

REPORT

TO: Council
FROM: Holly Cullihall
DATE: November 15, 2023
REPORT: TPS.23.27
SUBJECT: 2023 Road Needs Study

RECOMMENDATION:

That Council receive report TPS.23.27; and
That Council support the 2023 Road Needs Study as presented.

BACKGROUND AND ANALYSIS:

When the 2018 Road Management Plan was presented at the Committee of the Whole on July 27, 2022, the following resolution was passed, and then supported at the August 3, 2022 Council meeting:

CoW2022-49

Cathy Little - Dane Nielsen

That the Committee recommend:

That Council receive staff report TPS.22.23; and

That Council support the 2018 Road Management Plan as presented; and

That Council authorize staff to consult with R.J. Burnside and Associates Ltd. to develop a scope with costing to do a 2023 Report Update to be presented in the 2023 budget.

CARRIED.

The cost estimate and scope of work for the budget request was prepared by R.J. Burnside, and later approved by Council through the 2023 budget process.

The 2023 Road Needs Study report provides an updated inventory of the Municipality's road network, established the physical condition of hardtop and select gravel roads and determines the road management and improvement needs and costs. A general prioritization of the road needs is provided, to assist the Municipality in the development of a multi-year capital plan that will assist the Municipality in asset management planning.

The primary conclusions and recommendations made in the RNS are as follows:

- The conditions and improvement/maintenance needs of the road network are shown on the map, and spreadsheet in Appendix C of the report.
- The estimated total cost of hardtop road improvements/maintenance in the Municipality has been determined to be \$8,804,220 which equates to \$40,327 per km of existing hardtop roads (ie, 218.32 km of hardtop roads).
- About 157.64 km (72.21% of the Municipality's hardtop roads are in good/satisfactory condition, about 27.73 (12.24%) in fair condition, about 19.27 km (8.82%) in poor condition, about 12.89km (5.9%) in very poor condition and 1.8 km (0.82%) in serious condition.
- Roads that may warrant upgrading of surface type have been identified, based on traffic volume criteria. Where required, the preferred surface upgrade is to an asphalt surface (ie High Class Bituminous, HCB). Upgrading of surface type may be considered at the time that any future rehabilitation work is required to address condition needs.
- Road sections with the following issues/deficiencies in road geometrics have been identified in the RNS:
 - Roads with deficient horizontal or vertical alignments.
 - Roads with less than tolerable road widths.
 - Upgrading of road geometrics may be considered at the time that future rehabilitation work is required to address condition needs.

OPERATIONAL CONSIDERATIONS:

The full report has been provided for Council's review and consideration. If Council would like to make changes or additions to the 2023 Road Needs Study, the following recommendation could be presented instead of the recommended option:

That Council receive staff report TPS.23.27;

That Council recommend that staff work with R.J. Burnside & Associates to finalize the report with the following changes:

{LIST RECOMMENDED CHANGES OR ADDITIONAL INCLUSIONS}

GREY HIGHLANDS STRATEGIC PLAN:

Strong Governance - Develop long-term organizational and financial strategies to help guide Municipal planning and decision-making.

FINANCIAL IMPACT:

Staff will utilize the 2023 Road Needs Study as a resource in developing maintenance and capital plans for Council's consideration in future budgets.

ENVIRONMENTAL IMPACTS:

+3 high positive impact

CONSULTATION:

R.J. Burnside & Associates Ltd.

Approved By:

Chris Cornfield, Director of
Transportation

Status:

Approved - 02 Nov 2023

Anna McCarthy, Treasurer
Karen Govan, Chief
Administrative Officer

Approved - 02 Nov 2023
Approved - 06 Nov 2023

**Municipality of Grey Highlands
Road Needs Study**

**Municipality of Grey Highlands
206 Toronto Street South, Unit 1
Markdale, Ontario N0C 1H0**

Draft

**Municipality of Grey Highlands Road
Needs Study**

**Municipality of Grey Highlands
206 Toronto Street South, Unit 1
Markdale, Ontario N0C 1H0**

**R.J. Burnside & Associates Limited
3 Ronell Crescent
Collingwood ON L9Y 4J6 CANADA**

**September 2023
300055852.0000**

Municipality of Grey Highlands

i

Municipality of Grey Highlands Road Needs Study
September 2023

Distribution List

No. of Hard Copies	PDF	Email	Organization Name
0	Yes	Yes	Municipality of Grey Highlands

Record of Revisions

Revision	Date	Description
0	August 2023	Initial Submission to Municipality of Grey Highlands
1	September 2023	2 nd Draft Submission to Municipality of Grey Highlands

R.J. Burnside & Associates Limited**Report Prepared By:**

Ethan McCaw
Transportation Planner
EM:cvh

Report Reviewed By:

Henry Centen, P.Eng
Senior Engineer – Transportation

Executive Summary

R.J. Burnside & Associates Limited (Burnside) was retained by the Municipality of Grey Highlands (Municipality) to conduct a Road Needs Study (RNS) update. This RNS provides an updated inventory of the Municipality's road network, established the updated physical condition of hardtop and select gravel roads and determines the road maintenance and improvement needs and costs. A general prioritization of the road needs is provided, to assist the Municipality in the development of a multi-year capital plan that will assist the Municipality in asset management planning.

Inventory of Roads

Road Inventory information was collected, and condition ratings were established in May 2023 for a total of 297.79 km, consisting of 218.32 km of hard-top 79.44 km of gravel and 0.03 km of earth roads within the Municipality's road network. The Municipality's road network consists of a total of 674.48 km of roads comprised of:

- 0.03 km of rural earth roads.
- 441.78 km of rural gravel roads.
- 14.35 km of semi-urban gravel roads.
- 39.26 km of rural surface treated roads.
- 6.70 km of semi-urban surface treated roads.
- 136.48 km of rural asphalt roads.
- 26.75 km of semi-urban asphalt roads.
- 9.12 km of urban asphalt roads.

Maps of the overall surface types can be found in Appendix A, along with a spreadsheet of the road network inventory and condition data.

Traffic volumes ranges for this study are based on recent count data collected by the Municipality over the past several years.

Assessment of Road Needs

An Overall Condition Rating (OCR) was established for each road segment within the network, based on methodology developed by Burnside for this study. The OCR has been used to assess the improvement requirements for each road segment within the road network, together with functional needs of the road and of local knowledge from Municipal staff. An improvement matrix has been developed by Burnside for the Municipality that identifies the appropriate improvement type considering various factors such as the condition of the road, roadside environment, surface type, traffic volumes and recommended best practices for the life cycle management of road network assets. Lifecycle improvements include routine maintenance, preventive maintenance,

resurfacing, rehabilitation, and reconstruction. A Priority Rating was developed to prioritize improvement needs.

The primary conclusions and recommendations made in this RNS are as follows:

- The conditions and improvement/maintenance needs of the road network are shown on the map, and spreadsheet in Appendix C of this report.
- The estimated total cost of hardtop road improvements/maintenance in the Municipality has been determined to be \$8,804,220, which equates to \$40,327 per km of existing hardtop roads (i.e., 218.32 km of hardtop roads).
- About 157.64 km (72.21 %) of the Municipality's hardtop roads are in good/satisfactory condition, about 26.73 km (12.24 %) in fair condition, about 19.27 km (8.82 %) in poor condition, about 12.89 km (5.90 %) in very poor condition, and 1.80 km (0.82 %) in serious condition.
- Roads that may warrant upgrading of surface type have been identified, based on traffic volume criteria. Where required, the preferred surface upgrade is to an asphalt surface (i.e., High Class Bituminous, HCB). Upgrading of surface type may be considered at the time that any future rehabilitation work is required to address condition needs.
- Road sections with the following issues/deficiencies in road geometrics have been identified in this RNS:
 - Roads with deficient horizontal or vertical alignments.
 - Roads with less than tolerable road widths.
 - Upgrading of road geometrics may be considered at the time that future rehabilitation work is required to address condition needs.

Burnside gratefully acknowledges the assistance and contribution of the Municipal staff in the preparation of this study.

Table of Contents

1.0	Introduction.....	1
1.1	Boundary Roads.....	1
1.2	Previous Planning Studies.....	4
2.0	The Road Study.....	4
2.1	Road Inventory.....	4
2.2	Functional Road Classification.....	6
2.3	Traffic Considerations.....	7
2.4	Review of Truck Volumes and C4 Zones.....	8
2.5	Roadside Environment and Road Surface Type.....	11
3.0	Methodology and Analysis.....	14
3.1	Hard-top Condition Ratings.....	14
3.2	Gravel Road Condition Ratings.....	15
3.3	Improvement Unit Costs.....	16
3.4	Improvement Types.....	16
3.5	Improvement Prioritization.....	21
4.0	Other Road Related Needs.....	22
4.1	Surface Type Needs.....	22
4.2	Road Widths.....	28
4.3	Road Drainage.....	31
4.4	Maintenance Considerations.....	32
5.0	Road Improvement Needs.....	33
6.0	Asset Management and Capital Planning Considerations.....	34

Tables

Table 1: Functional Classification.....	7
Table 2: Length of Roads with Various AADT Traffic Ranges.....	8
Table 3: Road Sections with Existing Heavy Truck Prohibitions (By-law 2020-034).....	10
Table 4: Gravel Roads with AADT Exceeding 400 vpd.....	14
Table 5: Condition Rating Representation.....	15
Table 6: Road Improvement Decision Matrix.....	20
Table 7: Existing Surface Types that May Warrant Upgrading.....	23
Table 8: Recommended Through Lane Widths.....	29
Table 9: Shoulder Widths for Undivided Rural Roads.....	29
Table 10: Municipality of Grey Highlands Recommended Two-Lane Width Criteria.....	30
Table 11: Drainage Adequacy on Municipal Roads.....	31
Table 12: Minimum Maintenance Standard Classifications (O.Reg.239/02, May 2018).....	32
Table 13: Summary of Road Improvement Needs.....	33

Figures

Figure 1: Boundary Roads and Shared Maintenance	3
Figure 2: Provincial and County Road Network	5
Figure 3: C4 Zoning Locations.....	9
Figure 4: Surface Type of Municipal Roads	12
Figure 5: Roadside Environment Categorized by Surface Type.....	13

Appendices

Appendix A Road Database and Inventory Map and Table
Appendix B Annual Average Daily Traffic (AADT) Map
Appendix C Road Improvement Needs Map and Table
Appendix D Road Improvement Order of Priority

Disclaimer

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

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

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

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) was retained by the Municipality of Grey Highlands (Municipality) to conduct a Road Needs Study (RNS) update. This RNS provides an inventory of the Municipality's Road network, establishes the physical condition of the roads and determines the road maintenance and improvement needs and costs. A general prioritization of the road needs is provided to assist the Municipality in the development of long-term road maintenance programs. This RNS is intended to:

- Provide an inventory of all roads under the jurisdiction of the Municipality, establishing such parameters as the condition, traffic volume, geometry and surface type of each road section. This RNS has updated the inventory data contained within the *Municipality of Grey Highlands 2018 Road Management Plan (2018 RMP)* (Burnside, December 2020).
- Determine pavement, road base, and overall condition ratings for each road section.
- Identify deficiencies in the road system and provide an estimate of the cost of proposed improvements to eliminate such deficiencies.
- Update Annual Average Daily traffic (AADT) data for all road sections.
- Prioritize road section improvements based on condition ratings and traffic.
- Make other road section recommendations where applicable.

In general, this RNS has been conducted in accordance with procedures outlined in relevant Ministry of Transportation Ontario (MTO) documents, with adjustments to the methodologies used to classify and prioritize road section treatments according to input from the Municipality and Burnside.

We gratefully acknowledge the assistance and contributions of the Municipal staff in the preparation of this study.

1.1 Boundary Roads

The Municipality shares 81.30 km of boundary roads with adjacent municipalities, consisting of 35.44 km (43.59 %) under full maintenance responsibility of the adjacent Municipality, 3.94 km (4.85 %) under shared (50/50) maintenance responsibility, and 41.93 km (51.57 %) under full maintenance responsibility of Grey Highlands, as follows:

- 5th Line Melancthon (0.05 km).
- Artemesia-Glenelg Townline (12.41 km).
- Artemesia-Holland Townline (0.28 km).
- Artemesia-Southgate Townline (6.60 km).
- Euphrasia-Holland Townline (16.27 km).
- Euphrasia-St Vincent Townline (8.02 km).

Municipality of Grey Highlands Road Needs Study
September 2023

- Melancthon-Artemesia Townline (1.84 km).
- Melancthon-Osprey Townline (7.16 km).
- Osprey-Clearview Townline (0.97 km).
- Osprey-The Blue Mountains Townline (11.33 km).
- Pretty River Road (0.74 km).
- Road 110 (2.08 km).
- Southgate Sideroad 71 (0.48 km).
- The Blue Mountains-Euphrasia Townline (13.08 km).

Grey Highlands has written boundary road agreements with the Municipality of West Grey (By-law 2018-023), Township of Southgate (By-law 2019-108), Township of Chatsworth (By-law 2019-138) and the Township of Clearview (By-law 2020-029) for capital improvements and maintenance work on boundary roads. Grey Highlands also has verbal agreements with the Township of Melancthon, and the Town of Blue Mountains. The boundary roads have been split such that each municipality is then responsible for the full cost of maintenance work on their respective section of the roadway. However, each municipality is responsible for 50% of the capital improvement costs (resurfacing, rehabilitation or reconstruction) on the boundary roads. Figure 1 below illustrates the maintenance responsibilities for each road in the Municipality's road network.



1.2 Previous Planning Studies

The Municipality completed a RNS in 2018 that included the development of a ten-year capital improvement plan. This study is intended to update the inventory information and condition ratings presented in the 2018 study. Other previous planning study work has been reviewed in the completion of this RNS, including the following:

- Official Plan for the Municipality of Grey Highlands; Loft Planning Inc., September 2017.
- 2023 Development Charges Background Study, Municipality of Grey Highlands; Hemson Consulting Ltd.; March 21, 2023.
- Speed Limit By-law for the Municipality of Grey Highlands; Office Consolidation, September 2020.
- Truck Prohibition By-law for the Municipality of Grey Highlands (By-law No. 2020-034), April 2020.
- Municipal Road Construction Minimum Standards for the Municipality of Grey Highlands, August 2014.

2.0 The Road Study

2.1 Road Inventory

The Municipality's Road network includes 674.48 km of roads with 297.79 km that were selected to be evaluated in May 2023, consisting of 218.32 km hardtop, 79.44 km gravel and 0.03 km earth. Of the 674.48 km of roads in the Municipality's network, 81.30 km are determined to be boundary roads, consisting of 35.44 km under full responsibility of the adjacent Municipality, 3.94 km under shared responsibility, and 41.93 km under full responsibility of Grey Highlands. Provincial Highways, County Roads and private roads also exist within the Municipality but are not included in this RNS where the Municipality is not responsible for part of the maintenance/capital improvements. Figure 2 below illustrates the County and Provincial Road network within the Municipality.

Provincial Highway 10 runs northwest-southeast through the Municipality. There is approximately 2.08 kilometers of Connecting Link Highway within the communities of Markdale (1.46 km) and Flesherton (0.63 km), which is maintained by the Municipality. The MTO provides up to 90% of eligible capital improvement (resurfacing, rehabilitation or reconstruction) costs on the Connecting Link Highways.



R.J. Burnside & Associates Limited
055852_REP_Grey Highlands RNS

300055852.0000

The database and mapping are fully integrated within an esri ArcGIS geodatabase, and each section has been assigned a unique ID number and GIS reference number. Data related to the road sections are obtained through field review of the overall road network including:

- Road ID, Name, From, To
- Length
- Road Width
- Boundary Road
- Roadside Environment: Rural, Semi-Urban and Urban
- Platform Width
- Shoulder Width
- Speed Limit
- Ride Comfort Rating
- Overall Condition Rating

2.2 Functional Road Classification

The road network provides access to residential, commercial, and agricultural land properties within the Municipality, as well as providing alternate routes for through traffic. The geographic location of the Municipality also results in traffic patterns being influenced by the proximity of adjacent population centres, such as the Town of Collingwood (Collingwood) and the Town of Blue Mountains (Blue Mountains) during the winter season and Port Elgin and Sauble Beach during the summer season. Local developments, such as Beaver Valley Ski Club or specific land uses (e.g., gravel pits, commercial and industrial facilities, or landfill sites) also generate additional traffic on related roads.

The Municipality is well served by County and Provincial arterial roads, although periodic closures of some of these arterial routes often result in the use of the Municipality's roads as an alternate route. The following County and Provincial Roads are located within, or adjacent to the Municipality:

- County Roads – Grey Road 2, 4, 7, 9, 12, 13, 14, 30, 31, 32, 40, 119 and 124.
- Provincial Highway 10.

Functional classifications for roads in the Municipality have been determined using the criterion outlined in Table 1, based on the roadside environment, traffic volume (i.e., AADT) and land uses for each road section.

Table 1: Functional Classification

Environment	AADT Range (vpd)	Land Use	Functional Class
Rural	1 – 999	All	Local
	1,000 – 3,999	All	Collector
	>=4,000	All	Arterial
Urban	1 – 999	Residential	Local
	1 – 2,999	Commercial/Industrial	
	1,000 – 7,999	Residential	Collector
	3,000 – 9,999	Commercial/Industrial	
	>=8,000	Residential	Arterial
	>=10,000	Commercial/Industrial	
Semi-Urban	1 – 999	Residential	Local
	1 – 2,999	Commercial/Industrial	
	1,000 – 7,999	Residential	Collector
	3,000 – 9,999	Commercial/Industrial	
	>=8,000	Residential	Arterial
	>=10,000	Commercial/Industrial	

2.3 Traffic Considerations

Traffic volume is an important consideration for determining the road improvement needs for any particular road segment within the road network. Traffic range estimates (Annual Average Daily Traffic, AADT) for each road segment are included in the inventory database in Appendix A as well as graphically on the map in Appendix B. AADT volume ranges are estimated based on the traffic count work completed by the Municipality between 2018 and 2023. Most of the roads within the Municipality's road network are gravel roads which will typically experience very little traffic growth. Some roads that are in proximity to County Roads, Ministry of Transportation Ontario (MTO) Roads, and/or planned development areas may experience some minor traffic growth. The total length of road in the various traffic ranges is summarized in Table 2.

Table 2: Length of Roads with Various AADT Traffic Ranges

AADT Traffic Range (vpd)	Length of Road in Traffic Range (km)
0 – 49	203.16
50 – 199	272.41
200 – 499	139.83
500 – 999	54.82
1,000 – 1,999	2.18
5,000 – 5,999	1.74
8,000 – 9,999	0.35
Total	674.48

Traffic volumes and traffic types are also important considerations in establishing the road surface needs for roads within the road network. Consideration may be given to upgrade gravel roads to an asphalt surface for roads experiencing high traffic volumes, high truck loading, or where high maintenance is an issue.

Typically where AADTs exceed 200 vehicles per day (vpd), upgrading of gravel road surfaces to hardtop road surfaces may be considered. For AADTs in the range of 200 to 500 vpd upgrading to a Low Class Bituminous (LCB) surface may be considered, whereas upgrading to a High Class Bituminous (HCB) surface is recommended for AADTs exceeding 500 vpd. However, it is understood that the Municipality's policy *Municipal Road Construction Minimum Standards* (2014) indicates that roads with an AADT of less than 400 vpd will be a gravel surface road and roads with an AADT of 400 vpd or more will be a hardtop surface road (i.e., LCB or HCB).

2.4 Review of Truck Volumes and C4 Zones

Municipal staff have indicated that a significant amount of commercial/industrial development has been occurring in recent years in the Municipality's rural areas. These rural areas are typically referred to as "C4" areas, which are defined as "Rural Commercial" zones within the *Municipality of Grey Highlands Comprehensive Zoning By-law 2004-50* (Jones Consulting Group Ltd., 2005). Permitted uses in C4 zones include small-scale commercial/industrial sawmill and woodworking shops, metal workshops, and any other uses permitted in rural (RU) zones (such as home industries and pits/quarries).

The recent growth in C4 areas within the Municipality, which is expected to continue to grow in the future, has resulted in a significant increase in the volume of large trucks using the Municipality's rural roads. For the purposes of this study, trucks are considered any vehicle that exceeds 232 inches (5.89 m) in length. Some rural gravel roads have regressed to very poor condition (i.e., significant potholing and wheel ruts) as a result of increased truck traffic travelling to/from C4 zones. Potholing and washboarding appear to be especially prevalent where public gravel roads intersect with

driveways to C4 commercial/industrial facilities. Figure 3 below illustrates the number of C4s within the Municipality as well as context to where they are located within the network.

Figure 3: C4 Zoning Locations



Municipality of Grey Highlands Road Needs Study
September 2023

Truck volumes typically range from a low of 3% on low volume roads (local roads) to a high of 15% on higher volume roads (Collectors and Arterials). Based on traffic counts conducted by Municipal staff, truck traffic volumes ranging from 0% to 78% were recorded, with the average truck volume at 19.2%. Where surface type upgrading was considered (i.e., due to C4 zoned properties) the traffic volumes were reviewed in detail to determine how the truck volumes will affect the deterioration of the current surface type.

It is recommended that future traffic counting work in the Municipality continue to delineate truck volumes, particularly if consideration is being made to upgrade the road surface type. For low volume rural roads, this study suggests that surface type upgrading may be economical to consider where the percentage of trucks exceed 10% of the AADT and is over 30 trucks per day.

To prevent truck traffic from utilizing certain rural roadways, the Municipality has installed "No Heavy Trucks" signs on various road sections. The "No Heavy Trucks" signs being implemented in the Municipality are referred to as "Rb-62" signs in the *Ontario Traffic Manual (OTM) Book 5: Regulatory Signs* (Government of Ontario, March 2000). As per OTM Book 5, heavy trucks making deliveries on residential streets are exempt from heavy truck prohibitions. Roads with "No Heavy Trucks" signs are enforceable via municipal by-laws.

The *Municipality of Grey Highlands Municipal By-law 2020-034* indicates which roads in the Municipality have heavy truck prohibitions. Road sections in the Municipality that currently have heavy truck prohibitions have been summarized in Table 3.

Table 3: Road Sections with Existing Heavy Truck Prohibitions (By-law 2020-034)

Road Segment IDs	Road Name	From	To
338, 341, 551, 551A, 676	Osprey-Artemesia Townline	Grey Road 4	10th Concession
335, 349, 635	Road 45	Grey Road 4	8th Concession
854, 861, 871	Reid's Hill	Pretty River Road	4th Line/Osprey-Blue Mountains Townline
271, 462	East Back Line	Grey Road 4	Grey Road 32
816, 820, 826	Sideroad 7A	Grey Road 7	7th Line
834, 847, 852	Sideroad 7B	Grey Road 13	3rd Line A
639	Campbells Hill	Lower Valley Road	Grey Road 13
657	Grahams Hill	Grey Road 32	Lower Valley Road
221, 238	Centre Line A	Grey Road 2	Road 49
270	Road 49	3rd Concession	Centre Line A

Road Segment IDs	Road Name	From	To
797	Sideroad 35	12th Concession B	Artemesia-Euphrasia Townline
798	Artemesia-Euphrasia Townline	3rd Line A	Sideroad 35
1015	The Blue Mountains – Euphrasia Townline (Grier Creek Bridge)	Grey Road 40	Euphrasia – St. Vincent Townline (30th Sideroad)
16, 416	Lower Valley Road	East Back Line	Grey Road 30

It is recommended that the Municipality provide information about heavy truck restrictions to organizations using heavy trucks within the Municipality. Organizations/companies operating within the C4 zones should be notified of roads with heavy truck prohibitions in the Municipality by providing them with a copy of relevant municipal by-law(s) (i.e., *Municipality of Grey Highlands By-law 2020-034*).

2.5 Roadside Environment and Road Surface Type

The corresponding roadside environment and surface type for each road segment have been identified in the database presented in Appendix A, with the surface type also illustrated on the map in Appendix A. The inventory of the surface types in the Municipality's road network are illustrated in Figure 4 below. For the purposes of this study, the roadside environment and surface types have been differentiated as follows:

Roadside Environment

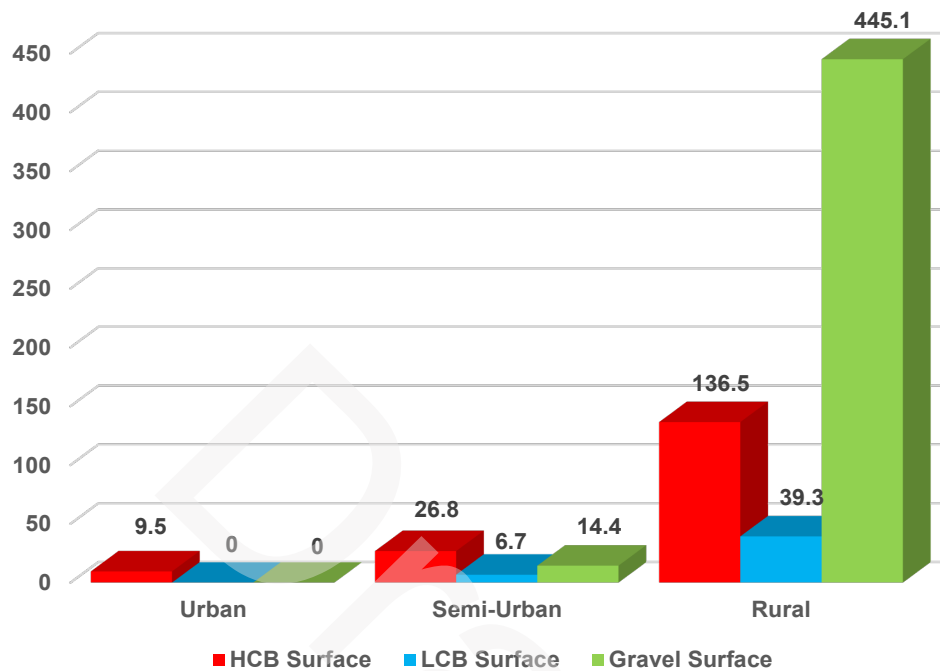
- **Urban Environment:** Reasonably continuous development occurs along the roadway and the roadway cross-section design includes curbs and/or gutters and storm sewers.
- **Semi-Urban Environment:** Reasonably continuous development occurs along the roadway and the roadway cross-section design includes open ditches or swales and does not include curbs and/or gutters, or storm sewers.
- **Rural Environment:** Rural roads which abut scattered rural development, farmland, or undeveloped open space.

Surface Type

- High Class Bituminous, HCB (asphalt).
- Low Class Bituminous, LCB (surface treatment).
- Gravel.
- Earth.

Figure 4: Surface Type of Municipal Roads

The roadside environment and road surface types within the Municipality (i.e., including boundary roads) are summarized in Figure 5.

Figure 5: Roadside Environment Categorized by Surface Type

Of the 678.62 km of roads in the Municipality's Road network, the roadside environment and surface type breakdowns can be summarized as follows:

- Roadside Environment: 620.9 km rural (91.5%), 47.80 km semi-urban (7.04%) and 9.9 km urban (1.46%).
- Road Surface Types: 0.03 km earth (0.01 %), 459.47 km gravel (67.7%), 45.96 km LCB (6.8%) and 173.16km HCB (25.41%).

Typically, a minimum desirable level of service for semi-urban and urban roads includes a hard-top surface. In the Municipality there are presently 14.35 km of gravel roads remaining in semi-urban areas. These sections are generally sections with low traffic volumes (i.e., 0 – 199 vehicles per day). Semi-urban gravel roads in poor condition that warrant a rehabilitation/reconstruction improvement should be considered for upgrading to an asphalt surface.

A minimum level of service for rural roads may be based on traffic volume, considering the overall traffic volume using the road and the types of vehicles (i.e., trucks and agricultural equipment). For example, roads that have traffic volumes exceeding 400 vpd, or roads that have high truck traffic percentages, may warrant upgrading to a hardtop surface (i.e., surface treatment or asphalt) to minimize maintenance concerns

and maximize the road life. The following gravel roads (9.70 km) outlined in Table 4 have been identified as having traffic volumes exceeding 400 vpd and warranting upgrading.

Table 4: Gravel Roads with AADT Exceeding 400 vpd

Municipal ID	Road Section	AADT	Length (m)
915	Sideroad 19 from Grey Road 12 to 9th Line	415	2720
462	East Back Line from Lower Valley Road to Grey Road 32	421	1019
978	Sideroad 25 from 4th Line B to 3rd Line D	450	1848
311	Road 120 from East Back Line to Highway 10	715	2056
709	Road 41B from 10th Concession to 8th Concession A	984	2059

3.0 Methodology and Analysis

A methodology has been developed by Burnside to determine the condition ratings for roads within the Municipality. The methodology developed has been based on input from the Municipality in addition to consideration of criterion and formulae contained within the relevant MTO publications, including *Inventory Manual for Municipal Roads* (MTO, 1991). The condition rating of a road section is independent of traffic volumes, roadway geometrics or roadside environments, any of which may also impact on whether a particular road section is considered deficient.

Typically, roadways with poor condition ratings are considered maintenance intensive. It is recognized that budget constraints often require that road sections be allowed to deteriorate before rehabilitation is scheduled. However, if routine and/or preventive maintenance is applied to a roads section prior to the road base being compromised, then the overall life of the road section can be extended, beyond that achievable through a reconstruction/rehabilitation strategy alone, thus optimizing the use of the Municipality's resources.

3.1 Hard-top Condition Ratings

The hardtop roads in the Municipality's road network were reviewed in the field with Municipal staff in May 2023 to determine the road inventory and updated condition ratings. For hardtop roads, a Pavement Condition Rating (PCR) has been determined based on an aggregate of the following two deficiencies: Single/random cracking and distortion/raveling/surface wear. A Road Base Condition Rating (RBCR) has been determined based on an aggregate of the following two deficiencies: alligator cracking (including potholing) and wheel track rutting. All four individual deficiencies have been

Municipality of Grey Highlands Road Needs Study
September 2023

rated on a 10-point scale, with 10 representing a very good condition; therefore, both the PCR and the RBCR are scored out of 20 for any given road section. A Ride Comfort Rating (RCR) is also estimated for each road section based on the rideability of the road. The RCR is based on a 10-point rating system with 10 representing a very smooth ride.

To prioritize the road improvements, the Overall Condition Rating (OCR) of each road segment is considered. The OCR for hard-top roads is calculated by utilizing the following equation:

$$\text{OCR} = (2 \times \text{RCR}) + (2 \times \text{PCR}) + (2 \times \text{RBCR})$$

The above equation results in an OCR score ranging from 10 to 100 (i.e., minimum RCR, PCR and RBCR values are 1, 2, and 2, respectively). A higher OCR represents a better overall road condition than a lower score. A breakdown of the representative values for each of the ratings is summarized in Table 5.

Table 5: Condition Rating Representation

Overall Condition Rating (OCR)		Ride Comfort Rating (RCR)		Individual Deficiency Rating	
Value (/100)	Network Category	Value (/10)	Network Category	Value (/10)	Distress Severity (Density)
>85	Excellent	10	Excellent	10	No Distress Present
70 – 85	Good	7 – 9	Good	8 – 9	Slight (Few or Intermittent)
60 – 69	Fair	4 – 6	Fair	5 – 7	Slight (Frequent or Extensive) Moderate (Few or Intermittent)
<60	Poor	1 – 3	Poor	3 – 5	Moderate (Frequent or Extensive) Severe (Few or Intermittent)
				1 – 2	Severe (Frequent or Extensive)

3.2 Gravel Road Condition Ratings

Select gravel roads in the Municipality's road network that have received improvements since the 2018 RMP were reviewed in the field with Municipal staff in May 2023 to determine the road inventory and updated condition ratings. For gravel roads, two deficiencies have been rated in the field: Potholing/Break-up (PB) and Drainage/Ditching (D). Each deficiency is rated on a 10-point scale, with 10 representing a very good condition. A RCR rating out of 10 is also captured, with 10 representing a very smooth ride. The OCR for gravel roads is calculated via the following equation:

$$\text{OCR} = (2 \times \text{RCR}) + (6 \times \text{PB}) + (2 \times \text{D})$$

The above equation will result in an OCR ranging from 10 to 100 (i.e., minimum RCR, PB, and D values are 1). A higher OCR represents a better overall road condition than a

lower score. A breakdown of the representative values for each of the ratings is summarized in Table 5 above.

3.3 Improvement Unit Costs

The general improvement unit costs are for budget planning purposes and have been based on theoretical costs per m² for the applicable recommended improvement standard. Improvement projects are generally completed through a combination of day labour and equipment rental, where required, or through contract work. While these unit costs are considered sufficient for planning purposes, actual costs may vary according to the following factors:

- Site-specific requirements
- Budget constraints requiring consideration of lesser standards (such as maintaining vertical profiles to tolerable conditions or reducing overall improvements).

It is recommended that standards be reviewed on a project specific basis as budgets are established.

Cost estimates for improvements to address the deficiencies in the road system are shown in the decision matrix in Table 6 and have been based on available unit cost data over the past several years from Grey Highlands. The improvement types consider surface type, AADT volumes, condition and roadside environment. Since the improvement benchmark costs are estimated on an m² basis, the improvement costs for any particular road section will also capture any width considerations.

3.4 Improvement Types

The different road improvement types that are proposed in this study are listed below. These improvement types cover the full lifecycle of the road assets and require the Municipality to keep up with road maintenance and to prevent leaving roads until they slip into a more extensive category like Rehabilitation or Reconstruction.

Routine Maintenance (RM)

Routine maintenance for hardtop roads consists of crack sealing. Routine maintenance (i.e., crack sealing) decreases further crack deterioration by preventing moisture damage to the pavement structure and it often adds approximately three to five years to the lifespan of a roadway. Routine maintenance for gravel roads consists of the application dust suppressant (calcium chloride) and grading.

Routine maintenance can help delay the need for more extensive rehabilitation or reconstruction, and routine maintenance is typically done when a road is in good condition but is starting to show slight deficiencies.

Preventive Maintenance (PM)

Preventive maintenance for hardtop roads consists of the application of a slurry seal or micro surfacing. Micro surfacing or slurry seal can prevent water from infiltrating through cracks to the road base, which ultimately helps prevent further deterioration of the road base and as a result increases the length of time before more extensive treatments are required. Preventive maintenance for gravel roads consists of the application of maintenance gravel (top-up gravel) and calcium chloride.

Preventive maintenance can help delay the need for more extensive rehabilitation or reconstruction. Preventive maintenance is typically done when a road is in good condition but is starting to show slight deficiencies.

Resurfacing (R)

For urban hardtop roads the resurfacing improvement type proposed in this study consists of milling and paving (shave and pave) one (50 mm) lift of Hot Mix Asphalt (HMA). For semi-urban/rural roads the resurfacing improvement type consists of one (40 mm) overlay of HMA on top of the existing surface.

Resurfacing treatments are typically done when a road is in fair condition. Given that the road is in fair condition, resurfacing treatments generally consist of replacing the surface of roadways, but minimal (if any) work is done to the base of the road, aside from patching where required. Resurfacing treatments mentioned in this RNS are not to be confused with micro-surfacing treatments, which are considered a form of preventive maintenance, which is applied to roads that are still in good condition and only have very minor amounts of cracking.

Rehabilitation (REH)

For urban hardtop roads, rehabilitation consists of full depth removal + the addition of a thin granular A lift + two (50 mm) lifts of HMA and spot curb replacements (as required). For semi-urban/rural roads experiencing higher traffic volumes (i.e., over 500 vpd), rehabilitation consists of pulverizing the existing hardtop surface + the addition of a thin granular A lift + two (50 mm) lifts of HMA. For semi-urban/rural roads experiencing lower traffic volumes (i.e., less than 500 vpd), rehabilitation consists of pulverizing the existing hardtop surface + the addition of a thin granular A lift + one (50 mm) lift of HMA.

For semi-urban/rural gravel roads experiencing higher traffic volumes (i.e., over 400 vpd), rehabilitation consists of nominal base strengthening followed by one (50 mm) lift of HMA + partial shoulder/ditch repair. For semi-urban/rural gravel roads experiencing lower traffic volumes (i.e., less than 400 vpd), rehabilitation consists of partial base strengthening and nominal shoulder/ditch repair.

More extensive rehabilitation treatments are applied to pavements in poor condition which have deteriorated to a point where full depth replacement of the road surface is required to protect the integrity of the underlying granular base and to delay more extensive reconstruction being required. Pavement rehabilitation extends the service life of a pavement and its load carrying capacity by enhancing its pavement structure. This is achieved by eliminating age-related deterioration of the pavement or increasing the thickness of pavement layers to address increases in traffic volume.

Reconstruction (REC)

For urban hardtop roads, reconstruction consists of full depth removal, full depth base replacement (dig out and replace), full curb replacement + two (50 mm) lifts of HMA. For semi-urban/rural roads experiencing higher traffic volume (i.e., over 500 vpd), reconstruction consists of full depth removal, full depth base replacement (dig out and replace) + two (50 mm) lifts of HMA. For semi-urban/rural roads experiencing lower traffic volume (i.e., less 500 vpd), reconstruction consists of full depth removal, full depth base replacement (dig out and replace) + one (50 mm) lift of HMA.

For semi-urban/rural gravel roads experiencing higher traffic volumes (i.e., over 400 vpd), reconstruction consists of full depth base replacement (dig out and replace) followed by one (50 mm) lift of HMA + partial shoulder/ditch repair. For semi-urban/rural gravel roads experiencing lower traffic volumes (i.e., less than 400 vpd), reconstruction consists of full depth base replacement (dig out and replace) and nominal shoulder/ditch repair.

Reconstructions are typically completed when a road is in very poor condition, or if work is being done on infrastructure beneath a road which will require that the road be reconstructed. If pavements are left to deteriorate, they become weak and lose their structural integrity. As the structural capacity is weakened, a pavement will begin to disintegrate, resulting in extensive cracking, rutting and potholes being developed. At this point, maintenance, resurfacing, or rehabilitation treatments will not be able to restore its structural integrity. Once a minimum condition level is reached, the pavement and road base may require full reconstruction to re-establish the proper base support for the pavement. Applying a lesser rehabilitation treatment may result in premature failure of any newly applied pavement surface. Once the pavement degrades below a minimum recommended condition, ongoing maintenance (i.e., filling of potholes) will typically increase significantly and/or safety or user complaints may become a concern. Reconstruction is also required when the pavement structure needs to be improved to cater to significant increases in projected traffic volumes, or to accommodate road widening.

Determining Improvement Needs

To determine what improvement types are warranted for certain road sections, the individual deficiencies and condition ratings that were collected in the field were assigned to various distress trigger ranges. The trigger ranges set, and the corresponding improvement types are summarized in Table 6, along with the associated benchmark unit costs.

Table 6: Road Improvement Decision Matrix

Improvement	Urban – Hardtop (Any AADT)				Semi-Urban or Rural – Hardtop (HCB/LCB)				Semi-Urban or Rural - Gravel			
	Typical Trigger Year	HCB	LCB	Distress Triggers	Typical Trigger year	AADT>=500	AADT<500	Distress Triggers	Typical Trigger Year	Rural with AADT>=400 or SemiUrban (Any AADT)	Rural with AADT<400	Distress Triggers
Routine Maintenance (RM)	4 to 7	Crack sealing [\$0.75 per m²]	N/A (Responsive Maintenance)	PCR = 15 to 17	4 to 7	HCB – Crack sealing [\$0.75 per m²] LCB – N/A (Responsive Maintenance)	HCB – Crack Sealing [\$0.75 per m²] LCB – N/A (Responsive Maintenance)	PCR = 15 to 17	Variable	Maintenance Gravel + Calcium Chloride [\$0.55 per m²]	Maintenance Gravel + Calcium Chloride [\$0.55 per m²]	OCR = 51 to 95
Preventive Maintenance (PM)	10 to 15	Double Micro-surfacing [\$8 per m²]	Double Micro-surfacing [\$8 per m²]	RBCR = 15 to 18 OR PCR = 11 to 14	10 to 15	Double Micro-surfacing [\$8 per m²]	Slurry Seal [\$4 per m²]	RBCR = 15 to 18 OR PCR = 11 to 14	N/A	N/A	N/A	N/A
Resurface (R)	25 to 35	Mill + 1 HMA (50 mm) [\$22 per m²]	One HMA Overlay (40 mm) [\$11 per m²]	RBCR = 9 to 14 OR PCR = 6 to 10	25 to 35	One HMA Overlay (40 mm) + Patching + Nominal Shoulder Repair [\$30 per m²]	One HMA Overlay (40 mm) + Patching + Nominal Shoulder Repair [\$30 per m²]	RBCR = 9 to 14 OR PCR = 6 to 10	N/A	N/A	N/A	N/A
Rehabilitation (REH)	50 to 60*	Full depth removal + Granular A + two HMA (50mm each) + Spot curb replacement [\$40 per m²]	Full depth removal + Granular A + two HMA (50mm each) + Spot curb replacement [\$40 per m²]	RBCR = 6 to 8 OR PCR = 0 to 5	50 to 60*	Pulverize + Granular A + 2 HMA (50 mm each) [\$30 per m²]	Pulverize + Granular A + one HMA (50 mm) [\$30 per m²]	RBCR = 6 to 8 OR PCR = 0 to 5	Variable*	One HMA (50 mm) + Nominal base strengthening + nominal shoulder/ditch repair [\$50 per m2]	Partial base strengthening + nominal shoulder/ditch repair [\$39 per m²]	OCR = 31 to 50
Reconstruction (REC)	50 to 60*	Full depth removal + two HMA (50 mm each) + Total base and curb replacement + nominal storm sewer adjustment [\$89 per m²]	Full depth removal + two HMA (50 mm each) + Total base and curb replacement + nominal storm sewer adjustment [\$89 per m²]	RBCR = 0 to 5	50 to 60*	Full depth removal + two HMA (50 mm each) + Total base replacement + nominal shoulder/ditch repair [\$85 per m²]	Full depth removal + 1 HMA (50 mm) + Total base replacement + nominal shoulder/ditch repair [\$73 per m²]	RBCR = 0 to 5	Variable*	1 HMA (50 mm) + Total base replacement + nominal shoulder/ditch repair [\$67 per m²]	Total base replacement + nominal shoulder/ditch repair [\$55 per m²]	OCR = 0 to 30

* Either a REH or REC treatment is applied at the end of the road’s life, depending on the condition of the road base. Typical trigger years assume that routine maintenance, preventive maintenance and resurfacing treatments are applied throughout the lifecycle of the road, to achieve the lifespan noted, culminating in a rehabilitation/reconstruction treatment being required.

3.5 Improvement Prioritization

The condition needs for road sections have been prioritized according to a Priority Rating number, which contains the Overall Condition Rating (OCR) and traffic volume of each road section. The Priority Rating number can be calculated using the following empirical formula, which is derived from the *Inventory Manual for Municipal Roads* (MTO, 1991):

$$\text{Priority Rating} = 0.2 \times (100 - \text{OCR}) \times (\text{AADT} + 40)^{0.25}$$

Where AADT = the existing (current) AADT volume in vehicles per day (vpd).

The larger the Priority Rating number, the higher the priority of the road section relative to its condition and the traffic its servicing. This rating provides the Municipality with some basic measure of the relative importance and benefit of improving one section before another. Prioritization of road improvements using the Priority Rating number is intended to provide a list of improvements that will theoretically optimize the condition of the road network to serve the highest volume of traffic. However, it should be noted that there are many factors to be considered in prioritizing road improvements within a constrained budget environment, with the Priority Rating number being only one of these factors.

Roads that have very poor condition ratings, particularly those that are utilized for residential or commercial access purposes, may be prioritized independent of their respective Priority Rating number. Such roads may have low AADT volumes which may offset the low condition rating, resulting in an overall low Priority Rating number. Therefore, road sections with OCR values less than 40 are considered to be very high priority due to their very low OCR values, and thus should be given precedence over road sections with higher Priority Rating numbers regardless of their AADT volumes. Also, gravel road sections that meet the distress trigger criteria outlined in Table 6 for rehabilitation or reconstruction treatments and have AADT volumes exceeding 400 vehicles per day (vpd) should also be considered for upgrading to a hardtop surface.

Numerous road sections have had traffic counts conducted within the past several years; for these road sections, the exact AADT volume which was collected during the count has been applied in the Priority Rating formula. AADT ranges have also been assigned for all road sections in the Municipality. Therefore, for road sections which have not had traffic counts completed over the past years, the traffic volume in the middle of the AADT range has been applied as the current AADT in the Priority Rating formula (i.e., if the AADT range for a given road is 50 – 199 vpd, the AADT estimate applied in the Priority Rating formula is 125 vpd). Continuity between road sections has also been considered, so that if a traffic count was conducted at a road section within the past several years, the AADT range of adjacent road sections were reviewed and updated as necessary.

4.0 Other Road Related Needs

4.1 Surface Type Needs

Surface type should be appropriately designed to accommodate the volume of traffic and type of traffic expected to utilize the road, according to the MTO guidelines (Inventory Manual for Municipal Roads, Ministry of Transportation, 1991). The appropriate surface types outlined in the MTO guidelines and the decision matrix for this project are as follows:

- Gravel roads are typically tolerable for traffic volumes (AADT) of less than 400 vpd, however, upgrades to a hardtop surface type may be considered if the roadside environment is semi-urban or for road network connectivity/hardtop continuity, subject to budget constraints and desired level of service. It is our understanding that the Municipality has completed a study/review and prefers to upgrade to asphalt surfaces rather than surface treatment, where an upgrade to surface type is required.
- Asphalt roads may be considered where there is a high percentage of truck traffic, to maximize the road lifecycle.

Upgrading of gravel roads to asphalt may be considered for roads experiencing high truck volumes, high truck loading, or where high maintenance is an issue. As previously outlined in section 2.4, truck volumes typically range from a low of 3% on low volume roads (local roads) to a high of 15% on higher volume roads (Collectors and Arterials). Based on traffic counts conducted by Municipal staff, truck volumes ranging from 0% to 78% were recorded. It is recommended that future traffic counting work continue to delineate truck volumes, particularly if consideration is being made to upgrade the road surface types. For low volume rural roads, this study suggests that surface upgrading may be economical to consider where the percentage of truck exceed 10% of the AADT and is over 30 trucks per day.

The surface type considerations outlined above are used as a guide to identify potential surface type needs. Additionally, Section 2.5 above outlines that the typical minimum level of service for semi-urban and urban roads is hardtop, therefore, semi-urban gravel roads have also been listed in the below table. A review of the data in Appendix A indicates that there are several roads in the Municipality that presently meet these surface type criteria, as summarized in Table 7. Although upgrading semi-urban roads to hardtop is not considered urgent, this upgrade should be considered during the planning stages for any capital work on these roads. Roads that are planned for upgrading should be reviewed at the detailed design stage, to ensure that the geotechnical conditions and design conditions (e.g., widths, cross section geometry, vertical and horizontal alignments, etc.) are conducive to such upgrading and/or whether additional work is required to achieve the upgrading. If additional work is required, the benchmark costs should be increased to account for any related upgrading required to support the upgraded surface type.

Table 7: Existing Surface Types that May Warrant Upgrading

Municipal ID	Road Segment	Length (m)	AADT (vpd)	Justification for Upgrade
Gravel Roads with AADT Exceeding 400 vpd				
709	Road 41B from 10th Concession to 8th Concession A	2059	984	AADT
311	Road 120 from East Back Line to Highway 10	2056	715	AADT
978	Sideroad 25 from 4th Line B to 3rd Line D	1848	450	AADT
462	East Back Line from Lower Valley Road to Grey Road 32	1019	421	AADT
915	Sideroad 19 from Grey Road 12 to 9th Line	2720	415	AADT
Semi-Urban Gravel Roads				
111	Artemesia Street from Kincardine Street to Durham Road A	144	125	Roadside environment and land use
118	Artemesia Street from Durham Road A to Elgin Street	136	125	Roadside environment and land use
110	Durham Road A from Artemesia Street to Prince Street	179	125	Roadside environment and land use
115	Elgin Street from Prince Street to Queen Street	204	125	Roadside environment and land use
117	Elgin Street from Prince Street to Artemesia Street	149	125	Roadside environment and land use
590	Greenview Lane from Toronto Street N to End	100	125	Roadside environment and land use
124	James Street from Artemesia-Glenelg Townline to Queen Street	223	125	Roadside environment and land use
125	James Street from Queen Street to Prince Street	218	125	Roadside environment and land use
99	Kinross Street from Artemesia Street to Queen Street	402	125	Roadside environment and land use

Municipal ID	Road Segment	Length (m)	AADT (vpd)	Justification for Upgrade
324	Raglan Street from Grey Road 13 to Redan Street	194	125	Roadside environment and land use
525	Semple Lane from Grey Road 13 to Redan Street	163	125	Roadside environment and land use
358	Simpson Street from Grey Road 13 to Evans Street	214	125	Roadside environment and land use
661	Stanley Drive from Point Road to West End	657	125	Roadside environment and land use
733	Taylor Road from 12th Concession B to West End (Cul-de-Sac)	655	125	Roadside environment and land use
629	Wiles Lane from Sideroad 35 to West End	438	125	Roadside environment and land use
662	Point Road from Stanley Drive to South End (Cul-de-Sac)	396	120	Roadside environment and land use
595	Blue Mountain Maples Road from Grey Road 13 to Blue Mountain Maple Road	249	73	Roadside environment and land use
299	St Arnaud Street from Grey Road 13 to Sutter Street	438	69	Roadside environment and land use
328	Raglan Street from Redan Street to East End	211	67	Roadside environment and land use
93	Queen Street from Kinross Street to Torry Street	119	56	Roadside environment and land use
326	Napoleon Street from Inkerman Street to Beau Lane	411	55	Roadside environment and land use
108	Durham Road A from Queen Street to Prince Street	204	54	Roadside environment and land use

Municipal ID	Road Segment	Length (m)	AADT (vpd)	Justification for Upgrade
181	Bell Street from Grey Road 4 to Jane Street	251	52	Roadside environment and land use
180	Jane Street from Grey Road 4 to Bell Street	158	52	Roadside environment and land use
91	Torry Street from Artemesia Street to Prince Street	178	51	Roadside environment and land use
369	Evans Street from Simpson Street to Pellisier Street	126	43	Roadside environment and land use
744	William Street from Grey Road 124 to West End	109	35	Roadside environment and land use
407	Park Street from Grey Road 13 to Redan Street	219	34	Roadside environment and land use
692	Baragar Road from Point Road to East End	223	25	Roadside environment and land use
114	Durham Road A from River Street to Dead End	146	25	Roadside environment and land use
501	Aspen Grove Road from Johnston's Sideroad to South End (Cul-de-Sac)	201	25	Roadside environment and land use
381	Purdy Street from Grey Road 13 to Pellisier Street	144	25	Roadside environment and land use
112	Queen Street from Elgin Street to Durham Road A	143	25	Roadside environment and land use
113	River Street from Grey Road 4 to Durham Road A	201	25	Roadside environment and land use
710	Whittaker Way from Point Road to East End (Cul-de-Sac)	331	25	Roadside environment and land use

Municipality of Grey Highlands Road Needs Study
September 2023

Municipal ID	Road Segment	Length (m)	AADT (vpd)	Justification for Upgrade
540	Zouave Street from Redan Street to Grey Road 13	198	25	Roadside environment and land use
327	Beau Lane from Napoleon Street to Dead End	155	19	Roadside environment and land use
386	Evans Street from Purdy Street to Pellisier Street	63	18	Roadside environment and land use
193	Old Highway 4 from West Back Line to Dead End	250	16	Roadside environment and land use
390	Inkerman Street from Pellisier Street to North End	86	15	Roadside environment and land use
749	Osprey Road from Grey Road 31 to West End	93	13	Roadside environment and land use
88	Prince Street from Torry Street to Dead End	230	13	Roadside environment and land use
411	Park Street from Grey Road 13 to Inkerman Street	192	12	Roadside environment and land use
100	Artemesia Street from Kinross Street to Torry Street	110	11	Roadside environment and land use
359	Evans Street from Canrobert Street to Simpson Street	126	11	Roadside environment and land use
360	Canrobert Street from Kinburn Street to South Shore Road	149	8	Roadside environment and land use
412	Inkerman Street from Zouave Street to Park Street	106	8	Roadside environment and land use
314	Napoleon Street from Redan Street to Sutter Street	243	8	Roadside environment and land use

Municipality of Grey Highlands Road Needs Study
September 2023

Municipal ID	Road Segment	Length (m)	AADT (vpd)	Justification for Upgrade
558	Park Street from Redan Street to West End	205	7	Roadside environment and land use
535	Redan Street from Zouave Street to Semple Lane	76	7	Roadside environment and land use
425	Youill Street from Grey Road 31 to West End	117	7	Roadside environment and land use
316	Napoleon Street from Inkerman Street to Sutter Street	159	6	Roadside environment and land use
191	Old Highway 4 from Grey Road 4 to West Back Line	232	6	Roadside environment and land use
325	Redan Street from Napoleon Street to Raglan Street	126	5	Roadside environment and land use
340	Redan Street from Canrobert Street to Raglan Street	128	5	Roadside environment and land use
313	Napoleon Street from Redan Street to West End	121	4	Roadside environment and land use
315	Sutter Street from Napoleon Street to St Arnaud Street	315	4	Roadside environment and land use
87	Torry Street from Prince Street to Queen Street	220	4	Roadside environment and land use
549	Zouave Street from Grey Road 13 to Inkerman Street	197	4	Roadside environment and land use
356	Kinburn Street from Canrobert Street to Raglan Street	130	3	Roadside environment and land use
129	Queen Street from Saugeen Street to James Street	120	3	Roadside environment and land use

Municipal ID	Road Segment	Length (m)	AADT (vpd)	Justification for Upgrade
342	Raglan Street from Inkerman Street to Kinburn Street	403	3	Roadside environment and land use
397	Redan Street from Park Street to Zouave Street	127	3	Roadside environment and land use
756	Collingwood Road from Grey Road 31 to 0.1km West of Grey Road 31	115	2	Roadside environment and land use
385	Purdy Street from Grey Road 13 to Evans Street	110	2	Roadside environment and land use
85	Queen Street from Torry Street to Dead End	129	2	Roadside environment and land use
346	Raglan Street from Kinburn Street to East End	163	2	Roadside environment and land use
354	Redan Street from Canrobert Street to Grey Road 13	130	2	Roadside environment and land use

Where budgets allow, it is recommended that surface types be upgraded to meet these minimum desirable levels of service for the applicable surface type. However, where budget is the limiting factor, surface type standards may be reduced to tolerable standards, assuming that the road base/structure has been properly designed and constructed with appropriate maintenance applied. Where this lower standard surface type is used, a corresponding reduction in the useful life of that road is likely. In some areas, other constraints (e.g., right-of-way widths, horizontal or vertical curve deficiencies, etc.) may preclude the upgrading of such road sections without first addressing those factors.

4.2 Road Widths

The existing surface and shoulder width of roads in the Municipality are shown in the inventory tables provided in Appendix A. The surface width is considered the travelled portion of the road, and thus does not include the shoulder widths. The platform (overall) width of a road is the sum of the surface width plus twice the shoulder width. The Municipality's policy *Municipal Road Construction Minimum Standards* (2014) has set the minimum surface width of hardtop roads at 6.7 m and the minimum shoulder width at 2.0 m, resulting in a minimum platform width of 8.7 m.

Municipality of Grey Highlands Road Needs Study
September 2023

Table 8 below outlines the through lane width recommendations provided by the Transportation Association of Canada (TAC). In addition to the recommended lane widths identified in Table 8, TAC also states that where large trucks are expected to regularly use a given road, then a minimum lane width of 3.3 m is recommended regardless of the traffic volumes and speeds.

Table 8: Recommended Through Lane Widths

Design Speed (km/h)	Recommended Lower Limit Width	Recommended Upper Limit Width
Rural Roadways (Design Hour Directional Volume ≤450)		
60 and less	3.0 m	3.7 m
70 to 100	3.5 m	3.7 m
110 or higher	3.5 m	3.7 m
Rural Roadways (Design Hour Directional Volume >450)		
60 and less	3.5 m	3.7 m
70 to 100	3.5 m	3.7 m
110 or higher	3.7 m	3.7 m
Urban Roadways		
60 and less	3.0 m	3.7 m
70 to 100	3.3 m	3.7 m
110 or higher	3.7 m	3.7 m

Source: Geometric Design Guide for Canadian Roads (Transportation Association of Canada, June 2017).

Shoulder widths commonly used by Canadian road agencies for their undivided rural and collector roads are shown in Table 9.

Table 9: Shoulder Widths for Undivided Rural Roads

Design Speed (km/h)	Rural	Collector		
	Local	Design Hour Directional Volume		
		<250	250-450	>450
60	1.0 m	1.5 m	2.0 m	2.5 m
70	1.0 m	1.5 m	2.0 m	2.5 m
80	1.0 m	2.0 m	2.5 m	2.5 m
90	1.0 m	2.0 m	2.5 m	2.5 m
100	1.0 m	2.5 m	2.5 m	3.0 m

Source: Geometric Design Guide for Canadian Roads (Transportation Association of Canada, June 2017).

The widths outlined in Table 8 and Table 9 have been reviewed to compare against the minimum widths set in the Municipality's 2014 policy. For a typical two-lane rural roadway with less than 900 (two-way) vehicles per hour (vph) during the peak hour, and a design speed of 60 km/h or less, the recommended minimum platform width would be

Municipality of Grey Highlands Road Needs Study
September 2023

8.0 m if there is a low volume of trucks (i.e., two 1.0 m shoulders and a surface width of 6.0 m) and 8.6 m if there is a high volume of large trucks (i.e., two 1.0 m shoulders and a surface width of 6.6 m). Although TAC does not specify a numerical value considered to be a high volume of trucks, the Ontario Good Roads Association (OGRA) indicates that the surface width should be increased by 0.5 m if the truck volume exceeds 10% of the total traffic on a given roadway (OGRA, 1998). However, all other two-lane rural roadways (with design speeds less than 110 km/h) have a recommended minimum platform width of 9.0 m (i.e., two 1.0 m shoulders and a surface width of 7.0 m). Two-lane urban roads with a design speed of 60 km/h or less have a recommended minimum surface width of 6.0 m; if the design speed is 70 to 100 km/h then the recommended minimum surface width is 6.6 m.

Based on Burnside's review of the TAC recommended lane widths and other industry standards, Table 10 has been developed which recommends road and shoulder widths for two-lane roadways in the Municipality. The recommended minimum and maximum road widths specified in Table 10 consider Municipality-specific conditions, such as generally low traffic volumes, primarily rural roadside environments, and a significant amount of gravel roads.

Table 10: Municipality of Grey Highlands Recommended Two-Lane Width Criteria

Roadside Environment	Speed Limit (km/h)	Truck Volume (vpd) ¹	Recommended Minimum Shoulder Width (m) ²	Recommended Surface Width (m)		Recommended Platform Width (m)	
				Lower Limit	Upper Limit	Lower Limit	Upper Limit
Rural	<=50	<50	1.0	6.0	7.4	7.0	8.4
		>=50	1.0	6.6	7.4	7.6	8.4
	>50	Any	1.0	7.0	7.4	8.0	8.4
Semi-Urban	<=50	<50	1.0	6.0	7.4	7.0	8.4
		>=50	1.0	6.6	7.4	7.6	8.4
	>50	Any	1.0	6.6	7.4	7.6	8.4
Urban	<=50	<50	N/A	6.0	7.4	N/A	
		>=50		6.6	7.4		
	>50	Any		6.6	7.4		

1 – For road sections with unknown truck volumes (due to absence of a traffic count), it has been assumed that the volume of trucks is less than 50 vpd for purposes of this study. Future analysis should consider the volume of trucks on any given road section, where sufficient truck data is available.

2 – Hardtop roads only.

Road sections that presently do not meet the recommended lower limit surface and/or shoulder widths are indicated in the inventory table in Appendix A. Approximately 222.771 km (33.03%) of the Municipality's roads have substandard surface widths, and

approximately 425.30km (63.06%) of the Municipality's roads have substandard shoulder widths. Where possible, widening such roads should be considered in conjunction with future road improvements. Where existing constraints preclude a widening to minimum standards, the design should consider site-specific geometrics to ensure that the available space is optimized (i.e., consider the impact of parking lanes, sidewalks, etc.).

4.3 Road Drainage

The *Inventory Manual for Municipal Roads* (MTO, 1991) identifies criterion for assessing the drainage adequacy of roads. Road sections are rated on a 15-point scale, with a score of 15 representing a road section with fully adequate drainage, a score from 8 to 14 representing a road section with partially adequate drainage, and a score from 1 to 7 representing a road section with inadequate drainage. A road section is considered to have partially adequate drainage (i.e., a drainage rating from 8 to 14) if the cross-section elements or ditch capacity are somewhat below standard and/or if maintenance is higher than average. A road section that floods occasionally and/or requires excessive maintenance is considered to have inadequate drainage (i.e., a drainage rating from 1 to 7).

The drainage rating on a 15-point scale is not to be confused with the Drainage/Ditching condition rating for gravel road sections. The Drainage/Ditching rating considers ditch deficiencies, high shoulders, flat cross section, and heavy roadside bush on existing gravel roads only, and is independent of the drainage adequacy rating discussed in this section. A drainage adequacy rating was determined for all roads in the Municipality (hardtop and gravel) based on the MTO methodology outlined above.

All road sections have been assigned a drainage adequacy rating during the field collection phase and are contained in the inventory table in Appendix A. Table 11 below summarizes the overall drainage adequacy of the Municipality's Road network.

Table 11: Drainage Adequacy on Municipal Roads

Drainage Adequacy	Drainage Rating Range	Length of Roads (km)	% of Roads
Adequate	15	225.97	33.50 %
Partially Adequate	8 to 14	372.72	55.26 %
Inadequate	1 to 7	75.80	11.24
Total	-	674.48	100.00 %

As shown in Table 11, approximately 66.5% of the road network currently has partially adequate or inadequate drainage. It is recommended that the Municipality develop as ditch maintenance program, funded through their road maintenance budgets, to address these drainage deficiencies.

4.4 Maintenance Considerations

Maintenance demands (i.e., low, average, high) are not a primary consideration in the prioritization of road sections for improvement, however this may be a consideration in the decision to upgrade gravel surfaces to hardtop surfaces.

The Level of Service for maintenance of the Municipality's roads follow the Provincial Minimum Maintenance Standards (O.reg. 239/02 as amended by O. Reg. 366/18). These regulations prescribe required monitoring if the roads and maintenance response requirements, based on the road's class. The road class is set by its AADT and posted speed limit. The Municipality's speed limits range from 40 km/h to 80 km/h with the resulting maintenance classes summarized in Table 12 below:

Table 12: Minimum Maintenance Standard Classifications (O.Reg.239/02, May 2018)

Speed Limit (km/h)	AADT (vpd)	Minimum Maintenance Classification	Length of Road (km)
40	200 – 499	6	2.72
50	0 – 49	6	19.98
	50 – 199	6	29.22
	200 – 499	5	15.28
	500 – 999	5	1.99
	1,000 – 1,999	5	0.31
	5,000 – 5,999	4	1.74
	8,000 – 9,999	3	0.35
60	0 – 49	6	3.81
	50 – 199	5	2.38
	200 – 499	5	0.73
	500 – 999	4	4.11
80	0 – 49	6	178.88
	50 – 199	4	240.08
	200 – 499	4	121.10
	500 – 999	4	48.72
	1,000 – 1,999	3	1.87

In general, gravel roads in the Township maintain an adequate condition through multiple ongoing grading operations throughout the season, with the frequency of grading dependent upon traffic and road condition. Dust suppressant (calcium chloride) is also added to the gravel roads, as required. Maintenance gravel (top-up gravel) is added to the gravel roads at a frequency of approximately two years, to replenish the gravel that is lost due to normal maintenance and operations of these roads.

Municipality of Grey Highlands Road Needs Study
September 2023

During the Spring field review, numerous road sections in the Municipality were identified as having various roadside maintenance requirements. Some roadside maintenance requirements identified include brushing, ditching, and/or additional gravel. Road sections warranting such maintenance have been identified in the "Comments" field in the inventory table in Appendix A.

5.0 Road Improvement Needs

In accordance with the terms of reference for this RNS, this study has provided a review of the condition needs of the Municipality's roads. The development of a future capital plan to address these condition needs is not part of this assignment, however, the condition information assessed provides one segment of the data that should be considered in the development of such a plan. In practice, the Municipality's development of a capital plan will also consider various other factors to plan and allocate available budgets for road improvements within a capital plan.

The current road condition needs in the Municipality have been determined by applying road deficiency ratings collected in the field against the trigger value criterion set in Table 6. The Municipality's current road needs are indicated by the type of improvement shown for each road section in the road needs tables contained in Appendix C. Each road section has been prioritized in the road needs tables according to the methodology outlined in Section 3.5. The overall length and cost of road needs for the 297.79km of roads in the Municipality evaluated in May 2023 according to each improvement type has been summarized in Table 13.

Table 13: Summary of Road Improvement Needs

Improvement Type	Total Length of Current Needs	Total Cost of Current Needs
No Maintenance Required	48.14	N/A
Routine Maintenance (RM)*	131.81	\$607,779.00
Preventive Maintenance (PM)	61.24	\$1,955,316.00
Resurface (R)	33.92	\$2,781,445.00
Rehabilitation (REH)	21.11	\$4,269,537.00
Reconstruction (REC)	1.57	\$383,214.00
Total	297.79	\$9,997,291.00

* Note that all gravel roads in the Municipality are considered to have at minimum, a "Routine Maintenance" need (routine grading and dust suppressant), which have been excluded from the amounts shown on this table (i.e., the outlined "Routine Maintenance" amounts are for hardtop roads only). The total length of gravel roads requiring routine maintenance is 456.13 km, combined with the 56.61 km for hardtop roads, resulting in a total "Routine Maintenance" need of 512.74 km.

As shown in Table 13, the total cost of road improvement needs in the Municipality is approximately \$9.9 million and the total length of roads improvement needs is 297.79 km (excluding gravel road maintenance). The Municipality's current road needs are shown in the spreadsheet and map contained in Appendix C.

Road sections with rehabilitation or reconstruction needs are considered structurally deficient. Therefore, it can be concluded that approximately 22.68 km (or 3.36 %) of the Municipality's Road network is structurally deficient.

It should be noted that the improvement needs identified in this study have been based on a visual surface assessment only. It is recommended that geotechnical assessment of the subsurface conditions be completed during the detailed design stage.

6.0 Asset Management and Capital Planning Considerations

As part of this study, a ten-year road improvement plan has been developed to assist the Municipality in the development of a multi-year capital project plan. It is understood that the Municipality intends to use the updated condition information as input into their ongoing Asset Management and Capital Planning work. The updated GIS geodatabase, excel spreadsheets and mapping assist in this ongoing future work by the Municipality. Such future work may also require updating traffic data, confirming the maintenance/improvement needs and costs based on a project-level review and completing risk analysis to establish project priority within budget limitations.

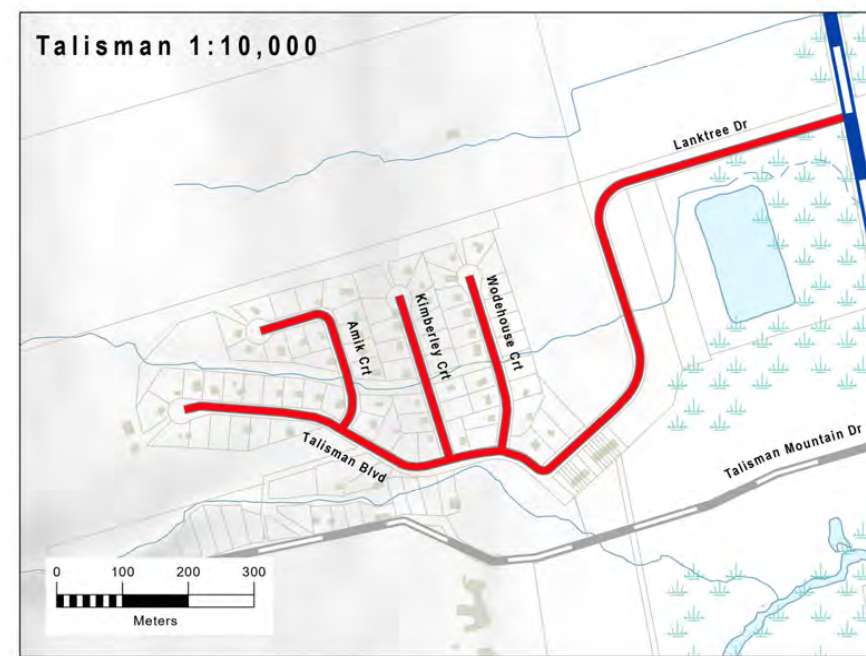
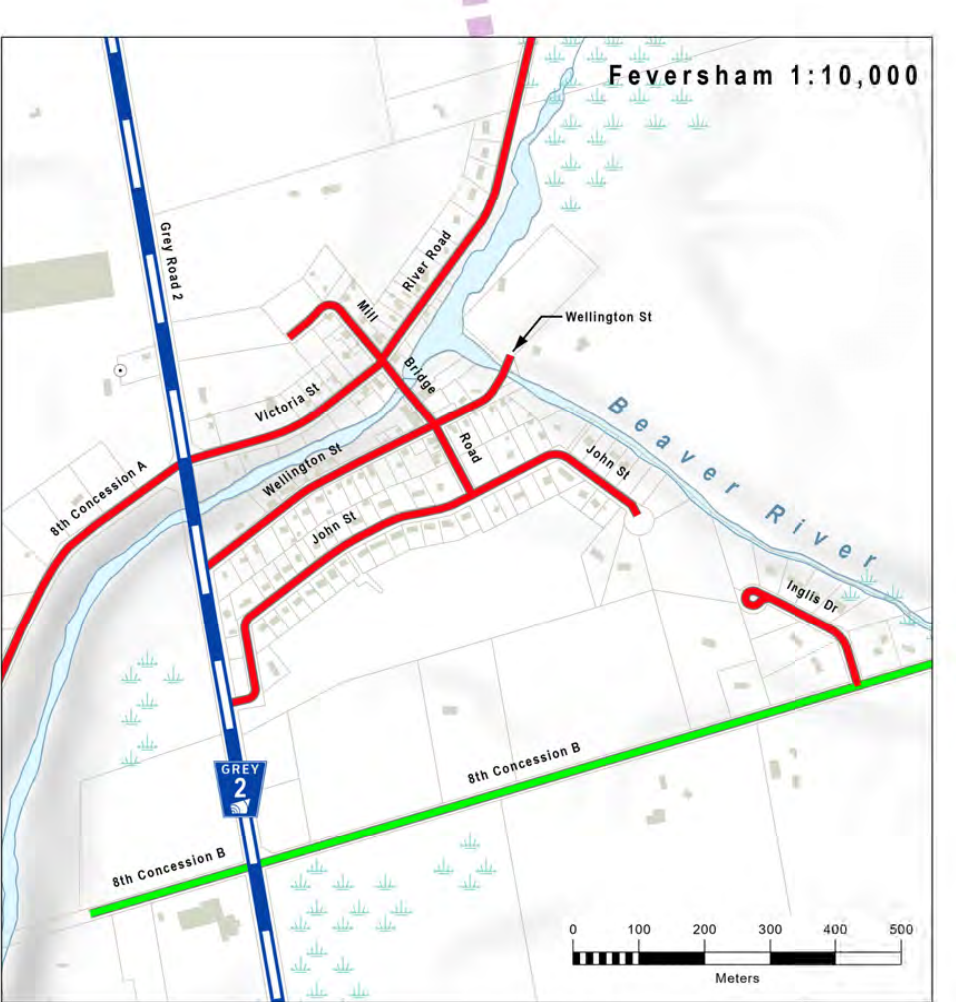
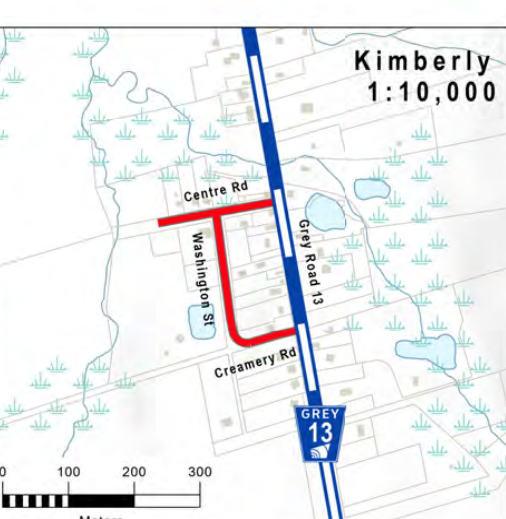
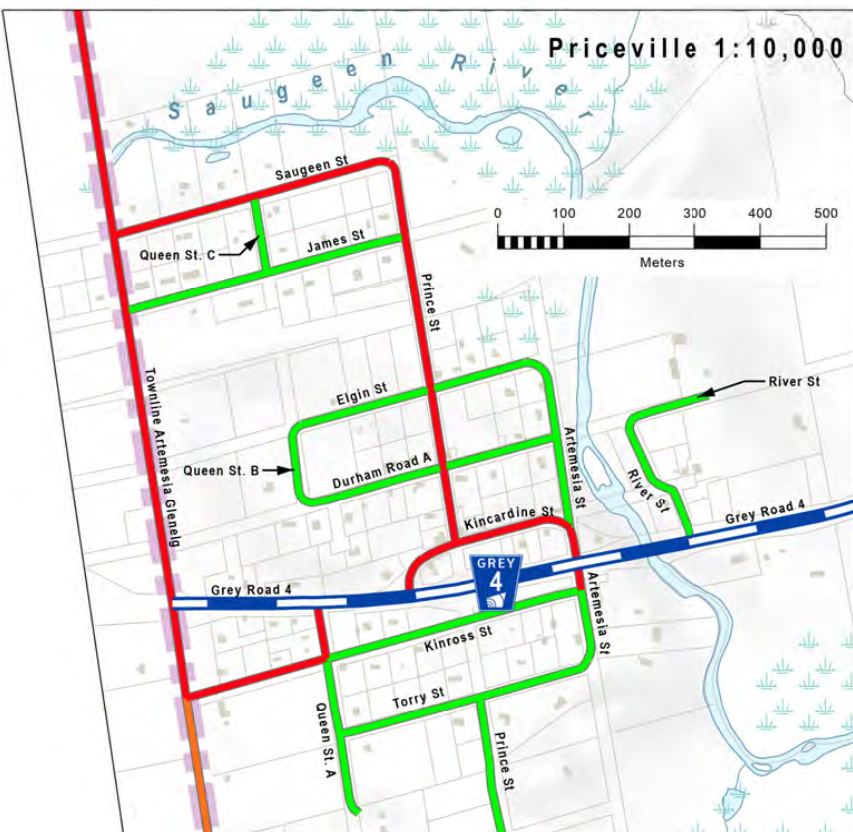
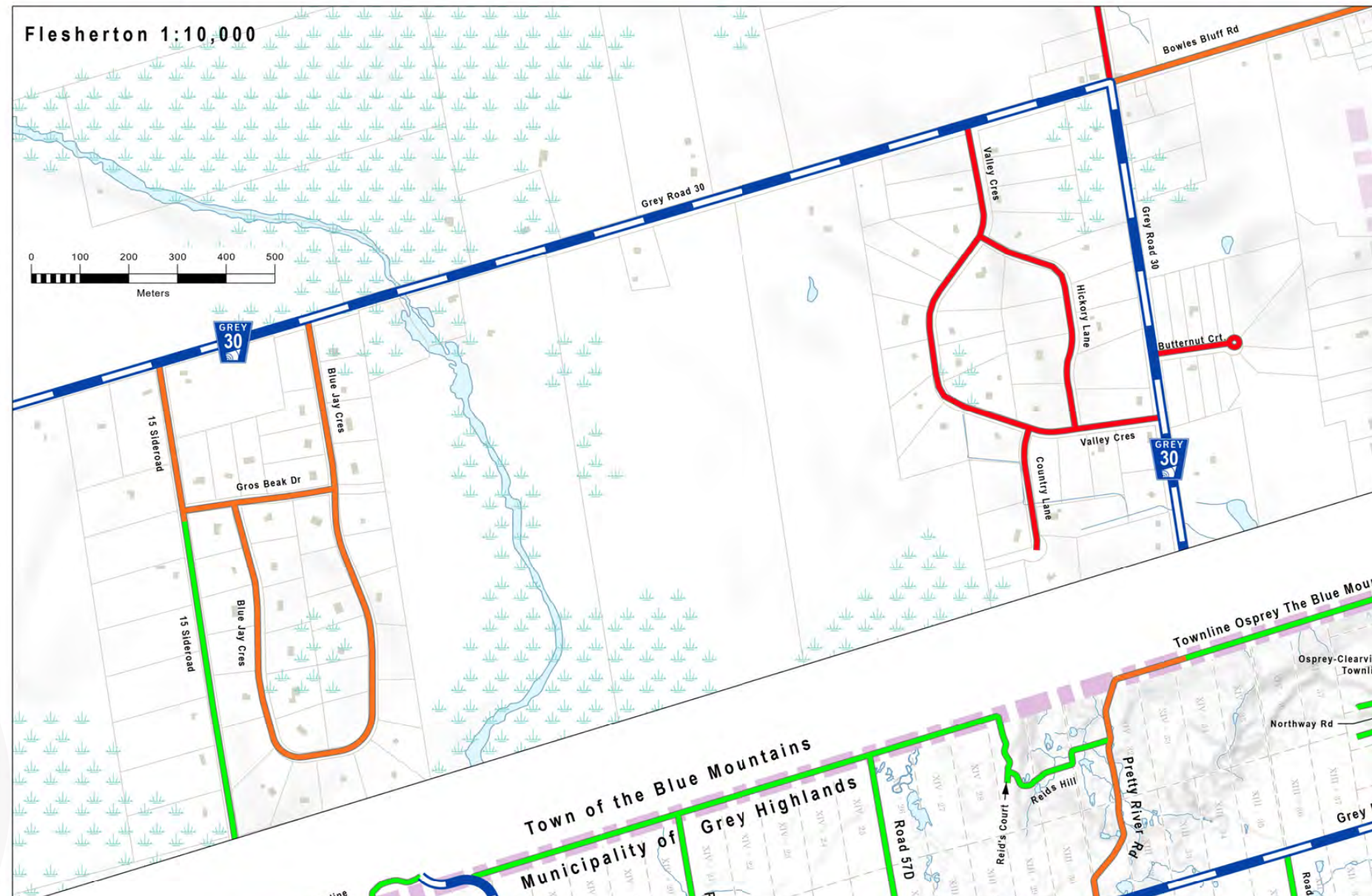
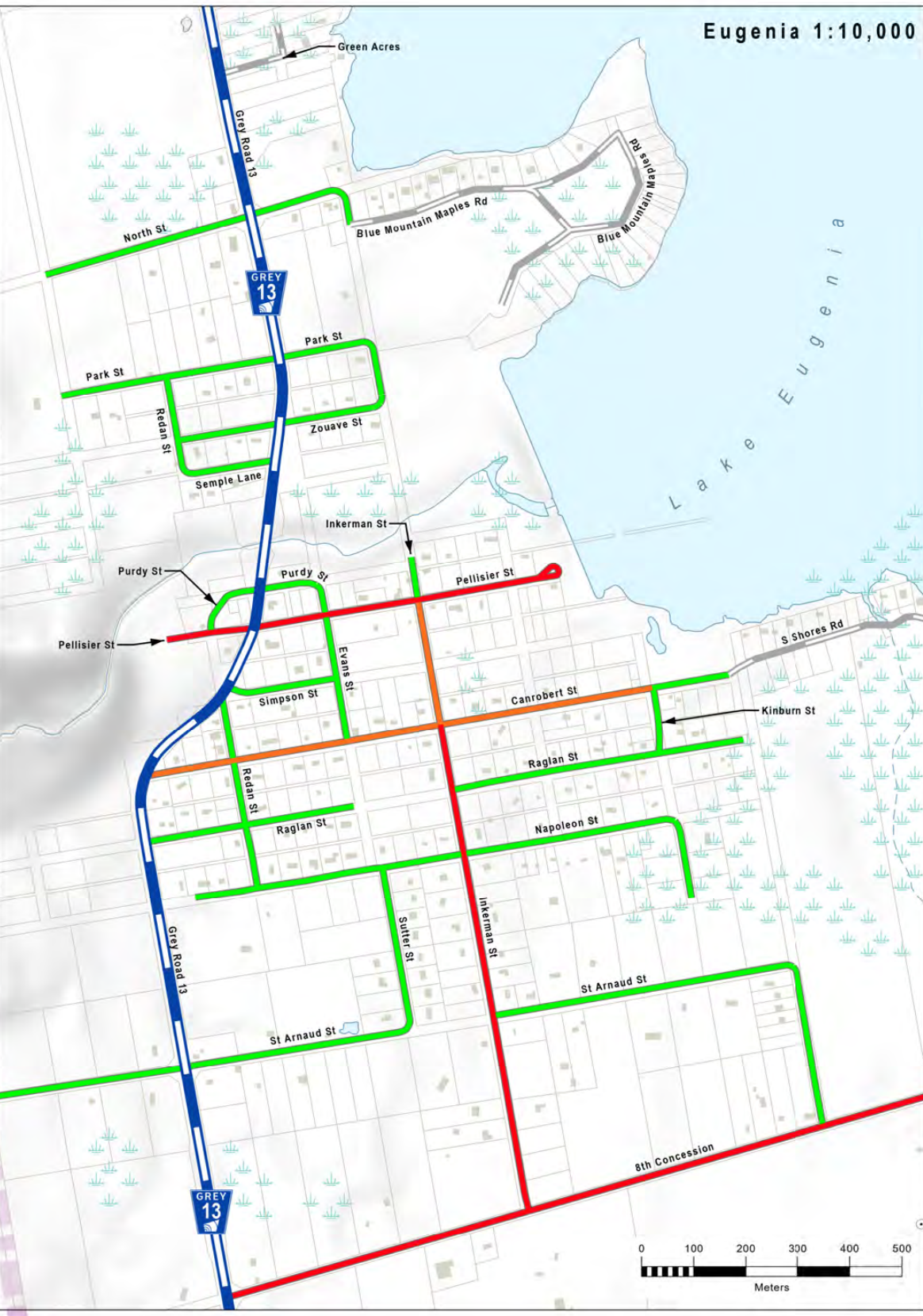
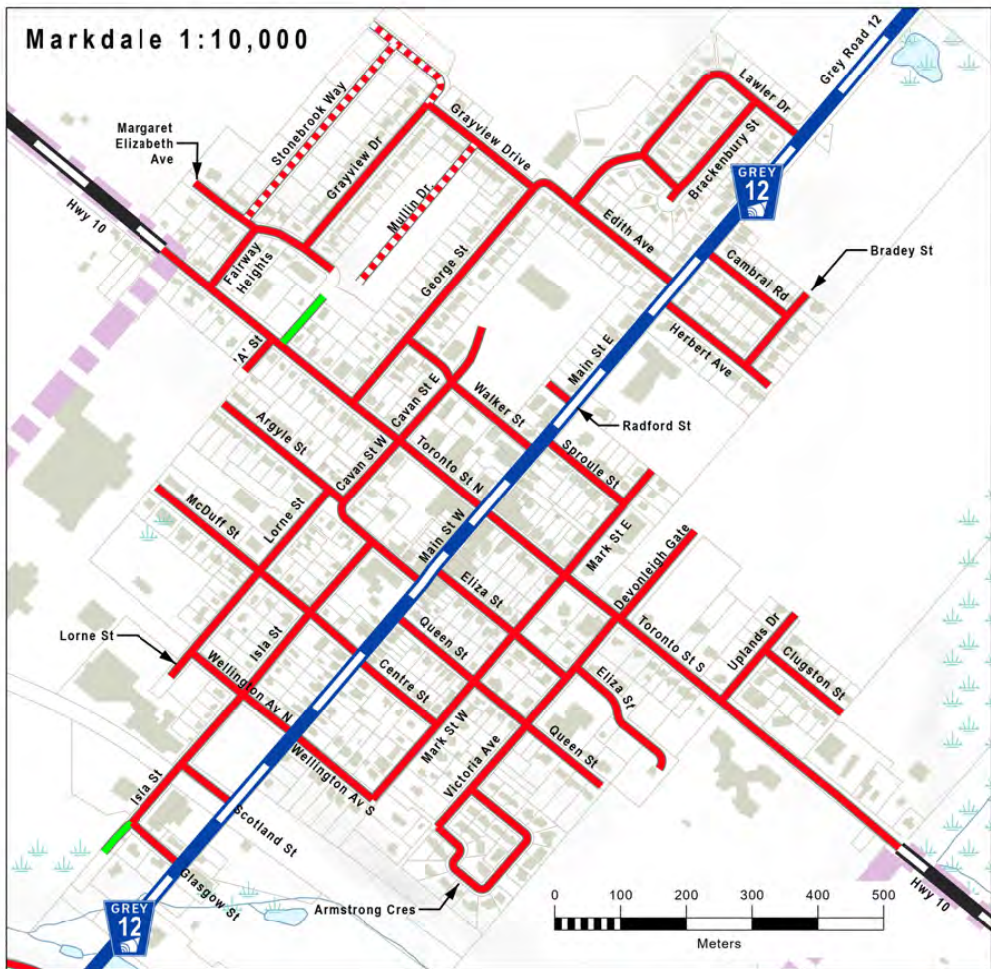
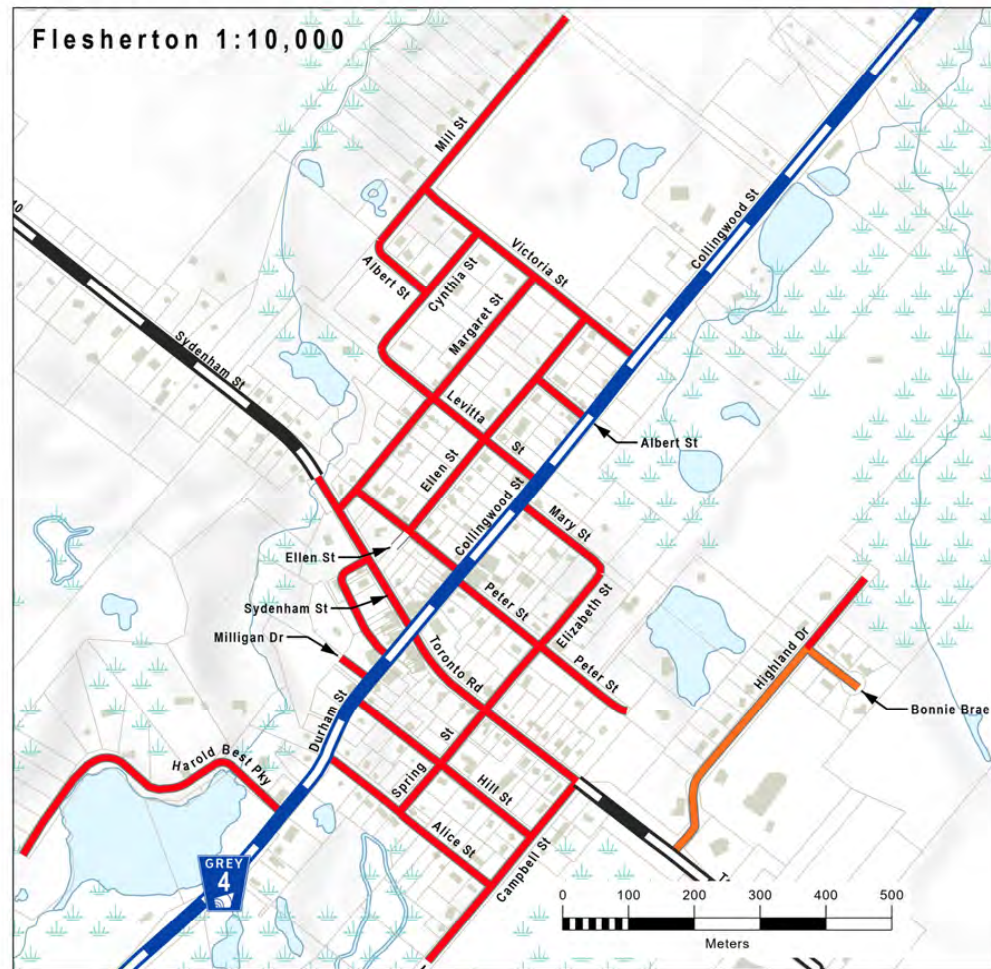
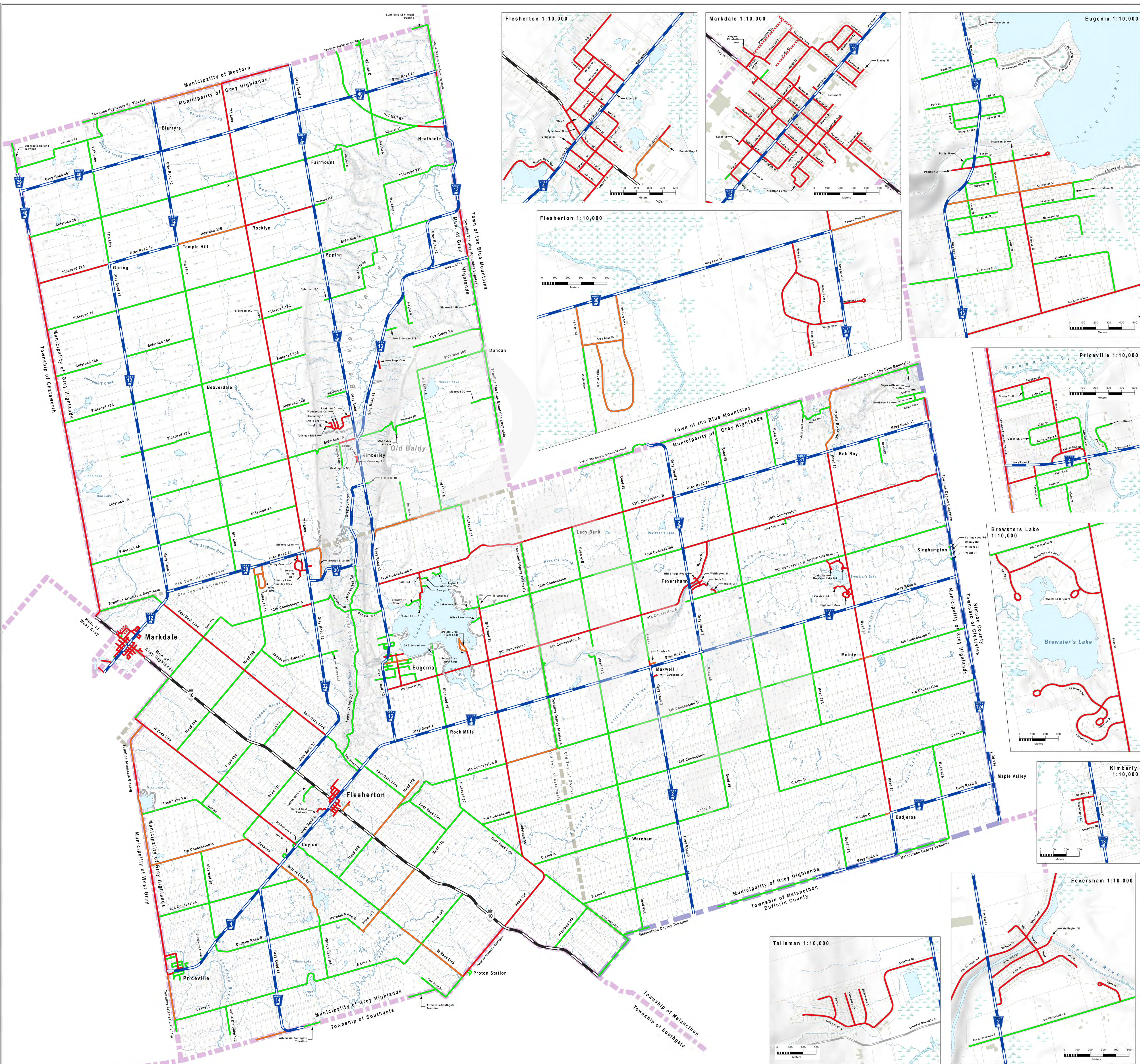
To maintain a current database for Asset Management and Capital Planning purposes, it is recommended that the Municipality complete regular updates every three to five years to update the condition ratings of the road network, to assess ongoing deterioration rates and resulting improvement requirements.



Appendix A

Road Database and Inventory Map and Table

Draft



Sources:

- 1. Ministry of Natural Resources, © Queen's Printer for Ontario
- 2. Natural Resources Canada © Her Majesty the Queen in Right of Canada
- 3. County of Grey

Disclaimer:

Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to update and future reproductions may not be identical.

Drawn: North American 1983 CSRS
Datum: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Central Meridian: 81°00'00"W
False Easting: 500,000m
False Northing: 0m
Elevation: 0
Scale: 1:10,000

Provincial Highway
County Road
Private Road

Asphalt (HCB)
Asphalt Base (BABE)
Surface Treatment (LOR)

Gravel (GST)

0 1,000 2,000 3,000 4,000 5,000
Metres

BURNSIDE

MUNICIPALITY OF GREY HIGHLANDS

ROAD NEEDS STUDY 2023
ROADS INVENTORY AND SURFACE TYPE

Client	Drawn	Checked	Date	Map No.
MUNICIPALITY OF GREY HIGHLANDS	PS	HC	2023/08/18	A
	Scale		Project No.	
	1:10,000		300055634	

Appendix A - Road Inventory Database for All Roads (Sorted by Road Name)

Municipal ID	Road Name	Name From	Name To	Community	Maintenance Percent	Winter Maintenance	Boundary Road	Maintenance Class	Patrol Frequency (O Reg 239-02)	Surface Material	Road Length (m)	Road Width (m)	Platform Width (m)	Surface Area (m ²)	Roadside Environment	Curb/Shoulders Even	Curb/Shoulders Odd	Shoulder Width (m) Even Side	Shoulder Width (m) Odd Side	Drainage Type Even Side	Drainage Type Odd Side	Posted Speed Limit (km/h)	C4 Zone Count	AADT Range	AADT	AADT Method	AADT Count Year	Truck Traffic Percent
163	10 Sideroad	2nd Concession A	Grey Road 4	Grey Highlands	100	No	No	6	Patrol Not Required	Gravel	1689	4	4	6756	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	1	Actual Count	2023	0	
186	10 Sideroad	4th Concession A	Grey Road 4	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2046	7	7.5	15345	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
550	10th Concession	Victoria Cr	35 Sd Rd	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	620	10	12	7440	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	182	Actual Count	2018	19	
676	10th Concession	Opsey-Artemesia Townline	Victoria Cr	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1408	10	12	16896	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	182	Actual Count	2018	19	
708	10th Concession	Opsey-Artemesia Townline	Road 41B	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2044	8	10	20440	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	119	Actual Count	2019	30	
418	10th Concession	Road 41B	Road 45	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2060	8	10	20600	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	50-199	125	Actual Count	2018	29
746	10th Concession	Grey Road 2	Road 45	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2039	8	9	18351	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	3	50-199	149	Actual Count	2018	24
762	10th Concession	Grey Road 2	River Road	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	949	6.7	8.7	8358.3	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0-49	36	Actual Count	2021	11	
772	10th Concession	Road 55	River Road	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	1072	6.7	8.7	7182.4	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	0-49	36	Actual Count	2021	11
790	10th Concession	Road 55	Road 57C	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2073	6.7	8.7	13886.1	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	500-999	334	Actual Count	2019	18
800	10th Concession	Road 63	Road 57C	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2061	6.7	8.7	13808.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	200-499	374	Actual Count	2021	12
492	10th Concession	Road 63	Grey Road 31	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	4111	6.7	8.7	27543.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	50-199	80	Actual Count	2021	27
943	11th Line	Sideroad 22 A	Sideroad 25	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1862	9	9.5	17689	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	50-199	69	Actual Count	2021	31	
960	11th Line	Grey Rd 40	Sideroad 25	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1868	7	7.5	14020	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	0-49	48	Actual Count	2018	18	
977	11th Line	Grey Rd 40	Deviation Rd	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1236	7	7.5	9270	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	0-49	35	Actual Count	2018	13	
632	12th Concession A	Road 110	Grey Road 32	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1722	9	9.5	16359	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	0-49	35	Actual Count	2022	10	
649	12th Concession A	15th Sd Rd	Grey Road 32	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1623	10	10.5	17043.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	50-199	63	Actual Count	2017	42	
653	12th Concession A	2.0 km west of Grey Road 32	Grey Rd 32	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	414	6.7	8.7	2773.8	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	63	Actual Count	2017	42	
718	12th Concession B	Point Rd	Grey Rd 13	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	1661	6.7	8.7	11128.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	371	Actual Count	2019	15	
732	12th Concession B	Taylor Rd	Point Rd	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	826	6.7	8.7	5601.2	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	371	Actual Count	2019	15	
740	12th Concession B	Taylor Road	Taylor Road	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	1391	6.7	8.7	8649.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	371	Actual Count	2019	15	
758	12th Concession B	Opsey-Artemesia Townline	35 Sd Rd	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2095	6.7	8.7	14036.5	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	480	Actual Count	2022	11	
778	12th Concession B	Road 41B	Opsey-Artemesia Townline	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2043	9	11	18387	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	75	Actual Count	2022	16	
792	12th Concession B	Road 41 B	Road 45	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2061	9	11	18549	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	500-999	563	Actual Count	2022	12	
822	12th Concession B	Grey Road 45	Road 57C	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2047	8.7	8.7	13714.0	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	300	Not Rec'd	N/A	N/A	
630	15 Sideroad	Road 120	12th Concession A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	973	8	9	8757	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	53	Actual Count	2022	10	
714	15 Sideroad	12th Concession A	0.03 km south of Gros Beak Dr	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1686	10	10	16860	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	50-199	100	Actual Count	2017	25	
731	15 Sideroad	Grey Rd 30	0.03 km south of Gros Beak Dr	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	339	6.7	6.94	2271.3	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	50-199	87	Actual Count	2018	12	
158	2nd Concession	East Back Line	HWY 1	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2167	10	11	17258	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	78	Actual Count	2015	0	
989	25 Sideroad	The Blue Mountains-Euphrasia Townline	West End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	759	7	7	6831	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
162	2nd Concession	10 Sideroad	Artemesia Glenelg Townline	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2021	8	8	16168	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	50-199	128	Actual Count	2018	33	
445	2nd Concession	Grey Road 4	10 Sideroad	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2028	8	8.5	17323	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	50-199	167	Actual Count	2017	26	
451	2nd Concession	Grey Road 4	Wilcox Lake Rd	Grey Highlands	100	Yes	No	4	Patrol Not Required	Gravel	1464	7	7.5	10960	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	0-49	14	Actual Count	2022	21	
56	30 Sideroad	East Back Line	4th Concession B	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1303	7	7.24	9433.72	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	50-199	58	Actual Count	2022	16	
469	30 Sideroad	Grey Road 4	Grey Road 4	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2063	7	7.5	15472.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	3	50-199	75	Actual Count	2022	21
380	30 Sideroad	Grey Road 4	Grey Road 4	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2041	9	10	16418	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	2	50-199	60	Actual Count	2019	16
302	30 Sideroad	Lakeshore Drive	8th Concession A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	138	7.5	7.74	1486.12	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	50-199	125	Range Median	N/A	N/A	
519	30 Sideroad	Lakeshore Drive	Sunset Point	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	181	6.5	6.74	1233.42	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
553	30 Sideroad	MacDonalds Rd	Sunset Point	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	187	6.5	6.74	1260.38	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	50-199	52	Actual Count	2022	17	
556	30 Sideroad	Sunset Point	Sunset Point	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	17	6.5	6.74	493.03	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	4	50-199	20	Actual Count	2022	16
214	35 Sideroad	East Back Line	3rd Concession	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	1653	6.7	8.7	11075.1	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	200-499	436	Actual Count	2015	35
65	35 Sideroad	4th Concession	4th Concession	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2053	6.7	8.7	13759.1	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	2	200-499	338	Actual Count	2018	24
394	35 Sideroad	Grey Road 4	Grey Road 4	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2055	6.7	8.7	13765.5	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0	200-499	426	Actual Count	2022	20
135	35 Sideroad	Grey Road 124	8th Concession	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2051	6.7	8.7	13741.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	2	500-999	407	Actual Count	2022	10
596	35 Sideroad	8th Concession	Willes Ln	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	1039	6.7	8.7	6961.3	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	60 km/h	0-49	26	Actual Count	2022	10	
628	35 Sideroad	Willes Ln	Willes Ln	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	4301.4	8.7	8.7	37801.4	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	444	Actual Count	2016	N/A	
642	35 Sideroad	Willes Ln	Lakeshore Blvd	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	449	6.7	8.7	3008.3	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	200-499	444	Actual Count	2016	N/A	
263	35 Sideroad	Lakeshore Blvd	Penny Ln	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	306	7	7.5	5147.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	50-199	125	Range Median	N/A	N/A	
670	35 Sideroad	Penny Ln	Valley Ridge	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	153	7	7.5	1147.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	50-199	125	Range Median	N/A	N/A	
797	35 Sideroad	12th Concession B	Artemesia-Euphrasia Townline	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1985	8	9	17874	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
213	35 Sideroad	East Back Line	East Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1322	10	10	13220	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	50-199	14	Actual Count	2022	16	
45	3rd Concession	Road 41 A	Road 41 A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	4091	8	10	40910	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	8	50-199	127	Actual Count	2022	30
60	3rd Concession	Road 41 A	Grey Road 2	Grey Highlands	100	Yes																						

Appendix A - Road Inventory Database for All Roads (Sorted by Road Name)

Municipal ID	Road Name	Name From	Name To	Community	Maintenance Percent	Winter Maintenance	Boundary Road	Maintenance Class	Patrol Frequency (0 Reg 239-02)	Surface Material	Road Length (m)	Road Width (m)	Platform Width (m)	Surface Area (m ²)	Roadside Environment	Curb/Shoulders Even	Curb/Shoulders Odd	Shoulder Width (m) Odd Side	Shoulder Width (m) Odd Side	Drainage Type Even Side	Drainage Type Odd Side	Posted Speed Limit (km/h)	C4 Zone Count	AADT Range	AADT	AADT Method	AADT Count Year	Truck Traffic Percent
782	9th Line	Sideroad 4A	1.0 km south of Sideroad 4A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1852	9	10	18520	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		50-199	189	Actual Count	2022	24
491	9th Line	Sideroad 7A	Sideroad 4A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1894	8	9	17046	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		50-199	103	Actual Count	2020	24
831	9th Line	Sideroad 10A	Sideroad 7A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1873	9	10	18720	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		50-199	61	Actual Count	2021	22
884	9th Line	Sideroad 13A	Sideroad 10A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1889	9	11	20779	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		50-199	117	Actual Count	2023	17
896	9th Line	Sideroad 16B	Grey Highlands	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1846	9	10	18460	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		50-199	70	Actual Count	2020	19
916	9th Line	Sideroad 19	Sideroad 16B	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1869	8	10	18690	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		50-199	50	Actual Count	2019	15
930	9th Line	Sideroad 22 B	Sideroad 19	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1853	9	11	20883	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		50-199	67	Actual Count	2023	13
574	'A' St	Toronto St N	West End	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	65	6.7	6.7	435.5	Semi-Urban	No Shoulder	No Shoulder	0	0	Non-Applicable	Non-Applicable	50 km/h		0-49	25	Range Median	N/A	N/A
25	Albert St	Ellen St	Collingwood St	Flesherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	101	9	10	909	Semi-Urban	Swale - Paved Gutter	Swale - Paved Gutter	0.5	0.5	Non-Applicable	Non-Applicable	50 km/h		0-49	4	Actual Count	2022	7
46	Albert St	Mill St	Cynthia St	Flesherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	113	6.7	8.7	757.1	Semi-Urban	Grass Shoulder	Grass Shoulder	1	1	Open Ditch	Non-Applicable	50 km/h		50-199	125	Range Median	N/A	N/A
225	Alice St	Canrobert St	Flesherton	Flesherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	181	8	8	1448	Urban	Swale - Paved Gutter	No Shoulder	0	0	No Ditch	No Ditch	50 km/h		50-199	135	Actual Count	2021	9
234	Alice St	Spring St	Durham Rd	Flesherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	142	8	8	1136	Urban	Swale - Paved Gutter	No Shoulder	0	0	Non-Applicable	Non-Applicable	50 km/h		0-49	40	Actual Count	2020	6
845	Amik Crt	Talisman Blvd	North End Cul-De-Sac	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	291	6.7	8.7	1949.7	Semi-Urban	Swale - Paved Gutter	Swale - Paved Gutter	1	1	Open Ditch	Open Ditch	50 km/h		0-49	38	Actual Count	2020	27
555	Argyle St	Main St W	Idla St	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	100	11.2	11.2	1120	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h		1000-1999	1516	Actual Count	2023	38
402	Argyle St	Idla St	Carvan St W	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	83	11.3	11.3	937.9	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h		1000-1999	1500	Range Median	N/A	N/A
565	Argyle St	Lorne St	Carvan St W	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	239	8.7	8.7	2079.3	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h		500-999	750	Range Median	N/A	N/A
379	Armstrong Cres	Victoria Ave	Victoria Ave	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	359	8.5	8.5	3051.5	Urban	Mountable Curb	Mountable Curb	0	0	Storm Sewer	Storm Sewer	50 km/h		50-199	100	Estimate	N/A	N/A
111	Artemesia St	Kinrossine St	Durham Rd A	Princville	100	Yes	No	6	Patrol Not Required	Gravel	144	6	6	864	Semi-Urban	No Shoulder	No Shoulder	0	0	Open Ditch	Open Ditch	50 km/h		50-199	125	Range Median	N/A	N/A
102	Artemesia St	Grey Road 4	Princville	Princville	100	Yes	No	6	Patrol Not Required	High Class Bituminous	42	6.7	7.7	281.4	Semi-Urban	Grass Shoulder	Grass Shoulder	0.5	0.5	Non-Applicable	Adjacent Road, Storm Sewer	50 km/h		0-49	46	Actual Count	2018	4
118	Artemesia St	Durham Rd A	Elgin St	Princville	100	Yes	No	6	Patrol Not Required	Gravel	136	6	6	816	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h		50-199	125	Range Median	N/A	N/A
100	Artemesia St	Kinross St	Toronto Street	Princville	100	Yes	No	6	Patrol Not Required	Gravel	110	5	5	550	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h		0-49	11	Actual Count	2023	14
607	Artemesia-Euphrasia Townline	East Back Line	0.19 km west of East Back Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	193	5	6	1155	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		0-49	25	Range Median	N/A	N/A
788	Artemesia-Euphrasia Townline	4th Line A	Grey Road 13	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	1584	6.7	7.7	10612.8	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		50-199	102	Actual Count	2020	9
794	Artemesia-Euphrasia Townline	3rd Line A	4th Line A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	1372	6.7	7.7	9192.4	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		50-199	102	Actual Count	2020	9
796	Euphrasia Townline	3rd Line A	2nd Line A	Grey Highlands	100	No	6	Patrol Not Required	Gravel	791	6	6	3951	Urban	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h		0-49	25	Range Median	N/A	N/A	
641	Artemesia-Euphrasia Townline	Euphrasia-Holland Townline	0.19 km west of East Back Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1942	7	8	15536	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		0-49	25	Range Median	N/A	N/A
95	Artemesia-Gleneg Townline	Grey Road 4	Kinross St	Grey Highlands	50	Yes	Yes	5	Once Every 30 Days	High Class Bituminous	149	6.7	7.7	998.3	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	60 km/h		200-499	224	Actual Count	2018	12
119	Artemesia-Gleneg Townline	James St	Grey Road 4	Grey Highlands	50	Yes	Yes	5	Once Every 30 Days	High Class Bituminous	461	6.7	7.7	3088.7	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	60 km/h		200-499	300	Not Recorded	N/A	N/A
476	Artemesia-Gleneg Townline	Concession 8	West Back Line	Grey Highlands	50	Yes	Yes	4	Once Every 14 Days	Low Class Bituminous	1678	6.7	8.7	11421.6	Rural	Gravel Shoulder	Gravel Shoulder	0.5	1	Open Ditch	Open Ditch	60 km/h		50-199	205	Range Median	N/A	N/A
71	Artemesia-Gleneg Townline	Souhtline A	Southline A	Grey Highlands - West Grey	50	Yes	Yes	6	Patrol Not Required	Gravel	493	5	6	2958	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		0-49	25	Range Median	N/A	N/A
86	Artemesia-Gleneg Townline	Kinross St	Southline A	Grey Highlands - West Grey	50	Yes	Yes	6	Patrol Not Required	Low Class Bituminous	1798	6.7	7.7	12046.6	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		0-49	28	Actual Count	2023	9
127	Artemesia-Gleneg Townline	Sagehen St	James St	Grey Highlands - West Grey	50	Yes	Yes	5	Once Every 30 Days	High Class Bituminous	119	6.7	7.7	797.3	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	60 km/h		200-499	300	Not Recorded	N/A	N/A
145	Artemesia-Gleneg Townline	2nd Concession	Sagehen St	Grey Highlands - West Grey	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	1567	6.7	8.7	10488.9	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	200-499	300	Not Recorded	N/A	N/A
173	Artemesia-Gleneg Townline	2nd Concession	4th Concession	Grey Highlands - West Grey	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	2042	6.7	8.7	13681.4	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		500-999	644	Actual Count	2024	52
215	Artemesia-Gleneg Townline	4th Concession	Irish Lake Road	Grey Highlands - West Grey	50	Yes	Yes	4	Once Every 14 Days	Low Class Bituminous	2045	6.7	8.7	13701.5	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		500-999	558	Actual Count	2018	40
23	Artemesia-Gleneg Townline	Irish Lake Road	Pinewood Dr	Grey Highlands - West Grey	50	Yes	Yes	6	Patrol Not Required	High Class Bituminous	837	6.7	8.7	5607.9	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	40 km/h		200-499	331	Actual Count	2015	24
285	Artemesia-Gleneg Townline	Pinewood Dr	Concession 8	Grey Highlands - West Grey	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	1271	6.7	8.7	8180.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	500-999	504	Actual Count	2021	8
637	Artemesia-Holland Townline	HWY 10	Artemesia-Euphrasia Townline	Grey Highlands - Chataworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	226	6.7	8.7	1849.2	Rural	Granular A Shoulder	Granular A Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		500-999	635	Actual Count	2018	11
68	Artemesia-Southgate Townline	Grey Road 14	7th Sd Rd	Grey Highlands - Southgate	50	Not Recorded		4	Once Every 14 Days	Low Class Bituminous	1253	6.7	8.7	8395.1	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		50-199	125	Range Median	N/A	N/A
70	Artemesia-Southgate Townline	East End	East End	Grey Highlands - Southgate	50	Yes	Yes	6	Patrol Not Required	Gravel	509	7.7	7.24	3960.76	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h		0-49	25	Range Median	N/A	N/A
78	Artemesia-Southgate Townline	Boar Farm Rd	Southgate Southgate Road 15	Grey Highlands - Southgate	50	Yes	Yes	4	Once Every 14 Days	Gravel	1100	8	9	9900	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		0-49	25	Range Median	N/A	N/A
81	Artemesia-Southgate Townline	West Back Line	Boar Farm Rd	Grey Highlands - Southgate	50	Not Recorded		6	Patrol Not Required	Gravel	1038	7.7	7.24	7515.12	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	60 km/h		0-49	25	Range Median	N/A	N/A
148	Artemesia-Southgate Townline	Highway 10	West Back Line	Grey Highlands - Southgate	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	2505	6.7	8.7	15783.5	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	2	200-499	427	Actual Count	2019	39
602	Baragar Rd	Point Rd	East End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	223	8	10	1280	Semi-Urban	Not Recorded	Not Recorded	1	1	Not Recorded	Not Recorded	50 km/h		0-49	25	Range Median	N/A	N/A
175	Baseline	2nd Concession	Grey Road 4	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	822	6.7	8.7	5507.4	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	363	Actual Count	2017	40
195	Baseline	Grey Highlands	Grey Road 4	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	1054	6.7	8.7	11081.8	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	279	Actual Count	2021	13
201	Baseline	Road 140	4th Concession	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	170	9	9	1190	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h		0-49	9	Actual Count	2023	13
245	Baseline	Road 130	Road End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	256	8.5	8.5	2100	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h		0-49	3	Actual Count	2021	13
262	Baseline	Road 130	Irish Lake Road	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	171	9.1	9.1	2466.1	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h		0-49	3	Actual Count	2022	N/A
2	Beachell St	Collingwood St	Ellen St	Flesherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	101	9	9	909	Urban	Barrier Curb	Swale - Paved Gutter	0	0	Adjacent Road, Storm Sewer	Adjacent Road, Storm Sewer	50 km/h		50-199	128	Actual Count	2021	0
8	Beachell St	Margaret St	Ellen St	Flesherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	103	9	9	927	Urban	Swale - Paved Gutter	Swale - Paved Gutter	0	0	Non-Applicable	Non-Applicable	50 km/h		0-49	9	Actual Count	2022	13
327	Beau Line	Napoleon Street	Dead End	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	155	10	8	1550	Semi-Urban	No Shoulder	Not Recorded	0	0	Non-Applicable	Not Recorded	50 km/h		0-49	19	Actual Count	2021	21
181	Beil St	Grey Road 4	Jane St	Grey Highlands	100	Yes	No	4	1004	Semi-Urban	251	4	4	1004	Semi-Urban	Not Recorded												

Appendix A - Road Inventory Database for All Roads (Sorted by Road Name)

Municipal ID	Road Name	Name From	Name To	Community	Maintenance Percent	Winter Maintenance	Boundary Road	Maintenance Class	Patrol Frequency (O Reg 239-02)	Surface Material	Road Length (m)	Road Width (m)	Platform Width (m)	Surface Area (m ²)	Roadside Environment	Curb/Shoulders Even	Curb/Shoulders Odd	Shoulder Width (m) Even Side	Shoulder Width (m) Odd Side	Drainage Type Even Side	Drainage Type Odd Side	Posted Speed Limit (km/h)	C4 Zone Count	AADT Range	AADT	AADT Method	AADT Count Year	Truck Traffic Percent	
110	Durham Road A	Artemisia St	Prince St	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	179	6	6	1074	Semi-Urban	No Shoulder	No Shoulder	0	0	Non-Applicable	Non-Applicable	50 km/h		50-199	125	Range Median	N/A	N/A	
108	Durham Road A	Queen St B	Queen St	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	204	6	6	1224	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h		50-199	54	Actual Count	2023	6	
869	Eagle Cres	Northway Rd	West End Cul-de-Sac	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	760	9	11	8360	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	50 km/h		50-199	153	Actual Count	2020	5	
873	Eagle Cres	Osprey-Clearview Townline	Northway Rd	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	367	9	11	4037	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	50 km/h		50-199	153	Actual Count	2020	5	
141	East Back Line	Melanchton-Osprey Townline	Melanchton-Osprey Townline	Grey Highlands	50	Yes	No	4	Once Every 14 Days	Gravel	289	6.7	6.7	1936.3	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	1	50-199	114	Actual Count	2023	20	
159	East Back Line	Melanchton-Osprey Townline	Sideroad 200	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1726	10	12	20712	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	50-199	139	Actual Count	2018	44	
161	East Back Line	Sideroad 200	South Line B	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	181	10	12	2172	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	50-199	61	Actual Count	2022	28	
165	East Back Line	South Line B	Road 190	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1950	10	10.5	20475	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	5	50-199	122	Actual Count	2015	38	
19	East Back Line	East Back Line A	Centre Line A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	581	6.7	8.7	3892.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	2	50-199	94	Actual Count	2016	36	
179	East Back Line	Centre Line A	Sideroad 35	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	521	6.7	8.7	4496.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	500-999	365	Actual Count	2022	22	
205	East Back Line	Sideroad 35	3rd Concession	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1993	8	8	15936	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	2	50-199	94	Actual Count	2016	36	
256	East Back Line	Road 170	4th Concession B	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1834	7	7	12638	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h		0-49	5	Actual Count	2022	6	
227	East Back Line	Road 170	3rd Concession	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	935	8	8	7480	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	1	50-199	125	Range Median	N/A	N/A	
63	East Back Line	Road 160	Grey Road 4	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2043	10	11	22473	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		50-199	70	Actual Count	2022	12	
271	East Back Line	Grey Road 4	Lower Valley Rd	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	910	9	9	8190	Rural	Gravel Shoulder	Gravel Shoulder	0	0	Open Ditch	Open Ditch	50 km/h		50-199	186	Actual Count	2019	16	
278	East Back Line	Grey Road 32	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	16173	6.7	8.7	10847.3	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		500-999	605	Actual Count	2015	43	
312	East Back Line	Road 132	Road 120	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2441	6.7	8.7	16354.7	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	258	Actual Count	2022	14	
581	East Back Line	Road 120	Road 110	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2042	6.7	8.7	13681.4	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	348	Actual Count	2019	45	
652	East Back Line	Road 110	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2042	6.7	8.7	13681.4	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		500-999	722	Actual Count	2024	47	
668	East Back Line	Grey Road 12	Artemisia - Euphrasia Townline	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	484	5	6	2904	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		0-49	25	Range Median	N/A	N/A	
462	East Back Line	Grey Road 12	Lower Valley Rd	Grey Highlands	100	Yes	No	5	Once Every 30 Days	Gravel	1019	9	9	7171	Rural	Gravel Shoulder	Gravel Shoulder	0	0	Open Ditch	Open Ditch	50 km/h		200-499	421	Actual Count	2016	31	
386	East Back Line	8th Concession	St Annaud St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	320	8	9.24	2956.8	Rural	Not Recorded	Not Recorded	0	0.12	0.12	Open Ditch	Open Ditch	50 km/h		0-49	1	Actual Count	2020	0
9999	Edgar St	Artemesia-Southgate Townline	Elder St	Southgate	50	Yes	Non-Applicable	-1	Not Calculated	Gravel	160		0	0	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	Not Recorded		0-49		Not Recorded		0	
605	Edith Ave	Main St E	Brackenbury Street	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	200	8.4	8.4	1680	Urban	Mountable Curb	Mountable Curb	0	0	Storm Sewer	Storm Sewer	50 km/h		500-999	844	Actual Count	2022	34	
609	Edith Ave	Brackenbury Street	Brackenbury Street	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	75	8.4	8.4	630	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h		200-499	300	Not Recorded	N/A	N/A	
9999	Elder St	Edgar Street	End	Southgate	50	Yes	Non-Applicable	-1	Not Calculated	Gravel	89		0	0	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	Not Recorded		0-49		Not Recorded		0	
9999	Elder St	Edgar St	Edgar St	Southgate	50	Yes	Non-Applicable	-1	Not Calculated	Gravel	93		0	0	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	Not Recorded		0-49		Not Recorded		0	
111	Elgin St	Prince St	Queen St	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	204	6	6	1224	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h		50-199	125	Range Median	N/A	N/A	
117	Elgin St	Artemesia St	Prince St	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	140	6	6	864	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h		50-199	125	Range Median	N/A	N/A	
515	Eliza St	Victoria St	South End	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	216	5.5	5.5	1188	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0	0	Non-Applicable	Non-Applicable	50 km/h		50-199	77	Actual Count	2018	0	
524	Eliza St	Mark St W	Victoria Avenue	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	105	5.9	5.9	619.5	Urban	Barrier Curb	Mountable	0	0	Storm Sewer	Storm Sewer	50 km/h		50-199	125	Range Median	N/A	N/A	
548	Eliza St	Main St W	Mark St W	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	159	5.9	5.9	938.1	Urban	Barrier Curb	Mountable	0	0	Storm Sewer	Storm Sewer	50 km/h		50-199	125	Range Median	N/A	N/A	
246	Elizabeth St	Toronto Road	Fleisherton	Fleisherton	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	129	10	10	1400	Semi-Urban	No Curb	No Curb	0	0	Non-Applicable	Non-Applicable	50 km/h		200-499	284	Actual Count	2018	0	
254	Elizabeth St	Peter St	Mary St	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	147	6.7	6.7	984.9	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0	0	Non-Applicable	Non-Applicable	50 km/h		0-49	9	Actual Count	2021	3	
1	Ellen St	Beachell St	West End	Fleisherton	100	Yes	No	6	Patrol Not Required	Earth	34	6.7	7.7	261.8	Rural	No Shoulder	No Shoulder	0.5	0.5	No Ditch	No Ditch	50 km/h		0-49	5	Actual Count	2021	3	
13	Ellen St	Beachell St	Levitt St	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	183	6.7	7.7	1226.1	Semi-Urban	Grass	Grass	0.5	0.5	No Ditch	No Ditch	50 km/h		500-999	400	Actual Count	2021	1	
24	Ellen St	Levitt St	Levitt St	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	124	6.7	7.7	830.8	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0.5	0.5	Open Ditch	Non-Applicable	50 km/h		50-199	58	Actual Count	2022	9	
33	Ellen St	Albert St	Fleisherton	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	120	6.7	7.7	804	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0.5	0.5	Non-Applicable	Non-Applicable	50 km/h		0-49	5	Actual Count	2022	13	
735	Euphrasia-Holland Townline	Sideroad 4A	Euphrasia-Holland Townline	Grey Highlands - Chatsworth	50	Yes	Yes	3	Once Every 7 Days	High Class Bituminous	1869	6.7	8.7	12522.3	Rural	Granular A Shoulder	Granular A Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		1000-1999	1192	Actual Count	2023	14	
844	Euphrasia-Holland Townline	Sideroad 4A	Sideroad 4A	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	804	6.7	8.7	6056.8	Rural	Granular A Shoulder	Granular A Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	205	Actual Count	2016	4	
1022	Euphrasia-Holland Townline	3.0 km north of East Back Line	East Back Line	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	2981	6.7	8.7	19972.7	Rural	Granular A Shoulder	Granular A Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	260	Actual Count	2023	4	
890	Euphrasia-Holland Townline	Sideroad 13A	3.0 km north of East Back Line	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	1772	6.7	8.7	11872.4	Rural	Granular A Shoulder	Granular A Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	490	Actual Count	2022	21	
890	Euphrasia-Holland Townline	Sideroad 13A	Sideroad 13A	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	1859	6.7	8.7	12455.3	Rural	Granular A Shoulder	Granular A Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	478	Actual Count	2024	18	
890	Euphrasia-Holland Townline	Sideroad 15A	Sideroad 15A	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	1860	6.7	8.7	12461	Rural	Granular A Shoulder	Granular A Shoulder	0	0	Open Ditch	Open Ditch	80 km/h		200-499	464	Actual Count	2021	17	
917	Euphrasia-Holland Townline	Sideroad 22 A	Sideroad 19	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	1854	6.7	8.7	12421.8	Rural	Granular A Shoulder	Granular A Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	402	Actual Count	2020	6	
931	Euphrasia-Holland Townline	Sideroad 22 A	Sideroad 25	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	1855	6.7	7.7	12428.5	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		500-999	548	Actual Count	2020	10	
935	Euphrasia-Holland Townline	Grey Road 40	Sideroad 25	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	84	6.7	6.7	562.8	Rural	Granular A Shoulder	Granular A Shoulder	0	0	Open Ditch	Open Ditch	80 km/h		200-499	400	Estimate	N/A	N/A	
963	Euphrasia-Holland Townline	Deviation Rd	Grey Road 29	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	High Class Bituminous	84	6.7	6.7	562.8	Rural	Granular A Shoulder	Granular A Shoulder	0	0	Open Ditch	Open Ditch	80 km/h		200-499	400	Estimate	N/A	N/A	
971	Euphrasia-Holland Townline	Holland Sydenham Townline	Deviation Rd	Grey Highlands - Chatsworth	50	Yes	Yes	4	Once Every 14 Days	Gravel	1028	7	7	7196	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h		50-199	75	Estimate	N/A	N/A	
263	Euphrasia-St Vincent Townline	3rd Line	End	Grey Highlands	50	Not Recorded	No	6	Patrol Not Required	Gravel	319	6.5	6.5	2073.5	Rural	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	80 km/h		0-49	25	Range Median	N/A	N/A	
1018	Euphrasia-St Vincent Townline	The Blue Mountains-Euphrasia Townline	11th Line	Grey Highlands - Meaford	50	Yes	Yes	4	Once Every 14 Days	Gravel	593	8	8	4193.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h		50-199	50	Estimate	N/A	N/A	
987	Euphrasia-St Vincent Townline	11th Line	Grey Highlands - Meaford	Grey Highlands - Meaford	50	Yes	Yes	4	Once Every 14 Days	Gravel	593	8	8	4193.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h		50-199	50	Estimate	N/A	N/A	
994	Euphrasia-St Vincent Townline	Deviation Rd	0.26 km West of Grey Road 12	Grey Highlands - Meaford	50	Yes	Yes	4	Once Every 14 Days	Gravel	1953	9	10	19530	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.										

Appendix A - Road Inventory Database for All Roads (Sorted by Road Name)

Municipal ID	Road Name	Name From	Name To	Community	Maintenance Percent	Winter Maintenance	Boundary Road	Maintenance Class	Patrol Frequency (0 Reg 239-02)	Surface Material	Road Length (m)	Road Width (m)	Platform Width (m)	Surface Area (m ²)	Roadside Environment	Curb/Shoulders Even	Curb/Shoulders Odd	Shoulder Width (m) Even Side	Shoulder Width (m) Odd Side	Drainage Type Even Side	Drainage Type Odd Side	Posted Speed Limit (km/h)	C4 Zone Count	AADT Range	AADT	AADT Method	AADT Count Year	Truck Traffic Percent	
92	Kinross St	Queen St	Artemesia Glenview Townline	Priceville	100	Yes	No	6	Patrol Not Required	High Class Bituminous	222	6.7	8.7	1487.4	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	1	1	Open Ditch	Open Ditch	50 km/h	0-49	19	Actual Count	2023	7		
9999	Lagoon Road	Highway 10	West End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	870	6	6	5220	Rural	Patrol Not Recorded	Patrol Not Recorded	0	0	Open Ditch	Open Ditch	50 km/h	0-49	10	Estimate	N/A	N/A	N/A	
643	Lakeshore Blvd	Sir Williams Ln	Lakeshore Boulevard	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	273	7	7.5	2047.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	200-499	300	Not Recorded	N/A	N/A	N/A	
645	Lakeshore Blvd	Sideroad 35	Sir Williams Ln	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	319	7	7.5	2392.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	200-499	300	Not Recorded	N/A	N/A	N/A	
683	Lakeview Rd	Highpoint Cr	South End	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	298	6.7	7.7	1996.6	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	6	Actual Count	2021	36		
691	Lakeview Rd	Highpoint Cr	North End	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	735	6.7	7.7	4924.5	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	14	Actual Count	2021	13		
855	Larkins Dr	Talmon Blvd	Grey Road 7	Grey Highlands	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	883	6.7	8.7	5916.1	Semi-Urban	Granular A Shoulder	Granular A Shoulder	1	1	Open Ditch	Open Ditch	50 km/h	200-499	226	Actual Count	2023	23		
622	Lawler Dr	Brackenbury St	Markdale	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	246	7.4	7.4	1820.4	Semi-Urban	Mountable Curb	Mountable Curb	0	0	Open Ditch	Open Ditch	50 km/h	50-199	125	Range Median	N/A	N/A	N/A	
621	Lawler Dr	Main St E	Markdale	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	90	7.4	7.4	666	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0	0	Not Recorded	Not Recorded	50 km/h	50-199	125	Range Median	N/A	N/A	N/A	
22	Levitta St	Ellen St	Collingwood Street	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	105	6.7	6.7	703.5	Semi-Urban	Swale - Paved Gutter	Swale - Paved Gutter	0	0	Adjacent Road, Storm Sewer	Adjacent Road, Storm Sewer	50 km/h	0-49	25	Estimate	N/A	N/A	N/A	
23	Levitta St	Margaret St	Fleisherton	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	100	6.7	6.7	670	Semi-Urban	Grass	Grass	0	0	Open Ditch	Open Ditch	50 km/h	0-49	25	Estimate	N/A	N/A	N/A	
31	Levitta St	Cynthia St	Fleisherton	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	110	6.7	7.7	737	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0.5	0.5	Not Recorded	Not Recorded	50 km/h	50-199	53	Actual Count	2022	14		
517	Lorne St	Wellington St	Chapman's Commercial Lot	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	50	8.3	8.3	415	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	500-999	641	Actual Count	2018	11			
543	Lorne St	McDuff St	Wellington St	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	163	8.3	8.3	1352.9	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	500-999	641	Actual Count	2018	11		
401	Lorne St	Argyle St	Markdale	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	165	8.3	8.3	1369.5	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	200-499	468	Actual Count	2022	16		
16	Lower Valley Rd	Campbell's Hill	Grey Highlands	Grey Highlands	100	Yes	No	6	Patrol Not Recorded	Gravel	6044	7	7	42308	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	34	Actual Count	2019	23		
416	Lower Valley Rd	Campbell's Hill	Grey Road 30	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1938	7	7	13552	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	N/A	
602	Margaret Elizabeth Ave	Grayview Dr	Fairway Heights	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	81	8.7	8.7	704.7	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0	0	Open Ditch	Open Ditch	50 km/h	200-499	300	Estimate	N/A	N/A	N/A	
604	Margaret Elizabeth Ave	Fairway Heights	North End	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	117	8.7	8.7	1017.9	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0	0	Non-Applicable	Non-Applicable	50 km/h	50-199	125	Range Median	N/A	N/A	N/A	
7	Margaret St	Beachell St	Sydenham St	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	42	9	9	378	Urban	Swale - Paved Gutter	Swale - Paved Gutter	0	0	Adjacent Road, Storm Sewer	Adjacent Road, Storm Sewer	50 km/h	50-199	75	Actual Count	2022	6		
15	Margaret St	Beachell St	Fleisherton	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	185	6.7	7.7	1239.5	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0.5	0.5	Non-Applicable	Non-Applicable	50 km/h	50-199	75	Actual Count	2022	N/A		
18	Margaret St	Levitta St	Fleisherton	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	244	6.7	7.7	1634.8	Rural	Asphalt Shoulder	Asphalt Shoulder	0.5	0.5	Non-Applicable	Non-Applicable	50 km/h	0-49	6	Actual Count	2022	N/A		
400	Mark St E	Toronto St	Spoule St	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	144	6.6	6.6	950.4	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	50-199	80	Actual Count	2022	26		
409	Mark St E	Sproule St	60 m E of Sproule St	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	66	6.6	6.6	435.6	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	0-49	25	Range Median	N/A	N/A	N/A	
440	Mark St W	Wellington Ave S	Markdale	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	152	6.9	6.9	1048.8	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	200-499	300	Not Recorded	N/A	N/A	N/A	
506	Mark St W	Queen St	Markdale	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	90	6.9	6.9	621	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	200-499	300	Not Recorded	N/A	N/A	N/A	
523	Mark St W	Queen St	Eliza St	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	96	6.9	6.9	662.4	Semi-Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	200-499	300	Not Recorded	N/A	N/A	N/A	
545	Mark St W	Eliza St	Toronto St	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	118	6.9	6.9	814.2	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	50-199	183	Actual Count	2022	17		
501	McDuff St	Johnston's Sideroad	Grey Highlands	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1607	6.7	6.7	1067	Semi-Urban	Not Recorded	Not Recorded	0	0	Non-Applicable	Non-Applicable	50 km/h	0-49	25	Range Median	N/A	N/A	N/A	
5	Mary St	Collingwood St	South End Cul-de-Sac	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	167	6.7	7.7	1118.9	Urban	No Curb	No Curb	0	0	Non-Applicable	Non-Applicable	50 km/h	0-49	9	Actual Count	2021	5		
533	McDuff St	Iola St	Main Street W	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	102	8.4	8.4	856.8	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	200-499	232	Actual Count	2022	30		
544	McDuff St	Lorne St	Iola St	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	100	8.4	8.4	840	Urban	Barrier Curb	Barrier Curb	0	0	Non-Applicable	Non-Applicable	50 km/h	200-499	300	Not Recorded	N/A	N/A	N/A	
580	McDuff St	Lorne St	North End	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	204	7.3	7.3	1489.2	Rural	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	50-199	125	Range Median	N/A	N/A	N/A	
139	Melanchon-Artemesia Townline	Highway 10	East Back Line	Grey Highlands - Melanchon	50	Yes	Yes	6	Patrol Not Required	Gravel	1844	6	6	11064	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	N/A	
145	Melanchon-Osprey Townline	East Back Line	Grey Highlands - Melanchon	50	Yes	Yes	4	Once Every 14 Days	Gravel	810	8	9	7290	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	1	50-199	57	Actual Count	2022	15		
147	Melanchon-Osprey Townline	Road 41A	Grey Highlands - Melanchon	50	Yes	Yes	4	Once Every 14 Days	Gravel	270	8	10	2200	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	50-199	57	Actual Count	2020	28		
160	Melanchon-Osprey Townline	220 Sideroad	Grey Highlands - Melanchon	50	Yes	Yes	6	Patrol Not Required	Gravel	158	8	8.5	1479.5	Rural	Gravel Shoulder	Gravel Shoulder	0.125	0.125	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	N/A		
442	Melanchon-Osprey Townline	6th Line NE	220 Sideroad	Grey Highlands - Melanchon	50	Yes	Yes	4	Once Every 14 Days	Gravel	782	8	8.5	6747	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	1	50-199	125	Range Median	N/A	N/A	N/A
450	Melanchon-Osprey Townline	0.36 km west of Grey Road 9	6th Line NE	Grey Highlands - Melanchon	50	Not Recorded	Yes	4	Once Every 14 Days	Gravel	2458	8	9	21212	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	2	50-199	125	Range Median	N/A	N/A	N/A
154	Melanchon-Osprey Townline	0.36 km west of Grey Road 9	5th Line Melanchon	Grey Highlands - Melanchon	50	No	Yes	4	Once Every 14 Days	Gravel	199	8	8.5	2094.75	Rural	Gravel Shoulder	Gravel Shoulder	0.125	0.125	Open Ditch	Open Ditch	80 km/h	1	50-199	125	Range Median	N/A	N/A	N/A
190	Melanchon-Osprey Townline	5th Line Melanchon	4th Line Melanchon	Grey Highlands - Melanchon	50	Yes	Yes	4	Once Every 14 Days	Gravel	1388	8	8.25	11451	Rural	Gravel Shoulder	Gravel Shoulder	0.125	0.125	Open Ditch	Open Ditch	80 km/h	1	50-199	59	Actual Count	2020	27	
196	Melanchon-Osprey Townline	4th Line Melanchon	Road 67A	Grey Highlands - Melanchon	50	Yes	Yes	6	Patrol Not Required	Gravel	692	8	8.25	5709	Rural	Gravel Shoulder	Gravel Shoulder	0.125	0.125	Open Ditch	Open Ditch	80 km/h	1	0-49	44	Actual Count	2020	18	
701	Mill Bridge Road	Wellington St	John St	Feverisham	100	Yes	No	6	Patrol Not Required	High Class Bituminous	124	10	10.5	1240	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Storm Sewer	Storm Sewer	50 km/h	50-199	176	Actual Count	2020	5		
704	Mill Bridge Road	Wellington St	Wellington St	Feverisham	100	Yes	No	6	Patrol Not Required	High Class Bituminous	129	10	10.5	1290	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0.25	0.25	Storm Sewer	Storm Sewer	50 km/h	50-199	169	Actual Count	2020	5		
711	Mill Bridge Road	North End Cul-de-Sac	River Road	Feverisham	100	Yes	No	6	Patrol Not Required	High Class Bituminous	109	6.7	7.2	1333.3	Semi-Urban	Swale - Paved Gutter	Swale - Paved Gutter	0.25	0.25	Storm Sewer	Storm Sewer	50 km/h	0-49	3	Actual Count	2023	24		
43	Mill St	Victoria St	Albert St	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	107	6.7	8.7	716.9	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	1	1	Open Ditch	Open Ditch	50 km/h	0-49	31	Actual Count	2021	7		
54	Mill St	Victoria St	East End	Fleisherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	64	6.7	8.7	2291.4	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	1	1	Open Ditch	Open Ditch	50 km/h	0-49	38	Actual Count	2021	N/A		
242	Miligan St	Durham Rd	North End	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	56	6.7	6.7	376.2	Semi-Urban	Not Recorded	Not Recorded	0	0	Non-Applicable	Non-Applicable	50 km/h	0-49	25	Range Median	N/A	N/A	N/A	
9999	Muriel St	Artemesia-Southgate Townline	Elder St	Southgate	50	Yes	Non-Applicable	-1	Not Calculated	Gravel	153	0	0	0	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	Not Recorded	0-49	0	Not Recorded	Not Recorded	0		
326	Napoleon St	Inkerman St	Beau Ln	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	411	9	9	3699	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	50-199	55	Actual Count	2021	8		
327	Napoleon St	Inkerman St	Rehan St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	143	9	9	1261	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	50-199	55	Actual Count	2020	8		
316	Napoleon St	Inkerman St	Sutter St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	159	7	7	1113	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	6	Actual Count	2020	4		
313	Napoleon St	Redan St	West End	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	121	7	7	847	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded								

Appendix A - Road Inventory Database for All Roads (Sorted by Road Name)

Municipal ID	Road Name	Name From	Name To	Community	Maintenance Percent	Winter Maintenance	Boundary Road	Maintenance Class	Patrol Frequency (0 Reg 239-02)	Surface Material	Road Length (m)	Road Width (m)	Platform Width (m)	Surface Area (m ²)	Roadside Environment	Curb/Shoulders Even	Curb/Shoulders Odd	Shoulder Width (m) Even Side	Shoulder Width (m) Odd Side	Drainage Type Even Side	Drainage Type Odd Side	Posted Speed Limit (km/h)	C4 Zone Count	AADT Range	AADT	AADT Method	AADT Count Year	Truck Traffic Percent	
391	Queen St	0.09 km south of Victoria Rd	South End	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	57	6.2	6.2	353.4	Semi-Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	0-49	25	Range Median	N/A	N/A		
497	Queen St	Victoria St	0.09 km south of Victoria Rd	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	93	6.5	6.5	604.5	Urban	Barrier Curb	Barrier Curb	0	0	Not Recorded	Not Recorded	50 km/h	50-199	125	Range Median	N/A	N/A		
507	Queen St	Mark St W	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	104	7.3	7.3	759.2	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	50-199	125	Range Median	N/A	N/A			
531	Queen St	Mark Street W	Main Street W	Markdale	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	157	7.3	7.3	1146.1	Urban	Barrier Curb	Barrier Curb	0	0	Storm Sewer	Storm Sewer	50 km/h	200-499	247	Actual Count	2022	34		
93	Queen St A	Kinross St	Torry St	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	119	7	7	833	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	50-199	56	Actual Count	2023	8		
94	Queen St A	Grey Road 4	Kinross St	Priceville	100	Yes	No	6	Patrol Not Required	High Class Bituminous	88	6.7	6.7	589.6	Semi-Urban	Asphalt Shoulder	Asphalt Shoulder	0	0	Adjacent Road, Storm Sewer	Adjacent Road, Storm Sewer	50 km/h	0-49	2	Actual Count	2023	0		
85	Queen St A	Torry St	Dead End	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	129	6	6	774	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	2	Actual Count	2023	43		
117	Queen St B	Elgin St	Durham Rd A	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	143	6	6	858	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	25	Range Median	N/A	N/A		
129	Queen St C	Saugreen St	James St	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	120	7	7	840	Semi-Urban	No Shoulder	No Shoulder	0	0	No Ditch	No Ditch	50 km/h	0-49	3	Actual Count	2023	67		
933	Quiet Valley Rd	Sideroad 19	Grey Road 7	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	3901			31208	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	200-499	201	Actual Count	2021	29		
570	Ridford St	Main St E	King Edward Park Driveway	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	54	6.8	6.8	367.2	Semi-Urban	Swale - Paved Gutter	Swale - Paved Gutter	0	0	Non-Applicable	Non-Applicable	50 km/h	50-199	125	Range Median	N/A	N/A		
324	Raglan St	Grey Road 13	Redan St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	194	8	8	1552	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	50-199	125	Range Median	N/A	N/A		
328	Raglan St	Redan St	East End	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	211	10	10	2110	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	50-199	67	Actual Count	2021	7		
342	Raglan St	Kinburn St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	403	8	8	3224	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	3	Actual Count	2020	4			
346	Raglan St	Kinburn St	East End	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	163	8	8	1304	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	2	Actual Count	2020	14		
535	Redan St	Zouave St	Semple Lane	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	76	8	8	608	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	7	Actual Count	2021	11		
325	Redan St	Napoleon St	Raglan St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	126	7	7	882	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	5	Actual Count	2020	13		
340	Redan St	Cannobert St	Raglan St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	138	7	7	886	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	5	Actual Count	2020	0		
397	Redan St	Park St	Zouave St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	127	6	6	762	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	3	Actual Count	2020	0		
354	Redan St	Cannobert St	Grey Road 13	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	130	7	7	910	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	2	Actual Count	2020	0		
851	Reid's Court	Reid's Hill	South End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	149	8	9	1280	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	1	Actual Count	2021	11		
863	Reid's Hill	Reid's Court	Pretty River Road	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1321	8	8.25	1088.3	Rural	Gravel Shoulder	Gravel Shoulder	0.125	0.125	Open Ditch	Open Ditch	80 km/h	50-199	65	Actual Count	2018	N/A		
871	Reid's Hill	Reid's Court	Osprey-The Blue Mountains Townline	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	595	8	9	5355	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	50 km/h	50-199	65	Actual Count	2018	N/A		
863	Reid's Hill (North Leg)	Pretty River Rd	Reid's Hill	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	51	8	8	408	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	50 km/h	50-199	125	Range Median	N/A	N/A		
863	Reid's Hill (South Leg)	Pretty River Rd	Reid's Hill	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	48	8	8	384	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	50 km/h	50-199	125	Range Median	N/A	N/A		
763	River Road	10th Concession	Mill Bridge Road	Feversham	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	1594	6.7	8.7	10679.8	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Storm Sewer	Storm Sewer	80 km/h	200-499	408	Actual Count	2017	20		
703	River Road	Mill Bridge Road	Grey Road 2	Feversham	100	Yes	No	5	Once Every 30 Days	High Class Bituminous	346	7	7	2422	Semi-Urban	Swale - Paved Gutter	Swale - Paved Gutter	0	0	Non-Applicable	Non-Applicable	50 km/h	200-499	238	Actual Count	2023	2		
113	River St	Grey Road 4	Durham Rd A	Priceville	100	Yes	No	6	Patrol Not Required	Gravel	201	7	7	1407	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h	0-49	25	Range Median	N/A	N/A		
296	Road 110	Highway 10	West Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2082	9.5	9.74	20273.0	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	200-499	142	Actual Count	2017	1		
580	Road 110	Highway 10	East Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2058	9	9	18522	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	50-199	176	Actual Count	2014	63		
631	Road 110	East Back Line	12th Concession A	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1024	9	9	9216	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	8	Actual Count	2022	14		
395	Road 120	Highway 10	West Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2049	9	9.5	19472.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	50-199	86	Actual Count	2018	19		
134	Road 120	East Back Line	Johnston's Sideroad	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1028	9	9.5	9766	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	50-199	86	Actual Count	2022	11		
410	Road 120	Johnston's Sideroad	Sideroad 15	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	346	10	11	3806	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	125	Range Median	N/A	N/A		
311	Road 120	Highway 10	Highway 10	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2056	10	11	22616	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	500-999	715	Actual Count	2017	77		
48	Road 130	West Back Line	Base Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1038	6.7	6.7	6954.5	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	6	Actual Count	2022	7		
474	Road 130	Highway 10	West Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1079	6.7	6.7	7163.3	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	50-199	87	Actual Count	2017	53		
227	Road 132	Highway 10	East Back Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1842	7	7.24	13336.1	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	0-49	27	Actual Count	2017	60		
140	Road 140	West Back Line	Base Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1008	7	7.24	7297.92	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	0-49	18	Actual Count	2022	20		
57	Road 140	Highway 10	West Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2147	7.2	7.2	16178.4	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	200-499	280	Actual Count	2014	50		
199	Road 160	Highway 10	West Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2111	7	7.24	15281.6	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	200-499	300	Not Recorded	N/A	N/A		
235	Road 160	Highway 10	4th Concession B	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	1464	6.7	8.7	8808.8	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	82	Actual Count	2018	31		
6	Road 160	East Back Line	4th Concession B	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Grey Highlands	486	6.7	8.7	3256.2	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	270	Actual Count	2013	46		
13	Road 160	East Back Line	North End Cul-de-Sac	Grey Highlands	100	Yes	No	6	Patrol Not Required	Low Class Bituminous	866	6.7	7.2	4400.2	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	0-49	19	Actual Count	2022	12		
156	Road 170	West Back Line	Durham Road B	Grey Highlands	100	Yes	No	6	Patrol Not Required	Low Class Bituminous	1033	6.7	8.7	6921.1	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0-49	28	Actual Count	2022	1		
171	Road 170	Highway 10	West Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	2163	6.7	8.7	14492.1	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	245	Actual Count	2018	13		
232	Road 170	East Back Line	Highway 10	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1914	10	10	19140	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	50-199	145	Actual Count	2022	20		
105	Road 170	Sideroad 10	East Back Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1035	10	10.5	9080.2	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	50-199	87	Actual Count	2021	19		
135	Road 180	Boar Farm Rd	West Back Line	Grey Highlands	100	No	No	6	Patrol Not Required	Gravel	1034	7	7	7238	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A		
140	Road 180	West Back Line	0.35 km East of West Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	359	7	7	2513	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	200-499	213	Actual Count	2018	52		
143	Road 180	Highway 10	0.35 km East of West Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2203	7	7	15414	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	200-499	213	Actual Count	2018	52		
18	Road 190	Highway 10	East Back Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2580	6.7	7	17286	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	500-999	581	Actual Count	2016	20	
449	Road 41A	Melanchton-Opsey Townline	South Line B	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1624	8	9	14616	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	2	0-49	21	Actual Count	2022	19	
198	Road 41A	Centre Line A	Centre Line A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2052	9	10																

Appendix A - Road Inventory Database for All Roads (Sorted by Road Name)

Municipal ID	Road Name	Name From	Name To	Community	Maintenance Percent	Winter Maintenance	Boundary Road	Maintenance Class	Patrol Frequency (O Reg 239-02)	Surface Material	Road Length (m)	Road Width (m)	Platform Width (m)	Surface Area (m²)	Roadside Environment	Curb/Shoulders Even	Curb/Shoulders Odd	Shoulder Width (m) Even Side	Shoulder Width (m) Odd Side	Drainage Type Even Side	Drainage Type Odd Side	Posted Speed Limit (km/h)	C4 Zone Count	AADT Range	AADT	AADT Method	AADT Count Year	Truck Traffic Percent
903	Sideroad 16C	7th Line	Dead End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	165	4	4	660	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
907	Sideroad 16C	7th Line	Dead End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1581	6	6.5	10276.5	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	0-49	47	Actual Count	2022	49	
910	Sideroad 16C	Grey Road 7	Dead End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	238	6	8	1904	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
915	Sideroad 19	Grey Road 12	9th Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2720	9	11	39920	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	415	Actual Count	2020	38	
905	Sideroad 19	Euphrasia-Holland Townline	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2805	8	10	28500	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	62	Actual Count	2019	19	
919	Sideroad 19	7th Line	9th Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2752	9	11	30772	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0-49	28	Actual Count	2020	29	
926	Sideroad 19	Grey Rd 7	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2705	9	10	27050	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	148	Actual Count	2022	29	
932	Sideroad 19	Quiet Valley Rd	Grey Rd 7	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2117	9	10	21170	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	200-499	224	Actual Count	2022	23	
937	Sideroad 19	3rd Line C	Quiet Valley Rd	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	717	8	9	6453	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	85	Actual Count	2020	11	
941	Sideroad 19	Grey Road 13	3rd Line C	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1473	8	9	13257	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	171	Actual Count	2023	27	
922	Sideroad 22A	13th Line	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2817	6.7	7.7	18873.9	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	150	Actual Count	2016	31	
938	Sideroad 22B	7th Line	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	2728	6.7	8.7	18277.6	Rural	Asphalt Shoulder	Asphalt Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	500-999	990	Actual Count	2023	18	
947	Sideroad 22B	Grey Road 7	7th Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2720	6.7	8.7	18274	Rural	Asphalt Shoulder	Asphalt Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	500-999	565	Actual Count	2023	13	
949	Sideroad 22B	Grey Road 7	East End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	499	6	7	3283	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
964	Sideroad 22C	Grey Road 13	3rd Line C	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2942	7	8	23536	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	99	Actual Count	2023	7	
978	Sideroad 25	4th Line B	3rd Line D	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1848	9	11	20328	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	200-499	450	Actual Count	2020	56	
942	Sideroad 25	11th Line	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2850	8	9	25600	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	200-499	228	Actual Count	2021	35	
950	Sideroad 25	11th Line	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2724	9	9.5	25678	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	2	50-199	58	Actual Count	2020	17
955	Sideroad 25	7th Line	Grey Road 12	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2722	8.8	9.3	25314.6	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	2	50-199	51	Actual Count	2018	18
966	Sideroad 25	7th Line	Grey Road 7	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2732	9	11	30052	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0-49	32	Actual Count	2018	15	
972	Sideroad 25	4th Line B	Grey Road 7	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1128	8.5	10.5	11844	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0-49	32	Actual Count	2021	31	
986	Sideroad 25	3rd Line D	Old Mail Road	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1683	9	11	18533	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	69	Actual Count	2019	12	
304	Sideroad 30	Sideroad 30	MacDonalds Rd	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2719	6.7	6.7	1701.8	Rural	Gravel Shoulder	Gravel Shoulder	0	0	Open Ditch	Open Ditch	60 km/h	500-999	663	Actual Count	2019	N/A	
752	Sideroad 4A	Euphrasia-Holland Townline	Grey Road 12	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	254	8	9	24471	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	44	Actual Count	2022	17	
781	Sideroad 4A	Grey Road 12	5th Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2746	8	9	25023	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	0-49	32	Actual Count	2022	33	
795	Sideroad 4A	5th Line	7th Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2756	7	8	22048	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	34	Actual Count	2019	8	
488	Sideroad 4B	East End	Grey Road 12	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	276	8	10	2760	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
497	Sideroad 7A	9th Line	Grey Road 12	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2751	9	10	27510	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	48	Actual Count	2019	20	
805	Sideroad 7A	0.1 km west of 7th Line	0.1 km west of 7th Line	Grey Highlands	100	Yes	No	6	Once Every 14 Days	Gravel	2766	9	8.25	25127	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	200-499	305	Actual Count	2023	16	
806	Sideroad 7A	0.1 km west of 7th Line	0.1 km west of 7th Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	104	6.7	7.2	696.8	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	200-499	305	Actual Count	2019	6	
816	Sideroad 7A	7th Line	1.08 km east of 7th Line	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1082	8	10	10820	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	107	Actual Count	2020	22	
820	Sideroad 7A	1.08 km east of 7th Line	Shillock Sideroad	Grey Highlands	100	No	No	6	Patrol Not Required	Gravel	1162	8	9	10458	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	18	Actual Count	2022	13	
826	Sideroad 7A	Shillock Sideroad	Grey Rd 7	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	694	6.7	8.7	4694	Rural	No Shoulder	No Shoulder	0	1	Open Ditch	Open Ditch	80 km/h	50-199	107	Actual Count	2020	N/A	
847	Sideroad 7B	Grey Road 13	Old Baddy Access	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1813	6	8	14504	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	54	Actual Count	2021	N/A	
852	Sideroad 7C	Old Baddy Access	3rd Line A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1308	7	9	11772	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	50-199	54	Actual Count	2021	11	
874	Sideroad 7C	The Blue Mountains-Euphrasia Townline	West End	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	881	7	8	7068	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
388	Sideroad 7C	Evans St	Grey Road 13	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1456	7	8	14560	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	80 km/h	50-199	125	Range Median	N/A	N/A	
448	South Line B	Road 41A	East Back Line	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2098	8	9	18882	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	3	0-49	37	Actual Count	2022	28
166	South Line B	Grey Road 2	Road 41A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2043	8	9	18387	Rural	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	91	Actual Count	2022	34	
204	South Line C	Road 52A	West End	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1813	8	8.24	25148	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	1	50-199	114	Actual Count	2020	58
216	South Line C	0.2 km east of Road 63	Road 57A	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	1818	8	8.24	14980.3	Rural	Gravel Shoulder	Gravel Shoulder	0.12	0.12	Open Ditch	Open Ditch	80 km/h	4	50-199	114	Actual Count	2018	43
218	South Line C	Road 63	0.2 km east of Road 63	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Low Class Bituminous	231	6.7	7.7	1547.7	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h	50-199	114	Actual Count	2018	43	
79	Southgate Township Sideroad 71	Artemesia-Southgate Townline	Boar Farm Rd	Grey Highlands - Southgate	50	Yes	Yes	6	Patrol Not Required	Gravel	476	7	7	3352	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
71	Southline A	Artemesia-Southgate Townline	Collie Dr Sideroad	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2028	9	9	18262	Rural	Gravel Shoulder	Gravel Shoulder	0	0	Open Ditch	Open Ditch	80 km/h	1	Actual Count	2022	7		
76	Southline A	Collie Dr Sideroad	Grey Road 14	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	2032	9	9.5	19304	Rural	Gravel Shoulder	Gravel Shoulder	0.25	0.25	Open Ditch	Open Ditch	80 km/h	3	50-199	69	Actual Count	2022	8
90	Southline A	Grey Rd 14	Wilcox Lake Rd	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2566	9	9	23094	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	7	Actual Count	2022	14	
123	Southline A	1.3 km east of Wilcox Lake Rd	1.3 km east of Wilcox Lake Rd	Grey Highlands	100	No	No	6	Patrol Not Required	Gravel	1471	7	7	10297	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
130	Southline A	Wilcox Lake Rd	Grey Road 14	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	1300	7	7	9490	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	25	Range Median	N/A	N/A	
231	Spring St	Alice Street	Hill Street	Flesherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	188	6.7	6.7	656.6	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0	0	Non-Applicable	Non-Applicable	50 km/h	50-199	125	Range Median	N/A	N/A	
236	Spring St	Hill St	Toronto Road	Flesherton	100	Yes	No	6	Patrol Not Required	High Class Bituminous	108	6.7	7.7	723.6	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Non-Applicable	Non-Applicable	50 km/h	0-49	12	Actual Count	2022	9	
296	St Annand St	Main St	Sutter Street	Markdale	100	Yes	No	6	Patrol Not Required	High Class Bituminous	115	6.6	8.6	1021	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0	0	Not Recorded	Not Recorded	80 km/h	50-199	125	Range Median	N/A	N/A	
239	St Annand St	Grey Road 13	Sutter Street	Markdale	100	Yes	No	6	Patrol Not Required	Gravel	438	8	7.4	3609.12	Semi-Urban	Not Recorded	Not Recorded	0.12	0.12	Not Recorded	Not Recorded	80 km/h	50-199	69	Actual Count	2021	9	
294	St Annand St	Grey Road 13	West End	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	574	7	7	2618	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h	0-49	2	Actual Count	2020	0	
305	St Annand St	Inkerman St	East St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	584	9	9.24	3396.16	Rural	Not Recorded	Gravel Shoulder	0.12	0.12	Open Ditch	Open D							

Appendix A - Road Inventory Database for All Roads (Sorted by Road Name)

Municipal ID	Road Name	Name From	Name To	Community	Maintenance Percent	Winter Maintenance	Boundary Road	Maintenance Class	Patrol Frequency (O Reg 239-02)	Surface Material	Road Length (m)	Road Width (m)	Platform Width (m)	Surface Area (m²)	Roadside Environment	Curb/Shoulders Even	Curb/Shoulders Odd	Shoulder Width (m) Even Side	Shoulder Width (m) Odd Side	Drainage Type Even Side	Drainage Type Odd Side	Posted Speed Limit (km/h)	C4 Zone Count	AADT Range	AADT	AADT Method	AADT Count Year	Truck Traffic Percent
192	West Back Line	Grey Road 4	Old Highway 4	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	109	6.7	6.7	730.3	Rural	Gravel Shoulder	Gravel Shoulder	0	0	Open Ditch	Open Ditch	80 km/h		500-999	763	Actual Count	2013	48
212	West Back Line	Old Highway 4	Road 140	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	1748	6.7	6.7	11711.6	Rural	Gravel Shoulder	Gravel Shoulder	0	0	Open Ditch	Open Ditch	80 km/h		500-999	779	Actual Count	2022	9
49	West Back Line	Road 130	Road 140	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	2012	6.7	8.7	13513.9	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		0-49	30	Actual Count	2022	12
272	West Back Line	Road 120	Road 130	Grey Highlands	100	Yes	No	4	Once Every 14 Days	High Class Bituminous	2055	6.7	8.7	13768.5	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	350	Actual Count	2017	42
471	West Back Line	Artemesia Glenelg Townline	Road 120	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	1641	7.3	9.3	11979.3	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h	1	0-49	26	Actual Count	2022	6
157	West Back Line	Road 180	1060m South of Road 170 (Bridge)	Grey Highlands	100	Yes	No	5	Once Every 30 Days	Low Class Bituminous	991	10	10	9910	Rural	Gravel Shoulder	Gravel Shoulder	0	0	Open Ditch	Open Ditch	50 km/h		200-499	383	Actual Count	2018	24
157	West Back Line	Road 170	1060m South of Road 170 (Bridge)	Grey Highlands	100	Yes	No	5	Once Every 30 Days	Gravel	1067	10	10	10670	Rural	Gravel Shoulder	Gravel Shoulder	0	0	Open Ditch	Open Ditch	50 km/h	1	200-499	383	Actual Count	2018	24
475	West Back Line	Road 110	Artemesia Glenelg Townline	Grey Highlands - West Grey	50	Not Recorded	No	4	Once Every 14 Days	High Class Bituminous	407	7.3	9.3	2971.1	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	80 km/h		200-499	300	Not Recorded	N/A	N/A
710	Whittaker Way	Point Rd	East End Cul-de-Sac	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	331	10	12	3972	Semi-Urban	Not Recorded	Not Recorded	1	1	Not Recorded	Not Recorded	50 km/h		0-49	25	Range Median	N/A	N/A
151	Wilcox Lake Rd	Durham Rd B	Southline A	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	2060	8	8	16480	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	80 km/h		0-49	27	Actual Count	2022	6
155	Wilcox Lake Rd	0.42 km north of Durham Rd B	Durham Rd B	Grey Highlands	100	Yes	No	5	Once Every 30 Days	Gravel	426	8	8	3408	Rural	Not Recorded	Not Recorded	0	0	Open Ditch	Open Ditch	50 km/h		200-499	363	Actual Count	2017	54
452	Wilcox Lake Rd	2nd Concession	0.42 km north of Durham Rd B	Grey Highlands	100	Yes	No	5	Once Every 30 Days	Low Class Bituminous	1756	6.7	8.7	11765.2	Rural	Gravel Shoulder	Gravel Shoulder	1	1	Open Ditch	Open Ditch	50 km/h		200-499	363	Actual Count	2017	54
629	Wiles Lane	Sideroad 35	West End	Grey Highlands	100	Yes	No	4	Once Every 14 Days	Gravel	438	7.5	8	3504	Semi-Urban	Not Recorded	Not Recorded	0.25	0.25	Not Recorded	Not Recorded	80 km/h		50-199	125	Range Median	N/A	N/A
744	William St	Grey Road 124	West End	Singhampton	50	Yes	No	6	Patrol Not Required	Gravel	109	5	5.5	599.5	Semi-Urban	Not Recorded	Not Recorded	0.25	0.25	Not Recorded	Not Recorded	50 km/h		0-49	25	Actual Count	2023	3
851	Wodehouse Crt	Talisman Blvd	North End Cul-de-Sac	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	281	6.7	8.7	1882.7	Semi-Urban	Swale - Paved Gutter	Swale - Paved Gutter	1	1	Open Ditch	Open Ditch	50 km/h		0-49	25	Range Median	N/A	N/A
425	Youill St	Grey Road 31	West End	Singhampton	50	Yes	No	6	Patrol Not Required	Gravel	117	8	9	1053	Semi-Urban	Not Recorded	Not Recorded	0.5	0.5	Not Recorded	Not Recorded	50 km/h		0-49	7	Actual Count	2021	27
417	Young Dr	Brewster Lake Rd	South End Cul-de-Sac	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	329	6.7	7.7	2204.3	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		0-49	2	Actual Count	2023	43
424	Young Dr	Brewster Lake Rd	8th Concession B	Grey Highlands	100	Yes	No	6	Patrol Not Required	High Class Bituminous	185	6.7	7.7	1239.5	Semi-Urban	Gravel Shoulder	Gravel Shoulder	0.5	0.5	Open Ditch	Open Ditch	80 km/h		0-49	24	Actual Count	2021	9
540	Zouave St	Bedlan St	Grey Rd 13	Grey Highlands	100	Yes	No	6	Patrol Not Required	Gravel	198	8	8	1584	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h		0-49	25	Range Median	N/A	N/A
549	Zouave St	Grey Road 13	Inkerman St	Eugenia	100	Yes	No	6	Patrol Not Required	Gravel	197	8	8	1576	Semi-Urban	Not Recorded	Not Recorded	0	0	Not Recorded	Not Recorded	50 km/h		0-49	4	Actual Count	2020	8



BURNSIDE

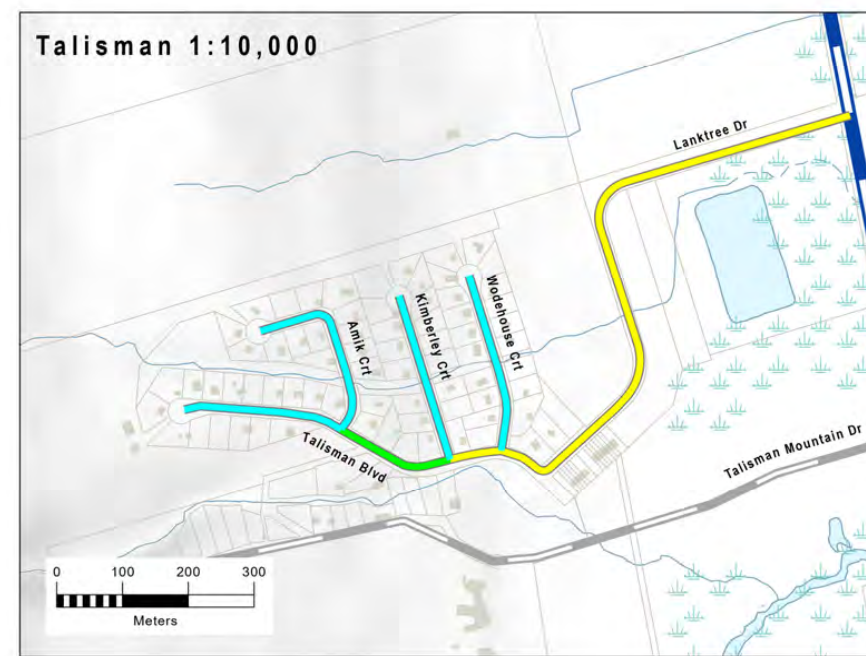
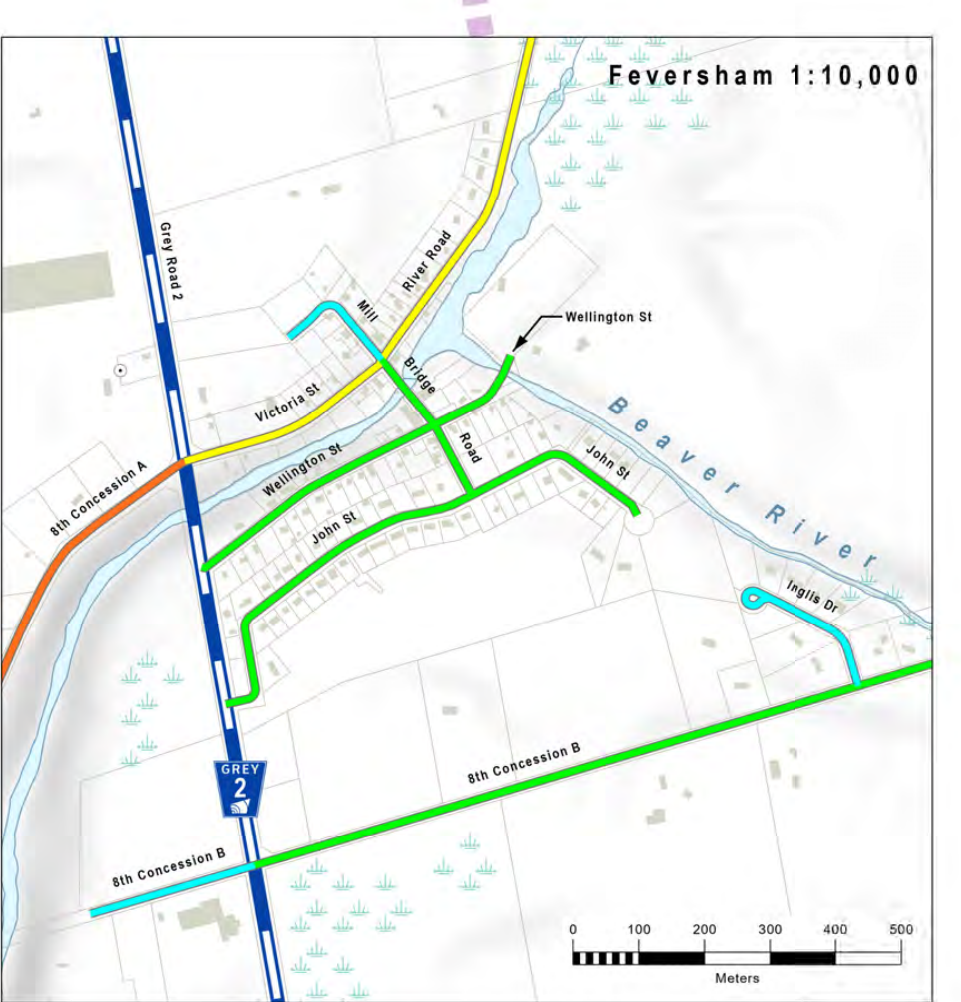
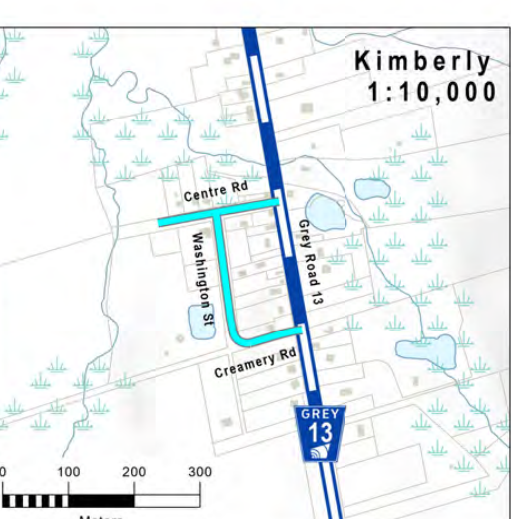
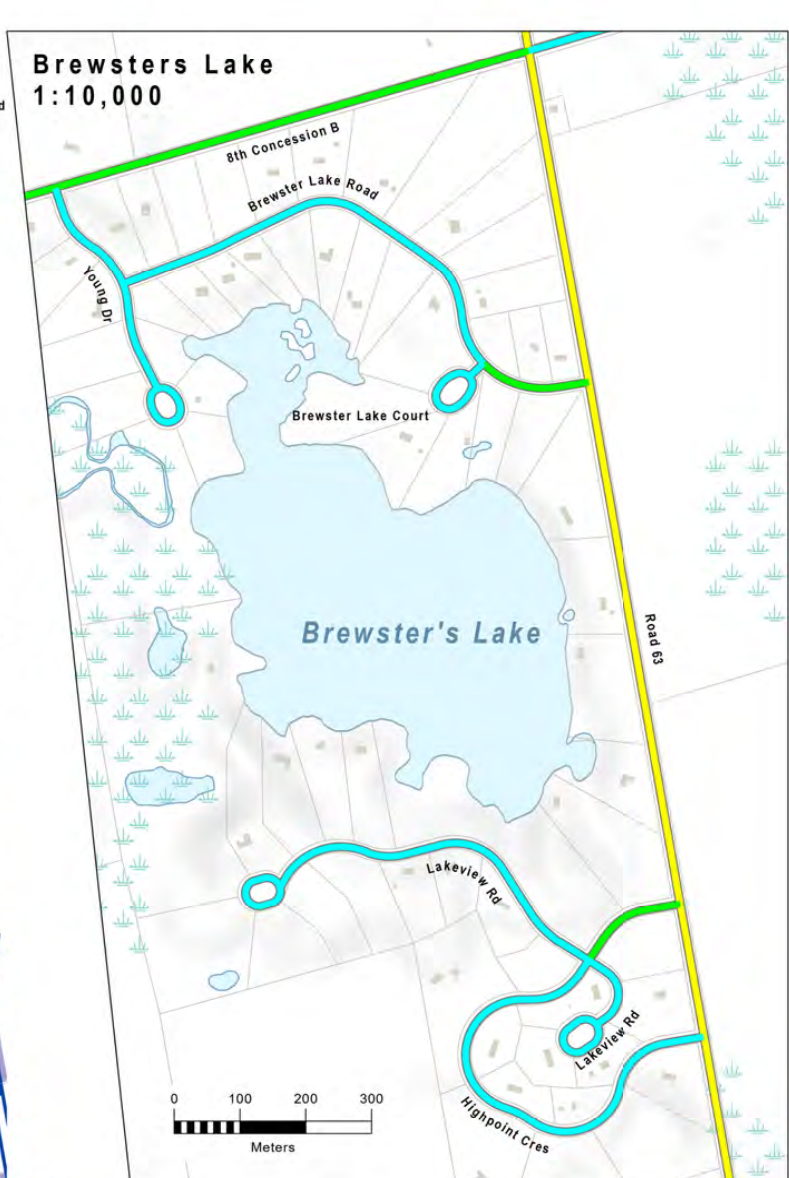
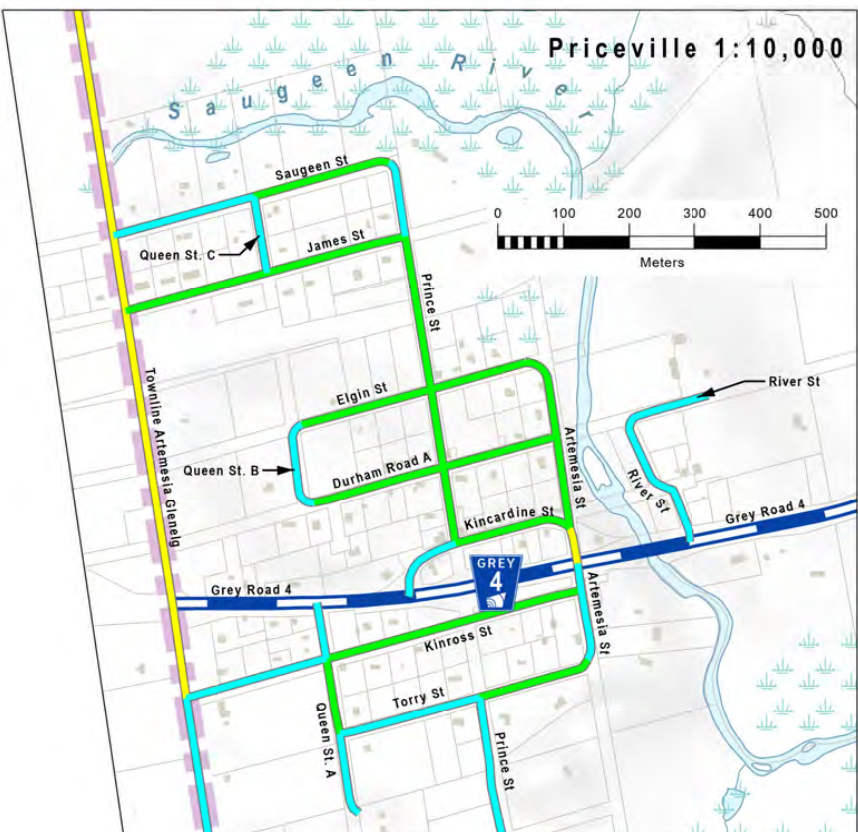
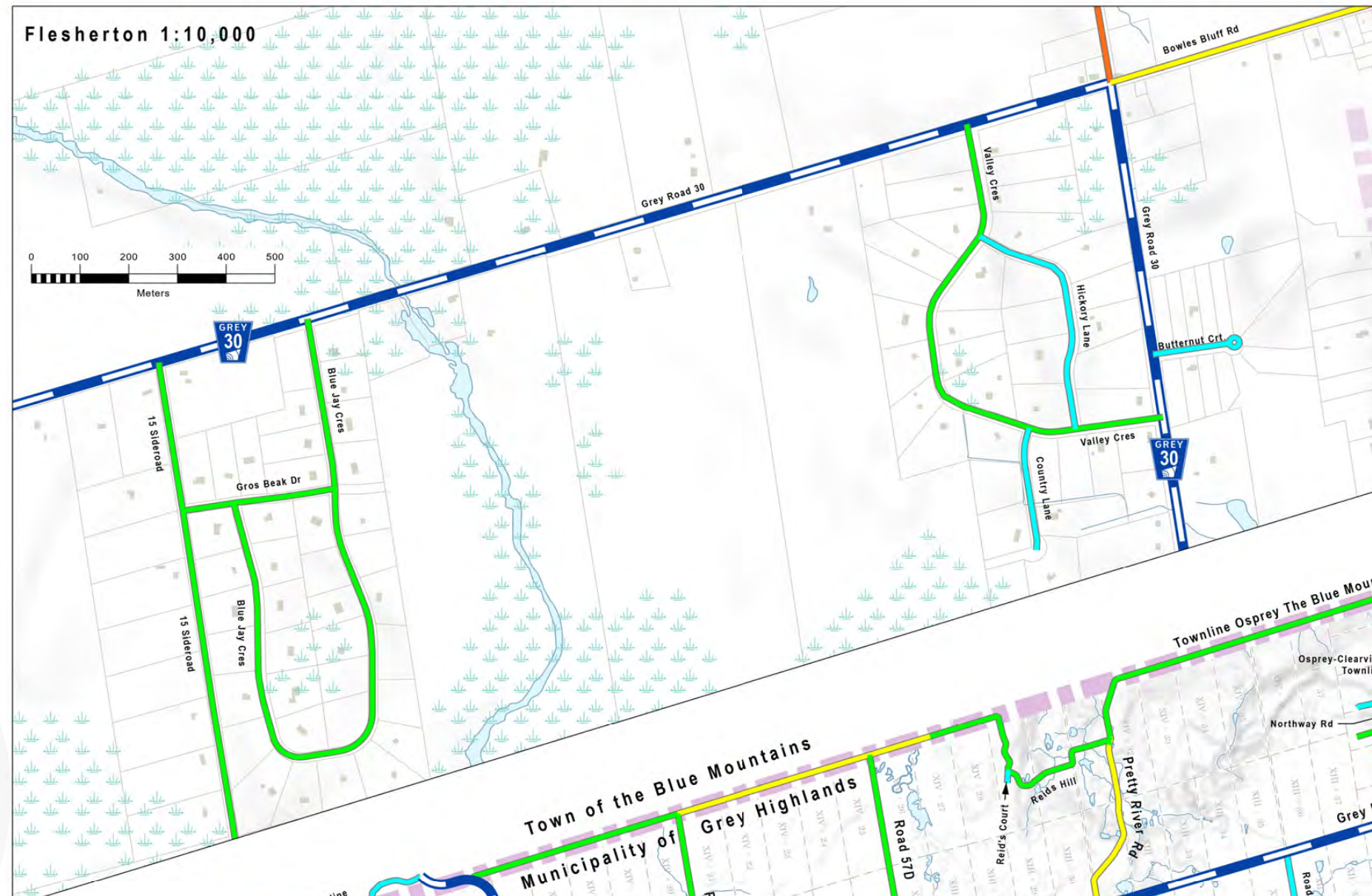
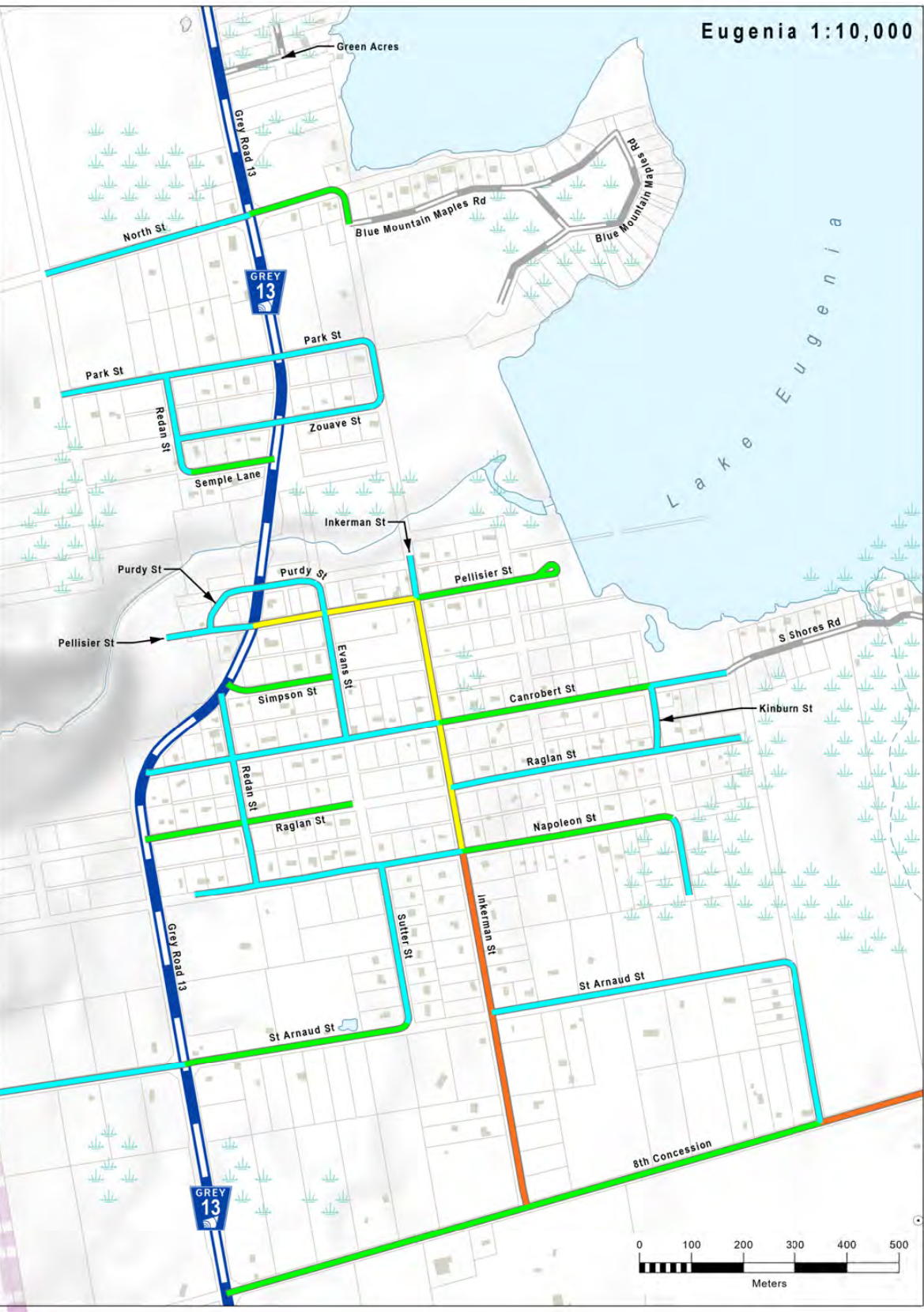
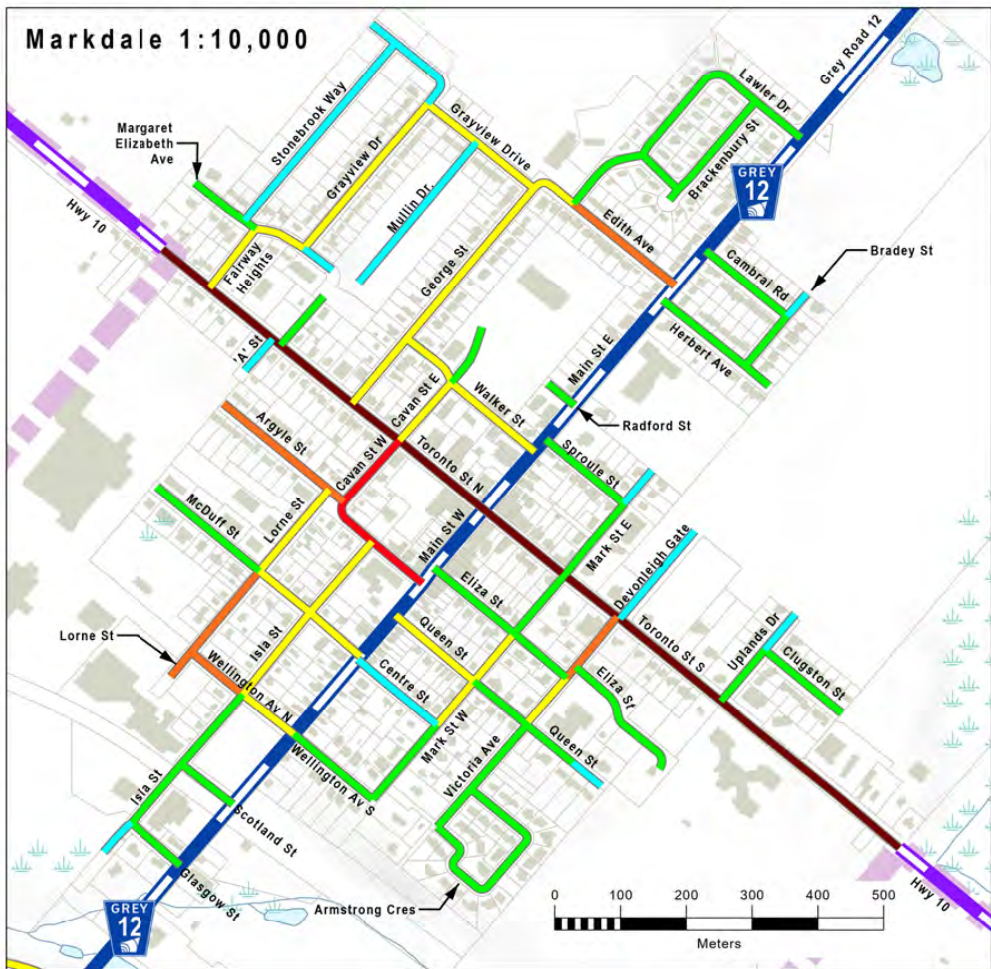
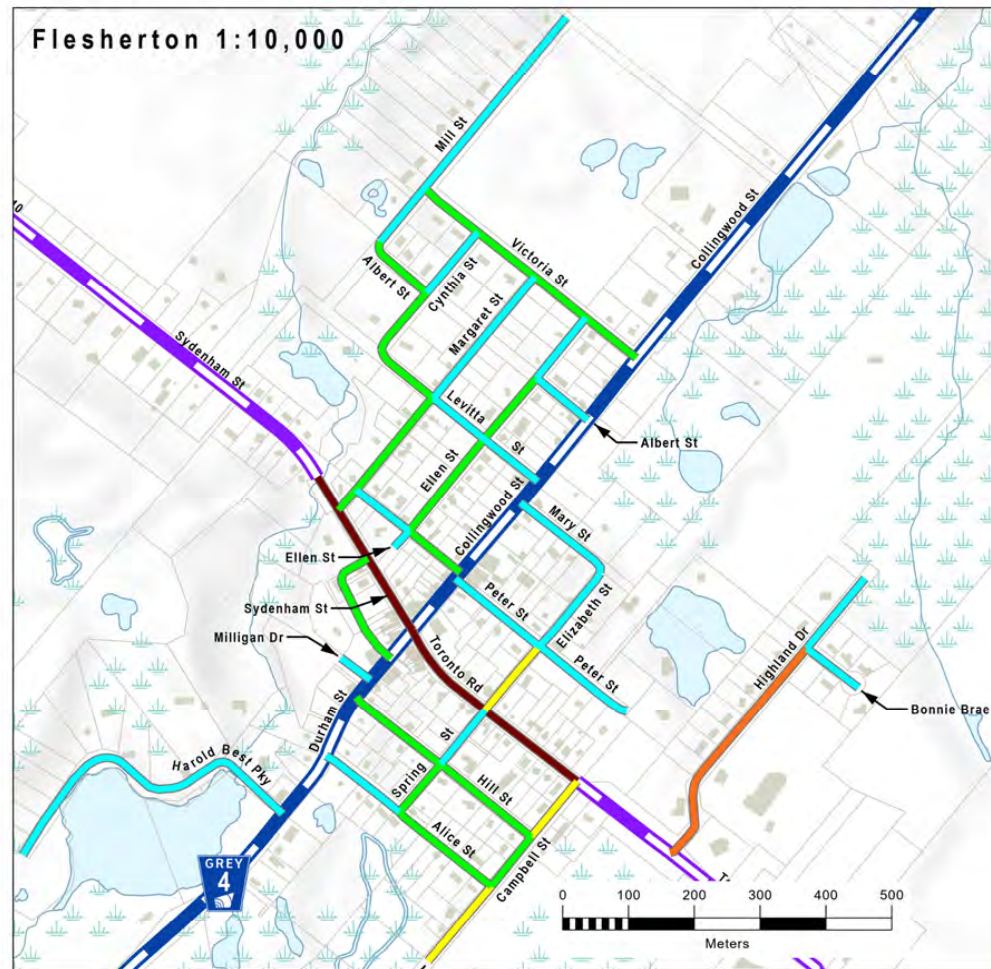
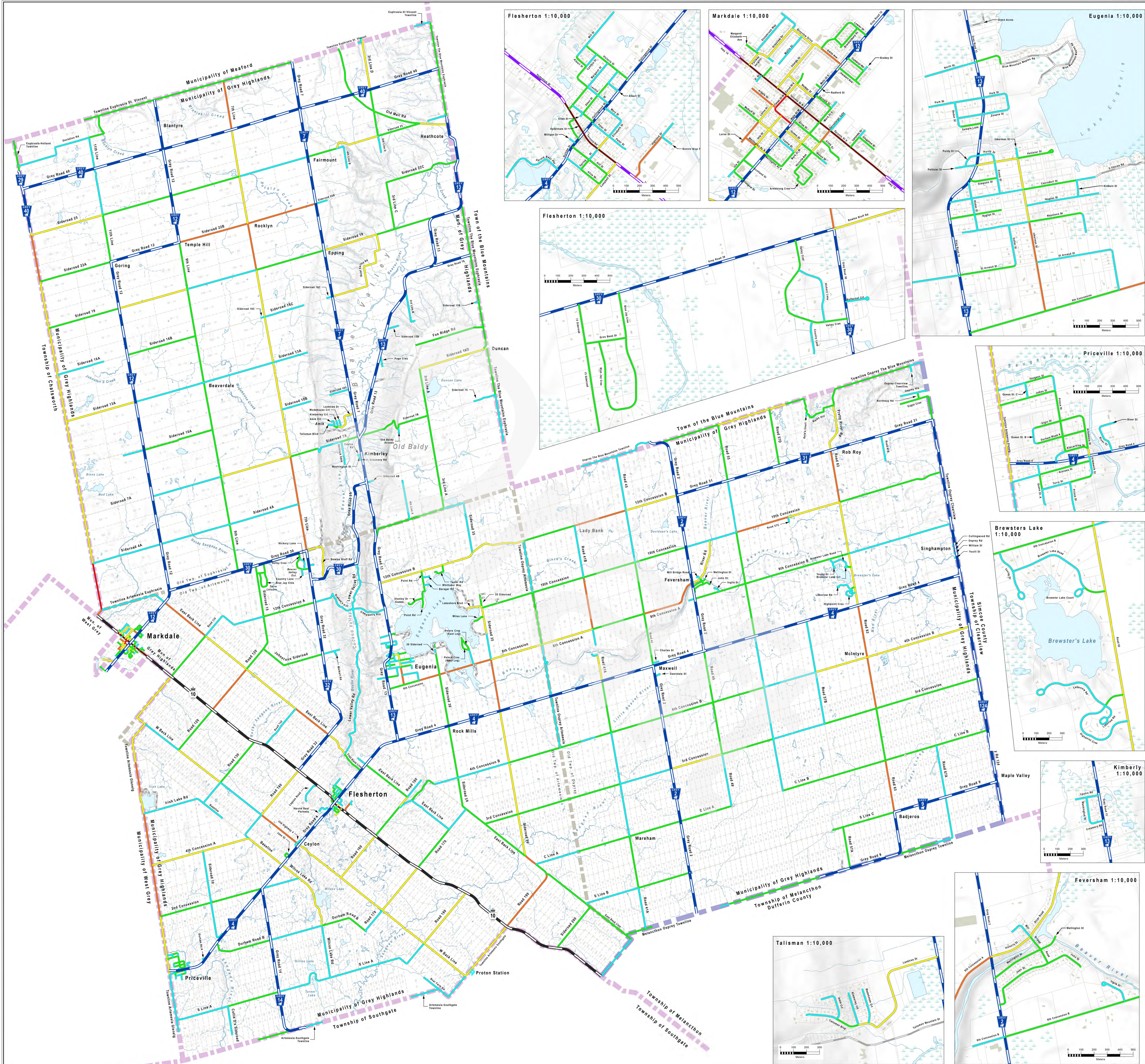
[THE DIFFERENCE IS OUR PEOPLE]

Appendix B

Annual Average Daily Traffic (AADT) Map

Appendix B

Draft



Sources:

- 1. Ministry of Natural Resources, © Queen's Printer for Ontario
- 2. Natural Resources Canada © Her Majesty the Queen in Right of Canada
- 3. County of Grey

Disclaimer:

As the Municipality of Grey Highlands and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to update and future reproduction may not be identical.

Town North American 1983 CSRS

Coordinate System: NAD 1983 CSRS UTM Zone 17N

Projection: Transverse Mercator

Central Meridian: 81°00'00"W

False Easting: 500,000m

False Northing: 0m

Scale Factor: 0.9998

AADT Range

- 0-49 AADT
- 50-199 AADT
- 200-499 AADT
- 500-999 AADT
- 1000-1999 AADT
- >2000 AADT

Non-Municipal Roads

- Provincial Highway
- County Road
- Private Road

BURNSIDE

MUNICIPALITY OF GREY HIGHLANDS

ROAD NEEDS STUDY 2023

AVERAGE ANNUAL DAILY TRAFFIC COUNTS (AADT)

Client	Drawn	Checked	Date	Map No.
Municipality of Grey Highlands	PS	HC	2023/08/28	B
Scale	H 1:50,000	Project No.	300055634	



BURNSIDE

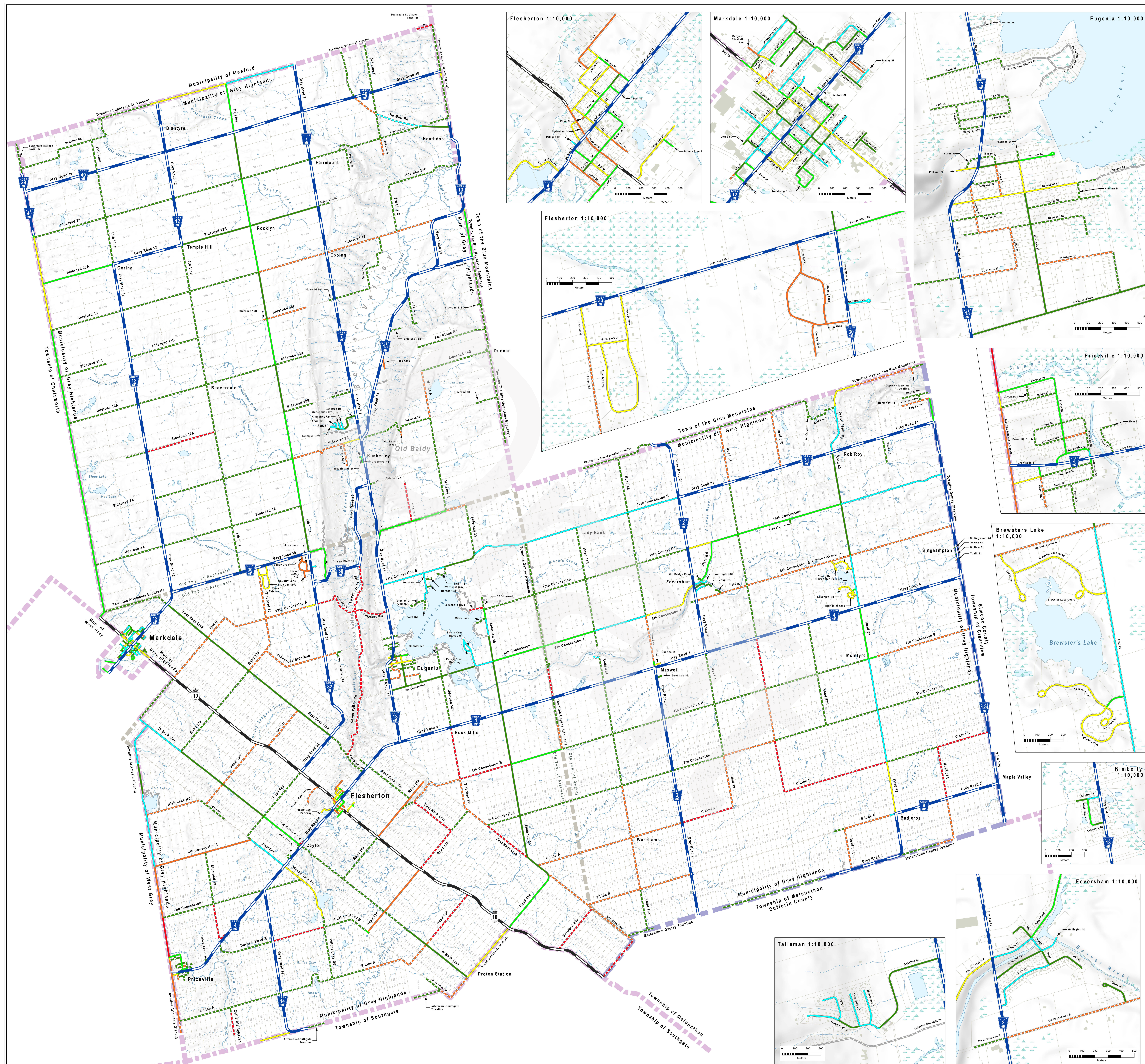
[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

Road Improvement Needs Map and Table

Draft

Appendix C

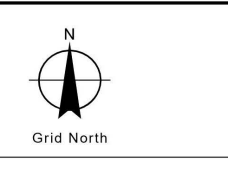
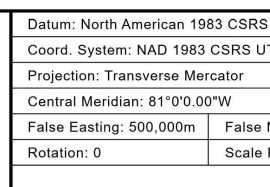


Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources: Canada © Her Majesty the Queen in Right of Canada.
3. County of Geer

Disclaimer:
R. J. Barnaude & Associates Limited and the above mentioned sources and for the accuracy of the spatial, temporal, or other aspects of the data are recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, this map may be subject to updates and future reanalysis may not be identical.



Hardtop Roads Lifecycle Needs

Red	Reconstruction
Orange	Rehabilitation
Yellow	Resurface
Green	Preventive Maintenance
Dark Green	Routine Maintenance
Cyan	No Maintenance Required

Gravel Roads Lifecycle Needs

Reconstruction	Rehabilitation	Routine Maintenance	No Maintenance Required
----------------	----------------	---------------------	-------------------------

Non-Municipal Roads

	Provincial Highway
	County Road
	Private Road



BURNSIDE
MUNICIPALITY OF GREY
HIGHLANDS

Map Title			
ROAD NEEDS STUDY 2023			
ROAD IMPROVEMENT NEEDS			
Drawn	Checked	Date	Map No.
PS	HC	2023/09/20	
Scale	Project No.		

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Subtotal	\$54,542,505.90	
Total	228.82	5,209,859.24



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix D

Road Improvement Order of Priority

Draft

Appendix D

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Subtotal	\$49,148,895.20	
Total	278.82	\$225,212.51



R.J. Burnside & Associates Limited