	\$ -	\$ 6,202	\$ 101,150	Fair	5	Year in Service estimated based on discussions with Municipality
WS19-72	Water Main	Water Main	Distribution	Village of Tweed	Old Bogart Road				Minnie Avenue	End (North-East)	218	m	Cast Iron	1930	75	2005	\$ 24,698	\$ 13,337	\$ -	\$ 11,361	\$ 185,300	Fair	5	Year in Service estimated based on discussions with Municipality
WS19-73	Water Main	Water Main	Distribution	Village of Tweed	Park Avenue				Hungerford Road	Katharine Street	209	m	Cast Iron	1962	75	2037	\$ 7,238	\$ 7,238	\$ -	\$ -	\$ 177,650	Fair	5	
WS19-74	Water Main	Water Main	Distribution	Village of Tweed	Pomeroy Avenue				Park Avenue	MecClellan Street	59	m	Cast Iron	1949	75	2024	\$ 868	\$ 868	\$ -	\$ -	\$ 50,150	Fair	5	
WS19-75	Water Main	Water Main	Distribution	Village of Tweed	Pomeroy Avenue				McClellan Street	Metcalf Street	291	m	Cast Iron	1949	75	2024	\$ 4,283	\$ 4,283	\$ -	\$ -	\$ 247,350	Fair	5	
WS19-76	Water Main	Water Main	Distribution	Village of Tweed	Pomeroy Court				College Street	End (North-East)	44	m	Cast Iron	1949	75	2024	\$ -	\$ -	\$ -	\$ -	\$ 37,400	Fair	5	Year in Service estimated based on discussions with Municipality



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						Zone	Northing	Eastings									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				Replacement and/or Maintenance Cost
WS19-77	Water Main	Water Main	Distribution	Village of Tweed	Pringle Street				Isaac Street	End (North-West)	97	m	PVC	2007	100	2107	\$ 232,131	\$ 51,069	\$ -	\$ 181,062	\$ 82,450	Good	5	
WS19-78	Water Main	Water Main	Distribution	Village of Tweed	River Street East				Victoria Street	Colborne Street	108	m	PVC	2010	100	2110	\$ 66,178	\$ 11,912	\$ -	\$ 54,266	\$ 91,800	Good	5	
WS19-79	Water Main	Water Main	Distribution	Village of Tweed	River Street East				Mary Street South	Louisa Street	96	m	PVC	2010	100	2110	\$ 58,824	\$ 10,588	\$ -	\$ 48,236	\$ 81,600	Good	5	
WS19-80	Water Main	Water Main	Distribution	Village of Tweed	River Street East				Colborne Street	Mary Street South	94	m	PVC	2010	100	2110	\$ 57,599	\$ 10,368	\$ -	\$ 47,231	\$ 79,900	Good	5	
WS19-81	Water Main	Water Main	Distribution	Village of Tweed	River Street East				Louisa Street	James Street South	96	m	PVC	2010	100	2110	\$ 58,824	\$ 10,588	\$ -	\$ 48,236	\$ 81,600	Good	5	Year in Service estimated based on discussions with Municipality
WS19-82	Water Main	Water Main	Distribution	Village of Tweed	River Street West				College Street	End (North-West)	160	m	PVC	2010	100	2110	\$ 98,041	\$ 17,647	\$ -	\$ 80,393	\$ 136,000	Good	5	
WS19-83	Water Main	Water Main	Distribution	Village of Tweed	River Street West				College Street	McClellan Street	191	m	PVC	2010	100	2110	\$ 117,036	\$ 21,067	\$ -	\$ 95,970	\$ 162,350	Good	5	
WS19-84	Water Main	Water Main	Distribution	Village of Tweed	River Street West				McClellan Street	McCamon Avenue	253	m	PVC	2010	100	2110	\$ 155,027	\$ 27,905	\$ -	\$ 127,122	\$ 215,050	Good	5	
WS19-85	Water Main	Water Main	Distribution	Village of Tweed	River Street West				Metcalfe Street	Victoria Street	109	m	PVC	2010	100	2110	\$ 66,790	\$ 12,022	\$ -	\$ 54,768	\$ 92,650	Good	5	
WS19-86	Water Main	Water Main	Distribution	Village of Tweed	River Street West				McCamon Avenue	Metcalfe Street	127	m	PVC	2010	100	2110	\$ 77,820	\$ 14,008	\$ -	\$ 63,812	\$ 107,950	Good	5	
WS19-87	Water Main	Water Main	Distribution	Village of Tweed	Spring Street East				Colborne Street	End (North-East)	93	m	PVC	2000	100	2100	\$ 5,971	\$ 5,971	\$ -	\$ 0	\$ 79,050	Good	5	
WS21-88	Water Main	Water Main	Distribution	Village of Tweed	Moira River South Connection				Spring Street East	Arthur Street	189	m	PVC	1988	100	2088	Unknown				\$ 160,650	Good	5	Aug27-21 - Identified by Tweed as replaced in 1988 with PVC materials. Entry updated Aug30-21. Water main constructed of PVC encased in concrete.
WS19-89	Water Main	Water Main	Distribution	Village of Tweed	St. Joseph Street				Brooklyn Road	Louisa Street	255	m	Cast Iron	1949	75	2024	\$ -	\$ -	\$ -	\$ -	\$ 216,750	Fair	5	
WS19-90	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street North				Highway 37	Bridge Street	294	m	PVC	1983	100	2083	\$ 39,976	\$ 30,277	\$ -	\$ 9,699	\$ 249,900	Good	5	Year in Service estimated based on discussions with Municipality
WS19-91	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street North				Jamieson Street	River Street	220	m	PVC	1983	100	2083	\$ 29,944	\$ 22,679	\$ -	\$ 7,265	\$ 187,187	Good	5	Year in Service estimated based on discussions with Municipality
WS19-92	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street North				Spring Street	Jamieson Street	188	m	PVC	1983	100	2083	\$ 25,563	\$ 19,361	\$ -	\$ 6,202	\$ 159,800	Good	5	Year in Service estimated based on discussions with Municipality
WS19-93	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street North				Bridge Street	Quinns Lane	60	m	PVC	1983	100	2083	\$ 8,158	\$ 6,179	\$ -	\$ 1,979	\$ 51,000	Good	5	Year in Service estimated based on discussions with Municipality
WS19-94	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street North				Holdcroft Street	Highway 37	570	m	Cast Iron	1930	75	2005	\$ 101,630	\$ 60,978	\$ -	\$ 40,652	\$ 484,500	Fair	5	Year in Service estimated based on discussions with Municipality
WS19-95	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street North				Quinns Lane	Spring Street	156	m	PVC	1983	100	2083	\$ 21,212	\$ 16,065	\$ -	\$ 5,147	\$ 132,600	Good	5	



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						Zone	Northing	Eastings									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WS19-96	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street South				McGowan Street	Jane Street	150	m	PVC	1983	100	2083	\$ 20,396	\$ 15,447	\$ -	\$ 4,949	\$ 127,500	Good	5	Year in Service estimated based on discussions with Municipality
WS19-97	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street South				Jane Street	End (South-East)	243	m	PVC	1983	100	2083	\$ 33,041	\$ 25,025	\$ -	\$ 8,017	\$ 206,550	Good	5	Year in Service estimated based on discussions with Municipality
WS19-98	Water Main	Water Main	Distribution	Village of Tweed	Victoria Street South				River Street	McGowan Street	274	m	PVC	1983	100	2083	\$ 37,257	\$ 28,217	\$ -	\$ 9,040	\$ 232,900	Good	5	Year in Service estimated based on discussions with Municipality
WS19-99	Water Main	Water Main	Distribution	Village of Tweed	Water Tower				Hungerford Road	Water Tower	89	m	Cast Iron	1940	75	2015	Unknown			\$ 75,650	Fair	5	Year in Service estimated based on discussions with Municipality	
WS19-100	Water Main	Water Main	Distribution	Village of Tweed	Water Tower (Raw Water)				Well No 1	Water Treatment Facility	911	m	PVC	2005	100	2105	Unknown			\$ 774,350	Good	5		
WS19-101	Water Main	Water Main	Distribution	Village of Tweed	Water Tower (Treated Water)				Water Treatment Facility	Water Tower	900	m	Cast Iron	1940	75	2015	Unknown			\$ 765,000	Fair	5	Year in Service estimated based on discussions with Municipality	
WS19-102	Water Tower - General Appurtenances	Equipment	Distribution	Village of Tweed	351 Hungerford Road	18T	4927634	315384			1	#		various	various	2024	Unknown			\$ 30,000	Good	5	Includes equipment like chlorine residual analyzer/record, chart recorder, transformers, panel controls, gate valves, etc.	
WS19-103	Well No. 1	Equipment	Distribution	Village of Tweed	351 Hungerford Road	18T	4927669	315376			1	#		2006	75	2081	\$ 873,928	\$ 349,571	\$ -	\$ 524,357	\$ 1,000,000	Fair	5	250mm diameter and 132m deep, has a 4m x 4m x 2.5m concrete block well house and appurtenances. Timeline for replacement outside of 30-year asset management planning scope.
WS19-104	Well No. 1 - General Appurtenances	Equipment	Distribution	Village of Tweed	351 Hungerford Road	18T	4927669	315376			1	#		various	various	2024	Unknown			\$ 25,000	Good	5	Includes equipment like submersible pumps, raw water flow meters, flow control valves, pump discharge piping, etc.	
WS19-105	Well No. 3	Equipment	Distribution	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		1998	60	2055	\$ 662,710	\$ 439,839	\$ -	\$ 222,871	\$ 1,000,000	Good	5	250mm diameter x 122.2m deep. Timeline for replacement outside of 30-year asset management planning scope.
WS19-106	Well No. 3 - General Appurtenances	Equipment	Distribution	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		various	various	2024	\$ 52,070	\$ 19,192	\$ -	\$ 32,878	\$ 30,000	Good	5	Includes equipment like submersible pumps, raw water flow meters, flow control valves, pump discharge piping, etc.
WS19-107	Fire Hydrant (No. 1)	Equipment	Hydrant	Village of Tweed	North Side of River St. W. (East Side of Driveway into Well No. 3)	18T	4926945	315467			1	#		1997	40	2037	\$ 1,354	\$ 569	\$ -	\$ 785	\$ 10,000	Fair	5	Formerly #299.
WS19-108	Fire Hydrant (No. 2)	Equipment	Hydrant	Village of Tweed	North-West Corner of College St. & River St. W.	18T	4926979	315586			1	#		1998	40	2038	\$ 1,368	\$ 547	\$ -	\$ 821	\$ 10,000	Poor	5	Valve box broken. Leaking around operating nut and right hose cap. Formerly #300.
WS19-109	Fire Hydrant (No. 3)	Equipment	Hydrant	Village of Tweed	North Side of River St. W. (Between College St. & McClellan St.)	18T	497014	315701			1	#		2018	40	2058	Unknown			\$ 10,000	Good	5	Formerly #302.	
WS19-110	Fire Hydrant (No. 4)	Equipment	Hydrant	Village of Tweed	North-West Corner of McClellan St. & River St. W.	18T	4927042	315783			1	#		2010	40	2050	Unknown			\$ 10,000	Fair	5	Formerly #303.	
WS19-111	Fire Hydrant (No. 5)	Equipment	Hydrant	Village of Tweed	North Side of River St. W. (West Hydrant Between McClellan St. & McCamom Ave.)	18T	4927073	315876			1	#		2008	40	2048	Unknown			\$ 10,000	Fair	5	Formerly #304.	
WS19-112	Fire Hydrant (No. 6)	Equipment	Hydrant	Village of Tweed	North Side of River St. W. (East Hydrant Between McClellan St. & McCamom Ave.)	18T	4927098	3159950			1	#		2008	40	2048	Unknown			\$ 10,000	Fair	5	Formerly #305.	
WS19-113	Fire Hydrant (No. 7)	Equipment	Hydrant	Village of Tweed	North-West Corner of McCamom Ave. & River St. W.	18T	4927136	316025			1	#		2008	40	2048	Unknown			\$ 10,000	Fair	5		
WS19-114	Fire Hydrant (No. 8)	Equipment	Hydrant	Village of Tweed	North-West Corner of Metcalf St. & River St. W.	18T	4927161	316141			1	#		2008	40	2048	\$ 1,640	\$ 394	\$ -	\$ 1,246	\$ 10,000	Fair	5	Formerly #501.



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169.19.003

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						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WS19-115	Fire Hydrant (No. 9)	Equipment	Hydrant	Village of Tweed	North of Tweed Fire Department (Middle of Driveway)	18 T	4927050	316067			1	#		2001	40	2041	Unknown				\$ 10,000	Fair	5	
WS19-116	Fire Hydrant (No. 10)	Equipment	Hydrant	Village of Tweed	East Side of College St. (Most South Between Pomeroy Ct. & River St.)	18 T	4927084	315587			1	#		2005	40	2045	\$ 1,614	\$ 355	\$ -	\$ 1,259	\$ 10,000	Fair	5	Formerly #301.
WS19-117	Fire Hydrant (No. 11)	Equipment	Hydrant	Village of Tweed	East Side of College St. (North Hydrant Between Pomeroy Ct. & River St.)	18 T	4927261	315530			1	#		1982	40	2022	\$ 800	\$ 544	\$ -	\$ 256	\$ 10,000	Fair	5	Formerly #201.
WS19-118	Fire Hydrant (No. 12)	Equipment	Hydrant	Village of Tweed	East Side of College St. (Between Hungerford Rd. & Katherine St.)	18 T	4927433	315469			1	#		2005	40	2045	\$ 1,614	\$ 355	\$ -	\$ 1,259	\$ 10,000	Fair	5	Formerly #202.
WS19-119	Fire Hydrant (No. 13)	Equipment	Hydrant	Village of Tweed	West of Water Tower	18 T	4927637	315379			1	#		1996	40	2036	Unknown				\$ 10,000	Fair	5	
WS19-120	Fire Hydrant (No. 14)	Equipment	Hydrant	Village of Tweed	North of Hungerford Rd. and College St.	18 T	4927587	315422			1	#		2005	40	2045	\$ 1,614	\$ 355	\$ -	\$ 1,259	\$ 10,000	Fair	5	Formerly #203.
WS19-121	Fire Hydrant (No. 15)	Equipment	Hydrant	Village of Tweed	North Side of Hungerford Rd. (North of Park Ave.)	18 T	4927592	315567			1	#		2017	40	2057	Unknown				\$ 10,000	Good	5	Formerly #204.
WS19-122	Fire Hydrant (No. 16)	Equipment	Hydrant	Village of Tweed	North Side of Hungerford Rd. (Between Park Ave. & Metcalf St.)	18 T	4927638	315719			1	#		2017	40	2057	\$ 134	\$ 134	\$ -	\$ -	\$ 10,000	Good	5	Formerly #215.
WS19-123	Fire Hydrant (No. 17)	Equipment	Hydrant	Village of Tweed	West side of Park Ave.	18 T	4927479	315587			1	#		2016	40	2056	\$ 7,850	\$ 471	\$ -	\$ 7,379	\$ 10,000	Poor	5	Needs hose cap gasket. Formerly #205.
WS19-124	Fire Hydrant (No. 18)	Equipment	Hydrant	Village of Tweed	South-East Corner of Park Ave. & Katherine St.	18 T	4927382	315634			1	#		2003	40	2043	\$ 1,559	\$ 468	\$ -	\$ 1,092	\$ 10,000	Fair	5	Formerly #206.
WS19-125	Fire Hydrant (No. 19)	Equipment	Hydrant	Village of Tweed	South Side of Katherine St.	18 T	4927442	315813			1	#		2017	40	2057	Unknown				\$ 10,000	Poor	5	Secondary valve box broken. Formerly #210.
WS19-126	Fire Hydrant (No. 20)	Equipment	Hydrant	Village of Tweed	South-West Corner of Park Ave. & Pomeroy Ave.	18 T	4927313	315644			1	#		2018	40	2058	\$ 6,872	\$ 275	\$ -	\$ 6,597	\$ 10,000	Good	5	Formerly #208.
WS19-127	Fire Hydrant (No. 21)	Equipment	Hydrant	Village of Tweed	North Side of Pomeroy Ave.	18 T	4927359	315749			1	#		2011	40	2051	Unknown				\$ 10,000	Fair	5	Formerly #209.
WS19-128	Fire Hydrant (No. 22)	Equipment	Hydrant	Village of Tweed	East Side of McClellan St. (Most South Hydrant)	18 T	4927146	315768			1	#		2018	40	2058	\$ 4,689	\$ 94	\$ -	\$ 4,595	\$ 10,000	Good	5	Formerly #306.
WS19-129	Fire Hydrant (No. 23)	Equipment	Hydrant	Village of Tweed	East of McClellan St. (North Side of Driveway for Gateway Community Health Center)	18 T	4927208	315801			1	#		2008	40	2048	Unknown				\$ 10,000	Fair	5	
WS19-130	Fire Hydrant (No. 25)	Equipment	Hydrant	Village of Tweed	East Side of McClellan St. (Most North Hydrant)	18 T	4927254	315730			1	#		2018	40	2058	\$ 4,689	\$ 94	\$ -	\$ 4,595	\$ 10,000	Good	5	Formerly #207.
WS19-131	Fire Hydrant (No. 26)	Equipment	Hydrant	Village of Tweed	South-East Corner of Jamieson St. W. & McCamom Ave.	18 T	4927274	315998			1	#		2008	40	2048	\$ 1,700	\$ 340	\$ -	\$ 1,360	\$ 10,000	Fair	5	Formerly #212.
WS19-132	Fire Hydrant (No. 27)	Equipment	Hydrant	Village of Tweed	West Side of Metcalf St. (Between River St. W. & Jamieson St. W.)	18 T	4927239	316102			1	#		2008	40	2048	\$ 1,700	\$ 340	\$ -	\$ 1,360	\$ 10,000	Fair	5	Formerly #422.
WS19-133	Fire Hydrant (No. 28)	Equipment	Hydrant	Village of Tweed	South-East Side of Jamieson St. W. (Between Metcalf St. & Victoria St.)	18 T	4927327	316076			1	#		2008	40	2048	\$ 7,850	\$ 471	\$ -	\$ 7,379	\$ 10,000	Fair	5	Formerly #422.



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WS19-134	Fire Hydrant (No. 29)	Equipment	Hydrant	Village of Tweed	North-East Side of Metcalf St. (Pomeroy Ave. & Jamieson St. W.)	18 T	4927436	315986			1	#		2008	40	2048	\$ 1,700	\$ 340	\$ -	\$ 1,360	\$ 10,000	Fair	5	Formerly #211.
WS19-135	Fire Hydrant (No. 30)	Equipment	Hydrant	Village of Tweed	East Side of Metcalf St. (Between Bridge St. W. & Katherine St.)	18 T	4927582	315883			1	#		2008	40	2048	\$ 1,700	\$ 340	\$ -	\$ 1,360	\$ 10,000	Poor	5	Missing operating nut grease screw. Formerly #213.
WS19-136	Fire Hydrant (No. 31)	Equipment	Hydrant	Village of Tweed	South-East Corner of Bridge St. W. & Metcalf St.	18 T	4927675	315841			1	#		2008	40	2048	\$ 1,700	\$ 340	\$ -	\$ 1,360	\$ 10,000	Poor	5	Missing operating nut grease screw. Formerly #214.
WS19-137	Fire Hydrant (No. 32)	Equipment	Hydrant	Village of Tweed	East Side of Metcalf St. (Between Gabe Lindsay Ave. & Bridge St. W.)	18 T	4927771	315804			1	#		2015	40	2055	Unknown			\$ 10,000	Poor	5	Needs new hose cap gasket. Formerly #217.	
WS19-138	Fire Hydrant (No. 33)	Equipment	Hydrant	Village of Tweed	West Side of Metcalf St. (North of Gabe Lindsay Ave.)	18 T	4927930	315720			1	#		2008	40	2048	\$ 1,700	\$ 340	\$ -	\$ 1,360	\$ 10,000	Fair	5	Formerly #216.
WS19-139	Fire Hydrant (No. 34)	Equipment	Hydrant	Village of Tweed	South-East Side of McGowan St. (Between River St. W. & Pringle St.)	18 T	4927123	316186			1	#		2006	40	2046	\$ 1,640	\$ 590	\$ -	\$ 1,049	\$ 10,000	Fair	5	Formerly #502.
WS19-140	Fire Hydrant (No. 35)	Equipment	Hydrant	Village of Tweed	South Corner of McGowan St. & Pringle St.	18 T	4927042	316278			1	#		2006	40	2046	\$ 1,640	\$ 590	\$ -	\$ 1,049	\$ 10,000	Fair	5	Formerly #503.
WS19-141	Fire Hydrant (No. 36)	Equipment	Hydrant	Village of Tweed	West Corner of Pringle St. & Isaac St.	18 T	4926956	316230			1	#		2005	40	2045	\$ 1,640	\$ 328	\$ -	\$ 1,312	\$ 10,000	Poor	5	Caps need new gaskets. Formerly #504.
WS19-142	Fire Hydrant (No. 37)	Equipment	Hydrant	Village of Tweed	South-West Side of Isaac St.	18 T	4926911	316286			1	#		2005	40	2045	\$ 1,640	\$ 361	\$ -	\$ 1,279	\$ 10,000	Fair	5	Formerly #505.
WS19-143	Fire Hydrant (No. 38)	Equipment	Hydrant	Village of Tweed	East Side of Victoria St. (South Hydrant Between Victoria St. N. & Bridge St. E.)	18 T	4927825	315888			1	#		1985	40	2025	\$ 848	\$ 594	\$ -	\$ 255	\$ 10,000	Fair	5	Formerly #222.
WS19-144	Fire Hydrant (No. 39)	Equipment	Hydrant	Village of Tweed	East Side of Victoria St. (North Hydrant Between Victoria St. N. & Bridge St. E.)	18 T	4927919	315851			1	#		1985	40	2025	\$ 924	\$ 610	\$ -	\$ 314	\$ 10,000	Poor	5	Missing operating nut grease screw. Formerly #223.
WS19-145	Fire Hydrant (No. 40)	Equipment	Hydrant	Village of Tweed	South-West Corner of Victoria St. N. & Hwy. #37	18 T	4927985	315807			1	#		1985	40	2025	\$ 924	\$ 610	\$ -	\$ 314	\$ 10,000	Fair	5	Formerly #224.
WS19-146	Fire Hydrant (No. 41)	Equipment	Hydrant	Village of Tweed	South-West Side of Victoria St. N. (Between Hwy. #37 & Holdcroft St.)	18 T	4928058	315740			1	#		1988	40	2028	\$ 1,073	\$ 644	\$ -	\$ 429	\$ 10,000	Poor	5	Missing operating nut grease screw. Formerly #xxxx.
WS19-147	Fire Hydrant (No. 42)	Equipment	Hydrant	Village of Tweed	West Side of Victoria St. N. (Between Hwy. #37 & Holdcroft St.)	18 T	4928154	315676			1	#		1988	40	2028	\$ 1,073	\$ 644	\$ -	\$ 429	\$ 10,000	Fair	5	Formerly #225.
WS19-148	Fire Hydrant (No. 43)	Equipment	Hydrant	Village of Tweed	West Side of Victoria St. N. (Between Hwy. #37 & Holdcroft St.)	18 T	4928260	3151652			1	#		1990	40	2030	\$ 800	\$ 576	\$ -	\$ 224	\$ 10,000	Fair	5	Formerly #226.
WS19-149	Fire Hydrant (No. 44)	Equipment	Hydrant	Village of Tweed	West Side of Victoria St. N. (Across the river from Sulphide Road)	18 T	4928345	315632			1	#		1990	40	2030	\$ 1,073	\$ 644	\$ -	\$ 429	\$ 10,000	Poor	5	Missing operating nut grease screw. Formerly #101.
WS19-150	Fire Hydrant (No. 45)	Equipment	Hydrant	Village of Tweed	South-West Corner of Holdcroft St. & Victoria St. N.	18 T	4928480	315588			1	#		1990	40	2030	\$ 1,073	\$ 627	\$ -	\$ 447	\$ 10,000	Poor	5	Missing operating nut grease screw. Leaking from under bonnet. Formerly #100.
WS19-151	Fire Hydrant (No. 46)	Equipment	Hydrant	Village of Tweed	South Side of Holdcroft St. (Middle Hydrant on Holdcroft St.)	18 T	4928451	315492			1	#		2001	40	2041	\$ 1,482	\$ 469	\$ -	\$ 1,014	\$ 10,000	Poor	5	Needs pumper port gasket. Formerly #99.
WS19-152	Fire Hydrant (No. 47)	Equipment	Hydrant	Village of Tweed	North-East End Corner of Holdcroft Rd.	18 T	4928426	315361			1	#		2001	40	2041	\$ 1,482	\$ 469	\$ -	\$ 1,014	\$ 10,000	Poor	5	Leaking from operating nut. Formerly #230.



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WS19-153	Fire Hydrant (No. 48)	Equipment	Hydrant	Village of Tweed	South-East Corner of Bridge St. E. & Victoria St.	18 T	4927675	315841			1	#		1983	40	2023	\$ 848	\$ 594	\$ -	\$ 255	\$ 10,000	Fair	5	Formerly #220.
WS19-154	Fire Hydrant (No. 49)	Equipment	Hydrant	Village of Tweed	West Side of Victoria St. (Between Quinns Ln. & Spring St. W.)	18 T	4927600	315974			1	#		1983	40	2023	\$ 1,073	\$ 644	\$ -	\$ 429	\$ 10,000	Fair	5	Formerly #219.
WS19-155	Fire Hydrant (No. 50)	Equipment	Hydrant	Village of Tweed	North-West Corner of Victoria St. & Spring St. W.	18 T	4927542	316017			1	#		1982	40	2022	\$ 800	\$ 576	\$ -	\$ 224	\$ 10,000	Fair	5	Formerly #218.
WS19-156	Fire Hydrant (No. 51)	Equipment	Hydrant	Village of Tweed	East Side of Victoria St. (North Hydrant Between Jamieson St. E. & Spring St. E.)	18 T	4927402	316063			1	#		1983	40	2023	\$ 800	\$ 576	\$ -	\$ 224	\$ 10,000	Poor	5	Leaking in closed position. Formerly #426.
WS19-157	Fire Hydrant (No. 52)	Equipment	Hydrant	Village of Tweed	West Side of Victoria St. (South Hydrant Between Jamieson St. W. & Spring St. W.)	18 T	4927404	316112			1	#		1982	40	2022	\$ 800	\$ 576	\$ -	\$ 224	\$ 10,000	Fair	5	Formerly #425.
WS19-158	Fire Hydrant (No. 53)	Equipment	Hydrant	Village of Tweed	West Side of Victoria St. (Between Jamieson St. W. & River St. W.)	18 T	4927280	316193			1	#		1982	40	2022	\$ 800	\$ 576	\$ -	\$ 224	\$ 10,000	Fair	5	Formerly #424.
WS19-159	Fire Hydrant (No. 54)	Equipment	Hydrant	Village of Tweed	South-East Corner of River St. E. & Victoria St. S.	18 T	4927184	316285			1	#		1983	40	2023	\$ 848	\$ 594	\$ -	\$ 255	\$ 10,000	Poor	5	Caps need new gaskets. Formerly #512.
WS19-160	Fire Hydrant (No. 55)	Equipment	Hydrant	Village of Tweed	East Side of Victoria St. S. (In front of Park Place Motel)	18 T	4927118	316359			1	#		1983	40	2023	\$ 848	\$ 594	\$ -	\$ 255	\$ 10,000	Poor	5	Missing hose cap gaskets & leaking from pumper port. Formerly #510.
WS19-161	Fire Hydrant (No. 56)	Equipment	Hydrant	Village of Tweed	East Side of Victoria St. S. (Across from McGowan St.)	18 T	4926965	316391			1	#		2011	40	2051	\$ 848	\$ 594	\$ -	\$ 255	\$ 10,000	Poor	5	Needs grease. Formerly #509.
WS19-162	Fire Hydrant (No. 57)	Equipment	Hydrant	Village of Tweed	South-East Corner of Jane St. E. & Hwy. #37	18 T	4926815	316403			1	#		1984	40	2024	\$ 848	\$ 594	\$ -	\$ 255	\$ 10,000	Poor	5	Missing operating nut grease screw. Formerly #508.
WS19-163	Fire Hydrant (No. 58)	Equipment	Hydrant	Village of Tweed	East Side of Hwy. #37 (South of Jane St. E.)	18 T	4926688	316411			1	#		1983	40	2023	\$ 848	\$ 594	\$ -	\$ 255	\$ 10,000	Poor	5	Needs grease. Caps need new gaskets. Formerly #507.
WS19-164	Fire Hydrant (No. 59)	Equipment	Hydrant	Village of Tweed	East Side of Hwy. #37 (Most South Hydrant)	18 T	4926586	316419			1	#		1984	40	2024	\$ 848	\$ 594	\$ -	\$ 255	\$ 10,000	Poor	5	Missing operating nut grease screw. Formerly #506.
WS19-165	Fire Hydrant (No. 60)	Equipment	Hydrant	Village of Tweed	North-West Corner of River St. E. & Colborne St.	18 T	4927231	316346			1	#		2008	40	2048	\$ 1,559	\$ 468	\$ -	\$ 1,092	\$ 10,000	Fair	5	Formerly #401.
WS19-166	Fire Hydrant (No. 61)	Equipment	Hydrant	Village of Tweed	North-West Corner of River St. E. & Mary St. S.	18 T	4927267	316439			1	#		2008	40	2048	Unknown			\$ 10,000	Poor	5	Leaking from pumper port. Formerly #403.	
WS19-167	Fire Hydrant (No. 62)	Equipment	Hydrant	Village of Tweed	North-West Corner of River St. E. & Louisa St.	18 T	4927301	316533			1	#		2010	40	2050	\$ 287	\$ 282	\$ -	\$ 6	\$ 10,000	Fair	5	Formerly #405.
WS19-168	Fire Hydrant (No. 63)	Equipment	Hydrant	Village of Tweed	East Side of Colborne St. (Between Jamieson St. E. & River St. E.)	18 T	4927336	316293			1	#		2007	40	2047	\$ 1,700	\$ 306	\$ -	\$ 1,394	\$ 10,000	Fair	5	Formerly #417.
WS19-169	Fire Hydrant (No. 64)	Equipment	Hydrant	Village of Tweed	South-West Corner of Jamieson St. E. & Colborne St.	18 T	4927428	316212			1	#		1977	40	2017	\$ 1,700	\$ 340	\$ -	\$ 1,360	\$ 10,000	Poor	5	Leaking under bonnet. Formerly #418.
WS19-170	Fire Hydrant (No. 65)	Equipment	Hydrant	Village of Tweed	East Side of Colborne St. (Between Jamieson St. E. & Spring St. E.)	18 T	4927522	316165			1	#		2015	40	2055	\$ 6,872	\$ 1,100	\$ -	\$ 5,772	\$ 10,000	Fair	5	Formerly #419.
WS19-171	Fire Hydrant (No. 66)	Equipment	Hydrant	Village of Tweed	South-East Corner of Spring St. E. & Colborne St.	18 T	4927591	316118			1	#		2011	40	2051	Unknown			\$ 10,000	Fair	5		



Table 4c
Detailed Summary of Municipal Assets (Water Supply Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Updated: Version 1.2

Asset ID	Asset Name ¹	Detailed Asset Description (Building / Equipment / Water Main)	Asset Class (Distribution / Hydrant / Treatment)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Water Main Construction Material (Cast Iron / PVC / Other)	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (Identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WS19-172	Fire Hydrant (No. 67)	Equipment	Hydrant	Village of Tweed	West Side of Colborne St. (Between Quinns Ln. & Spring St. E.)	18 T	4927677	316044			1	#		1979	40	2019	\$ 580	\$ 430	\$ -	\$ 151	\$ 10,000	Poor	5	Missing hose cap gaskets. Leaking from bonnet. Formerly #421.
WS19-173	Fire Hydrant (No. 68)	Equipment	Hydrant	Village of Tweed	South-West Corner of Bridge St. E. & Colborne St.	18 T	4927754	315987			1	#		1988	40	2028	\$ 1,073	\$ 601	\$ -	\$ 472	\$ 10,000	Poor	5	Missing operating nut grease screw. Caps need new gaskets. Leaking under bonnet. Formerly #221.
WS19-174	Fire Hydrant (No. 69)	Equipment	Hydrant	Village of Tweed	South-East Side of Spring St. E. (Between Colborne St. & Mary St. N.)	18 T	4927619	316157			1	#		1969	40	2009	\$ 287	\$ 282	\$ -	\$ 6	\$ 10,000	Fair	5	Formerly #416.
WS19-175	Fire Hydrant (No. 70)	Equipment	Hydrant	Village of Tweed	West Side of Mary St. N. (Between Spring St. E. & Jamieson St. E.)	18 T	4927574	316231			1	#		1969	40	2009	\$ 531	\$ 425	\$ -	\$ 106	\$ 10,000	Poor	5	Caps need new gaskets. Formerly #415.
WS19-176	Fire Hydrant (No. 71)	Equipment	Hydrant	Village of Tweed	South-East Corner of Jamieson St. E. & Mary St. N.	18 T	4927495	316309			1	#		2011	40	2051	\$ 6,872	\$ 1,100	\$ -	\$ 5,772	\$ 10,000	Fair	5	Formerly #413.
WS19-177	Fire Hydrant (No. 72)	Equipment	Hydrant	Village of Tweed	West Side of Mary St. N. (South of Jamieson St. E.)	18 T	4927426	316338			1	#		2015	40	2055	Unknown			\$ 10,000	Fair	5	Formerly #414.	
WS19-178	Fire Hydrant (No. 73)	Equipment	Hydrant	Village of Tweed	West Side of Mary St. S.	18 T	4927323	316408			1	#		2010	40	2050	\$ 7,850	\$ 471	\$ -	\$ 7,379	\$ 10,000	Fair	5	Formerly #404.
WS19-179	Fire Hydrant (No. 74)	Equipment	Hydrant	Village of Tweed	North-East Corner of Louisa St. & George St.	18 T	4927395	316488			1	#		2013	40	2053	Unknown			\$ 10,000	Fair	5	Formerly #407.	
WS19-180	Fire Hydrant (No. 75)	Equipment	Hydrant	Village of Tweed	West Side of Louis St. (Between Hannah St. & Jamieson St. E.)	18 T	4927466	316425			1	#		2014	40	2054	Unknown			\$ 10,000	Fair	5	Formerly #408.	
WS19-181	Fire Hydrant (No. 76)	Equipment	Hydrant	Village of Tweed	South-West Corner of Jamieson St. E. & Louisa St.	18 T	4927533	316367			1	#		2017	40	2057	Unknown			\$ 10,000	Good	5	Formerly #412.	
WS19-182	Fire Hydrant (No. 77)	Equipment	Hydrant	Village of Tweed	West Side of Louis St. (Between Jamieson St. E. & Tweed Bridge)	18 T	4927606	316324			1	#		2013	40	2053	Unknown			\$ 10,000	Fair	5	Formerly #411.	
WS19-183	Fire Hydrant (No. 78)	Equipment	Hydrant	Village of Tweed	West Side of James St. N. (North Hydrant Between Jamieson St. E. & Hannah St.)	18 T	4927576	316466			1	#		2011	40	2051	\$ 6,872	\$ 1,100	\$ -	\$ 5,772	\$ 10,000	Fair	5	Formerly #410.
WS19-184	Fire Hydrant (No. 79)	Equipment	Hydrant	Village of Tweed	North-West Corner of James St. N. & Hannah St. (South Hydrant on James St. N.)	18 T	4927514	316509			1	#		2011	40	2051	\$ 134	\$ 134	\$ -	\$ -	\$ 10,000	Fair	5	Formerly #409.
WS19-185	Fire Hydrant (No. 80)	Equipment	Hydrant	Village of Tweed	North Side of George St. (East of James St. South)	18 T	4927494	316637			1	#		1953	40	1993	Unknown			\$ 10,000	Poor	5	To be replaced. Formerly #406.	
WS19-186	Fire Hydrant (No. 81)	Equipment	Hydrant	Village of Tweed	West Side of James St. S.	18 T	4927390	316596			1	#		1990	40	2030	\$ 6,872	\$ 1,100	\$ -	\$ 5,772	\$ 10,000	Fair	5	Formerly #600.
WS19-187	Fire Hydrant (No. 82)	Equipment	Hydrant	Village of Tweed	South-East Side of Arthur St.	18 T	4927780	316214			1	#		1931	40	1971	\$ 1,073	\$ 601	\$ -	\$ 472	\$ 10,000	Poor	5	Leaking from operating nut. Formerly #429.
WS19-188	Fire Hydrant (No. 83)	Equipment	Hydrant	Village of Tweed	North-East Corner of Arthur St. & Louisa St.	18 T	4927746	316334			1	#		1988	40	2028	Unknown			\$ 10,000	Fair	5	Formerly #428.	
WS19-189	Fire Hydrant (No. 84)	Equipment	Hydrant	Village of Tweed	East Corner of Arthur St. & Brooklyn Rd.	18 T	4927843	316109			1	#		2015	40	2055	Unknown			\$ 10,000	Fair	5	Formerly #430.	
WS19-190	Fire Hydrant (No. 85)	Equipment	Hydrant	Village of Tweed	East Side of Moira St. (North of Morton Memorial Bridge)	18 T	4927898	316032			1	#		2013	40	2053	\$ 178	\$ 178	\$ -	\$ -	\$ 10,000	Fair	5	Formerly #435.



Table 4c
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Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Updated: Version 1.2

Asset ID	Asset Name ¹	Detailed Asset Description (Building / Equipment / Water Main)	Asset Class (Distribution / Hydrant / Treatment)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Water Main Construction Material (Cast Iron / PVC / Other)	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WS19-191	Fire Hydrant (No. 86)	Equipment	Hydrant	Village of Tweed	East Corner of Moira St. & Old Bogart Rd.	18 T	4927995	315965			1	#		2013	40	2053	\$ 178	\$ 178	\$ -	\$ -	\$ 10,000	Fair	5	Formerly #227.
WS19-192	Fire Hydrant (No. 87)	Equipment	Hydrant	Village of Tweed	East Side of Moira St. (Between Hwy. #37 & Old Bogart Rd.)	18 T	4928093	315886			1	#		2013	40	2053	\$ 178	\$ 178	\$ -	\$ -	\$ 10,000	Poor	5	Caps need new gaskets. Formerly #226.
WS19-193	Fire Hydrant (No. 88)	Equipment	Hydrant	Village of Tweed	East Side of Hwy. #37 (Between Sulphide Rd. & Moira St.)	18 T	4928250	315764			1	#		2005	40	2045	\$ 1,640	\$ 394	\$ -	\$ 1,246	\$ 10,000	Fair	5	Formerly #102.
WS19-194	Fire Hydrant (No. 89)	Equipment	Hydrant	Village of Tweed	East Side of Old Bogart Rd. (Between Moira St. & Minnie Ave.)	18 T	4928084	315978			1	#		1992	40	2032	\$ 1,255	\$ 653	\$ -	\$ 603	\$ 10,000	Poor	5	Caps need new gaskets. Leaking from operating nut. Formerly #228.
WS19-195	Fire Hydrant (No. 90)	Equipment	Hydrant	Village of Tweed	South-East Side of Old Bogart Rd.	18 T	4928182	315999			1	#		1991	40	2031	\$ 1,255	\$ 653	\$ -	\$ 603	\$ 10,000	Fair	5	Formerly #229.
WS19-196	Fire Hydrant (No. 91)	Equipment	Hydrant	Village of Tweed	West Side of Minnie Ave. (North Hydrant Between Old Bogart Rd. & Brooklyn Rd.)	18 T	4928028	316038			1	#		1997	40	2037	\$ 1,354	\$ 569	\$ -	\$ 785	\$ 10,000	Fair	5	Formerly #436.
WS19-197	Fire Hydrant (No. 92)	Equipment	Hydrant	Village of Tweed	West Side of Minnie Ave. (South Hydrant Between Old Bogart Rd. & Brooklyn Rd.)	18 T	4927931	3161055			1	#		1997	40	2037	\$ 1,354	\$ 569	\$ -	\$ 785	\$ 10,000	Poor	5	Caps need new gaskets. Formerly #434.
WS19-198	Fire Hydrant (No. 93)	Equipment	Hydrant	Village of Tweed	South-East Side of Brooklyn Rd.	18 T	4927945	316171			1	#		1950	40	1990				Unknown	\$ 10,000	Poor	5	To be replaced. Formerly #433.
WS19-199	Fire Hydrant (No. 94)	Equipment	Hydrant	Village of Tweed	South Side of St. Joseph St.	18 T	4927886	316219			1	#		1949	40	1989	\$ 178	\$ 178	\$ -	\$ -	\$ 10,000	Poor	5	Leaking from operating nut. Caps need gaskets. To be replaced. Formerly #432.
WS19-200	Fire Hydrant (No. 95)	Equipment	Hydrant	Village of Tweed	East Corner of St. Joseph St. & Louisa St.	18 T	4927810	316380			1	#		1997	40	2037	\$ 1,354	\$ 569	\$ -	\$ 785	\$ 10,000	Poor	5	Hydrant stiff to shut down. Formerly #431.
WS19-201	Fire Hydrant (No. 96)	Equipment	Hydrant	Village of Tweed	North Side of Alexander St. (Between Louisa St. & Elvis Lane)	18 T	4927729	316432			1	#		2007	40	2047	\$ 1,671	\$ 369	\$ -	\$ 1,302	\$ 10,000	Fair	5	Formerly #427.
WS19-202	Fire Hydrant (No. 97)	Equipment	Hydrant	Village of Tweed	South Side of Alexander St. (First Hydrant East of Elvis Lane)	18 T	4927688	316549			1	#		2007	40	2047				Unknown	\$ 10,000	Fair	5	
WS19-203	Fire Hydrant (No. 98)	Equipment	Hydrant	Village of Tweed	South Side of Alexander St. (Second Hydrant East of Elvis Lane)	18 T	4927658	316652			1	#		2007	40	2047				Unknown	\$ 10,000	Fair	5	
WS19-204	Backflow Preventers	Equipment	Treatment	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		1998	40	2038				Unknown	\$ 50,000	Good	5	Backflow preventers on the plant service connection at the main header and on the treated water sample connection from the end of the chlorine contact pipe in the Well No. 3 building.
WS19-205	Chlorination Equipment	Equipment	Treatment	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		1998	25	2023				Unknown	\$ 15,000	Fair	5	
WS19-206	Generator	Equipment	Treatment	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		2008	20	2028				Unknown	\$ 60,000	Good	5	On 80 kilowatts standby diesel generator set to provide power for the drinking-water facility during emergency situations, located outside the north west end of the treatment building
WS19-207	Ion Exchange Unit	Equipment	Treatment	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		1998	25	2023				Unknown	\$ 20,000	Good	5	Ion exchange treatment system for both nitrate and/or uranium removal, capacity of 1,513m ³ /day, one ion exchange unit containing 3.12m ³ of resin and inlet, outlet and bypass piping, electrically actuates valves and flowmeters to permit blending of raw and treated water.
WS19-208	UV Light Disinfection Unit (and related equipment)	Equipment	Treatment	Village of Tweed	430 River Street West	18T	4926973	315426			2	#		2005	25	2030				Unknown	\$ 20,000	Good	5	Minimum Continuous Pass-Through UV Dose is 40mJ/cm ³ , UV Intensity Set Point Control Strategy, Test Parameters include Flow Rate, UV Light Intensity and UV Lamp Status. One duty and one standby.
WS19-209	Water Softener	Equipment	Treatment	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		1998	25	2023				Unknown	\$ 10,000	Fair	5	100L/min capacity, and discharge piping to wastewater holding tank.



Table 4c
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Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Updated: Version 1.2

Asset ID	Asset Name ¹	Detailed Asset Description (Building / Equipment / Water Main)	Asset Class (Distribution / Hydrant / Treatment)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Water Main Construction Material (Cast Iron / PVC / Other)	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WS19-210	Water Treatment Facility - General Appurtenances	Equipment	Treatment	Village of Tweed	430 River Street West	18T	4926973	315426			1	#		various	various	2035	Unknown				\$ 100,000	Good	5	Includes equipment like cleaning facilities, valves, flowmeters, regeneration system, brine storage, pumps, tanks, backwash system, analyzers, etc.

Asset Description and Class		Construction Material (Cast Iron / PVC)	Quantity	Average Age (years)	Units	Replacement and/or Maintenance Cost	Percentage of Properties Connected to Municipal Water System	Percentage of Properties where Fire Flow is Available	No. of Connection Days per Year where a Boil Water Advisory Notice is in Place Compared to the Total Number of Properties Connected to the Municipal Water System	No. of Connection-Days per Year Due to Water Main Breaks Compared to the Total Number of Properties Connected to the Municipal Water System
Building	Distribution		1	22	#	\$ 1,500,000	= (730 / 4,695)	= (730 / 4,695)	= (730 x 2) / 730	= (10 x 2) / 730
Building	Treatment		1	21	#	\$ 1,000,000				
Equipment	Distribution		5	7	#	\$ 2,085,000	= 15.5%	= 15.5%	= 2	= 0.027
Water Main	Distribution	Cast Iron	7,570	82	m	\$ 7,257,190				
Water Main	Distribution	PVC	8,002	17	m	\$ 6,801,887				
Equipment	Hydrant		97	20	#	\$ 970,000				
Equipment	Treatment		8	14	#	\$ 275,000				
TOTAL	-	-	-	33	-	\$ 19,889,077				

- Notes:
1. Data from Municipality of Tweed, Tangible Capital Assets (2018) and/or provided by Municipality.
 2. Data obtained from Municipal sources and/or from County of Hastings.
 3. Data Provided from Municipality of Tweed (Gap Analysis Meetings).
 4. Level of Service: 1 = very low priority, 5 = very high priority.
 5. There is no fire hydrant with a No. 24 designation.

Selected Focus Items

YEAR
2019



Table 4d
Detailed Summary of Municipal Assets (Wastewater Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Facility / Equipment / Sewer / Land)	Asset Class (Treatment / Distribution)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Sewer Type (PVC / Asbestos Cement / Forcemain) ¹	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WW19-01	Jamieson Street Pumping Station	Facility	Distribution	Village of Tweed	325 Jamieson Street East	18T	316465	4927602			1	#		1975	100	2075	\$ 101,111	\$ 80,084	\$ -	\$ 21,027	\$ 150,000	Good	5	2.64 m diameter wetwell, 100 mm diameter x 290 m forcemain to Louisa Street Sanitary Sewer, emergency overflow to Moira River. Alum upgrade in 2012.
WW19-02	River Street Pumping Station	Facility	Distribution	Village of Tweed	125 River Street East	18T	4927277	316565			1	#		1975	100	2075	\$ 202,222	\$ 161,982	\$ -	\$ 40,240	\$ 300,000	Good	5	Wetwell/drywell type, 2.4 m x 2.1 m wetwell, 250 mm diameter x 1310 m forcemain with a connection for station bypass from the pumping station to the inlet distribution chamber of the waste stabilization pond, emergency overflow to Stoco Lake
WW19-03	Jamieson Street Pumping Station - Submersible Pumps	Equipment	Distribution	Village of Tweed	325 Jamieson Street East	18T	316465	4927602			2	#		2000	20	2020	Unknown			\$ 8,000	Good	5	13.3 L/s each (submersible pumps)- Flyght- 5 HP 1730 RPM	
WW19-04	Jamieson Street Pumping Station - Generator	Equipment	Distribution	Village of Tweed	325 Jamieson Street East	18T	316465	4927602			1	#		2014	20	2034	Unknown			\$ 60,000	Good	5	Assumes replacement with 60 kW generator	
WW19-05	River Street Pumping Station - Submersible Pumps	Equipment	Distribution	Village of Tweed	125 River Street East	18T	4927277	316565			2	#		2017	20	2037	\$ 26,818	\$ 8,045	\$ -	\$ 18,772	\$ 30,000	Good	5	56.8 L/s each at 30 m total depth of hole
WW19-06	River Street Pumping Station - Storage Tank	Equipment	Treatment	Village of Tweed	125 River Street East	18T	4927277	316565			1	#		1975	50	2025	\$ 116,350	\$ 18,257	\$ -	\$ 98,093	\$ 75,000	Fair	5	18,180 L storage tank in outdoor spill containment area for phosphorus removal chemical, wood sludge liquid coagulant storage tank, PVC liner and heat tracing, all located within reinforced concrete spill containment area
WW19-07	River Street Pumping Station - Generator	Equipment	Treatment	Village of Tweed	125 River Street East	18T	4927277	316565			1	#		2018	20	2038	Unknown			\$ 60,000	Good	5	60 kW generator	
WW19-08	River Street Pumping Station - General Appurtenances	Equipment	Treatment	Village of Tweed	125 River Street East	18T	4927277	316565			1	#		various	various	2039	Unknown			\$ 20,000	Good	5	Includes equipment like chemical metering pumps, measuring devices, valves, level meters, etc.	
WW19-09	North Waste Stabilization Pond (Sewage Lagoon)	Land	Treatment	Village of Tweed	Lot 12-13, Concession 10	18T	4928122	317117			1	#		1975	50	2025	Unknown			\$ 100,000	Fair	5	Approximately 129,920 m ² and operating depth of 1.8 m, inlet distribution chamber and influent pipes to each cell.	
WW19-10	South Waste Stabilization Pond (Sewage Lagoon)	Land	Treatment	Village of Tweed	Lot 12-13, Concession 11	18T	4927937	317107			1	#		1975	50	2025	Unknown			\$ 100,000	Fair	5		
WW19-11	Sewer Mains	Sewer	Distribution	Village of Tweed	Alexander Street				Elvis Lane	End (South-East)	300	m	PVC	2007	100	2107	\$ 58,167	\$ 13,480	\$ -	\$ 44,687	\$ 150,000	Good	5	
WW19-12	Sewer Mains	Sewer	Distribution	Village of Tweed	Alexander Street				Louisa Street	87m SE of Louisa Street	87	m	Asbestos Cement	1931	75	2006	\$ 16,868	\$ 3,909	\$ -	\$ 12,959	\$ 43,500	Fair	5	
WW19-13	Sewer Mains	Sewer	Distribution	Village of Tweed	Alexander Street				Elvis Lane	55m NW of Elvis Lane	55	m	PVC	2007	100	2107	\$ 10,664	\$ 2,471	\$ -	\$ 8,193	\$ 27,500	Good	5	
WW19-14	Sewer Mains	Sewer	Distribution	Village of Tweed	Arthur Street				Brooklyn Road	Louisa Street	263	m	Asbestos Cement	1931	75	2006	\$ 2,569	\$ 2,569	\$ -	\$ -	\$ 131,500	Poor	5	
WW19-15	Sewer Mains	Sewer	Distribution	Village of Tweed	Bridge Street East				Victoria Street N	End (North-East)	78	m	Asbestos Cement	1931	75	2006	\$ 943	\$ 943	\$ -	\$ -	\$ 39,000	Fair	5	
WW19-16	Sewer Mains	Sewer	Distribution	Village of Tweed	Bridge Street West				Victoria Street N	Metcalf Street	97	m	Asbestos Cement	1931	75	2006	\$ 913	\$ 913	\$ -	\$ -	\$ 48,500	Fair	5	
WW19-17	Sewer Mains	Sewer	Distribution	Village of Tweed	Brooklyn Road				Arthur Street	Minnie Avenue	66	m	Asbestos Cement	1931	75	2006	\$ 901	\$ 901	\$ -	\$ -	\$ 33,000	Fair	5	
WW19-18	Sewer Mains	Sewer	Distribution	Village of Tweed	Brooklyn Road				Minnie Avenue	St. Joseph Street	34	m	Asbestos Cement	1931	75	2006	\$ 464	\$ 464	\$ -	\$ -	\$ 17,000	Fair	5	
WW19-19	Sewer Mains	Sewer	Distribution	Village of Tweed	Brooklyn Road				St. Joseph Street	End (North-East)	47	m	Asbestos Cement	1931	75	2006	\$ 642	\$ 642	\$ -	\$ -	\$ 23,500	Fair	5	
WW19-20	Sewer Mains	Sewer	Distribution	Village of Tweed	Colborne Street				Jamieson Street East	Spring Street East	189	m	Asbestos Cement	1930	75	2005	\$ 1,887	\$ 1,887	\$ -	\$ -	\$ 94,500	Fair	5	
WW19-21	Sewer Mains	Sewer	Distribution	Village of Tweed	Colborne Street				River Street East	Jamieson Street East	258	m	Asbestos Cement	1930	75	2005	\$ 2,576	\$ 2,576	\$ -	\$ -	\$ 129,000	Fair	5	
WW19-22	Sewer Mains	Sewer	Distribution	Village of Tweed	Colborne Street				Spring Street	Quinns Lane	143	m	Asbestos Cement	1930	75	2005	\$ 1,428	\$ 1,428	\$ -	\$ -	\$ 71,500	Fair	5	
WW19-23	Sewer Mains	Sewer	Distribution	Village of Tweed	Colborne Street				Quinns Lane	Bridge Street East	60	m	Asbestos Cement	1930	75	2005	\$ 599	\$ 599	\$ -	\$ -	\$ 30,000	Fair	5	
WW19-24	Sewer Mains	Sewer	Distribution	Village of Tweed	College Street				Katharine Street	End (North-West)	205	m	Asbestos Cement	1953	75	2028	\$ 4,554	\$ 4,554	\$ -	\$ -	\$ 102,253	Fair	5	
WW19-25	Sewer Mains	Sewer	Distribution	Village of Tweed	College Street				Katharine Street	Pomeroy Court	69	m	Asbestos Cement	1953	75	2028	\$ 1,537	\$ 1,537	\$ -	\$ -	\$ 34,500	Fair	5	



Table 4d
Detailed Summary of Municipal Assets (Wastewater Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Facility / Equipment / Sewer / Land)	Asset Class (Treatment / Distribution)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Sewer Type (PVC / Asbestos Cement / Forcemain) ¹	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WW19-26	Sewer Mains	Sewer	Distribution	Village of Tweed	College Street				Pomeroy Court	River Street West	319	m	Asbestos Cement	1953	75	2028	\$ 7,104	\$ 7,104	\$ -	\$ -	\$ 159,500	Fair	5	
WW19-27	Sewer Mains	Sewer	Distribution	Village of Tweed	Elvis Lane				Alexander Street	End (North-East)	44	m	PVC	2007	100	2107	\$ 17,924	\$ 3,226	\$ -	\$ 14,698	\$ 22,000	Good	5	
WW19-28	Sewer Mains	Sewer	Distribution	Village of Tweed	Fire Hall Service				River Street West	End (South-West)	93	m	PVC	2010	100	2110	Unknown				\$ 46,500	Good	5	
WW19-29	Sewer Mains	Sewer	Distribution	Village of Tweed	Gabe Lindsay Avenue				Metcalf Street	End (South-West)	49	m	Asbestos Cement	1930	75	2005	\$ -	\$ -	\$ -	\$ -	\$ 24,500	Fair	5	
WW19-30	Sewer Mains	Sewer	Distribution	Village of Tweed	Gateway Community Health Centre				McClellan Street	End (East)	53	m	Asbestos Cement	1949	75	2024	Unknown				\$ 26,500	Fair	5	
WW19-31	Sewer Mains	Sewer	Distribution	Village of Tweed	Hannah Street				Louisa Street	James Street North	92	m	Asbestos Cement	1925	75	2000	\$ -	\$ -	\$ -	\$ -	\$ 46,000	Fair	5	
WW19-32	Sewer Mains	Sewer	Distribution	Village of Tweed	Highway 37				Moira Street	End (North-West)	78	m	Asbestos Cement	1930	75	2005	Unknown				\$ 39,000	Fair	5	
WW19-33	Sewer Mains	Sewer	Distribution	Village of Tweed	Holdcroft Street				Victoria Street North	End (South-West)	232	m	PVC	2001	100	2101	\$ 48,867	\$ 16,615	\$ -	\$ 32,252	\$ 116,000	Good	5	
WW19-34	Sewer Mains	Sewer	Distribution	Village of Tweed	Hungerford Road				Metcalf Street	Park Avenue	297	m	Asbestos Cement	1930	75	2005	\$ 6,026	\$ 6,026	\$ -	\$ -	\$ 148,500	Fair	5	
WW19-35	Sewer Mains	Sewer	Distribution	Village of Tweed	Hungerford Road				Park Avenue	College Street	136	m	PVC	2010	100	2110	\$ 2,236	\$ 402	\$ -	\$ 1,834	\$ 68,000	Good	5	
WW19-36	Sewer Mains	Sewer	Distribution	Village of Tweed	Hungerford Road				College Street	End (North-East)	146	m	PVC	2010	100	2110	\$ 2,401	\$ 432	\$ -	\$ 1,969	\$ 73,000	Good	5	
WW19-37	Sewer Mains	Sewer	Distribution	Village of Tweed	Isaac Street				Pringle Street	End (South-East)	112	m	PVC	2006	100	2106	\$ 25,308	\$ 6,074	\$ -	\$ 19,234	\$ 56,000	Good	5	
WW19-38	Sewer Mains	Sewer	Distribution	Village of Tweed	James Street North				Jamieson Street East	Hannah Street	105	m	Asbestos Cement	1925	75	2000	\$ 1,185	\$ 1,185	\$ -	\$ -	\$ 52,500	Fair	5	
WW19-39	Sewer Mains	Sewer	Distribution	Village of Tweed	James Street South				River Street East	George Street	128	m	Asbestos Cement	1925	75	2000	\$ 1,349	\$ 1,349	\$ -	\$ -	\$ 64,000	Fair	5	
WW19-40	Sewer Mains	Sewer	Distribution	Village of Tweed	Jamieson Pumping Station				Jamieson Street East	Alexander Street	113	m	Asbestos Cement	1975	75	2050	Unknown				\$ 56,500	Fair	5	Trenched in concrete
WW19-41	Sewer Mains	Sewer	Distribution	Village of Tweed	Jamieson Street East				Colborne Street	Victoria Street North	102	m	Asbestos Cement	1925	75	2000	\$ 1,029	\$ 1,029	\$ -	\$ -	\$ 51,000	Fair	5	
WW19-42	Sewer Mains	Sewer	Distribution	Village of Tweed	Jamieson Street East				Colborne Street	Mary Street	96	m	Asbestos Cement	1925	75	2000	\$ 968	\$ 968	\$ -	\$ -	\$ 48,000	Fair	5	
WW19-43	Sewer Mains	Sewer	Distribution	Village of Tweed	Jamieson Street East				Louisa Street	James Street North	90	m	Asbestos Cement	1925	75	2000	\$ 908	\$ 908	\$ -	\$ -	\$ 45,000	Fair	5	
WW19-44	Sewer Mains	Sewer	Distribution	Village of Tweed	Jamieson Street East				Mary Street	Louisa Street	97	m	Asbestos Cement	1925	75	2000	\$ 978	\$ 978	\$ -	\$ -	\$ 48,500	Fair	5	
WW19-45	Sewer Mains	Sewer	Distribution	Village of Tweed	Jamieson Street West				Metcalf Street	McCamon Avenue	95	m	PVC	2008	100	2108	\$ 56,687	\$ 9,430	\$ -	\$ 47,257	\$ 47,500	Good	5	
WW19-46	Sewer Mains	Sewer	Distribution	Village of Tweed	Jamieson Street West				Victoria Street North	Metcalf Street	97	m	PVC	2008	100	2108	\$ 57,880	\$ 9,629	\$ -	\$ 48,252	\$ 48,500	Good	5	
WW19-47	Sewer Mains	Sewer	Distribution	Village of Tweed	Jane Street East				Victoria Street South	End (East)	87	m	Asbestos Cement	1930	75	2005	\$ -	\$ -	\$ -	\$ -	\$ 43,500	Fair	5	
WW19-48	Sewer Mains	Sewer	Distribution	Village of Tweed	Jane Street West				Victoria Street South	End (West)	49	m	Asbestos Cement	1930	75	2005	\$ -	\$ -	\$ -	\$ -	\$ 24,500	Fair	5	
WW19-49	Sewer Mains	Sewer	Distribution	Village of Tweed	Katharine Street				Metcalf Street	Park Avenue	326	m	Asbestos Cement	1954	75	2029	\$ 6,827	\$ 6,827	\$ -	\$ -	\$ 163,000	Fair	5	
WW19-50	Sewer Mains	Sewer	Distribution	Village of Tweed	Katharine Street				Park Avenue	College Street	141	m	Asbestos Cement	1954	75	2029	\$ 2,953	\$ 2,953	\$ -	\$ -	\$ 70,500	Fair	5	



Table 4d
Detailed Summary of Municipal Assets (Wastewater Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Facility / Equipment / Sewer / Land)	Asset Class (Treatment / Distribution)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Sewer Type (PVC / Asbestos Cement / Forcemain) ¹	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WW19-51	Sewer Mains	Sewer	Distribution	Village of Tweed	Louisa Street				Arthur Street	Alexander Street	14	m	Asbestos Cement	1931	75	2006	\$ 1,569	\$ 1,569	\$ -	\$ -	\$ 7,000	Fair	5	
WW19-52	Sewer Mains	Sewer	Distribution	Village of Tweed	Louisa Street				Jamieson Street East	End (North-West)	85	m	PVC	2014	100	2114	\$ 52,542	\$ 5,254	\$ -	\$ 47,287	\$ 42,500	Good	5	
WW19-53	Sewer Mains	Sewer	Distribution	Village of Tweed	Louisa Street				Jamieson Street East	Hannah Street	111	m	PVC	2014	100	2114	\$ 68,613	\$ 6,861	\$ -	\$ 61,752	\$ 55,500	Good	5	
WW19-54	Sewer Mains	Sewer	Distribution	Village of Tweed	Louisa Street				River Street East	George Street	116	m	PVC	2014	100	2114	\$ 71,704	\$ 7,170	\$ -	\$ 64,533	\$ 58,000	Good	5	
WW19-55	Sewer Mains	Sewer	Distribution	Village of Tweed	Louisa Street				St. Joseph Street	Alexander Street	77	m	Asbestos Cement	1931	75	2006	\$ 8,632	\$ 8,632	\$ -	\$ -	\$ 38,500	Fair	5	
WW19-56	Sewer Mains	Sewer	Distribution	Village of Tweed	Mary Street				Jamieson Street East	End (South-East)	83	m	PVC	2000	100	2100	\$ 908	\$ 908	\$ -	\$ -	\$ 41,500	Good	5	
WW19-57	Sewer Mains	Sewer	Distribution	Village of Tweed	Mary Street				Spring Street East	End (South-East)	124	m	PVC	2000	100	2100	\$ 1,356	\$ 1,356	\$ -	\$ -	\$ 62,000	Good	5	
WW19-58	Sewer Mains	Sewer	Distribution	Village of Tweed	Mary Street South				River Street East	End (North-West)	76	m	PVC	2000	100	2100	\$ 930	\$ 930	\$ -	\$ -	\$ 38,000	Good	5	
WW19-59	Sewer Mains	Sewer	Distribution	Village of Tweed	McCamon Avenue				Jamieson Street West	River Street West	143	m	PVC	2008	100	2108	\$ 109,831	\$ 22,878	\$ -	\$ 86,953	\$ 71,500	Good	5	
WW19-60	Sewer Mains	Sewer	Distribution	Village of Tweed	McClellan Street				River Street West	End (North-West)	229	m	Asbestos Cement	1949	75	2024	\$ 5,084	\$ 5,084	\$ -	\$ -	\$ 114,563	Fair	5	
WW19-61	Sewer Mains	Sewer	Distribution	Village of Tweed	McGowan Street				Pringle Street	End (North-West)	126	m	PVC	2006	100	2106	\$ 36,513	\$ 8,853	\$ -	\$ 27,661	\$ 63,000	Good	5	
WW19-62	Sewer Mains	Sewer	Distribution	Village of Tweed	McGowan Street				Pringle Street	Victoria Street South	136	m	PVC	2006	100	2106	\$ 39,411	\$ 9,555	\$ -	\$ 29,856	\$ 68,000	Good	5	
WW19-63	Sewer Mains	Sewer	Distribution	Village of Tweed	Metcalf Street				End (North-West)	Gabe Lindsay Avenue	253	m	PVC	2008	100	2108	\$ 31,293	\$ 8,301	\$ -	\$ 22,992	\$ 126,500	Good	5	
WW19-64	Sewer Mains	Sewer	Distribution	Village of Tweed	Metcalf Street				Hungerford Road	Katharine Street	207	m	PVC	2008	100	2108	\$ 25,604	\$ 6,792	\$ -	\$ 18,812	\$ 103,500	Good	5	
WW19-65	Sewer Mains	Sewer	Distribution	Village of Tweed	Metcalf Street				Jamieson Street West	River Street West	198	m	PVC	2008	100	2108	\$ 24,490	\$ 6,496	\$ -	\$ 17,994	\$ 99,000	Good	5	
WW19-66	Sewer Mains	Sewer	Distribution	Village of Tweed	Metcalf Street				Katharine Street	Pomeroy Avenue	57	m	PVC	2008	100	2108	\$ 7,050	\$ 1,870	\$ -	\$ 5,180	\$ 28,500	Good	5	
WW19-67	Sewer Mains	Sewer	Distribution	Village of Tweed	Metcalf Street				Pomeroy Avenue	Jamieson Street West	159	m	PVC	2008	100	2108	\$ 19,667	\$ 5,217	\$ -	\$ 14,450	\$ 79,500	Good	5	
WW19-68	Sewer Mains	Sewer	Distribution	Village of Tweed	Metcalf Street				Gabe Lindsay Avenue	Bridge Street West	137	m	PVC	2008	100	2108	\$ 16,945	\$ 4,495	\$ -	\$ 12,450	\$ 68,500	Good	5	
WW19-69	Sewer Mains	Sewer	Distribution	Village of Tweed	Minnie Avenue				Brooklyn Road	Old Bogart Road	264	m	PVC	1998	100	2098	\$ 163,097	\$ 66,588	\$ -	\$ 96,509	\$ 132,000	Good	5	
WW19-70	Sewer Mains	Sewer	Distribution	Village of Tweed	Moir Street				Highway 37	Old Bogart Road	291	m	Asbestos Cement	1930	75	2005	\$ 87,714	\$ 23,282	\$ -	\$ 64,431	\$ 145,500	Poor	5	
WW19-71	Sewer Mains	Sewer	Distribution	Village of Tweed	Moir Street				Old Bogart Road	Arthur Street	240	m	Asbestos Cement	1930	75	2005	\$ 72,341	\$ 19,202	\$ -	\$ 53,139	\$ 120,000	Poor	5	
WW19-72	Sewer Mains	Sewer	Distribution	Village of Tweed	Old Bogart Road				Minnie Avenue	End (North-East)	216	m	Asbestos Cement	1930	75	2005	\$ 23,973	\$ 12,946	\$ -	\$ 11,028	\$ 108,000	Fair	5	
WW19-73	Sewer Mains	Sewer	Distribution	Village of Tweed	Old Bogart Road				Moir Street	Minnie Avenue	128	m	Asbestos Cement	1930	75	2005	\$ 14,206	\$ 7,671	\$ -	\$ 6,535	\$ 64,000	Fair	5	
WW19-74	Sewer Mains	Sewer	Distribution	Village of Tweed	Park Avenue				End (North-West)	Katharine Street	145	m	Asbestos Cement	1962	75	2037	\$ 5,613	\$ 5,613	\$ -	\$ -	\$ 72,552	Fair	5	
WW19-75	Sewer Mains	Sewer	Distribution	Village of Tweed	Park Avenue				Hungerford Road	End (South-East)	42	m	Asbestos Cement	1962	75	2037	\$ 1,625	\$ 1,625	\$ -	\$ -	\$ 21,000	Fair	5	



Table 4d
Detailed Summary of Municipal Assets (Wastewater Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Facility / Equipment / Sewer / Land)	Asset Class (Treatment / Distribution)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Sewer Type (PVC / Asbestos Cement / Forcemain) ¹	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WW19-76	Sewer Mains	Sewer	Distribution	Village of Tweed	Pomeroy Avenue				McClellan Street	Park Avenue	81	m	Asbestos Cement	1949	75	2024	\$ 1,128	\$ 1,128	\$ -	\$ -	\$ 40,500	Fair	5	
WW19-77	Sewer Mains	Sewer	Distribution	Village of Tweed	Pomeroy Avenue				Metcalf Street	McClellan Street	289	m	Asbestos Cement	1949	75	2024	\$ 4,023	\$ 4,023	\$ -	\$ -	\$ 144,500	Fair	5	
WW19-78	Sewer Mains	Sewer	Distribution	Village of Tweed	Pomeroy Court				College Street	End (North-East)	48	m	Asbestos Cement	1949	75	2024	\$ -	\$ -	\$ -	\$ -	\$ 24,000	Fair	5	
WW19-79	Sewer Mains	Sewer	Distribution	Village of Tweed	Pond Connection Forcemain				River Street Pumping Station	North Waste Stabilization Pond	1128	m	Forcemain	1975	75	2050	Unknown				\$ 564,000	Good	5	
WW19-80	Sewer Mains	Sewer	Distribution	Village of Tweed	Pringle Street				McGowan Street	Isaac Street	90	m	PVC	2007	100	2107	\$ 232,131	\$ 51,069	\$ -	\$ 181,062	\$ 45,000	Good	5	
WW19-81	Sewer Mains	Sewer	Distribution	Village of Tweed	Pumping Station Connection Forcemain				River Street Pumping Station	Jamieson Street Pumping Station	442	m	Forcemain	1975	75	2050	Unknown				\$ 221,000	Good	5	
WW19-82	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street Connection Main				River Street East	Victoria Street South Connection Main	55	m	PVC	2010	100	2110	\$ 34,860	\$ 6,275	\$ -	\$ 28,585	\$ 27,500	Good	5	
WW19-83	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street East				Colborne Street	Mary Street South	98	m	PVC	2010	100	2110	\$ 62,114	\$ 11,181	\$ -	\$ 50,933	\$ 49,000	Good	5	
WW19-84	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street East				Louisa Street	James Street South	105	m	PVC	2010	100	2110	\$ 66,551	\$ 11,979	\$ -	\$ 54,572	\$ 52,500	Good	5	
WW19-85	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street East				Mary Street South	Louisa Street	96	m	PVC	2010	100	2110	\$ 60,846	\$ 10,952	\$ -	\$ 49,894	\$ 48,000	Good	5	
WW19-86	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street West				College Street	End (South-East)	160	m	PVC	2010	100	2110	\$ 101,414	\$ 18,255	\$ -	\$ 83,160	\$ 80,003	Good	5	
WW19-87	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street West				College Street	McClellan Street	192	m	PVC	2010	100	2110	\$ 121,683	\$ 21,903	\$ -	\$ 99,780	\$ 95,993	Good	5	
WW19-88	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street West				McClellan Street	McCamon Avenue	253	m	PVC	2010	100	2110	\$ 160,390	\$ 28,870	\$ -	\$ 131,519	\$ 126,527	Good	5	
WW19-89	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street West				Metcalf Street	Victoria Street	107	m	PVC	2010	100	2110	\$ 67,787	\$ 12,202	\$ -	\$ 55,585	\$ 53,475	Good	5	
WW19-90	Sewer Mains	Sewer	Distribution	Village of Tweed	River Street West				Metcalf Street	McCamon Avenue	127	m	PVC	2010	100	2110	\$ 80,495	\$ 14,489	\$ -	\$ 66,006	\$ 63,500	Good	5	
WW19-91	Sewer Mains	Sewer	Distribution	Village of Tweed	Spring Street East				Colborne Street	Mary Street	89	m	PVC	2000	100	2100	\$ 5,971	\$ 5,971	\$ -	\$ 0	\$ 44,500	Good	5	
WW19-92	Sewer Mains	Sewer	Distribution	Village of Tweed	St. Joseph Street				Brooklyn Road	Louisa Street	268	m	Asbestos Cement	1949	75	2024	\$ -	\$ -	\$ -	\$ -	\$ 134,000	Fair	5	
WW19-93	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street North				Bridge Street	Quinns Lane	60	m	PVC	1983	100	2083	\$ 8,889	\$ 6,732	\$ -	\$ 2,157	\$ 30,000	Good	5	
WW19-94	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street North				Holdcroft Street	Highway 37	570	m	PVC	1983	100	2083	\$ 101,630	\$ 60,978	\$ -	\$ 40,652	\$ 285,000	Good	5	
WW19-95	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street North				Jamieson Street	End (North-West)	172	m	PVC	1983	100	2083	\$ 25,482	\$ 19,299	\$ -	\$ 6,183	\$ 86,000	Good	5	
WW19-96	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street North				Jamieson Street	River Street	224	m	PVC	1983	100	2083	\$ 33,171	\$ 25,123	\$ -	\$ 8,048	\$ 111,951	Good	5	
WW19-97	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street North				Quinns Lane	Spring Street	157	m	PVC	1983	100	2083	\$ 23,259	\$ 17,616	\$ -	\$ 5,643	\$ 78,500	Good	5	
WW19-98	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street North				Highway 37	Bridge Street	291	m	PVC	1983	100	2083	\$ 43,111	\$ 32,651	\$ -	\$ 10,460	\$ 145,500	Good	5	
WW19-99	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street South				End (South-East)	Jane Street	108	m	PVC	1983	100	2083	\$ 16,005	\$ 12,122	\$ -	\$ 3,883	\$ 54,017	Good	5	
WW19-100	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street South				Jane Street	McGowan Street	150	m	PVC	1983	100	2083	\$ 22,222	\$ 16,831	\$ -	\$ 5,392	\$ 75,000	Good	5	



Table 4d
Detailed Summary of Municipal Assets (Wastewater Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Facility / Equipment / Sewer / Land)	Asset Class (Treatment / Distribution)	Geographic Township	Address and/or Location ^{1,2,3}	UTM Coordinates			Location From	Location To	Quantity ^{2,3}	Units	Sewer Type (PVC / Asbestos Cement / Forcemain) ¹	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
						Zone	Northing	Easting									Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
WW19-101	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street South				River Street	McGowan Street	293	m	PVC	1983	100	2083	\$ 43,408	\$ 32,876	\$ -	\$ 10,532	\$ 146,500	Good	5	
WW19-102	Sewer Mains	Sewer	Distribution	Village of Tweed	Victoria Street South Connection Main				Victoria Street South	River Street Pumping Station	260	m	Asbestos Cement	1975	75	2050	Unknown			\$ 130,000	Fair	5		

Asset Description and Class		Sewer Type (PVC / Asbestos Cement / Forcemain)	Quantity	Average Age (years)	Units	Replacement and/or Maintenance Cost	Percentage of Properties Connected to the Municipal Wastewater System	No. of Events per Year Where Combined Sewer Flow in the Municipal Wastewater System Exceeds System Capacity Compared to the Total Number of Properties Connected to the Municipal Wastewater System	No. of Connection-Days per Year Due to Wastewater Backups Compared to the Total Number of Properties Connected to the Municipal Wastewater System	No. of Effluent Violations per Year Due to Wastewater Discharge Compared to the Total Number of Properties Connected to the Municipal Wastewater System
Facility	Distribution		2	44	#	\$ 450,000	= (730 / 4,695)	The municipal wastewater system does not have combined sewers.	No connection-days occur when a wastewater service issue arises, as there are no interruptions in service as bypassing and/or discharges are undertaken to avoid backups.	= (3 / 730)
Equipment	Distribution		5	5	#	\$ 98,000				
Equipment	Treatment		3	15	#	\$ 155,000				
Land	Treatment		2	44	#	\$ 200,000				
Sewer	Distribution	PVC	6,982	16	m	\$ 3,490,965	= 15.5%			= 0.004
Sewer	Distribution	Asbestos Cement	6,146	81	m	\$ 3,072,868				
Sewer	Distribution	Forcemain	1,570	44	m	\$ 785,000				
TOTAL			-	45	-	\$ 8,251,833	-	-	-	-

- Notes:
1. Data from Municipality of Tweed, Tangible Capital Assets (2018) and/or provided by Municipality.
 2. Data obtained from Municipal sources and/or from County of Hastings.
 3. Data Provided from Municipality of Tweed (Gap Analysis Meetings).
 4. Level of Service: 1 = very low priority, 5 = very high priority.
 5. There is no fire hydrant with a No. 24 designation.

Selected Focus Items

YEAR
2019



Table 4e
Detailed Summary of Municipal Assets (Stormwater Assets)
 Asset Management Planning (2020)
 Municipality of Tweed
 169.20.003

New: Version 1.1

Asset ID	Asset Name ¹	Detailed Asset Description (Catchment Area)	Catchment Area Type	Geographic Township	UTM Coordinates			Area (hectares; ha)	Inlet Structures (#)	Outlet Structures (#)	Inlet Diameter (m)	Inlet Material	Inlet Description	Outlet Diameter (m)	Outlet Material	Outlet Description	Outlet Location	Outlet Relative to Flood Level	Number of Properties At Risk of Flooding to 100-year Storm	Estimated Inlet Flow (Q-Runoff; m ³ /s)	Estimated Outlet Flow (Q-Outlet; m ³ /s)	Systems Resilient to a 5-year Storm	Year in Service / or Last Upgrade Year ^{1,2,3}	Asset Life Expectancy (years)	Projected Replacement or Upgrade Year	Tangible Capital Asset Report Financials				Replacement and/or Maintenance Cost	Condition Rating (good / fair / poor) ³	Current Level of Service (5 = high / 1 = low) ⁴	Additional Information (identify repair/rehabilitation requirements, maintenance needs, specific cost breakdown, etc.)
					Zone	Northing	Easting																			Original Value (2018 Closing Cost Balance) ¹	Accumulated Amortization (2018) ¹	Additions and Betterments (2018) ¹	Net Book Value (2018) ¹				
STW20-01	Actinolite	Catchment Area (Small)	CA00	Elzevir	18T	4925212	319011	1	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	10	unknown	unknown	unknown	unknown	unknown	unknown	unknown	Unknown	unknown	unknown	unknown	No known existing stormwater systems. Further study recommended.			
STW20-02	Marlbank	Catchment Area (Small)	CA00	Hungerford	18T	4922349	333396	1	4	1	unknown	Concrete	OPSD Catch Basin (double grate)	0.20	Concrete	Bridge Abutment Drain	Creek	Outside of Available Flood Mapping	0	0.08	0.08	Yes	1988	100	2088	Unknown	\$ 10,000	fair	2				
STW20-03	Queensborough	Catchment Area (Small)	CA00	Elzevir	18T	4940534	308512	1	2	1	unknown	Polyethylene (PE)	OPSD Catch Basin (single)	unknown	Polyethylene (PE)	Open Pipe	Wetland / Black River	Outside of Available Flood Mapping	10	0.08	0.08	Yes	1988	100	2088	Unknown	\$ 10,000	poor	2	Sedimentation issues observed.			
STW20-04	Stoco	Catchment Area (Small)	CA00	Hungerford	18T	4925212	319011	1	2	1	unknown	Polyethylene (PE)	OPSD Catch Basin (single grate)	0.4 & 0.2	Polyethylene (PE)	Open Pipe (2x)	Moira River	At 2-year / Below 100-year Flood Level	40	0.08	0.08	Yes	2010	100	2110	Unknown	\$ 10,000	fair	2	Stormwater assets installed approximately 10 years ago by Municipal Forces. Properties at risk to 100-year storm include properties identified on Stoco Lake.			
STW20-05	Thomasburg	Catchment Area (Small)	CA05	Hungerford	18T	4918109	313035	2	7	1	unknown	Polyvinyl Chloride (PVC)	OPSD Catch Basin (double & single grate)	0.40	Polyvinyl Chloride (PVC)	Open Pipe	Creek/Wetland	Above 100-year Flood Level	0	0.16	0.16	Yes	1988	100	2088	Unknown	\$ 70,000	fair	2				
STW20-06	Tweed Centre	Catchment Area (Large)	CA01	Tweed	18T	4927452	315954	60	172	1	unknown	unknown	OPSD Catch Basin (typical)	1.05	Concrete	Headwall	Moira River	Above 100-year Flood Level	0	3.81	2.10	No	1983	100	2083	Unknown	\$ 1,720,000	fair	5	Further study recommended to determine if additional outlets exist / confirm resilience to 5-year storm.			
STW20-07	Tweed Southwest	Catchment Area (Large)	CA02	Tweed	18T	4926991	316042	50	54	2	unknown	unknown	OPSD Catch Basin (typical)	0.6 & 0.9	Concrete/CSP	Headwall	Tweed Memorial Park, Wetland Areas south of town	Below 2-year Flood Level	0	1.37	1.40	Yes	1983	100	2083	Unknown	\$ 240,000	fair	4				
STW20-08	Tweed Southeast	Catchment Area (Medium)	CA03	Tweed	18T	4927255	316451	6	22	1	unknown	unknown	OPSD Catch Basin (typical)	(2x) 0.45 & (1x) 0.3	Polyvinyl Chloride (PVC)	Open Pipe	Tweed Memorial Park, Stoco Lake	Below 2-year Flood Level	5	0.49	0.50	Yes	1988	100	2088	Unknown	\$ 220,000	fair	4				
STW20-09	Tweed East	Catchment Area (Medium)	CA04	Tweed	18T	4927822	316248	6	27	1	unknown	unknown	OPSD Catch Basin (typical)	0.45	unknown	Headwall	Moira River	Above 100-year Flood Level	0	0.49	0.21	No	1988	100	2088	Unknown	\$ 270,000	fair	4	Further study recommended to determine if additional outlets exist / confirm resilience to 5-year storm.			
STW20-10	Tweed West	Catchment Area (Small)	CA00	Tweed	18T	4927575	315419	1	1	1	unknown	unknown	OPSD Catch Basin (typical)	unknown	unknown	unknown	unknown	unknown	0	0.08	0.08	Yes	1988	100	2088	Unknown	\$ 20,000	fair	4	Further study recommended.			
STW20-11	Tweed South	Catchment Area (Small)	CA00	Tweed	18T	4926600	316411	1	4	1	unknown	unknown	OPSD Catch Basin (typical)	unknown	unknown	unknown	unknown	unknown	1	0.08	0.08	Yes	1983	100	2083	Unknown	\$ 40,000	fair	3	Further study recommended.			
STW20-12	Tweed North	Catchment Area (Multi)	CA00	Tweed	18T	4928101	315795	30	61	individual outlets	unknown	unknown	OPSD Catch Basin (typical)	unknown	unknown	unknown	unknown	unknown	10	0.08	0.08	Yes	1983	100	2083	Unknown	\$ 610,000	fair	4	Replacement/upgrade cost estimate only. Assumed drainage achieved by individual inlet/outlet systems discharging directly to Moira River. Further study recommended.			

Asset Description	Number of Catchment Areas	Total Hectares (ha)	Total Inlet Structures (#)	Total Outlet Structures (#)	Total Properties At Risk to Flooding to 100-year Storm (#)	Total Systems Not Resilient to a 5-year Storm (#)	Average Age (years)	Replacement and/or Maintenance Cost	Percentage of Properties in Municipality that are Resilient to 100-year Storm	Percentage of Municipal Stormwater Management System Resilient to a 5-year Storm
Catchment Area (Small)	7	8	20	6	61	0	25	\$ 160,000	= (4,870 Total Properties in Municipality) - (76 Properties At Risk to 100-year Storm) ÷ (4,870 Total Properties in Municipality) x 100%	= (Total Number of Inlet Structures - Inlet Structures in Tweed East) ÷ (Total Number of Inlet Structures) x 100%
Catchment Area (Medium)	2	12	49	2	5	1	\$ 490,000			
Catchment Area (Large)	2	110	226	3	0	1	\$ 1,960,000			
Catchment Area (Multi)	1	30	61	individual outlets	10	0	\$ 610,000			
TOTAL	12	160	356	11	76	2	35	\$ 3,220,000	= 98.44%	92.42%

- Notes:
1. Data from Municipality of Tweed, Tangible Capital Assets (2018) and/or provided by Municipality.
 2. Data obtained from Municipal sources and/or from County of Hastings.
 3. Data Provided from Municipality of Tweed (Gap Analysis Meetings).
 4. Level of Service: 1 = very low priority, 5 = very high priority.
 5. Data per site observations and topographic surveying by Greenview Environmental Management Limited (2020).

Selected Focus Items

YEAR
2020



Table 5b
Financial Assessment and Projections (Bridges and Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ²	Remaining Useful Life	Current Reserves 2018	Replacement and / or Upgrade Cost ^{1,3}	Reserve Planning Balance	Proposed Annual Contribution to Reserves ⁴																															Total Reserve (30 Year)	Total Required Reserve (Replacement Cost)	Estimated Borrowing Cost (Replacement Cost) ⁵	Difference (Borrowing - Savings) ⁶
							Years 1 to 5					Years 6 to 10					Years 11 to 15					Years 16 to 20					Years 21 to 25					Years 26 to 30									
							2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048					
BC19-01	Black Creek Bridge (Bridge #21)	Bridge	9	\$ 33,704	\$ 1,455,000	\$ 1,421,296	\$ 33,704	\$ 157,922	\$ 157,922	\$ 157,922	\$ 157,922	\$ 157,922	\$ 157,922	\$ 157,922	\$ 157,922																		\$ 1,455,000	\$ 1,455,000	\$ 2,192,586	\$ 737,586					
BC19-02	Bogart Road Bridge (Bridge #17)	Culvert	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-03	Boundary Bridge (Bridge #29)	Bridge	0	\$ 32,430	\$ 1,400,000	\$ 1,367,570	\$ 32,430	\$ 1,367,570																									\$ 1,400,000	\$ 1,400,000	\$ 2,109,705	\$ 709,705					
BC19-04	Bradshaw Bridge (Bridge #36)	Bridge	4	\$ 23,975	\$ 1,035,000	\$ 1,011,025	\$ 23,975	\$ 252,756	\$ 252,756	\$ 252,756	\$ 252,756																						\$ 1,035,000	\$ 1,035,000	\$ 1,559,674	\$ 524,674					
BC19-05	Catons Bridge North Structure (Bridge #8)	Bridge	4	\$ 36,020	\$ 1,555,000	\$ 1,518,980	\$ 36,020	\$ 379,745	\$ 379,745	\$ 379,745	\$ 379,745																						\$ 1,555,000	\$ 1,555,000	\$ 2,343,279	\$ 788,279					
BC19-06	Catons Bridge South Structure (Bridge #7)	Bridge	4	\$ 36,020	\$ 1,555,000	\$ 1,518,980	\$ 36,020	\$ 379,745	\$ 379,745	\$ 379,745	\$ 379,745																						\$ 1,555,000	\$ 1,555,000	\$ 2,343,279	\$ 788,279					
BC19-07	Clements Bridge (Bridge #13)	Bridge	4	\$ 1,737	\$ 75,000	\$ 73,263	\$ 1,737	\$ 18,316	\$ 18,316	\$ 18,316	\$ 18,316																						\$ 75,000	\$ 75,000	\$ 113,020	\$ 38,020					
BC19-08	Crookston Culvert (Bridge #24)	Culvert	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-09	Doran's Bridge (Bridge #14)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-10	Dowling Bridge (Bridge #51)	Bridge	4	\$ 13,551	\$ 585,000	\$ 571,449	\$ 13,551	\$ 142,862	\$ 142,862	\$ 142,862	\$ 142,862																						\$ 585,000	\$ 585,000	\$ 881,555	\$ 296,555					
BC19-11	Downey Rapids South Structure (Bridge #27)	Bridge	4	\$ 30,924	\$ 1,335,000	\$ 1,304,076	\$ 30,924	\$ 326,019	\$ 326,019	\$ 326,019	\$ 326,019																						\$ 1,335,000	\$ 1,335,000	\$ 2,011,754	\$ 676,754					
BC19-12	Downey Rapids North Structure (Bridge #28)	Bridge	4	\$ 11,698	\$ 505,000	\$ 493,302	\$ 11,698	\$ 123,326	\$ 123,326	\$ 123,326	\$ 123,326																						\$ 505,000	\$ 505,000	\$ 761,001	\$ 256,001					
BC19-13	East Red Bridge (Bridge #30)	Bridge	4	\$ 11,466	\$ 495,000	\$ 483,534	\$ 11,466	\$ 120,883	\$ 120,883	\$ 120,883	\$ 120,883																						\$ 495,000	\$ 495,000	\$ 745,931	\$ 250,931					
BC19-14	Forbes Culvert (Bridge #37)	Culvert	9	\$ 10,424	\$ 450,000	\$ 439,576	\$ 10,424	\$ 48,842	\$ 48,842	\$ 48,842	\$ 48,842	\$ 48,842	\$ 48,842	\$ 48,842	\$ 48,842																		\$ 450,000	\$ 450,000	\$ 678,119	\$ 228,119					
BC19-15	Gordon Bridge (Bridge #41)	Culvert	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-16	Graham's Bridge (Bridge #25)	Bridge	9	\$ 2,085	\$ 90,000	\$ 87,915	\$ 2,085	\$ 9,768	\$ 9,768	\$ 9,768	\$ 9,768	\$ 9,768	\$ 9,768	\$ 9,768	\$ 9,768																		\$ 90,000	\$ 90,000	\$ 135,624	\$ 45,624					
BC19-17	Greatix Bridge (Bridge #35)	Bridge	4	\$ 11,929	\$ 515,000	\$ 503,071	\$ 11,929	\$ 125,768	\$ 125,768	\$ 125,768	\$ 125,768																						\$ 515,000	\$ 515,000	\$ 776,070	\$ 261,070					
BC19-18	Hawkins Bridge (Bridge #22)	Bridge	4	\$ 9,451	\$ 408,000	\$ 398,549	\$ 9,451	\$ 99,637	\$ 99,637	\$ 99,637	\$ 99,637																						\$ 408,000	\$ 408,000	\$ 614,828	\$ 206,828					
BC19-19	Horrigan Bridge (Bridge #45)	Bridge	0	\$ 927	\$ 40,000	\$ 39,073	\$ 927	\$ 39,073																									\$ 40,000	\$ 40,000	\$ 60,277	\$ 20,277					
BC19-20	Joe Allore Bridge (Bridge #48)	Bridge	4	\$ 21,427	\$ 925,000	\$ 903,573	\$ 21,427	\$ 225,893	\$ 225,893	\$ 225,893	\$ 225,893																						\$ 925,000	\$ 925,000	\$ 1,393,912	\$ 468,912					
BC19-21	Joe Trudeau Bridge (Bridge #49)	Bridge	4	\$ 22,353	\$ 965,000	\$ 942,647	\$ 22,353	\$ 235,662	\$ 235,662	\$ 235,662	\$ 235,662																						\$ 965,000	\$ 965,000	\$ 1,454,189	\$ 489,189					
BC19-22	Kennedy's Bridge (Bridge #4)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-23	Kerr's Bridge (Bridge #3)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-24	Kinlin Bridge (Bridge #50)	Bridge	2	\$ 16,794	\$ 725,000	\$ 708,206	\$ 16,794	\$ 354,103	\$ 354,103																								\$ 725,000	\$ 725,000	\$ 1,092,526	\$ 367,526					
BC19-25	Lingham Lake Bridge (Bridge #43)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-26	Lost Channel Bridge (Bridge #6)	Bridge	4	\$ 49,988	\$ 2,158,000	\$ 2,108,012	\$ 49,988	\$ 527,003	\$ 527,003	\$ 527,003	\$ 527,003																						\$ 2,158,000	\$ 2,158,000	\$ 3,251,959	\$ 1,093,959					
BC19-27	Maines Bridge (Bridge #9)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-28	Marbank Bridge (Bridge #2)	Bridge	4	\$ 3,011	\$ 130,000	\$ 126,989	\$ 3,011	\$ 31,747	\$ 31,747	\$ 31,747	\$ 31,747																						\$ 130,000	\$ 130,000	\$ 195,901	\$ 65,901					
BC19-29	Marbank Culvert (Bridge #46)	Culvert	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-30	Marbank Road Bridge (Bridge #44)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-31	Marrison Bridge (Bridge #34)	Bridge	9	\$ 13,783	\$ 595,000	\$ 581,217	\$ 13,783	\$ 64,580	\$ 64,580	\$ 64,580	\$ 64,580	\$ 64,580	\$ 64,580	\$ 64,580	\$ 64,580																	\$ 595,000	\$ 595,000	\$ 896,624	\$ 301,624						



**Table 5b
Financial Assessment and Projections (Bridges and Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003**

Asset ID	Asset Name ¹	Detailed Asset Description (Bridge / Culvert) ²	Remaining Useful Life	Current Reserves 2018	Replacement and / or Upgrade Cost ^{1,3}	Reserve Planning Balance	Proposed Annual Contribution to Reserves ⁴																														Total Reserve (30 Year)	Total Required Reserve (Replacement Cost)	Estimated Borrowing Cost (Replacement Cost) ⁵	Difference (Borrowing - Savings) ⁶	
							Years 1 to 5					Years 6 to 10					Years 11 to 15					Years 16 to 20					Years 21 to 25					Years 26 to 30									
							2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048					
BC19-32	Marshe Bridge (Bridge #26)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																									\$ -	\$ -	\$ -	\$ -						
BC19-33	Maurice Rivers Bridge (Bridge #15)	Bridge	4	\$ 232	\$ 10,000	\$ 9,788	\$ 232	\$ 2,442	\$ 2,442	\$ 2,442	\$ 2,442																						\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069					
BC19-34	Morton Memorial Bridge (Bridge #19)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-35	Otter Creek Bridge (Bridge #47)	Bridge	4	\$ 19,805	\$ 855,000	\$ 835,195	\$ 19,805	\$ 208,799	\$ 208,799	\$ 208,799	\$ 208,799																						\$ 855,000	\$ 855,000	\$ 1,288,427	\$ 433,427					
BC19-36	Paul Clement Bridge (Bridge #16)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																										\$ -	\$ -	\$ -	\$ -					
BC19-37	Queensborough Bridge (Bridge #42)	Bridge	4	\$ 18,439	\$ 796,000	\$ 777,561	\$ 18,439	\$ 194,390	\$ 194,390	\$ 194,390	\$ 194,390																						\$ 796,000	\$ 796,000	\$ 1,199,518	\$ 403,518					
BC19-38	Rapids Bridge (Bridge #52)	Bridge	4	\$ 9,381	\$ 405,000	\$ 395,619	\$ 9,381	\$ 98,905	\$ 98,905	\$ 98,905	\$ 98,905																						\$ 405,000	\$ 405,000	\$ 610,307	\$ 205,307					
BC19-39	Reynolds Culvert (Bridge #38)	Culvert	9	\$ 11,814	\$ 510,000	\$ 498,186	\$ 11,814	\$ 55,354	\$ 55,354	\$ 55,354	\$ 55,354	\$ 55,354	\$ 55,354	\$ 55,354	\$ 55,354																		\$ 510,000	\$ 510,000	\$ 768,535	\$ 258,535					
BC19-40	Robinson Bridge (Bridge #32)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																											\$ -	\$ -	\$ -	\$ -				
BC19-41	Rocky Alter Bridge (Bridge #12)	Bridge	4	\$ 19,805	\$ 855,000	\$ 835,195	\$ 19,805	\$ 208,799	\$ 208,799	\$ 208,799	\$ 208,799																							\$ 855,000	\$ 855,000	\$ 1,288,427	\$ 433,427				
BC19-42	Ross Bridge (Bridge #40)	Bridge	4	\$ 17,952	\$ 775,000	\$ 757,048	\$ 17,952	\$ 189,262	\$ 189,262	\$ 189,262	\$ 189,262																							\$ 775,000	\$ 775,000	\$ 1,167,872	\$ 392,872				
BC19-43	Sagonaska Bridge (Bridge #18)	Bridge	9	\$ 2,316	\$ 100,000	\$ 97,684	\$ 2,316	\$ 10,854	\$ 10,854	\$ 10,854	\$ 10,854	\$ 10,854	\$ 10,854	\$ 10,854	\$ 10,854																			\$ 100,000	\$ 100,000	\$ 150,693	\$ 50,693				
BC19-44	Scotchwoman Bridge (Bridge #39)	Bridge	4	\$ 23,975	\$ 1,035,000	\$ 1,011,025	\$ 23,975	\$ 252,756	\$ 252,756	\$ 252,756	\$ 252,756																								\$ 1,035,000	\$ 1,035,000	\$ 1,559,674	\$ 524,674			
BC19-45	Sherry's Bridge (Bridge #5)	Bridge	no established limit	\$ -	\$ -	\$ -	\$ -																												\$ -	\$ -	\$ -	\$ -			
BC19-46	Stoco Bridge (Bridge #11)	Bridge	9	\$ 4,864	\$ 210,000	\$ 205,136	\$ 4,864	\$ 22,793	\$ 22,793	\$ 22,793	\$ 22,793	\$ 22,793	\$ 22,793	\$ 22,793	\$ 22,793																				\$ 210,000	\$ 210,000	\$ 316,456	\$ 106,456			
BC19-47	Storring Bridge (Bridge #33)	Bridge	4	\$ 14,362	\$ 620,000	\$ 605,638	\$ 14,362	\$ 151,410	\$ 151,410	\$ 151,410	\$ 151,410																									\$ 620,000	\$ 620,000	\$ 934,298	\$ 314,298		
BC19-48	Sulphide Creek Bridge (Bridge #23)	Bridge	4	\$ 7,181	\$ 310,000	\$ 302,819	\$ 7,181	\$ 75,705	\$ 75,705	\$ 75,705	\$ 75,705																									\$ 310,000	\$ 310,000	\$ 467,149	\$ 157,149		
BC19-49	Tweed Bridge (Bridge #20)	Bridge	9	\$ 637	\$ 27,500	\$ 26,863	\$ 637	\$ 2,985	\$ 2,985	\$ 2,985	\$ 2,985	\$ 2,985	\$ 2,985	\$ 2,985	\$ 2,985																					\$ 27,500	\$ 27,500	\$ 41,441	\$ 13,941		
BC19-50	Waterhouse Culvert (Bridge #1)	Culvert	9	\$ 7,065	\$ 305,000	\$ 297,935	\$ 7,065	\$ 33,104	\$ 33,104	\$ 33,104	\$ 33,104	\$ 33,104	\$ 33,104	\$ 33,104	\$ 33,104	\$ 33,104																				\$ 305,000	\$ 305,000	\$ 459,614	\$ 154,614		
BC19-51	West Branch Bridge (Bridge #10)	Bridge	4	\$ 10,308	\$ 445,000	\$ 434,692	\$ 10,308	\$ 108,673	\$ 108,673	\$ 108,673	\$ 108,673																									\$ 445,000	\$ 445,000	\$ 670,585	\$ 225,585		
BC19-52	West Red Bridge (Bridge #31)	Bridge	4	\$ 18,879	\$ 815,000	\$ 796,121	\$ 18,879	\$ 199,030	\$ 199,030	\$ 199,030	\$ 199,030																										\$ 815,000	\$ 815,000	\$ 1,228,149	\$ 413,149	
Bridges				\$ 551,408	\$ 23,804,500	\$ 23,253,092	\$ 551,408	\$ 6,709,181	\$ 5,302,537	\$ 4,948,434	\$ 4,948,434	\$ 268,901	\$ 268,901	\$ 268,901	\$ 268,901	\$ 268,901	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,804,500	\$ 23,804,500	\$ 35,871,759	\$ 12,067,259	
Culverts				\$ 29,303	\$ 1,265,000	\$ 1,235,697	\$ 29,303	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ 137,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,265,000	\$ 1,265,000	\$ 1,906,269	\$ 641,269
TOTALS				\$ 580,711	\$ 25,069,500	\$ 24,488,789	\$ 580,711	\$ 6,846,480	\$ 5,439,837	\$ 5,085,734	\$ 5,085,734	\$ 406,201	\$ 406,201	\$ 406,201	\$ 406,201	\$ 406,201	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,069,500	\$ 25,069,500	\$ 37,778,028	\$ 12,708,528	

- Notes:
- Data from Municipality of Tweed Tangible Capital Assets (2018) and/or provided by Municipality.
 - Data Provided from Municipality of Tweed (Gap Analysis Meetings).
 - Proposed Annual Contribution to Reserves calculated based on Replacement and/or Upgrade Cost / Remaining Useful Life.
 - Estimated Borrowing Cost from Infrastructure Ontario Lending Rates and Loan Payment Calculator, based on five-year to thirty-year payment term (as applicable) and annual payments. Lending rates current as of July 8, 2019.
 - Difference (Savings vs. Borrowing) calculated as Estimated Borrowing Cost (Replacement Cost) - Total Required Reserve (Replacement Cost).
 - Any grant/subsidies (Federal or Provincial) would be used to reduce Annual Contributions to Reserves and/or borrowing amounts.
 - Proposed Annual Contributions to Reserves assumes Interest Rate on savings for Reserves equals Inflation Rate on cost of asset purchases.

Selected Focus Item

YEAR
2019





Table 5c
Financial Assessment and Projections (Water Supply Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Updated: Version 1.2

Asset ID	Asset Name ¹	Detailed Asset Description ¹	Asset Class (Distribution Hydrant / Treatment)	Water Main Construction Material (Cast Iron / PVC / Other)	Remaining Useful Life	Current Reserves 2018	Replacement and/or Upgrade Cost ^{1,2}	Reserve Planning Balance	Proposed Annual Contribution to Reserves ⁴																														Total Reserve (30 Year)	Total Required Reserve (Replacement Cost)	Estimated Borrowing Cost (Replacement Cost) ⁵	Difference (Borrowing - Savings) ⁶				
									Years 1 to 5					Years 6 to 10					Years 11 to 15					Years 16 to 20					Years 21 to 25					Years 26 to 30												
									2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048								
WS19-133	Fire Hydrant (No. 28)	Equipment	Hydrant		29	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069						
WS19-134	Fire Hydrant (No. 29)	Equipment	Hydrant		29	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-135	Fire Hydrant (No. 30)	Equipment	Hydrant		29	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-136	Fire Hydrant (No. 31)	Equipment	Hydrant		29	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-137	Fire Hydrant (No. 32)	Equipment	Hydrant		36	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 8,112	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-138	Fire Hydrant (No. 33)	Equipment	Hydrant		29	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-139	Fire Hydrant (No. 34)	Equipment	Hydrant		27	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-140	Fire Hydrant (No. 35)	Equipment	Hydrant		27	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-141	Fire Hydrant (No. 36)	Equipment	Hydrant		26	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-142	Fire Hydrant (No. 37)	Equipment	Hydrant		26	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-143	Fire Hydrant (No. 38)	Equipment	Hydrant		6	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618																							\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-144	Fire Hydrant (No. 39)	Equipment	Hydrant		6	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618																								\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-145	Fire Hydrant (No. 40)	Equipment	Hydrant		6	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618	\$ 1,618																								\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-146	Fire Hydrant (No. 41)	Equipment	Hydrant		9	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079																								\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-147	Fire Hydrant (No. 42)	Equipment	Hydrant		9	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079																									\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-148	Fire Hydrant (No. 43)	Equipment	Hydrant		11	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-149	Fire Hydrant (No. 44)	Equipment	Hydrant		11	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069	
WS19-150	Fire Hydrant (No. 45)	Equipment	Hydrant		11	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069	
WS19-151	Fire Hydrant (No. 46)	Equipment	Hydrant		22	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069	
WS19-152	Fire Hydrant (No. 47)	Equipment	Hydrant		22	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 441	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069
WS19-153	Fire Hydrant (No. 48)	Equipment	Hydrant		4	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 2,427	\$ 2,427	\$ 2,427	\$ 2,427	\$ 2,427																											\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-154	Fire Hydrant (No. 49)	Equipment	Hydrant		4	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 2,427	\$ 2,427	\$ 2,427	\$ 2,427	\$ 2,427																											\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-155	Fire Hydrant (No. 50)	Equipment	Hydrant		3	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 3,236	\$ 3,236	\$ 3,236																													\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-156	Fire Hydrant (No. 51)	Equipment	Hydrant		4	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 2,427	\$ 2,427	\$ 2,427	\$ 2,427																												\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-157	Fire Hydrant (No. 52)	Equipment	Hydrant		3	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 3,236	\$ 3,236	\$ 3,236																													\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-158	Fire Hydrant (No. 53)	Equipment	Hydrant		3	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 3,236	\$ 3,236	\$ 3,236																													\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-159	Fire Hydrant (No. 54)	Equipment	Hydrant		4	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 2,427	\$ 2,427	\$ 2,427	\$ 2,427																												\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-160	Fire Hydrant (No. 55)	Equipment	Hydrant		4	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 2,427	\$ 2,427	\$ 2,427	\$ 2,427																												\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-161	Fire Hydrant (No. 56)	Equipment	Hydrant		32	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 9,090	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-162	Fire Hydrant (No. 57)	Equipment	Hydrant		5	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,942	\$ 1,942	\$ 1,942	\$ 1,942	\$ 1,942																											\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-163	Fire Hydrant (No. 58)	Equipment	Hydrant		4	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 2,427	\$ 2,427	\$ 2,427	\$ 2,427																												\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-164	Fire Hydrant (No. 59)	Equipment	Hydrant		5	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,942	\$ 1,942	\$ 1,942	\$ 1,942	\$ 1,942																											\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069		
WS19-165	Fire Hydrant (No. 60)	Equipment	Hydrant		29	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$																																				



Table 5c
Financial Assessment and Projections (Water Supply Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Updated: Version 1.2

Asset ID	Asset Name ¹	Detailed Asset Description ¹	Asset Class (Distribution Hydrant / Treatment)	Water Main Construction Material (Cast Iron / PVC / Other)	Remaining Useful Life	Current Reserves 2018	Replacement and/or Upgrade Cost ^{1,2}	Reserve Planning Balance	Proposed Annual Contribution to Reserves ⁴																														Total Reserve (30 Year)	Total Required Reserve (Replacement Cost)	Estimated Borrowing Cost (Replacement Cost) ⁵	Difference (Borrowing - Savings) ⁵
									Years 1 to 5					Years 6 to 10					Years 11 to 15					Years 16 to 20					Years 21 to 25					Years 26 to 30								
									2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048				
WS19-166	Fire Hydrant (No. 61)	Equipment	Hydrant		29	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 335	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-167	Fire Hydrant (No. 62)	Equipment	Hydrant		31	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 9,374	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-168	Fire Hydrant (No. 63)	Equipment	Hydrant		28	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 347	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-169	Fire Hydrant (No. 64)	Equipment	Hydrant		-2	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 9,709																									\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-170	Fire Hydrant (No. 65)	Equipment	Hydrant		36	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 8,112	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-171	Fire Hydrant (No. 66)	Equipment	Hydrant		32	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 9,090	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-172	Fire Hydrant (No. 67)	Equipment	Hydrant		0	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 9,709																									\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-173	Fire Hydrant (No. 68)	Equipment	Hydrant		9	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079																\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-174	Fire Hydrant (No. 69)	Equipment	Hydrant		-10	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 9,709																										\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-175	Fire Hydrant (No. 70)	Equipment	Hydrant		-10	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 9,709																										\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-176	Fire Hydrant (No. 71)	Equipment	Hydrant		32	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 9,090	\$ 10,000	\$ 15,069	\$ 5,069						
WS19-177	Fire Hydrant (No. 72)	Equipment	Hydrant		36	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 8,112	\$ 10,000	\$ 15,069	\$ 5,069						
WS19-178	Fire Hydrant (No. 73)	Equipment	Hydrant		31	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 313	\$ 9,374	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-179	Fire Hydrant (No. 74)	Equipment	Hydrant		34	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 8,572	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-180	Fire Hydrant (No. 75)	Equipment	Hydrant		35	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277	\$ 6,336	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-181	Fire Hydrant (No. 76)	Equipment	Hydrant		38	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 255	\$ 7,701	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-182	Fire Hydrant (No. 77)	Equipment	Hydrant		34	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 8,572	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-183	Fire Hydrant (No. 78)	Equipment	Hydrant		32	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 9,090	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-184	Fire Hydrant (No. 79)	Equipment	Hydrant		32	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 303	\$ 9,090	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-185	Fire Hydrant (No. 80)	Equipment	Hydrant		-26	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 9,709																										\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-186	Fire Hydrant (No. 81)	Equipment	Hydrant		11	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883	\$ 883															\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-187	Fire Hydrant (No. 82)	Equipment	Hydrant		-48	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 9,709																										\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-188	Fire Hydrant (No. 83)	Equipment	Hydrant		9	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079	\$ 1,079																	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-189	Fire Hydrant (No. 84)	Equipment	Hydrant		36	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 270	\$ 8,112	\$ 10,000	\$ 15,069	\$ 5,069					
WS19-190	Fire Hydrant (No. 85)	Equipment	Hydrant		34	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 8,572	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-191	Fire Hydrant (No. 86)	Equipment	Hydrant		34	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 8,572	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-192	Fire Hydrant (No. 87)	Equipment	Hydrant		34	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 286	\$ 8,572	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-193	Fire Hydrant (No. 88)	Equipment	Hydrant		26	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 373	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-194	Fire Hydrant (No. 89)	Equipment	Hydrant		13	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 747	\$ 747	\$ 747	\$ 747	\$ 747	\$ 747	\$ 747	\$ 747	\$ 747	\$ 747	\$ 747																\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-195	Fire Hydrant (No. 90)	Equipment	Hydrant		12	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 809	\$ 809	\$ 809	\$ 809	\$ 809	\$ 809	\$ 809	\$ 809	\$ 809	\$ 809	\$ 809																\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			
WS19-196	Fire Hydrant (No. 91)	Equipment	Hydrant		18	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-197	Fire Hydrant (No. 92)	Equipment	Hydrant		18	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 539	\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069				
WS19-198	Fire Hydrant (No. 93)	Equipment	Hydrant		-29	\$ 291	\$ 10,000	\$ 9,709	\$ 291	\$ 9,709																										\$ 10,000	\$ 10,000	\$ 15,069	\$ 5,069			



Table 6a
Priority Assets Recommended for Further Review (Roads)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

HCB Road Sections Recommended for Further Review

Asset ID	Asset Name	Detailed Asset Description	Road Location From	Road Location To	Section Length (m)	Asset Life Expectancy	PCI (0-100)	Current Level of Service	Reconstruction / Rehabilitation Cost
R19-194	Marlbank Road	HCB	Bethel Road	Mulroney Lane	703	5	57	4	\$ 158,619
R19-200	Marlbank Road	HCB	East Hungerford Road	St. Edmunds Road	397	5	57	4	\$ 88,123
R19-205	Marlbank Road	HCB	Mulroney Lane	Kenner Court	886	6	60	4	\$ 190,163
R19-286	Quinns Lane	HCB	Victoria Street	Colborne Street	95	4	46	2	\$ 13,943
R19-149	James Street North	HCB	Jamieson Street	Hannah Street	100	5	56	2	\$ 20,271
R19-268	Pomeroy Court	HCB	College Street	End	52	5	56	2	\$ 5,915

LCB Road Sections Recommended for Further Review

Asset ID	Asset Name	Detailed Asset Description	Road Location From	Road Location To	Section Length (m)	Asset Life Expectancy	PCI (0-100)	Current Level of Service	Reconstruction / Rehabilitation Cost
R19-245	Napanee Road	LCB	Moneymore Road	Municipal Boundary	2015	4	41	3	\$ 270,804
R19-244	Napanee Road	LCB	Marlbank Road	Moneymore Road	561	4	44	3	\$ 73,231
R19-334	Store Street	LCB	Hungerford Street	Highway 37	333	5	50	2	\$ 38,778
R19-313	Sexsmith Road	LCB	Highway 7	End	264	4	49	1	\$ 37,950
R19-47	Charles Road	LCB	Charles Court	End	470	5	50	1	\$ 59,083
R19-296	Rapids Road	LCB	Martin Road	Marrisett Road	1498	5	50	1	\$ 186,000
R19-342	Sulphide Road	LCB	Potter Settlement Road	Peter Street	1850	5	50	1	\$ 260,231

Gravel Road Sections Recommended for Further Review

Asset ID	Asset Name	Detailed Asset Description	Road Location From	Road Location To	Section Length (m)	Asset Life Expectancy	PCI (0-100)	Current Level of Service	Reconstruction / Rehabilitation Cost
R19-160	Kaladar Street	Gravel	Bridgewater Road	Highway 37	215	n/a	52	2	To be determined
R19-150	James Street South	Gravel	George Street	River Street	134	n/a	55	2	To be determined
R19-266	Peterson Road	Gravel	Highway 7	End	560	n/a	44	1	To be determined
R19-14	Bethel Road	Gravel	Mulroney Lane	End	80	n/a	48	1	To be determined
R19-80	Deroche Road	Gravel	Conchie Road	Deroche Lane	1422	n/a	50	1	To be determined
R19-175	Lingham Lake Road	Gravel	Boundary	End	6500	n/a	50	1	To be determined



Table 6b
Priority Assets Recommended for Further Review (Bridges and Large Culverts)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Bridges and Large Culverts Recommended for Further Review

Asset ID	Asset Name	Detailed Asset Description	Asset Life Expectancy Remaining (years)	Condition Rating	BCI (0-100)	Current Level of Service	Replacement and/or Upgrade Cost
BC19-39	Reynolds Culvert (Bridge #38)	Culvert	10	Poor	45	3	\$ 510,000
BC19-41	Rocky Alter Bridge (Bridge #12)	Bridge	5	Poor	21	1	\$ 855,000
BC19-26	Lost Channel Bridge (Bridge #6)	Bridge	5	Poor	23	1	\$ 2,158,000
BC19-13	East Red Bridge (Bridge #30)	Bridge	5	Poor	28	1	\$ 495,000
BC19-05	Catons Bridge North Structure (Bridge #8)	Bridge	5	Poor	28	1	\$ 1,555,000

Additional Bridges and Large Culverts Recommended for Further Review

Asset ID	Asset Name	Detailed Asset Description	Asset Life Expectancy Remaining (years)	Condition Rating	BCI (0-100)	Current Level of Service	Replacement and/or Upgrade Cost
BC19-06	Catons Bridge South Structure (Bridge #7)	Bridge	5	Poor	31	1	\$1,555,000
BC19-52	West Red Bridge (Bridge #31)	Bridge	5	Poor	51	1	\$815,000



Table 6c
Priority Assets Recommended for Further Review (Water Supply Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Updated: Version 1.2

Water Supply Services Assets (Fire Hydrants Only) Recommended for Further Review

Asset ID	Asset Name	Detailed Asset Desc.	Asset Class	Year in Service	Condition Rating	Additional Information	Replacement and/or Upgrade Cost
WS19-187	Fire Hydrant (No. 82)	Equipment	Hydrant	1931	Poor	Leaking from operating nut. Formerly #429.	\$10,000
WS19-199	Fire Hydrant (No. 94)	Equipment	Hydrant	1949	Poor	Leaking from operating nut. Caps need gaskets. To be replaced. Formerly #432.	\$10,000
WS19-198	Fire Hydrant (No. 93)	Equipment	Hydrant	1950	Poor	To be replaced. Formerly #433.	\$10,000
WS19-185	Fire Hydrant (No. 80)	Equipment	Hydrant	1953	Poor	To be replaced. Formerly #406.	\$10,000
WS19-175	Fire Hydrant (No. 70)	Equipment	Hydrant	1969	Poor	Caps need new gaskets. Formerly #415.	\$10,000

Water Supply Services Assets (Excluding Fire Hydrants) Recommended for Further Review

Asset ID	Asset Name	Asset Class	Construction Material	Location		Length (m)	Year in Service	Condition Rating	Replacement and/or Upgrade Cost
				Location From	Location To				
WS21-67	Water Main	Distribution	Cast Iron	Moira River North Connection		91	1930	Poor	\$ 900,000
				Bridge Street East	Moira Street				
WS19-31	Water Main	Distribution	Cast Iron	Hungerford Road		291	1925	Fair	\$ 246,992
				Park Avenue	Metcalfe Street				
WS19-33	Water Main	Distribution	Cast Iron	James Street North		112	1925	Fair	\$ 95,200
				Jamieson Street East	End (South-East)				
WS19-34	Water Main	Distribution	Cast Iron	James Street South		74	1925	Fair	\$ 62,900
				River Street East	End (North-West)				
WS19-35	Water Main	Distribution	Cast Iron	Jamieson Street East		95	1925	Fair	\$ 80,750
				Mary Street	Colborne Street				
WS19-36	Water Main	Distribution	Cast Iron	Jamieson Street East		97	1925	Fair	\$ 82,450
				Louisa Street	Mary Street				
WS19-37	Water Main	Distribution	Cast Iron	Jamieson Street East		94	1925	Fair	\$ 79,900
				James Street North	Louisa Street				
WS19-38	Water Main	Distribution	Cast Iron	Jamieson Street East		97	1925	Fair	\$ 82,450
				Colborne Street	Victoria Street North				



Table 6d
Priority Assets Recommended for Further Review (Wastewater Services)
Asset Management Planning (2019)
Municipality of Tweed
169.19.003

Wastewater Services Assets Recommended for Further Review

Asset ID	Asset Name	Asset Class	Construction Material	Location		Length (m)	Year in Service	Condition Rating	Replacement and/or Upgrade Cost
				Location From	Location To				
WW19-70	Sewer Mains	Distribution	Asbestos Cement	Moira Street		291	1930	Poor	\$ 145,500
				Highway 37	Old Bogart Road				
WW19-71	Sewer Mains	Distribution	Asbestos Cement	Moira Street		240	1930	Poor	\$ 120,000
				Old Bogart Road	Arthur Street				
WW19-14	Sewer Mains	Distribution	Asbestos Cement	Arthur Street		263	1931	Poor	\$ 131,500
				Brooklyn Road	Louisa Street				
WW19-31	Sewer Mains	Distribution	Asbestos Cement	Hannah Street		92	1925	Fair	\$ 46,000
				Louisa Street	James Street North				
WW19-38	Sewer Mains	Distribution	Asbestos Cement	James Street North		105	1925	Fair	\$ 52,500
				Jamieson Street East	Hannah Street				
WW19-39	Sewer Mains	Distribution	Asbestos Cement	James Street South		128	1925	Fair	\$ 64,000
				River Street East	George Street				
WW19-41	Sewer Mains	Distribution	Asbestos Cement	Jamieson Street East		102	1925	Fair	\$ 51,000
				Colborne Street	Victoria Street North				
WW19-42	Sewer Mains	Distribution	Asbestos Cement	Jamieson Street East		96	1925	Fair	\$ 48,000
				Colborne Street	Mary Street				
WW19-43	Sewer Mains	Distribution	Asbestos Cement	Jamieson Street East		90	1925	Fair	\$ 45,000
				Louisa Street	James Street North				
WW19-44	Sewer Mains	Distribution	Asbestos Cement	Jamieson Street East		97	1925	Fair	\$ 48,500
				Mary Street	Louisa Street				



Table 6e
Priority Assets Recommended for Further Review (Stormwater Assets)
Asset Management Planning (2020)
Municipality of Tweed
169.20.003

New: Version 1.1

Stormwater Assets Recommended for Further Review

Asset ID	Asset Name	Detailed Asset Description (Catchment Area)	Catchment Area Type	Area (hectares; ha)	Inlet Structures (#)	Outlet Structures (#)	Number of Properties At Risk of Flooding to 100-year Storm	Systems Resilient to a 5-year Storm	Year in Service	Condition Rating	Level of Service	Replacement and/or Upgrade Cost
STW20-06	Tweed Centre	Catchment Area (Large)	CA01	60	172	1	0	No	1983	fair	5	\$ 1,720,000
STW20-09	Tweed East	Catchment Area (Medium)	CA04	6	27	1	0	No	1988	fair	4	\$ 270,000
STW20-12	Tweed North	Catchment Area (Multi)	CA00	30	61	individual outlets	10	Yes	1983	fair	4	\$ 610,000
STW20-01	Actinolite	Catchment Area (Small)	CA00	1	unknown	unknown	10	unknown	unknown	unknown	unknown	unknown

Appendix A



ONTARIO REGULATION 588/17

made under the

INFRASTRUCTURE FOR JOBS AND PROSPERITY ACT, 2015

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ASSET MANAGEMENT PLANNING FOR MUNICIPAL INFRASTRUCTURE

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INTERPRETATION AND APPLICATION

Definitions

1. (1) In this Regulation,

“asset category” means a category of municipal infrastructure assets that is,

- (a) an aggregate of assets described in each of clauses (a) to (e) of the definition of core municipal infrastructure asset, or
- (b) composed of any other aggregate of municipal infrastructure assets that provide the same type of service; (“catégorie de biens”)

“core municipal infrastructure asset” means any municipal infrastructure asset that is a,

- (a) water asset that relates to the collection, production, treatment, storage, supply or distribution of water,
- (b) wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater,
- (c) stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater,
- (d) road, or
- (e) bridge or culvert; (“bien d’infrastructure municipale essentiel”)

“ecological functions” has the same meaning as in Ontario Regulation 140/02 (Oak Ridges Moraine Conservation Plan) made under the *Oak Ridges Moraine Conservation Act, 2001*; (“fonctions écologiques”)

“green infrastructure asset” means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands,

stormwater management systems, street trees, urban forests, natural channels, permeable surfaces and green roofs; (“bien d’infrastructure verte”)

“hydrological functions” has the same meaning as in Ontario Regulation 140/02; (“fonctions hydrologiques”)

“joint municipal water board” means a joint board established in accordance with a transfer order made under the *Municipal Water and Sewage Transfer Act, 1997*; (“conseil mixte de gestion municipale des eaux”)

“lifecycle activities” means activities undertaken with respect to a municipal infrastructure asset over its service life, including constructing, maintaining, renewing, operating and decommissioning, and all engineering and design work associated with those activities; (“activités relatives au cycle de vie”)

“municipal infrastructure asset” means an infrastructure asset, including a green infrastructure asset, directly owned by a municipality or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board; (“bien d’infrastructure municipale”)

“municipality” has the same meaning as in the *Municipal Act, 2001*; (“municipalité”)

“operating costs” means the aggregate of costs, including energy costs, of operating a municipal infrastructure asset over its service life; (“frais d’exploitation”)

“service life” means the total period during which a municipal infrastructure asset is in use or is available to be used; (“durée de vie”)

“significant operating costs” means, where the operating costs with respect to all municipal infrastructure assets within an asset category are in excess of a threshold amount set by the municipality, the total amount of those operating costs. (“frais d’exploitation importants”)

(2) In Tables 1 and 2,

“connection-days” means the number of properties connected to a municipal system that are affected by a service issue, multiplied by the number of days on which those properties are affected by the service issue. (“jours-branchements”)

(3) In Table 4,

“arterial roads” means Class 1 and Class 2 highways as determined under the Table to section 1 of Ontario Regulation 239/02 (Minimum Maintenance Standards for Municipal Highways) made under the *Municipal Act, 2001*; (“artères”)

“collector roads” means Class 3 and Class 4 highways as determined under the Table to section 1 of Ontario Regulation 239/02; (“routes collectrices”)

“lane-kilometre” means a kilometre-long segment of roadway that is a single lane in width; (“kilomètre de voie”)

“local roads” means Class 5 and Class 6 highways as determined under the Table to section 1 of Ontario Regulation 239/02. (“routes locales”)

(4) In Table 5,

“Ontario Structure Inspection Manual” means the Ontario Structure Inspection Manual (OSIM), published by the Ministry of Transportation and dated October 2000 (revised November 2003 and April 2008) and available on a Government of Ontario website; (“manuel d’inspection des structures de l’Ontario”)

“structural culvert” has the meaning set out for “culvert (structural)” in the Ontario Structure Inspection Manual. (“ponceau structurel”)

Application

2. For the purposes of section 6 of the Act, every municipality is prescribed as a broader public sector entity to which that section applies.

STRATEGIC ASSET MANAGEMENT POLICIES

Strategic asset management policy

3. (1) Every municipality shall prepare a strategic asset management policy that includes the following:

1. Any of the municipality’s goals, policies or plans that are supported by its asset management plan.
2. The process by which the asset management plan is to be considered in the development of the municipality’s budget or of any long-term financial plans of the municipality that take into account municipal infrastructure assets.
3. The municipality’s approach to continuous improvement and adoption of appropriate practices regarding asset management planning.
4. The principles to be followed by the municipality in its asset management planning, which must include the principles set out in section 3 of the Act.

5. The municipality's commitment to consider, as part of its asset management planning,
 - i. the actions that may be required to address the vulnerabilities that may be caused by climate change to the municipality's infrastructure assets, in respect of such matters as,
 - A. operations, such as increased maintenance schedules,
 - B. levels of service, and
 - C. lifecycle management,
 - ii. the anticipated costs that could arise from the vulnerabilities described in subparagraph i,
 - iii. adaptation opportunities that may be undertaken to manage the vulnerabilities described in subparagraph i,
 - iv. mitigation approaches to climate change, such as greenhouse gas emission reduction goals and targets, and
 - v. disaster planning and contingency funding.
6. A process to ensure that the municipality's asset management planning is aligned with any of the following financial plans:
 - i. Financial plans related to the municipality's water assets including any financial plans prepared under the *Safe Drinking Water Act, 2002*.
 - ii. Financial plans related to the municipality's wastewater assets.
7. A process to ensure that the municipality's asset management planning is aligned with Ontario's land-use planning framework, including any relevant policy statements issued under subsection 3 (1) of the *Planning Act*, any provincial plans as defined in the *Planning Act* and the municipality's official plan.
8. An explanation of the capitalization thresholds used to determine which assets are to be included in the municipality's asset management plan and how the thresholds compare to those in the municipality's tangible capital asset policy, if it has one.
9. The municipality's commitment to coordinate planning for asset management, where municipal infrastructure assets connect or are interrelated with those of its upper-tier municipality, neighbouring municipalities or jointly-owned municipal bodies.
10. The persons responsible for the municipality's asset management planning, including the executive lead.
11. An explanation of the municipal council's involvement in the municipality's asset management planning.
12. The municipality's commitment to provide opportunities for municipal residents and other interested parties to provide input into the municipality's asset management planning.

(2) For the purposes of this section,

"capitalization threshold" is the value of a municipal infrastructure asset at or above which a municipality will capitalize the value of it and below which it will expense the value of it. ("seuil de capitalisation")

Update of asset management policy

4. Every municipality shall prepare its first strategic asset management policy by July 1, 2019 and shall review and, if necessary, update it at least every five years.

ASSET MANAGEMENT PLANS

Asset management plans, current levels of service

5. (1) Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets by July 1, 2021, and in respect of all of its other municipal infrastructure assets by July 1, 2023.

(2) A municipality's asset management plan must include the following:

1. For each asset category, the current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan:
 - i. With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.
 - ii. With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.
2. The current performance of each asset category, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency, and based on data from

at most two calendar years prior to the year in which all information required under this section is included in the asset management plan.

3. For each asset category,
 - i. a summary of the assets in the category,
 - ii. the replacement cost of the assets in the category,
 - iii. the average age of the assets in the category, determined by assessing the average age of the components of the assets,
 - iv. the information available on the condition of the assets in the category, and
 - v. a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate.
4. For each asset category, the lifecycle activities that would need to be undertaken to maintain the current levels of service as described in paragraph 1 for each of the 10 years following the year for which the current levels of service under paragraph 1 are determined and the costs of providing those activities based on an assessment of the following:
 - i. The full lifecycle of the assets.
 - ii. The options for which lifecycle activities could potentially be undertaken to maintain the current levels of service.
 - iii. The risks associated with the options referred to in subparagraph ii.
 - iv. The lifecycle activities referred to in subparagraph ii that can be undertaken for the lowest cost to maintain the current levels of service.
5. For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, the following:
 - i. A description of assumptions regarding future changes in population or economic activity.
 - ii. How the assumptions referred to in subparagraph i relate to the information required by paragraph 4.
6. For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census, the following:
 - i. With respect to municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are set out in Schedule 3 or 7 to the 2017 Growth Plan, those forecasts.
 - ii. With respect to lower-tier municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are not set out in Schedule 7 to the 2017 Growth Plan, the portion of the forecasts allocated to the lower-tier municipality in the official plan of the upper-tier municipality of which it is a part.
 - iii. With respect to upper-tier municipalities or single-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the municipality that are set out in its official plan.
 - iv. With respect to lower-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the lower-tier municipality that are set out in the official plan of the upper-tier municipality of which it is a part.
 - v. If, with respect to any municipality referred to in subparagraph iii or iv, the population and employment forecasts for the municipality cannot be determined as set out in those subparagraphs, a description of assumptions regarding future changes in population or economic activity.
 - vi. For each of the 10 years following the year for which the current levels of service under paragraph 1 are determined, the estimated capital expenditures and significant operating costs related to the lifecycle activities required to maintain the current levels of service in order to accommodate projected increases in demand caused by growth, including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets.

(3) Every asset management plan must indicate how all background information and reports upon which the information required by paragraph 3 of subsection (2) is based will be made available to the public.

(4) In this section,

“2017 Growth Plan” means the Growth Plan for the Greater Golden Horseshoe, 2017 that was approved under subsection 7 (6) of the *Places to Grow Act, 2005* on May 16, 2017 and came into effect on July 1, 2017; (“Plan de croissance de 2017”)

“Greater Golden Horseshoe growth plan area” means the area designated by section 2 of Ontario Regulation 416/05 (Growth Plan Areas) made under the *Places to Grow Act, 2005*. (“zone de croissance planifiée de la région élargie du Golden Horseshoe”)

Asset management plans, proposed levels of service

6. (1) Subject to subsection (2), by July 1, 2024, every asset management plan prepared under section 5 must include the following additional information:

1. For each asset category, the levels of service that the municipality proposes to provide for each of the 10 years following the year in which all information required under section 5 and this section is included in the asset management plan, determined in accordance with the following qualitative descriptions and technical metrics:
 - i. With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.
 - ii. With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.
2. An explanation of why the proposed levels of service under paragraph 1 are appropriate for the municipality, based on an assessment of the following:
 - i. The options for the proposed levels of service and the risks associated with those options to the long term sustainability of the municipality.
 - ii. How the proposed levels of service differ from the current levels of service set out under paragraph 1 of subsection 5 (2).
 - iii. Whether the proposed levels of service are achievable.
 - iv. The municipality’s ability to afford the proposed levels of service.
3. The proposed performance of each asset category for each year of the 10-year period referred to in paragraph 1, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency.
4. A lifecycle management and financial strategy that sets out the following information with respect to the assets in each asset category for the 10-year period referred to in paragraph 1:
 - i. An identification of the lifecycle activities that would need to be undertaken to provide the proposed levels of service described in paragraph 1, based on an assessment of the following:
 - A. The full lifecycle of the assets.
 - B. The options for which lifecycle activities could potentially be undertaken to achieve the proposed levels of service.
 - C. The risks associated with the options referred to in sub-subparagraph B.
 - D. The lifecycle activities referred to in sub-subparagraph B that can be undertaken for the lowest cost to achieve the proposed levels of service.
 - ii. An estimate of the annual costs for each of the 10 years of undertaking the lifecycle activities identified in subparagraph i, separated into capital expenditures and significant operating costs.
 - iii. An identification of the annual funding projected to be available to undertake lifecycle activities and an explanation of the options examined by the municipality to maximize the funding projected to be available.
 - iv. If, based on the funding projected to be available, the municipality identifies a funding shortfall for the lifecycle activities identified in subparagraph i,
 - A. an identification of the lifecycle activities, whether set out in subparagraph i or otherwise, that the municipality will undertake, and
 - B. if applicable, an explanation of how the municipality will manage the risks associated with not undertaking any of the lifecycle activities identified in subparagraph i.
5. For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, a discussion of how the assumptions regarding future changes in population and economic activity, set out in subparagraph 5 i of subsection 5 (2), informed the preparation of the lifecycle management and financial strategy referred to in paragraph 4 of this subsection.
6. For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census,

- i. the estimated capital expenditures and significant operating costs to achieve the proposed levels of service as described in paragraph 1 in order to accommodate projected increases in demand caused by population and employment growth, as set out in the forecasts or assumptions referred to in paragraph 6 of subsection 5 (2), including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets,
- ii. the funding projected to be available, by source, as a result of increased population and economic activity, and
- iii. an overview of the risks associated with implementation of the asset management plan and any actions that would be proposed in response to those risks.

7. An explanation of any other key assumptions underlying the plan that have not previously been explained.

(2) With respect to an asset management plan prepared under section 5 on or before July 1, 2021, if the additional information required under this section is not included before July 1, 2023, the municipality shall, before including the additional information, update the current levels of service set out under paragraph 1 of subsection 5 (2) and the current performance measures set out under paragraph 2 of subsection 5 (2) based on data from the two most recent calendar years.

Update of asset management plans

7. (1) Every municipality shall review and update its asset management plan at least five years after the year in which the plan is completed under section 6 and at least every five years thereafter.

(2) The updated asset management plan must comply with the requirements set out under paragraphs 1, 2 and 3 and subparagraphs 5 i and 6 i, ii, iii, iv and v of subsection 5 (2), subsection 5 (3) and paragraphs 1 to 7 of subsection 6 (1).

Endorsement and approval required

8. Every asset management plan prepared under section 5 or 6, or updated under section 7, must be,

- (a) endorsed by the executive lead of the municipality; and
- (b) approved by a resolution passed by the municipal council.

Annual review of asset management planning progress

9. (1) Every municipal council shall conduct an annual review of its asset management progress on or before July 1 in each year, starting the year after the municipality’s asset management plan is completed under section 6.

- (2) The annual review must address,
 - (a) the municipality’s progress in implementing its asset management plan;
 - (b) any factors impeding the municipality’s ability to implement its asset management plan; and
 - (c) a strategy to address the factors described in clause (b).

Public availability

10. Every municipality shall post its current strategic asset management policy and asset management plan on a website that is available to the public, and shall provide a copy of the policy and plan to any person who requests it.

TABLE 1
WATER ASSETS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	1. Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system. 2. Description, which may include maps, of the user groups or areas of the municipality that have fire flow.	1. Percentage of properties connected to the municipal water system. 2. Percentage of properties where fire flow is available.
Reliability	Description of boil water advisories and service interruptions.	1. The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system. 2. The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.

TABLE 2
WASTEWATER ASSETS

Column 1	Column 2	Column 3
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Service attribute	Community levels of service (qualitative descriptions)	Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	Percentage of properties connected to the municipal wastewater system.
Reliability	<ol style="list-style-type: none"> 1. Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes. 2. Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches. 3. Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes. 4. Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in paragraph 3. 5. Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system. 	<ol style="list-style-type: none"> 1. The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system. 2. The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system. 3. The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.

TABLE 3
STORMWATER MANAGEMENT ASSETS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	<ol style="list-style-type: none"> 1. Percentage of properties in municipality resilient to a 100-year storm. 2. Percentage of the municipal stormwater management system resilient to a 5-year storm.

TABLE 4
ROADS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity.	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.
Quality	Description or images that illustrate the different levels of road class pavement condition.	<ol style="list-style-type: none"> 1. For paved roads in the municipality, the average pavement condition index value. 2. For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).

TABLE 5
BRIDGES AND CULVERTS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	Percentage of bridges in the municipality with loading or dimensional restrictions.
Quality	<ol style="list-style-type: none"> 1. Description or images of the condition of bridges and how this would affect use of the bridges. 2. Description or images of the condition of culverts and how this would affect use of the culverts. 	<ol style="list-style-type: none"> 1. For bridges in the municipality, the average bridge condition index value. 2. For structural culverts in the municipality, the average bridge condition index value.

COMMENCEMENT

Commencement

11. This Regulation comes into force on the later of January 1, 2018 and the day it is filed.

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Appendix B



Statement of Service Conditions & Limitations

The following conditions and limitations shall form an integral part of any agreement between Greenview and the Client. In the event of duplication or conflict, the most stringent shall supercede the other.

Provision of Services and Payment

Upon documented acceptance of Greenview's proposed services and conditions in written form by the Client, Greenview may commence work on the proposed services directly.

Greenview's offers for services in the form of proposals, quotations, bids, tenders, or other like an offering to a Client are formulated upon available information at the time of the offer submission. In the event of discovery of unknown conditions, or any other unknown circumstance that may arise following the presentation of Greenview's offer to the Client, Greenview reserves the right to negotiate terms with the Client with respect to changes in scope, fees, disbursements, or the like as may be fair and reasonable considering the discovery.

Upon retention of Greenview's services related to any commission, the Client agrees to remit payment for the services rendered for the specified period within (30) days of the invoice date as invoiced by Greenview on a typical monthly basis, unless otherwise arranged between the Client and Greenview. In the event of non-payment by the Client, Greenview reserves the right, without external influence or expense, to discontinue services and retain any documentation, data, reports, or other project information until such time as payment is received by Greenview. Interest on any overdue accounts may be applied accordingly.

Warranty, Limitations, and Reliance

Greenview relies on background and historical information from the Client to determine the appropriate scope of services to meet the Client's objectives, in accordance with applicable legislation, guidelines, industry practices, and accepted methodologies.

Greenview provides its services under the specific terms and conditions of a specific proposal (and where necessary formal contract), in accordance with the above requirements and the *Limitations Act 2002*, as amended, only.

The hypotheses, results, conclusions, and recommendations presented in documentation authored by Greenview are founded on the information provided by the Client to Greenview in preparation for the work. Facts, conditions, and circumstances discovered by Greenview during the performance of the work requested by the Client are assumed by Greenview to be part of preparatory information provided by the Client as part of the proposal stage of the project. Greenview assumes that, until notified or discovered otherwise, that the information provided by, or obtained by Greenview from, the Client is factual, accurate, and represents a true depiction of the circumstances that exist related to the time of the work.

Greenview relies on its Clients to inform Greenview if there are changes to any related information to the work. Greenview does not review, analyze, or attempt to verify the accuracy or completeness of the information or materials provided, or circumstances encountered, other than in accordance with applicable accepted industry practice. Greenview will not be responsible for matters arising from incomplete, incorrect, or misleading information or from facts or circumstances that are not fully disclosed to, or that are concealed from Greenview during the period that proposals, services, work, or documentation preparation was performed by Greenview.

Facts, conditions, information, and circumstances may vary with time and locations and Greenview's services are based on a review of such matters as they existed at the time and location indicated in its documentation. No assurance is made by Greenview that the facts, conditions, information, circumstances or any underlying assumptions made by Greenview in connection with the work performed will not change after the work is completed and documentation is submitted. If any such changes occur or additional information is obtained, Greenview should be advised and

requested to consider if the changes or additional information affect its findings or results.

When preparing documentation, Greenview considers applicable legislation, regulations, governmental guidelines, and policies to the extent they are within its knowledge, but Greenview is not qualified to advise with respect to legal matters. The presentation of information regarding applicable legislation, regulations, not intended to and should not be interpreted as constituting a legal opinion concerning the work completed or conditions outlined in a report. All legal matters should be reviewed and considered by an appropriately qualified legal practitioner.

Greenview's services, work and reports are provided solely for the exclusive use of the Client which has retained the services of Greenview and to which its reports are addressed. Greenview is not responsible for the use of its services, work or reports by any other party, or for the reliance on, or for any decision which is made by any party using the services or work performed by or a report prepared by Greenview without Greenview's express written consent. Any party that uses, relies on, or makes a decision based on services or work performed by Greenview or a report prepared by Greenview without Greenview's express written consent, does so at its own risk. Except as set out herein, Greenview specifically disclaims any liability or responsibility to any third party for any loss, damage, expense, fine, penalty or other such thing which may arise or result from the use of, reliance on or decision based on any information, recommendation or other matter arising from the services, work or reports provided by Greenview.

Site Reviews and Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Greenview's work or report considers any locations or times other than those from which information, sample results and data were specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those based on extrapolations.

Only conditions, and substances, at the site and locations chosen for study by the Client are evaluated; no adjacent or other properties are evaluated unless specifically requested by the Client. Any physical or other aspects of the site that were not chosen for study by the Client, or any other matter not specifically addressed in a report prepared by Greenview, are beyond the scope of the work performed by Greenview and such matters have not been investigated or addressed.

Confidentiality

Greenview provides its proposals, reports, assessments, designs, and any other work for the sole party identified as the Client or potential Client in the case of proposals.

For proposals specifically, the information contained therein is strictly confidential, proprietary information, and shall not be reproduced or disclosed to any other party than to that of the addressee of the original proposal submission, without prior written permission of Greenview. Any such unauthorised reproduction, in whole or in part, is considered a breach of trust or contract, as applicable by law.