



Staff Report

Finance and IT Services

Report To: Special Committee of the Whole
Meeting Date: February 1, 2021
Report Number: FAF.21.007
Subject: Water Pipes Asset Management Plan
Prepared by: Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets

A. Recommendations

THAT Council receive Staff Report FAF.21.007 entitled “Water Pipes Asset Management Plan”;
AND THAT Council approve the Water Pipes Asset Management Plan as attached (Attachment #1).

B. Overview

This report is seeking Council endorsement of the Water Pipes Road Asset Management Plan that staff have been written in accordance with the Infrastructure for Jobs and Prosperity Act, 2015 (Act) and the Asset Management Planning for Municipal Infrastructure, Ontario Regulation 588/17 (O.Reg 588/17).

C. Background

In 2017, the provincial government passed the Act which made asset management planning a legislated requirement for Ontario municipalities. The follow-up regulation, O.Reg 588/17, has a phased in requirement for municipalities to follow, however the Town has taken on a more proactive approach and will complete the requirements before regulated deadlines:

- 1) July 1, 2019 Asset Management Policy –this policy was approved by Council in early 2019;
- 2) July 1, 2021 Asset Management Plan for Core (linear) Assets – these Asset Management Plans are a component of this requirement;
- 3) July 1, 2021 Asset Management Plan for all Assets; and
- 4) July 1, 2023 Asset Management Plan for all Assets with Proposed Levels of Service – other levels of service are outlined in this asset management plan.

In 2020, the following plans were approved Fleet, Bridges, Sidewalks, Roads, Streetlights, Stormwater. Below is a schedule for 2021.

2021

1st Quarter

- Water
- Wastewater
- Parks and Trails
- Facilities and Equipment

2nd Quarter

- Final Summary Plan

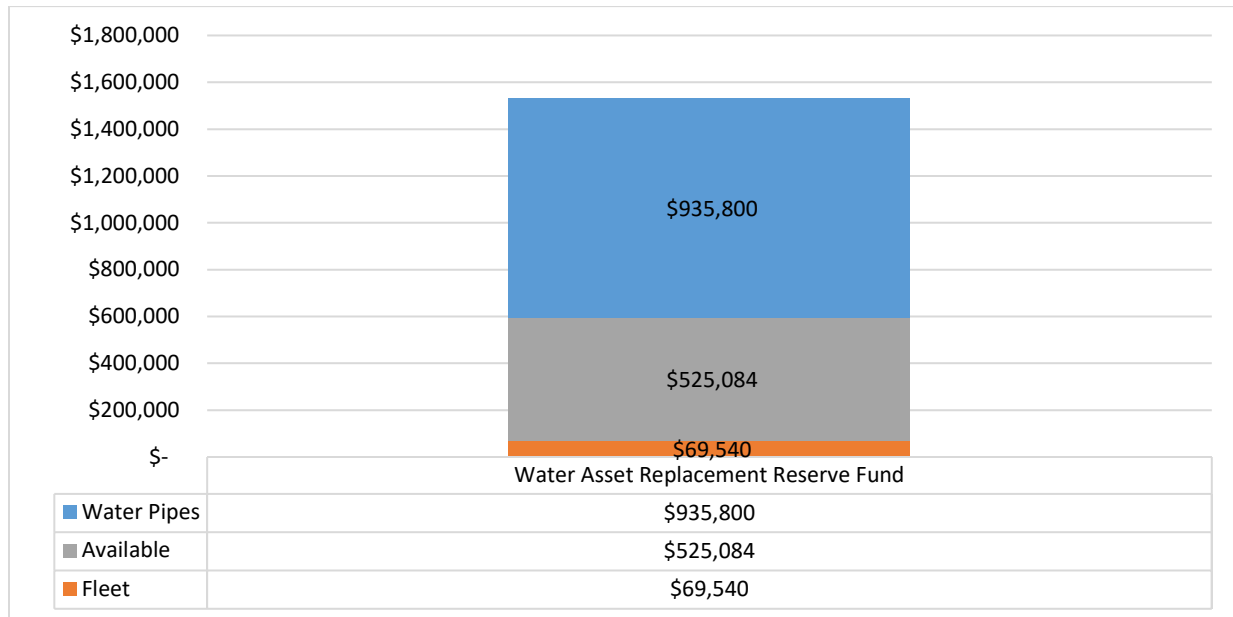
D. Analysis

Attachment #1 is the Town's proposed Water Pipe Asset Management Plan; some highlights from the Plan are:

- The Town operates 121,742 meters of water pipe.
- 2020 Replacement value of \$68M.
- Average age is 28 years.
- Average condition is 75 or Fair

The next 10 years the Water Pipes are going to cost \$19.7M which is split between \$10.3M in operating and \$9.3M in capital transfers. Annually it would equal to \$1,034,000 in regular maintenance and \$935,800 transfer in the Water Asset Replacement Reserve Fund to fund capital projects.

The Water Asset Replacement Reserve Fund funds multiple asset classes. The previously approved fleet asset management plans has an annual transfer of \$69,540, water pipes has \$935,800 as per this plan, which leaves \$525,084 to be used to fund other water asset classes.



E. Strategic Priorities

1. Communications and Engagement

We will enhance communications and engagement between Town Staff, Town residents and stakeholders.

2. Organizational Excellence

We will continually seek out ways to improve the internal organization of Town Staff and the management of Town assets.

3. Community

We will protect and enhance the community feel and the character of the Town, while ensuring the responsible use of resources and restoration of nature.

4. Quality of Life

We will foster a high quality of life for full-time and part-time residents of all ages and stages, while welcoming visitors.

F. Environmental Impacts

During construction or maintenance, the Town will ensure all appropriate environmental mitigations are taken to reduce the impact on the environment. Specific considerations will be given around the issue of drainage.

G. Financial Impact

The financial impact is contained in this report and the attached asset management plan.

H. In consultation with

Ruth Prince, Director of Finance and IT Services
Shawn Carey, Director of Operations
Allison Kershaw, Manager of Water & Wastewater Services
Meg Boyd, Water & Wastewater Compliance & Efficiency Coordinator
Mike Humphries, Engineering Design Technologist
Stephanie McPhie, GIS Specialist
Katherine Dabrowa, Budget Analyst
Vicky Bouwman, Financial Analyst

I. Public Engagement

The topic of this Staff Report has not been subject to a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. Comments regarding this report should be submitted to Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets at finance@thebluemountains.ca.

J. Attached

1. Water Pipes Asset Management Plan

Respectfully Submitted,

Sam Dinsmore
Deputy Treasurer/Manager of Accounting and Budgets

Ruth Prince
Director of Finance and IT Services

For more information, please contact:
Sam Dinsmore
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Town of The Blue Mountains
Water Pipe Asset Management Plan

February 2021

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Executive Summary

Introduction

The Town owns and operates 121,742 meters of water pipes with a replacement cost of \$68,667,000. The current water pipes system is made up of different materials types; which are asbestos cement, cast iron, ductile iron and polyvinyl chloride. As shown in Table 1 there are different sizes of polyvinyl chloride with different useful lives. All replacement water pipes are being replaced with polyvinyl chloride (PVC) - DR18. Staff has created a condition rating index based on the probability of a pipe failing, factoring on the age, the number of water breaks, material type and service area.

Table 1
Useful Life by Material Type

Material Type	Length (Meter)	Useful Life
Asbestos Cement	1,333	60
Cast Iron	3,960	70
Ductile Iron	23,778	90
Polyethylene	3,379	75
Polyvinyl Chloride- Grey DR26	8,336	45
Polyvinyl Chloride- White DR26	49,575	80
Polyvinyl Chloride- Blue DR18	31,381	100
Total	121,742	

Staff has evaluated the water pipes and gave them a rating that is based on a weighted score that is shown in Table 2.

Table 2
Scoring Weight

Likelihood of Failure	Weight
Percentage of Life Consumed	45%
Watermain breaks	30%
Material Type	20%
Service Area	5%

Table 3 outlines the condition index rating matrix and the associated rating used for this plan.

Table 3
Condition Index Ratings

Ratings	Metric
1 – Very Poor	0 to 25
2 – Poor	26 to 50
3 – Fair	51 to 75
4 – Good	76 to 100

Plan Structure

The structure of this plan is in alignment with O.Reg 588/17. This was done so that the Town can include this piece in the final Asset Management Plan that will include all asset classes. This plan includes the following sections:

1. State of Infrastructure – Water Pipe;
2. Current Levels of Service and Performance;
3. Lifecycle Model; and
4. Population and Economic Activity.

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State of the Infrastructure

The following charts and graphs outline the Water Pipe segments and the associated data used to set the current level of service

- i. Road Name
- ii. Length (meters)
- iii. Material Type (AC-Asbestos Cement, CI-Cast Iron, DI-Ductile Iron, PE-Polyethylene, PVC-Grey DR26-Polyvinyl Chloride Grey DR26, PVC-White DR26-Polyvinyl Chloride White DR26 and PVC Blue DR18-Polyvinyl Chloride Blue DR18)
- iv. Age
- v. Replacement Cost (\$1,000)
- vi. Condition Rating

Table 4
State of the Infrastructure - Water

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Mary Street	50	PVC- DR18	3	\$27	99
Mary Street	268	PVC- DR18	3	\$141	99
Charles Street	130	PVC- DR18	3	\$68	99
Peel Street	211	PVC- DR18	1	\$143	99
Timber Lane	705	PVC- DR18	2	\$371	98
Plum Ridge Circle	39	PVC- DR18	2	\$20	98
Timber Lane	281	PVC- DR18	2	\$148	98
Pheasant Run	265	PVC- DR18	2	\$139	98
Duncan Street West	511	WHITE DR26	1	\$300	97
Victoria Street S - Service Pipe to Sobey's Plaza	19	PVC- DR18	5	\$11	96
Alice Street West	110	PVC- DR18	7	\$58	95
Beaver Street South	290	PVC- DR18	7	\$161	95
Georgian Bay Estates	342	PVC- DR18	5	\$201	95
Georgian Bay Estates	77	PVC- DR18	5	\$45	95
Georgian Bay Estates	54	PVC- DR18	5	\$32	95
Georgian Bay Estates	168	PVC- DR18	5	\$93	95
Georgian Bay Estates	152	PVC- DR18	5	\$89	95
Plum Ridge Circle	134	PE	2	\$71	94
Scandia Lane	34	PVC- DR18	14	\$18	94
Hamlet Road	418	PVC- DR18	14	\$231	94
Maple Lane	509	PVC- DR18	14	\$282	94
From Swiss Meadows Subdivision to Standpipe	289	PVC- DR18	14	\$160	94
Sunset Boulevard	1148	PVC- DR18	12	\$674	94
West Ridge Drive	873	PVC- DR18	12	\$537	94
McCallum Court	122	PVC- DR18	12	\$64	94
Landry Lane	657	PVC- DR18	12	\$364	94
Lake Drive	624	PVC- DR18	11	\$346	94

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Lake Drive	228	PVC- DR18	11	\$120	94
King Street West	123	PVC- DR18	9	\$65	94
Between Snow Apple Crescent and White Oak Crescent	138	PVC- DR18	3	\$73	94
Wensley Drive	88	WHITE DR26	7	\$46	93
Lora Bay Drive	472	PVC- DR18	14	\$277	93
John Watt Way	784	PVC- DR18	14	\$482	93
Between Lake Drive and East Ridge Drive	225	PVC- DR18	14	\$125	93
East Ridge Drive	580	PVC- DR18	14	\$357	93
East Ridge Drive	174	PVC- DR18	14	\$107	93
East Ridge Drive	142	PVC- DR18	14	\$87	93
Bay Street West	4	PVC- DR18	11	\$3	93
Interlaken Court	342	PVC- DR18	5	\$190	93
Nipissing Crescent	182	PVC- DR18	5	\$101	93
Arnot Crescent	174	PVC- DR18	5	\$96	93
Courchevel Crescent	149	PVC- DR18	5	\$83	93
Courchevel Crescent	168	PVC- DR18	5	\$93	93
Arnot Crescent	114	PVC- DR18	5	\$63	93
Nipissing Crescent	73	PVC- DR18	5	\$41	93
Arnot Crescent	141	PVC- DR18	5	\$78	93
Schoolhouse Court	174	PVC- DR18	5	\$102	93
Grindewald Court	89	PVC- DR18	5	\$49	93
Yellow Birch Crescent	129	PVC- DR18	4	\$68	93
Yellow Birch Crescent	160	PVC- DR18	4	\$84	93
10th Line	66	PVC- DR18	15	\$40	92
10th Line	99	PVC- DR18	15	\$55	92
High Bluff Lane	1053	PVC- DR18	15	\$647	92
Far Hills Condominium	166	PVC- DR18	13	\$87	92
Dorothy Drive	395	PVC- DR18	12	\$208	92
Ellis Drive	266	PVC- DR18	12	\$140	92
Delphi Lane	108	PVC- DR18	12	\$57	92
Delphi Lane	80	PVC- DR18	12	\$42	92
Between Barton Boulevard and Camperdown Court	99	PVC- DR18	12	\$52	92
Barton Boulevard	466	PVC- DR18	12	\$245	92
Delphi Lane	158	PVC- DR18	12	\$83	92
Dorothy Drive	96	PVC- DR18	12	\$50	92
Delphi Lane	74	PVC- DR18	12	\$39	92
Yellow Birch Crescent	7	PVC- DR18	6	\$4	92
Yellow Birch Crescent	52	PVC- DR18	6	\$28	92
Yellow Birch Crescent	8	PVC- DR18	6	\$4	92
Snow Apple Crescent	183	PVC- DR18	6	\$96	92
Yellow Birch Crescent	7	PVC- DR18	6	\$4	92
Yellow Birch Crescent	7	PVC- DR18	6	\$4	92

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Crosswinds Boulevard	187	PVC- DR18	6	\$115	92
Yellow Birch Crescent	200	PVC- DR18	6	\$105	92
Yellow Birch Crescent	240	PVC- DR18	6	\$126	92
Snow Apple Crescent	74	PVC- DR18	6	\$39	92
Snow Apple Crescent	230	PVC- DR18	6	\$121	92
Alfred Street West	162	WHITE DR26	13	\$85	91
Alfred Street West	179	WHITE DR26	13	\$94	91
Pyatt Court	53	PVC- DR18	16	\$28	91
Bruce Street South	136	PVC- DR18	16	\$76	91
Bruce Street South	299	PVC- DR18	16	\$157	91
Bruce Street South	122	PVC- DR18	16	\$64	91
Bruce Street South	222	PVC- DR18	16	\$117	91
Bruce Street South	224	PVC- DR18	16	\$124	91
Pyatt Court	76	PVC- DR18	16	\$40	91
Grey Street South	109	PVC- DR18	15	\$74	91
Riverbank Court	87	PVC- DR18	15	\$46	91
Cobblestone Lane	95	PVC- DR18	15	\$53	91
Limestone Lane	72	PVC- DR18	15	\$40	91
Cobblestone Lane	169	PVC- DR18	15	\$94	91
Bruce Street South	429	PVC- DR18	15	\$226	91
Bruce Street South	33	PVC- DR18	15	\$17	91
Peel Street	218	PVC- DR18	15	\$134	91
Arthur Street West	763	PVC- DR18	15	\$401	91
Peel Street	105	PVC- DR18	15	\$64	91
Peel Street	51	PVC- DR18	15	\$31	91
George Mcrae Road	358	PVC- DR18	14	\$198	91
George Mcrae Road	82	PVC- DR18	14	\$45	91
Maryward Crescent	207	PVC- DR18	14	\$115	91
Stone Zack Lane	185	PVC- DR18	14	\$109	91
Grey Road 40	317	PVC- DR18	14	\$186	91
Stone Zack Lane	358	PVC- DR18	14	\$210	91
George Mcrae Road	83	PVC- DR18	14	\$44	91
George Mcrae Road	64	PVC- DR18	14	\$34	91
Maryward Crescent	134	PVC- DR18	14	\$71	91
Geogian Bay Estates	161	PVC- DR18	14	\$89	91
Between George Mcrae Road and Stone Zack Lane	106	PVC- DR18	14	\$59	91
Lendvay Alley	216	PVC- DR18	10	\$114	91
Between Carmichael Crescent and Campbell Crescent	166	PVC- DR18	10	\$87	91
Campbell Crescent	321	PVC- DR18	10	\$169	91
Carmichael Crescent	412	PVC- DR18	10	\$216	91
Plater Street to Kinsey Place	323	PVC- DR18	10	\$170	91

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Carmichael Crescent	291	PVC- DR18	10	\$153	91
Campbell Crescent	131	PVC- DR18	10	\$69	91
Gord Canning Drive	177	PVC- DR18	10	\$98	91
Scenic Caves Road	160	PVC- DR18	10	\$84	91
Edward Street	314	WHITE DR26	17	\$165	90
10th Line	194	WHITE DR26	17	\$102	90
Wensley Drive	514	DI	7	\$333	90
Between Wensley Drive and Highway 26	170	DI	7	\$110	90
Camperdown Road	53	PVC- DR18	15	\$34	90
Camperdown Road	3	PVC- DR18	15	\$2	90
Camperdown Road	192	PVC- DR18	15	\$113	90
Camperdown Road	406	PVC- DR18	15	\$238	90
Camperdown Road	39	PVC- DR18	15	\$24	90
Camperdown Road	119	PVC- DR18	15	\$70	90
Camperdown Road	152	PVC- DR18	15	\$89	90
Camperdown Road	7	PVC- DR18	15	\$4	90
Gord Canning Drive	4	PVC- DR18	11	\$2	90
Abbotts Lane	57	WHITE DR26	16	\$30	89
Thorncroft Court	179	WHITE DR26	16	\$94	89
Lucille Wheeler Crescent	131	WHITE DR26	11	\$69	89
Gord Canning Drive	148	WHITE DR26	11	\$82	89
Gord Canning Drive	261	WHITE DR26	11	\$145	89
Gord Canning Drive	320	WHITE DR26	11	\$177	89
Highway 26	697	PVC- DR18	13	\$409	89
Grey Road 19	470	PVC- DR18	16	\$304	88
Grey Road 19	659	PVC- DR18	16	\$426	88
Woodlands By Sierra	196	WHITE DR26	15	\$103	87
Alpine Springs Court	89	WHITE DR26	15	\$49	87
Woodlands By Sierra	102	WHITE DR26	15	\$54	87
Helen Street	36	WHITE DR26	14	\$19	87
Geogian Bay Estates Development	476	PVC- DR18	14	\$264	87
Russell Street West	526	WHITE DR26	25	\$291	86
Between Grey Road 2 and Lake Shore Road	348	WHITE DR26	19	\$214	86
Grey Road 2	286	WHITE DR26	19	\$168	86
Fieldcrest Court	179	WHITE DR26	19	\$94	86
Innsbruck Lane	127	WHITE DR26	16	\$70	86
Innsbruck Lane	147	WHITE DR26	16	\$81	86
Gord Canning Drive	47	WHITE DR26	16	\$26	86
Gord Canning Drive	409	WHITE DR26	16	\$227	86
Fairway Court	314	WHITE DR26	16	\$165	86
Salzburg Place	51	WHITE DR26	16	\$27	86
Salzburg Place	128	WHITE DR26	16	\$71	86

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Dolomite Court	77	WHITE DR26	16	\$41	86
Bridge Street East	27	DI	16	\$15	86
Snowbridge Way	267	PVC- DR18	20	\$173	86
Grey Road 19	190	PVC- DR18	20	\$123	86
Snowbridge Way	189	PVC- DR18	20	\$122	86
Easement Between Grey Road 19 and Snowbridge Way	258	PVC- DR18	20	\$167	86
Russell Court	78	WHITE DR26	26	\$41	85
Alice Street East	121	WHITE DR26	24	\$64	85
Limestone Lane	94	PE	15	\$50	85
Craigleith Walk	139	WHITE DR26	18	\$73	85
Sleepy Hollow Road	119	WHITE DR26	18	\$62	85
Alexandra Way	140	WHITE DR26	18	\$74	85
Blue Mountain Resort	26	WHITE DR26	18	\$15	85
Blue Mountain Resort	37	WHITE DR26	18	\$24	85
Jozo Weider Boulevard	26	WHITE DR26	18	\$16	85
Blue Mountain Resort	37	WHITE DR26	18	\$20	85
Blue Mountain Resort	13	WHITE DR26	18	\$7	85
Blue Mountain Resort	28	WHITE DR26	18	\$15	85
Blue Mountain Resort	85	WHITE DR26	18	\$47	85
Blue Mountain Resort	37	WHITE DR26	18	\$21	85
Alexandra Way (Block 52, for future use)	19	WHITE DR26	18	\$10	85
Alexandra Way	134	WHITE DR26	18	\$71	85
Blue Mountain Resort	63	WHITE DR26	18	\$33	85
Highway 26	423	WHITE DR26	18	\$222	85
Highway 26	274	WHITE DR26	18	\$161	85
Alexandra Way	118	WHITE DR26	18	\$62	85
Salzburg Place	65	WHITE DR26	18	\$34	85
Alexandra Way	167	WHITE DR26	18	\$88	85
Between Craigleith Walk and Alexandra Way	81	WHITE DR26	18	\$43	85
Alexandra Way	261	WHITE DR26	18	\$137	85
Alta Road	198	WHITE DR26	17	\$110	85
Alta Road	135	WHITE DR26	17	\$75	85
Tyrolean Lane	164	WHITE DR26	17	\$86	85
Hemlock Court	211	WHITE DR26	17	\$117	85
Oak Court	106	WHITE DR26	17	\$56	85
Alta Road	494	WHITE DR26	17	\$274	85
Alta Road	210	WHITE DR26	17	\$116	85
Escarpment View Court	145	WHITE DR26	17	\$77	85
Alta Road	172	WHITE DR26	17	\$95	85
Pyatt Avenue	73	WHITE DR26	25	\$38	84
Shirley Court	68	WHITE DR26	25	\$36	84
Pyatt Avenue	107	WHITE DR26	25	\$56	84
Louisa Street	78	WHITE DR26	25	\$41	84

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Louisa Street	63	WHITE DR26	25	\$33	84
Pyatt Avenue	20	WHITE DR26	25	\$10	84
Pyatt Avenue	80	WHITE DR26	25	\$42	84
Snowbridge Way	224	WHITE DR26	20	\$118	84
Snowbridge Way	120	WHITE DR26	20	\$67	84
Snowbridge Way	48	WHITE DR26	20	\$27	84
Snowbridge Way	44	WHITE DR26	20	\$23	84
Crossan Court	75	WHITE DR26	20	\$39	84
Highway 26	616	WHITE DR26	19	\$362	84
Pilsen Way	77	PVC- DR18	25	\$40	84
Arlberg Crescent	137	PVC- DR18	25	\$72	84
Craighleith Road	16	DI	15	\$8	84
Between Happy Valley Road and Maple Lane	889	DI	14	\$468	84
Margaret Street North	8	WHITE DR26	30	\$4	83
Edward Street	298	WHITE DR26	30	\$157	83
Wickens Lane	215	WHITE DR26	27	\$113	83
Blueski George Crescent	460	WHITE DR26	22	\$242	83
Blueski George Crescent	116	WHITE DR26	22	\$61	83
Blueski George Crescent	148	WHITE DR26	22	\$78	83
Hope Street	159	WHITE DR26	22	\$84	83
Blueski George Crescent	462	WHITE DR26	22	\$243	83
Blueski George Crescent	162	WHITE DR26	22	\$85	83
Cortina Crescent	315	WHITE DR26	22	\$166	83
Davos Crescent	430	WHITE DR26	22	\$226	83
Craigmore Crescent	53	WHITE DR26	21	\$28	83
Camperdown Road	218	PVC- DR18	31	\$115	83
Camperdown Road	274	PVC- DR18	31	\$144	83
Grey Road 19	288	PVC- DR18	27	\$186	83
Grey Road 19	78	PVC- DR18	27	\$50	83
Grey Road 19	151	PVC- DR18	27	\$98	83
Grey Road 19	26	PVC- DR18	27	\$17	83
Grey Road 19	159	PVC- DR18	27	\$103	83
Grey Road 19	138	PVC- DR18	27	\$89	83
Grey Road 19	303	PVC- DR18	27	\$196	83
King Street West	105	WHITE DR26	28	\$55	82
St Moritz Crescent	569	WHITE DR26	24	\$299	82
St Moritz Crescent	41	WHITE DR26	24	\$21	82
Russell Street West	90	WHITE DR26	34	\$53	81
Hoover Lane	506	WHITE DR26	29	\$266	81
Gibson Way	326	WHITE DR26	29	\$172	81
Gibson Way	6	WHITE DR26	29	\$4	81
Highway 26	762	WHITE DR26	29	\$493	81
Highway 26	763	WHITE DR26	29	\$494	81
Highway 26	552	WHITE DR26	29	\$357	81

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Hidden Lake Road	267	WHITE DR26	28	\$140	81
James Street	319	WHITE DR26	28	\$168	81
Between James Street and	98	WHITE DR26	28	\$51	81
Hidden Lake Road	287	WHITE DR26	28	\$151	81
Between Wards Road and Hidden Lake Road	156	WHITE DR26	28	\$82	81
Sleepy Hollow Road	124	WHITE DR26	25	\$68	81
Sleepy Hollow Road	38	WHITE DR26	25	\$21	81
Grey Road 19	90	DI	20	\$58	81
Bay Street West	14	PVC- DR18	11	\$8	81
Barclay Boulevard	307	WHITE DR26	31	\$161	80
Wards Road	342	WHITE DR26	31	\$180	80
Wards Road	64	WHITE DR26	31	\$34	80
Wards Road	104	WHITE DR26	31	\$55	80
Railway Street	131	WHITE DR26	31	\$69	80
Teskey Drive	445	WHITE DR26	30	\$234	80
Drake's Path	331	WHITE DR26	27	\$174	80
Blue Mountain Road	117	WHITE DR26	27	\$65	80
Claire Glen	306	WHITE DR26	27	\$170	80
Patricia Drive	308	WHITE DR26	27	\$171	80
Between Blue Mountain Road and Martin Grove	111	WHITE DR26	27	\$61	80
Martin Grove	301	WHITE DR26	27	\$167	80
Grey Road 19	165	WHITE DR26	27	\$91	80
Between Blue Mountains Road and Grey Road 19	18	WHITE DR26	27	\$10	80
Birch View Trail	452	WHITE DR26	26	\$238	80
Kitzbuhl Crescent	378	WHITE DR26	26	\$199	80
Elma Street North	115	PVC- DR18	40	\$61	80
Grey Street South	112	DI	29	\$59	80
Napier Street West	211	WHITE DR26	33	\$111	79
Napier Street West	6	WHITE DR26	33	\$3	79
Collens Court	101	WHITE DR26	32	\$53	79
Aberdeen Court	101	WHITE DR26	32	\$53	79
Scott Court	108	WHITE DR26	32	\$57	79
Aspen Way	16	WHITE DR26	29	\$9	79
Lakeshore Rd West	222	WHITE DR26	29	\$123	79
Aspen Way	138	WHITE DR26	29	\$76	79
Sleepy Hollow Road	425	WHITE DR26	29	\$235	79
Aspen Way	386	WHITE DR26	29	\$214	79
Brophy's Lane	83	WHITE DR26	29	\$44	79
Brophy's Lane	50	WHITE DR26	29	\$26	79
Brophy's Lane	113	WHITE DR26	29	\$59	79
Brophy's Lane	479	WHITE DR26	29	\$252	79
Brophy's Lane	12	WHITE DR26	29	\$6	79
Brophy's Lane	18	WHITE DR26	29	\$9	79

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Brophy's Lane	559	WHITE DR26	29	\$294	79
Brophy's Lane	243	WHITE DR26	29	\$128	79
Brophy's Lane	192	WHITE DR26	29	\$101	79
Augusta Crescent	456	WHITE DR26	28	\$240	79
Grand Cypress Lane	228	WHITE DR26	28	\$126	79
Grand Cypress Lane	395	WHITE DR26	28	\$219	79
Grand Cypress Lane	351	WHITE DR26	28	\$194	79
Chamonix Crescent	734	WHITE DR26	28	\$386	79
Lakeshore Rd West	167	WHITE DR26	28	\$88	79
Russell Street East	379	DI	34	\$200	79
Russell Street East	111	DI	34	\$59	79
Georgian Bay Estates Development	678	PVC- DR18	14	\$398	79
Cameron Street	781	WHITE DR26	38	\$411	78
Fraser Crescent	31	WHITE DR26	31	\$16	78
Craigmore Crescent	74	WHITE DR26	31	\$39	78
Jozo Weider Boulevard	312	WHITE DR26	31	\$183	78
Jozo Weider Boulevard	249	WHITE DR26	31	\$146	78
Jozo Weider Boulevard	156	WHITE DR26	31	\$92	78
Lakeshore Rd West	274	WHITE DR26	31	\$161	78
Highway 26	180	WHITE DR26	31	\$106	78
Settlers Way	151	WHITE DR26	30	\$79	78
Settlers Way	201	WHITE DR26	30	\$106	78
Farm Gate Road	59	WHITE DR26	30	\$31	78
Pioneer Lane	280	WHITE DR26	30	\$147	78
Farm Gate Road	55	WHITE DR26	30	\$29	78
Margaret Drive	339	WHITE DR26	30	\$178	78
Pioneer Lane	118	WHITE DR26	30	\$62	78
Heritage Drive	111	WHITE DR26	30	\$59	78
Farm Gate Road	231	WHITE DR26	30	\$121	78
Farm Gate Road	46	WHITE DR26	30	\$24	78
Settlers Way	473	WHITE DR26	30	\$249	78
Heritage Drive	151	WHITE DR26	30	\$79	78
Alice Street West	107	DI	33	\$56	78
Alice Street East	144	DI	33	\$76	78
Alice Street West	223	DI	33	\$117	78
Alice Street West	226	DI	33	\$119	78
Camperdown Road	192	DI	31	\$101	78
Thornbury Harbour	190	PE	29	\$100	77
Thornbury Harbour	250	PE	29	\$131	77
Jozo Weider Boulevard	37	WHITE DR26	32	\$20	77
Blue Mountain Drive	24	WHITE DR26	32	\$13	77
Blue Mountain Drive	250	WHITE DR26	32	\$131	77
Blue Mountain Drive	59	WHITE DR26	32	\$31	77

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Blue Mountain Drive	133	WHITE DR26	32	\$70	77
Hydrant Service Line	24	WHITE DR26	32	\$12	77
Blue Mountain Resort	16	WHITE DR26	32	\$9	77
Hydrant Service Line	36	WHITE DR26	32	\$19	77
Blue Mountain Resort	46	WHITE DR26	32	\$27	77
Blue Mountain Resort	259	WHITE DR26	32	\$160	77
Blue Mountain Resort	105	WHITE DR26	32	\$65	77
Jozo Weider Boulevard	142	WHITE DR26	32	\$87	77
Timmons Street	595	WHITE DR26	32	\$313	77
Bruce Street North	121	DI	35	\$82	77
Bruce Street North	135	DI	35	\$91	77
Bridge Street East	247	DI	35	\$168	77
Indian Circle	999	DI	32	\$677	77
Indian Circle	124	DI	32	\$84	77
Indian Circle	81	DI	32	\$55	77
Indian Circle	157	DI	32	\$106	77
Grey Road 40	164	DI	32	\$111	77
Arthur Street East	227	WHITE DR26	40	\$116	76
Wellington Street South	81	WHITE DR26	40	\$46	76
McAuley Street North	94	WHITE DR26	40	\$50	76
Huron Street East	235	WHITE DR26	40	\$124	76
Napier Street West	179	WHITE DR26	40	\$94	76
Napier Street West	273	WHITE DR26	40	\$144	76
Wellington Street South	109	WHITE DR26	40	\$57	76
Harbour Street	61	WHITE DR26	40	\$32	76
Ann Heggteit Drive	245	WHITE DR26	33	\$129	76
Ann Heggteit Drive	25	WHITE DR26	33	\$13	76
Club Intrawest Condominium	22	WHITE DR26	33	\$11	76
Brooker Boulevard	122	WHITE DR26	33	\$64	76
Jozo Weider Boulevard	219	WHITE DR26	33	\$129	76
Jozo Weider Boulevard	128	WHITE DR26	33	\$75	76
Club Intrawest Condominium	74	WHITE DR26	33	\$39	76
Highway 26	269	WHITE DR26	33	\$149	76
Highway 26	240	WHITE DR26	33	\$133	76
Highway 26	251	WHITE DR26	33	\$139	76
Highway 26	6	WHITE DR26	33	\$3	76
Long Point Road	480	WHITE DR26	33	\$253	76
Highway 26	245	WHITE DR26	33	\$136	76
Highway 26	220	WHITE DR26	33	\$122	76
Liisa's Lane	257	WHITE DR26	33	\$135	76
Jozo Weider Boulevard	106	WHITE DR26	33	\$62	76
Kellie's Way	32	WHITE DR26	33	\$17	76
Brooker Boulevard	59	WHITE DR26	33	\$31	76
Brooker Boulevard	240	WHITE DR26	33	\$126	76
Kellie's Way	55	WHITE DR26	33	\$29	76

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Kellie's Way	38	WHITE DR26	33	\$20	76
Brooker Boulevard	60	WHITE DR26	33	\$32	76
Laurie's Court	57	WHITE DR26	33	\$30	76
Brooker Boulevard	105	WHITE DR26	33	\$55	76
Brooker Boulevard	208	WHITE DR26	33	\$109	76
Brooker Boulevard	126	WHITE DR26	33	\$66	76
Lucille Wheeler Lane	112	WHITE DR26	33	\$59	76
Lucille Wheeler Crescent	239	WHITE DR26	33	\$126	76
Wintergreen Place	28	WHITE DR26	33	\$15	76
Wintergreen Place	4	WHITE DR26	33	\$2	76
Wintergreen Place	14	WHITE DR26	33	\$7	76
Victoria Street South	153	DI	36	\$94	76
Victoria Street South	97	DI	36	\$60	76
Victoria Street South	170	DI	36	\$104	76
King Street East	451	DI	36	\$306	76
Grey Street North	233	DI	36	\$158	76
Victoria Street South	426	DI	36	\$262	76
King Street East	230	DI	36	\$156	76
Woodland Park Road	134	DI	35	\$91	76
Woodland Park Road	578	DI	35	\$392	76
Highway 26	668	DI	35	\$453	76
Wellington Street South	108	PE	40	\$57	76
Leming Street	72	WHITE DR26	41	\$38	75
Ferguson Avenue	146	WHITE DR26	41	\$77	75
Alice Street East	108	WHITE DR26	41	\$57	75
Moore Crescent	156	WHITE DR26	41	\$82	75
Between Alfred Street East and Moore Crescent	107	WHITE DR26	41	\$56	75
Leming Street	122	WHITE DR26	41	\$64	75
Camperdown Court	187	WHITE DR26	40	\$98	75
Highway 26	254	WHITE DR26	36	\$134	75
Arrowhead Crescent	330	WHITE DR26	36	\$174	75
Arrowhead Court	56	WHITE DR26	36	\$30	75
Arrowhead Crescent	186	WHITE DR26	36	\$98	75
Highway 26	93	WHITE DR26	36	\$52	75
Highway 26	83	WHITE DR26	36	\$44	75
Highway 26	462	WHITE DR26	36	\$256	75
Highway 26	95	WHITE DR26	36	\$50	75
Huron Street West	122	DI	31	\$64	75
Monterra Road	660	WHITE DR26	35	\$366	75
Monterra Road	19	WHITE DR26	35	\$11	75
Monterra Road	64	WHITE DR26	35	\$36	75
Easement between Monterra Rd and Timmons Street	1331	WHITE DR26	35	\$738	75

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Monterra Road	80	WHITE DR26	35	\$44	75
Highway 26	41	DI	36	\$22	75
Highway 26	692	DI	36	\$448	75
Highway 26	812	DI	36	\$525	75
Highway 26	628	DI	36	\$406	75
Bayview Avenue	1062	DI	36	\$720	75
Highway 26	928	DI	36	\$629	75
Hidden Lake Road	36	DI	36	\$19	75
Arrowhead Road	211	DI	36	\$137	75
Bayview Avenue	15	DI	36	\$8	75
Arthur Street East	119	WHITE DR26	42	\$63	74
Alfred Street East	59	WHITE DR26	42	\$31	74
Alfred Street East	92	WHITE DR26	42	\$48	74
Alfred Street East	120	WHITE DR26	42	\$63	74
Alfred Street West	163	WHITE DR26	42	\$86	74
Alice Street West	111	DI	33	\$58	74
Marsh Street	196	DI	45	\$103	74
Marsh Street	55	DI	45	\$29	74
Marsh Street	71	DI	45	\$38	74
Lemon Street	94	DI	41	\$50	74
Mill Street	102	DI	40	\$69	74
Craigleith Road	410	DI	35	\$266	74
Grey Road 19	431	DI	35	\$279	74
Margaret Drive	24	DI	35	\$13	74
Grey Road 19	639	DI	35	\$414	74
Arrowhead Road	200	DI	35	\$129	74
Arrowhead Road	261	DI	35	\$169	74
Arrowhead Road	187	DI	35	\$121	74
Arrowhead Road	149	DI	35	\$96	74
Sleepy Hollow Road	167	DI	35	\$108	74
Craigleith Road	208	DI	35	\$135	74
Craigleith Road	266	DI	35	\$172	74
Craigleith Road	434	DI	35	\$281	74
Grey Road 19	115	DI	35	\$75	74
Grey Road 19	152	DI	35	\$98	74
Grey Road 19	106	DI	35	\$69	74
Grey Road 19	60	DI	35	\$39	74
Grey Road 19	328	DI	35	\$212	74
Petun Drive	63	DI	34	\$33	74
Wyandot Court	63	DI	34	\$33	74
Wyandot Court	100	DI	34	\$53	74
Timmons Street	373	WHITE DR26	40	\$196	73
Kimheather Court	85	WHITE DR26	40	\$45	73

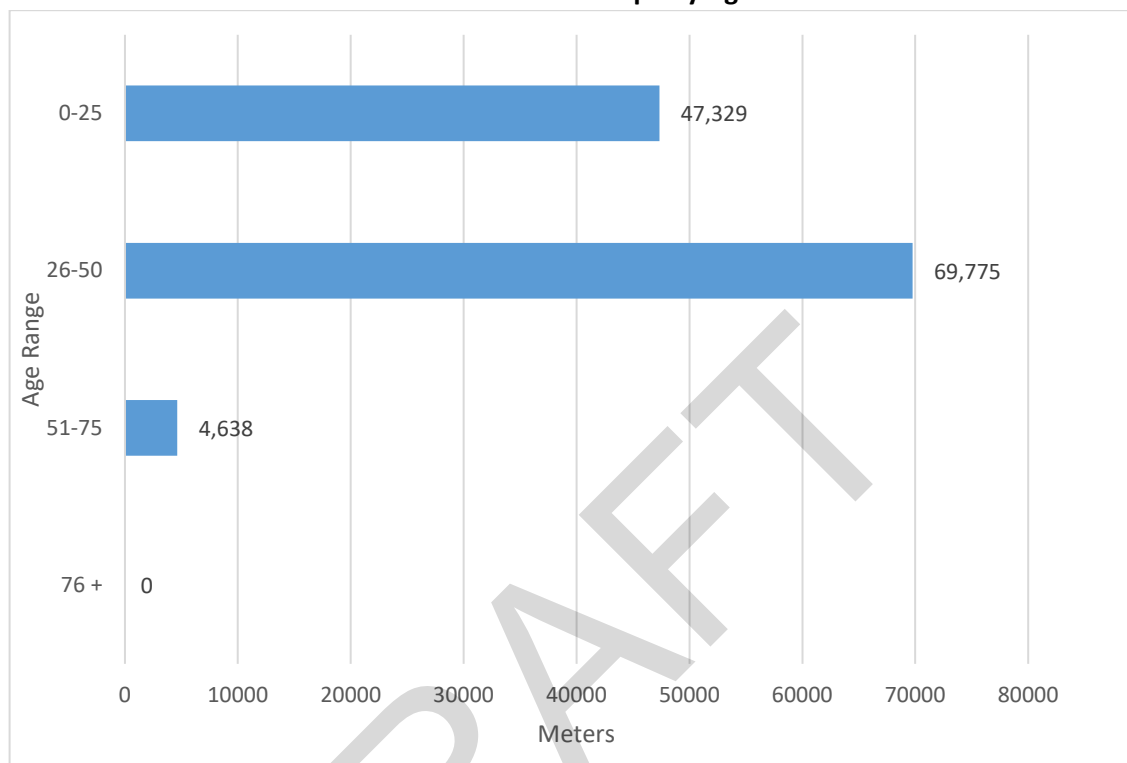
Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Timmons Street	106	WHITE DR26	40	\$56	73
Heritage Drive	19	WHITE DR26	39	\$10	73
Thornbury Harbour	54	DI	42	\$33	73
Elgin Street South	106	DI	42	\$56	73
Elgin Street South	190	DI	42	\$100	73
Lansdowne Street North	115	DI	42	\$78	73
Huron Street West	222	DI	42	\$150	73
Huron Street West	230	DI	42	\$156	73
Huron Street West	217	DI	42	\$147	73
Elgin Street South	50	DI	42	\$27	73
Alfred Street West	59	DI	42	\$31	73
Alfred Street West	228	DI	42	\$120	73
Elgin Street South	131	DI	42	\$69	73
Bay Street West	182	DI	42	\$124	73
Louisa Street West	222	WHITE DR26	47	\$117	72
Orchard Drive	271	DI	45	\$142	72
Applevale Court	123	DI	45	\$65	72
Orchard Drive	68	DI	45	\$36	72
Orchard Drive	170	DI	45	\$89	72
Between Thornbury Harbour and Mill Street	181	DI	44	\$111	72
Happy Valley Road	63	DI	39	\$33	72
Jozo Weider Boulevard	24	DI	39	\$14	72
Happy Valley Road	22	DI	39	\$14	72
Happy Valley Road	271	DI	39	\$176	72
Grey Road 19	510	DI	39	\$330	72
Snowbridge Way	314	WHITE DR26	20	\$174	72
Ann Heggteit Drive	353	DI	33	\$185	71
Ann Heggteit Drive	127	DI	33	\$67	71
Louisa Street West	227	DI	47	\$120	71
Louisa Street East	131	DI	47	\$69	71
Elma Street South	224	DI	46	\$118	71
Elma Street South	220	DI	46	\$116	71
Arthur Street West	27	WHITE DR26	52	\$17	69
Highway 26	52	DI	36	\$28	69
Petun Drive	132	DI	44	\$69	69
Wyandot Court	191	DI	44	\$101	69
Between Wyandot Court and	317	DI	44	\$167	69
Wyandot Court	53	DI	44	\$28	69
Wyandot Court	109	DI	44	\$57	69
Highway 26	356	WHITE DR26	28	\$187	69
Hidden Lake Road	399	WHITE DR26	28	\$210	69
Peel Street	201	DI	44	\$106	68

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Fraser Crescent	302	WHITE DR26	31	\$159	66
Duncan Street West	57	DI	50	\$30	64
Duncan Street West	149	DI	50	\$78	64
Grey Road 40	311	DI	49	\$163	64
King Street East	208	DI	36	\$141	64
Highway 26	241	WHITE DR26	36	\$134	63
Craigmore Crescent	237	WHITE DR26	35	\$131	63
Lakeshore Rd West	77	PE	26	\$40	63
Arrowhead Road	513	DI	35	\$332	62
Arrowhead Road	278	DI	35	\$180	62
Bay Street East	89	WHITE DR26	66	\$47	61
Blue Mountain Resort	131	WHITE DR26	60	\$72	61
Blue Mountain Resort	61	WHITE DR26	60	\$34	61
Blue Mountain Resort	193	WHITE DR26	60	\$107	61
Timmons Street	117	WHITE DR26	40	\$65	61
Baring Street	224	DI	58	\$118	59
Baring Street	117	DI	58	\$61	59
Helen Street	151	DI	53	\$80	59
Mill Street	66	DI	40	\$35	52
Poplar Street	53	DI	40	\$28	52
Cottage Avenue	57	DI	40	\$30	52
Elma Street South	19	DI	40	\$10	52
Elgin Street North	15	DI	42	\$8	51
Elgin Street North	121	DI	42	\$63	51
Lakeshore Rd East	96	WHITE DR26	60	\$50	49
Aspen Way	308	WHITE DR26	29	\$170	49
Cameron Street	767	CI	50	\$404	47
Mill Street	128	WHITE DR26	40	\$78	46
Arthur Street West	193	CI	52	\$102	45
Alta Road	7	DI	35	\$4	44
Alice Street West	659	DI	33	\$347	44
Cameron Street	121	CI	38	\$64	43
Peel Street	22	CI	57	\$12	41
Bay Street West	135	CI	57	\$71	41
King Street East	233	CI	60	\$123	39
Elgin Street North	74	CI	42	\$39	39
Riverside Crescent	408	CI	53	\$214	38
McAuley Street South	119	CI	53	\$63	32
Bay Street East	185	CI	66	\$97	29
Bay Street East	29	CI	66	\$15	29
Elgin Street North	31	CI	66	\$16	29
Lakeshore Drive	436	CI	61	\$229	27
Lansdowne Street North	74	CI	61	\$39	27

Road Name	Length (meters)	Material Type	Age	Replacement Cost (\$1,000)	Condition Rating
Napier Street East	370	CI	35	\$194	26
Cottage Avenue	312	CI	40	\$164	22
Bay Street East	243	CI	66	\$128	17
Arthur Street West	210	CI	52	\$111	15
Elma Street North	127	CI	58	\$67	11
Huron Street West	217	CI	60	\$114	9
King Street West	219	CI	66	\$115	6
Lakeshore Rd East	599	PVC- Grey DR26	24	\$315	0
Highway 26	24	PVC- Grey DR26	24	\$13	0
Sleepy Hollow Road	137	PVC- Grey DR26	25	\$76	0
Sleepy Hollow Road	122	PVC- Grey DR26	25	\$67	0
Grey Road 19	718	PVC- Grey DR26	35	\$398	0
Lakeshore Rd East	487	PVC- Grey DR26	36	\$271	0
Between Lakeshore Road East	46	PVC- Grey DR26	36	\$26	0
Lakeshore Rd East	8	PVC- Grey DR26	36	\$4	0
Lakeshore Rd East	261	PVC- Grey DR26	36	\$142	0
Sleepy Hollow Road	124	PVC- Grey DR26	25	\$65	0
Victoria Street South	229	PVC- Grey DR26	42	\$141	0
Victoria Street South	213	PVC- Grey DR26	42	\$131	0
Victoria Street South	117	PVC- Grey DR26	42	\$72	0
Victoria Street North	126	PVC- Grey DR26	42	\$77	0
Between Victoria Street North	135	PVC- Grey DR26	42	\$83	0
Arlberg Crescent	356	PVC- Grey DR26	45	\$197	0
Tyrolean Lane	231	PVC- Grey DR26	45	\$128	0
Woodland Park Road	592	PVC- Grey DR26	49	\$311	0
Lakewood Drive	812	PVC- Grey DR26	49	\$427	0
Grey Road 40	143	PVC- Grey DR26	49	\$75	0
Woodland Park Road	150	PVC- Grey DR26	49	\$79	0
Craigmore Crescent	88	PVC- Grey DR26	35	\$46	0
Old Lakeshore Road	1534	PVC- Grey DR26	28	\$850	0
Tyrolean Lane	490	PVC- Grey DR26	45	\$272	0
Grey Road 19	44	PVC- Grey DR26	60	\$26	0
Between Kitzbuhl Crescent and	185	PVC- Grey DR26	60	\$103	0
Kandahar Lane	201	PVC- GREY DR26	45	\$111	0
Arlberg Crescent	165	PVC- Grey DR26	45	\$92	0
Bay Street East	437	AC	66	\$230	-2

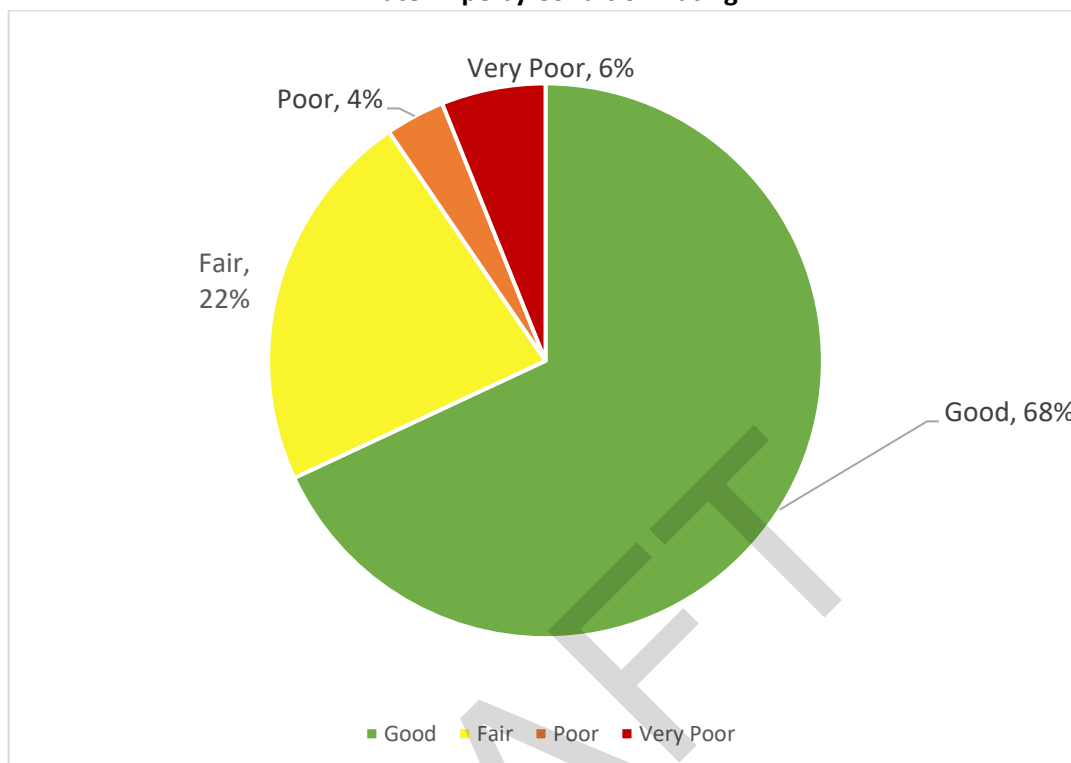
Graph 1 shows the number of water pipes in each age range. The average age of the Town's water pipe is 28 years. There are no pipes that are older than 66 years old. The Town does have 1,156m of abandoned water pipes.

Graph 1
Meters of Water Pipe by Age

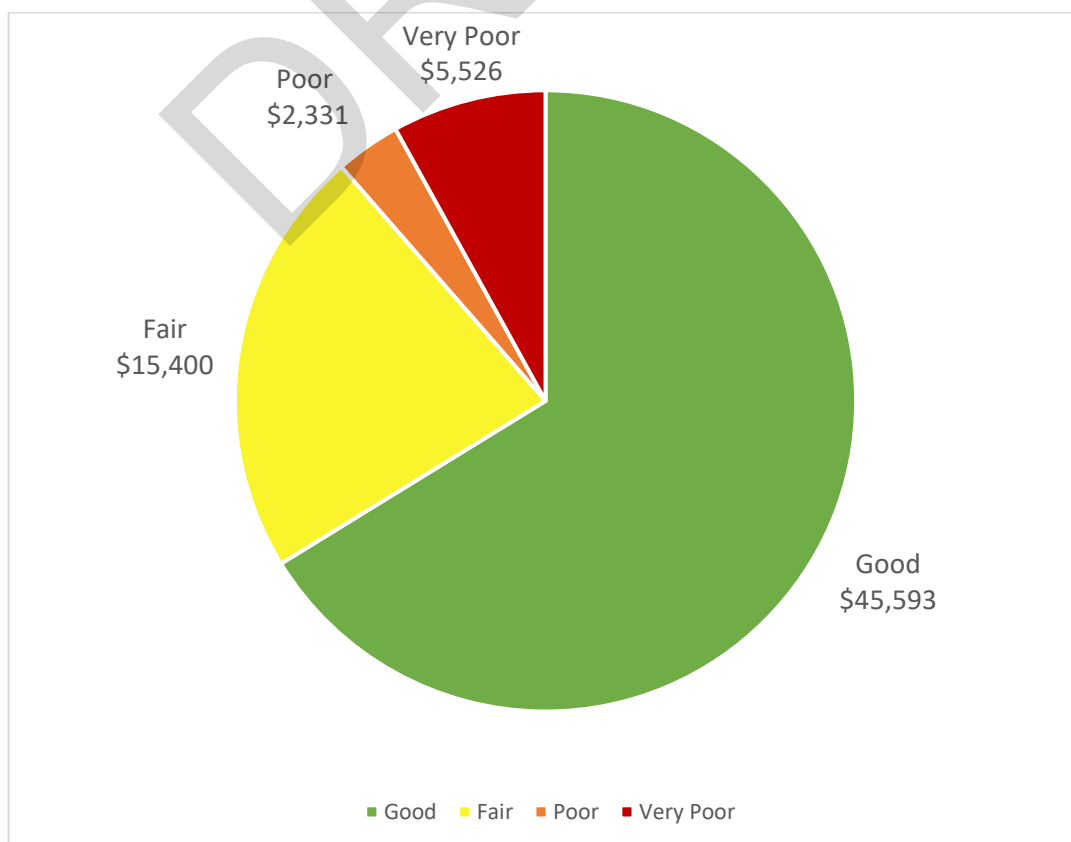


There is only 6% in Very Poor condition with a replacing 10,101 meters of pipe costing \$5,526,000. The overall condition of the water pipes is 75% or a Fair condition rating.

Graph 2
Water Pipe by Condition Rating



Graph 3
Replacement Cost by Condition Rating (In Thousands)



Map 1-4 of the appendix shows the water pipes condition by service area.

Graph 4
10 Year Replacement Cost

Graph 3 shows the funds needed for the next 10 years for water pipe replacement. The timing of the replacement was based on the condition rating instead on the estimated useful life. The replacement cost are funded by the Water Asset Replacement Reserve Fund, which is collected through user fees.

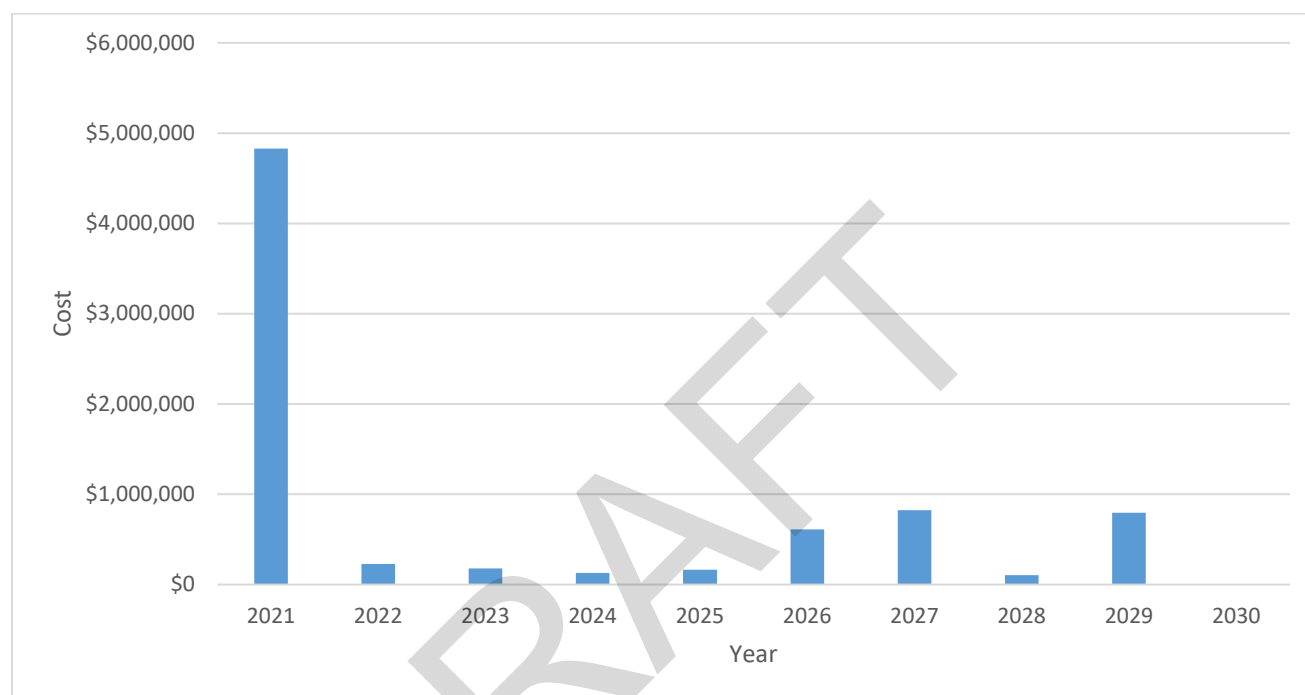


Table 5
10 Year Replacement Cost

Year	Replacement Cost
2021	\$4,827,000
2022	\$229,000
2023	\$178,000
2024	\$128,000
2025	\$164,000
2026	\$612,000
2027	\$823,000
2028	\$103,000
2029	\$794,000
2030	\$0
Total	\$7,858,000

Current Level of Service

As per O.Reg 588/17 this asset management plan is built using the current level of service that the Town is offering for this asset class. The regulation does speak to mandatory metrics that the Town must report, and staff have included some additional metrics as well.

- Percentage of properties connected to the municipal water system. (mandatory)
- Percentage of properties where fire flow is available. (mandatory)
- The number of connection-day per year where a boil water advisory notice is in place compared to the total of the properties connected to the municipal water system. (mandatory)
- The number of connection-days per year due to watermain breaks compared to the total number of properties connected to the municipal water system. (mandatory)
- Annual operating cost per meter (optional)
- Annual capital cost per meter (optional)

Maps 5-8 of the appendix illustrates the municipal water system connections. The regulation requires that this plan provides the qualitative descriptions of the municipality that is on the water system. The map 6 in the appendix shows the 7,106 properties in the different service areas that are connected to the Town's water system.

There are 81% of the properties that are connected to the Municipal Water system. Table 6 breaks the percentages down to the service areas.

Table 6
Municipal Water System by Service Area

Connected to the Municipal Water System	Not Connected to the Municipal Water System	Total	Percentage of Properties Connected to the Municipal Water System
7,106	1,678	8,784	81%

Map 9-12 of the appendix illustrates the Fire Flow by service area.

Table 7 is shows the percentage of properties with available fire flow by service area. There are 72% of the Town's properties that have fire flow.

Table 7
Available Fire Flow by Service Area

Properties with Fire Flow	Properties without Fire Flow	Total number of Properties*	Percentage of Properties with Available Fire Flow
5,636	2,173	7,809	72%

**Total number of parcels within the Town of The Blue Mountains. Does not include individual units within registered condominiums*

Boil water advisories are to protect the water users from potential health risks and can be issued due to the water quality testing or suspected contaminants and is issued by the Ministry of the Environment, Conservation and Parks (MECP) or Georgian Bruce Health Unit (GBHU). In the reported 18M10-year period for this plan there has been no boil water advisories issued by the MECP or GBHU.

Table 8 represents the number of connection days per year due to watermain breaks compared to the total number of properties connected to the municipal water system. There were 7 watermain breaks in 2019. All watermain breaks were fixed the same day. There were no instances where a service interruption lasted longer than the day it was being repaired.

Table 8
Percentage of Breaks to Total Number of Connections

Year	Number of Watermain Breaks	Total Number of Connections	Percentage
2015	5	7,853	0.06%
2016	4	7,999	0.05%
2017	3	8,203	0.04%
2018	7	8,448	0.08%
2019	7	8,647	0.08%

On a 10-year average the Town spends \$8.49 per meter on water pipes operations annually. This includes maintenance of flushing and repairing water pipe.

Currently the Town will be required to save \$7.69 per meter to fully fund the 10 year watermain replacement plan.

Lifecycle Costs

As per O.Reg 588/17 a 10-year lifecycle cost must be calculated for the asset category to maintain the current level of service that has already been established. The expenses have been split between Annual Cost and Annual Transfer. The Annual Cost include repairs and maintenance activities done on the water pipes. The costs include both internal costs (staff and equipment time) and external costs. The second stream is the annual transfer to the Water Asset Replacement Reserve Fund to fund the capital replacement costs. The Town uses reserve funds and annual transfers to fund capital purchases rather than trying to fund those expenses in the given year.

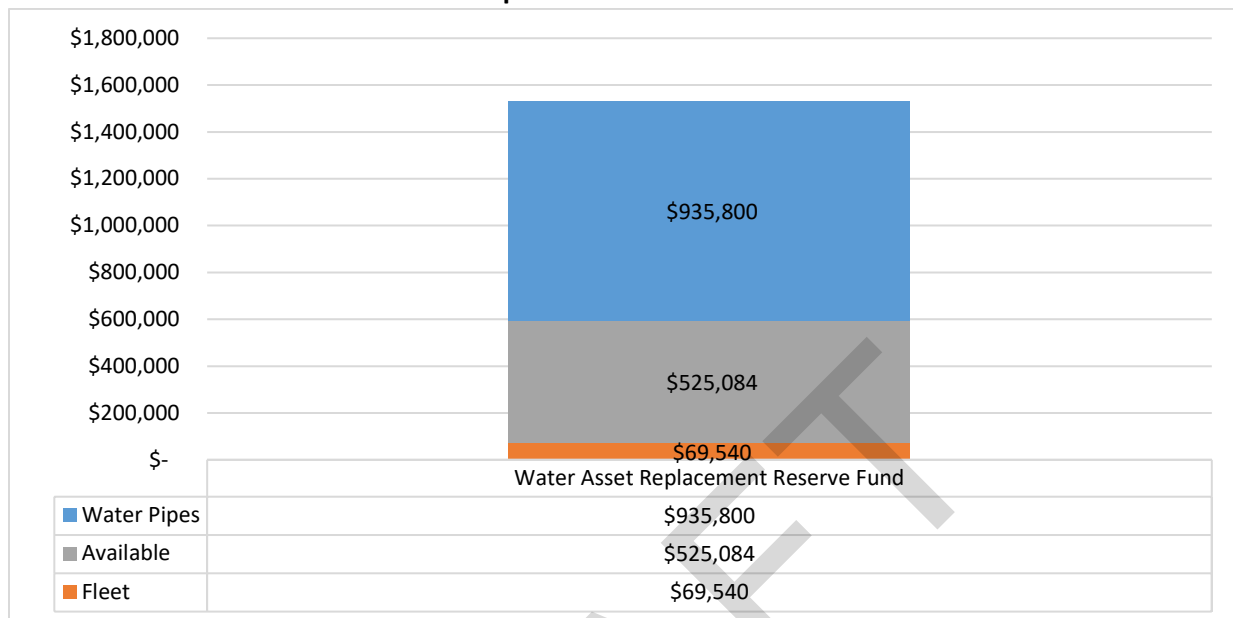
The lifecycle activities for the water pipes would include following the Town's planned maintenance program, repair emergency water pipe breaks and replacement activities to keep the current level of service. Annual hydrant flushing and inspections of the water pipes are required to maintain a Drinking Water License and to comply with all the Provincial and Federal Acts and regulations.

Table 10
Ten Year Lifecycle Costs (in thousands)

	Annual Costs	Annual Transfer	Total
Total Water Costs	\$10,337	9,358	\$19,695

Additional costs that need to be factored in are for salaries and benefits for employees that are funded through the capital program. Currently the Town has three such employees, two Senior Infrastructure Capital Project Coordinators and one Capital Communication Coordinator. For the purposes of this asset management plan and the wastewater and road plans, 25% of the cost of these employees has been added to Roads, Water, Wastewater and Development Charges. The annual transfer includes \$80,000 to fund these employees and \$70,000 to fund the minor operating capital are included in the Annual Transfer amount above.

Graph 5
Water Asset Replacement Reserve Fund Annual Transfer



Graph 5 looks at the 2020 annual transfer of \$1,530,424 to the Water Asset Replacement Reserve Fund and breaks it down by asset class. The previously approved fleet asset management plan has an annual transfer of \$69,540, water pipes has \$935,800 as per this plan, which leaves \$525,084 to be used to fund other water asset classes.

Population and Economic Activity

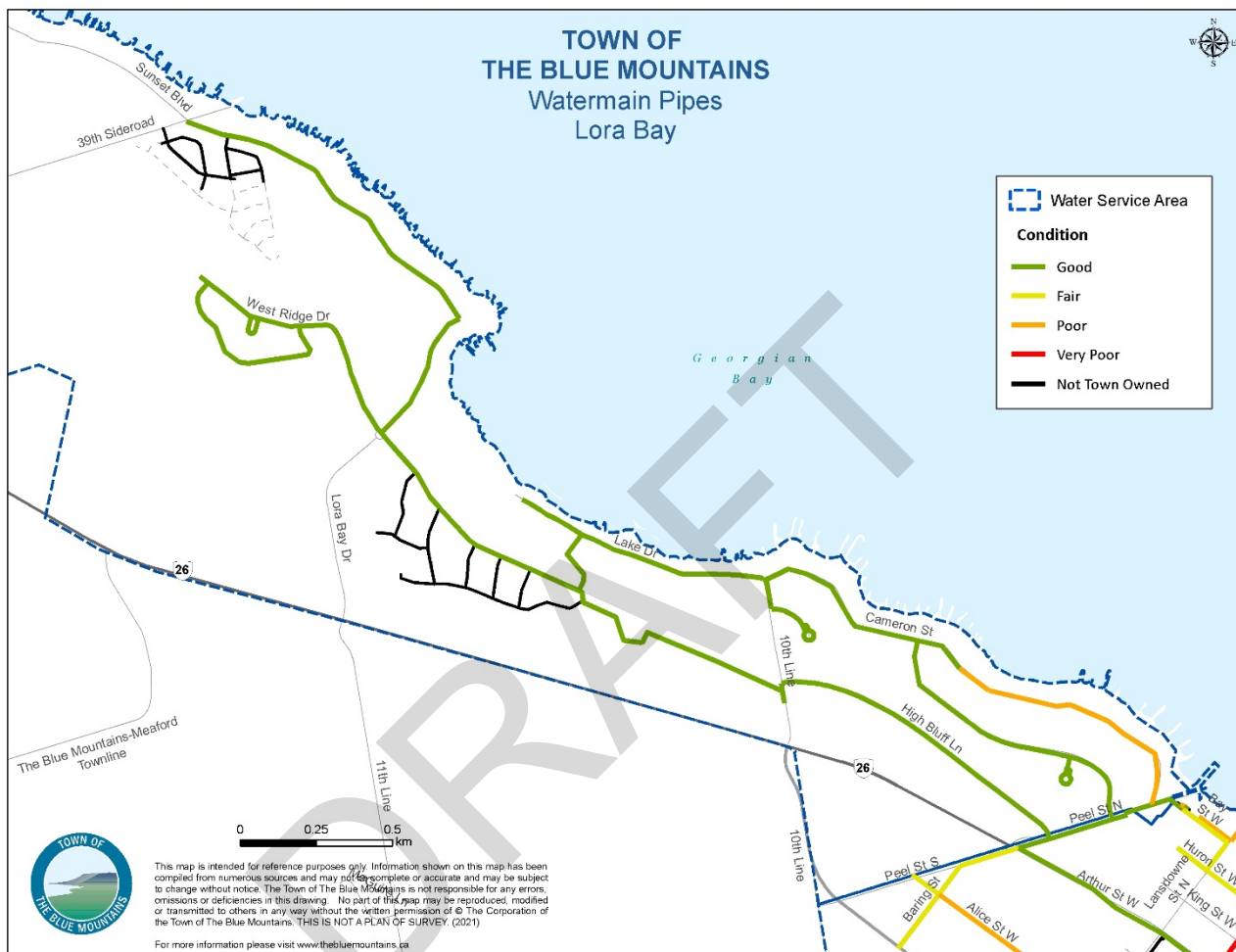
The Town adds to the water pipe system through growth and subdivision assumptions. To estimate the future build outs of water pipes the Development Charge Background Study was used to calculate the growth and using the non-assumed water pipe from Developers. There will be additional 50,890 meters of water pipe for the Town to maintain and operate with an increase of \$823,000 annually.

Table 11
Future Water Pipe Costs

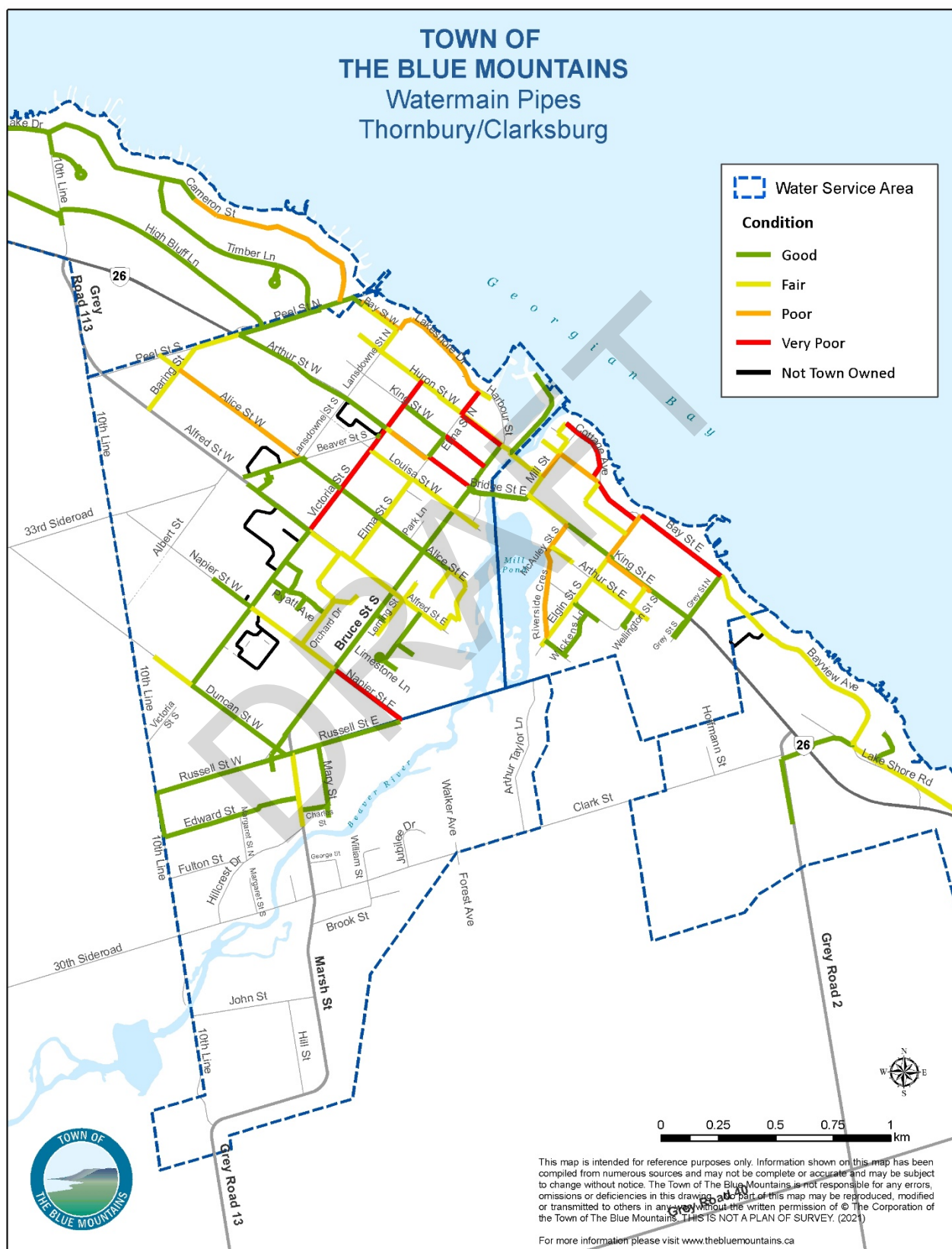
	Meters	Annual Costs	Annual Transfer	Total Cost
Growth Related	41,622	\$353,000	\$320,000	\$673,000
Assumptions	9,268	\$79,000	\$71,000	\$150,000
Total	50,890	\$432,000	\$391,000	\$823,000

Appendix

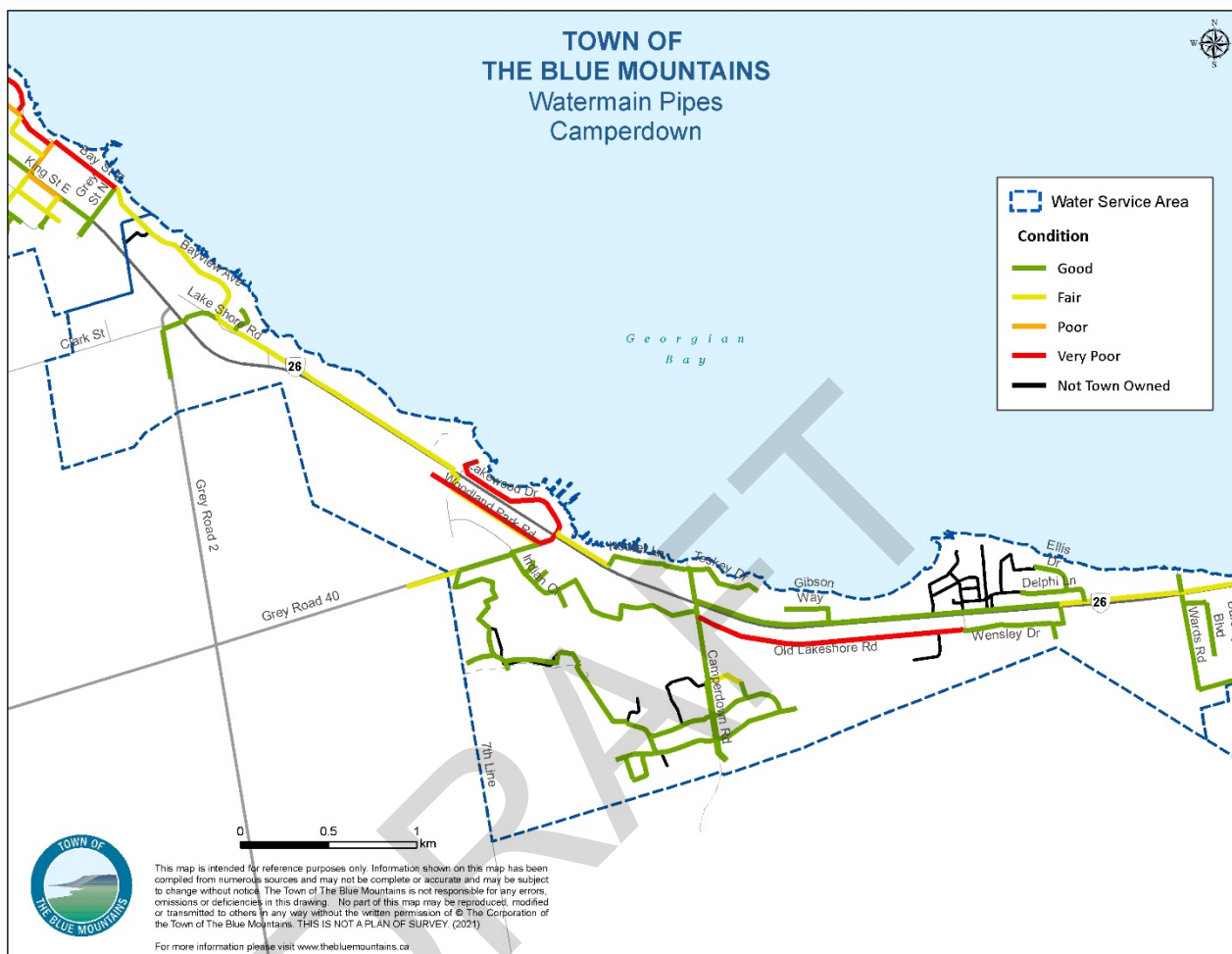
Map 1
Town of The Blue Mountains Water Pipe by Condition Rating-Lora Bay



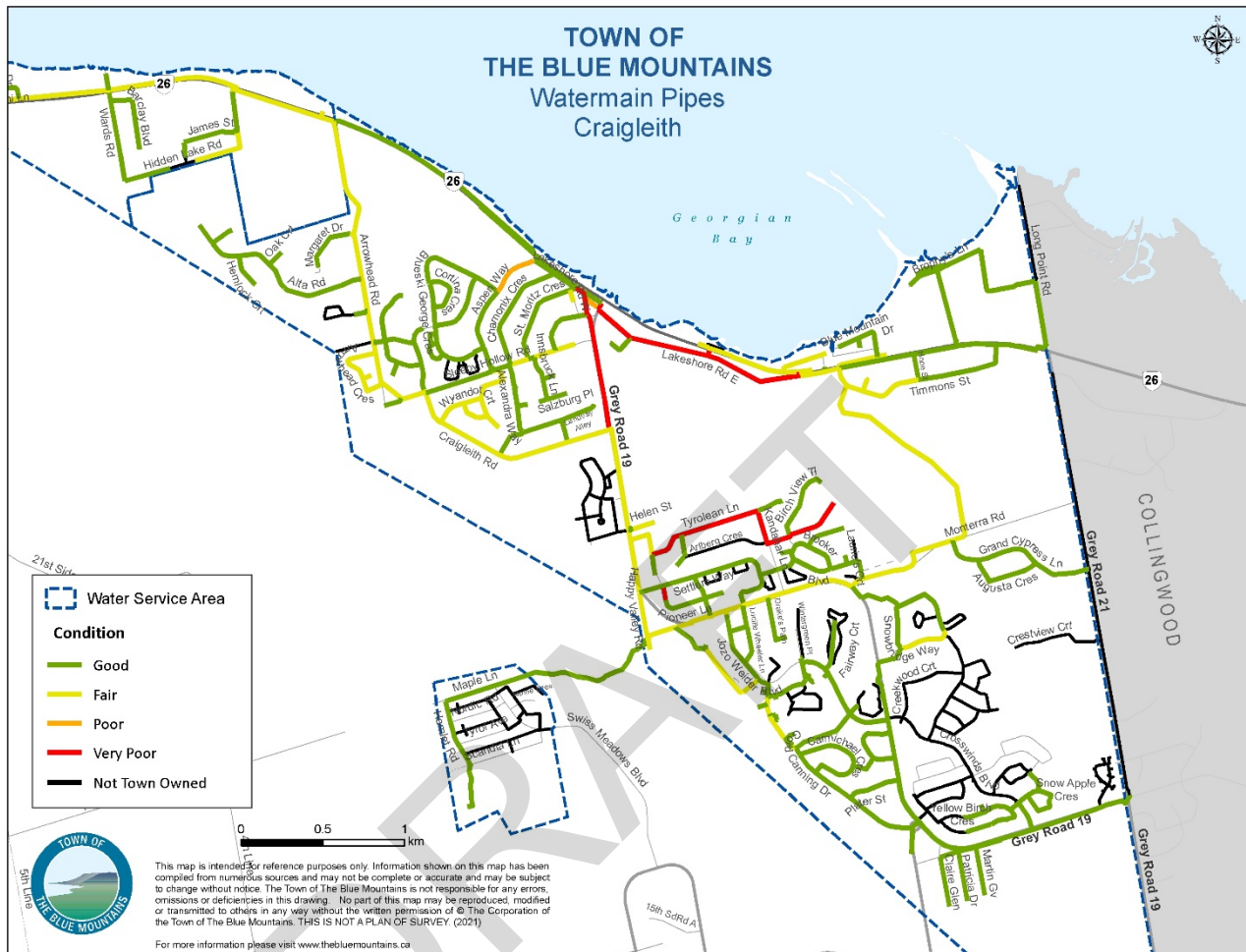
Map 2
Town of The Blue Mountains Water Pipe by Condition Rating-Thornbury/Clarksburg



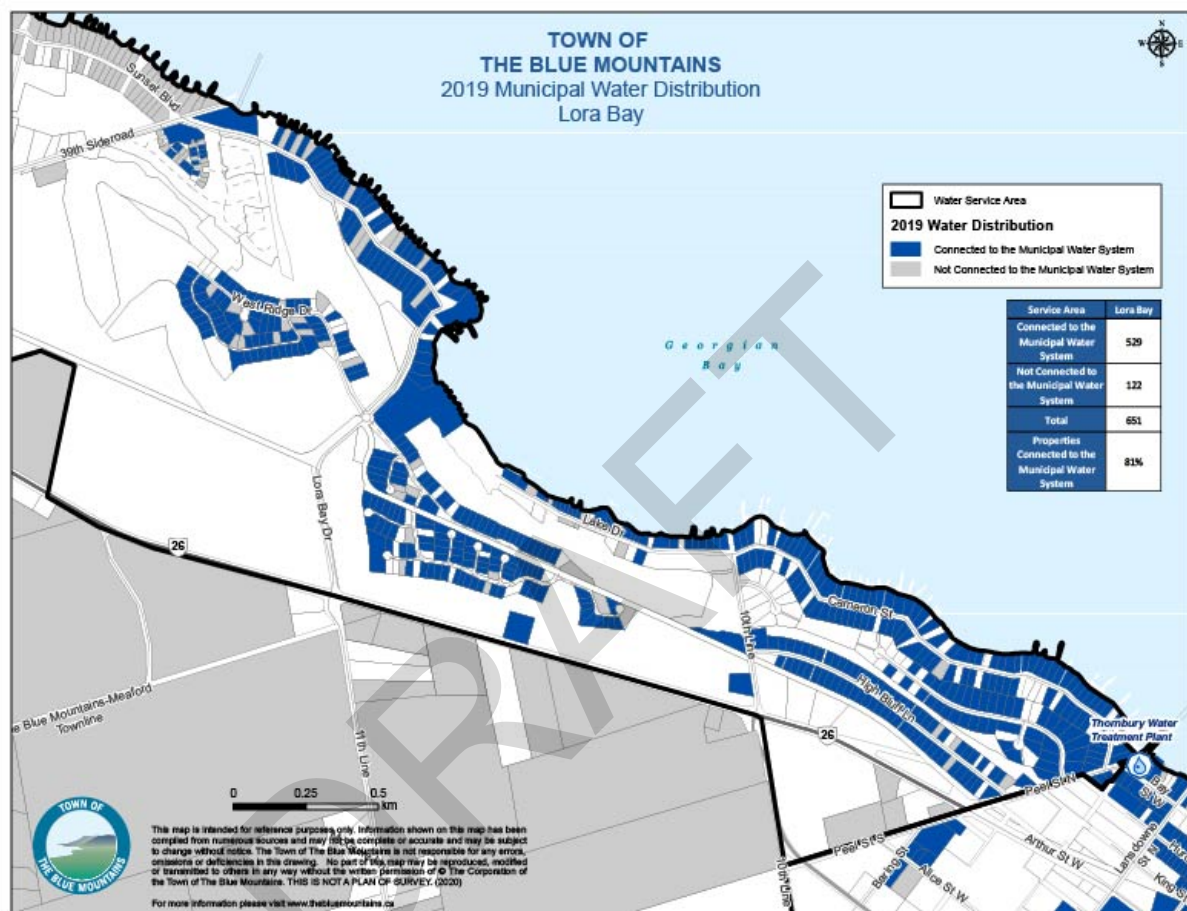
Map 3
Town of The Blue Mountains Water Pipe by Condition Rating-Camperdown



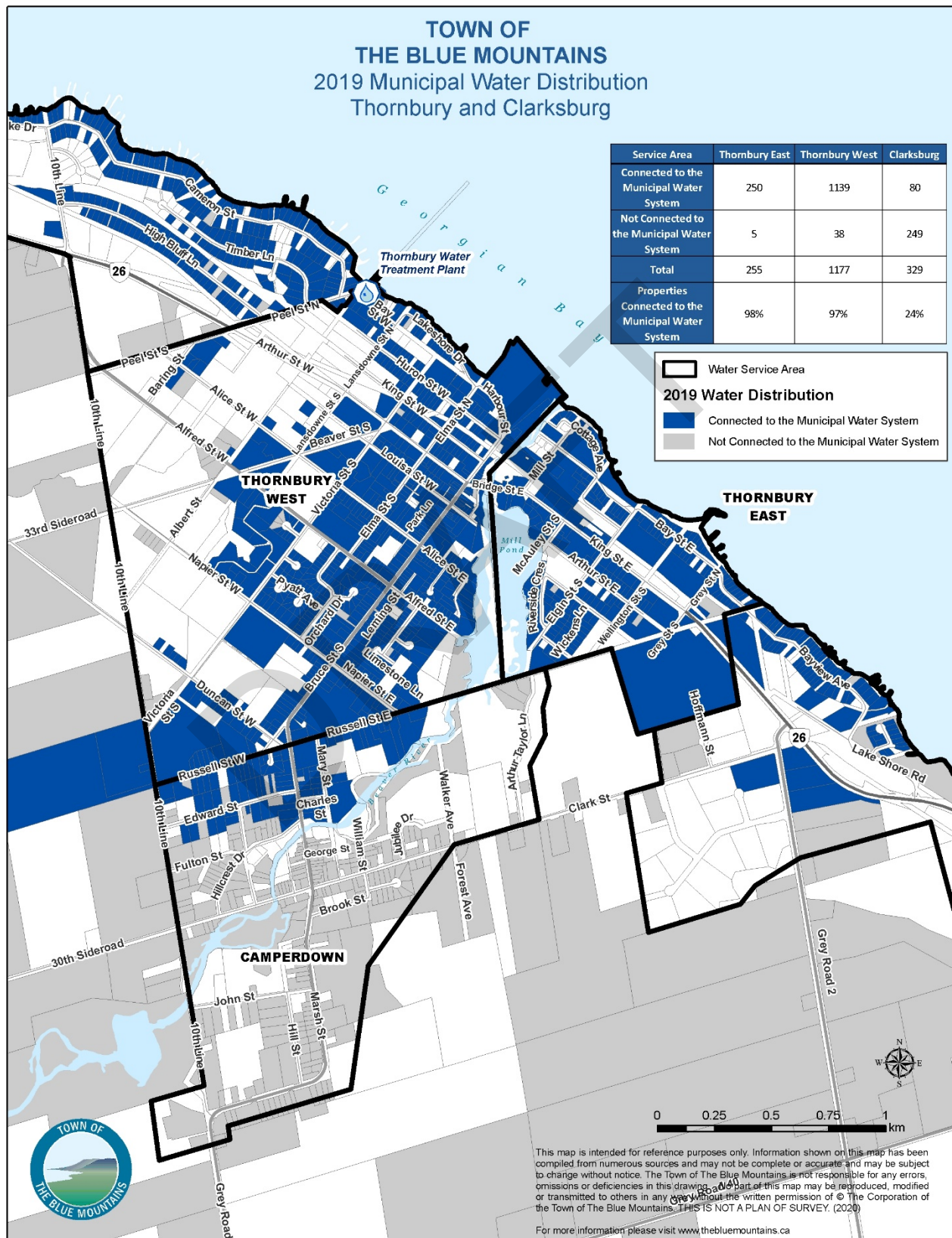
Map 4
Town of The Blue Mountains Water Pipe by Condition Rating-Craigeleith



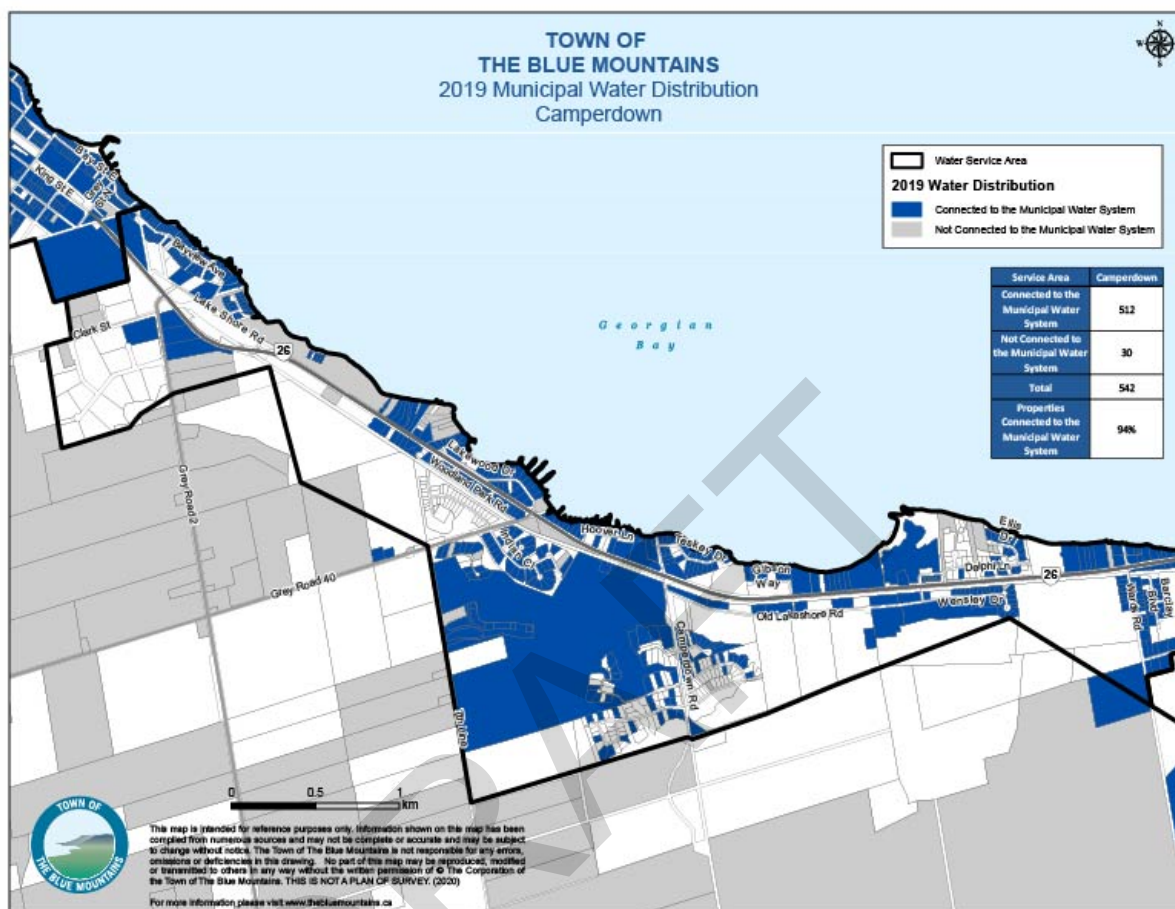
Map 5
Municipal Water Connections by Service Area-Lora Bay



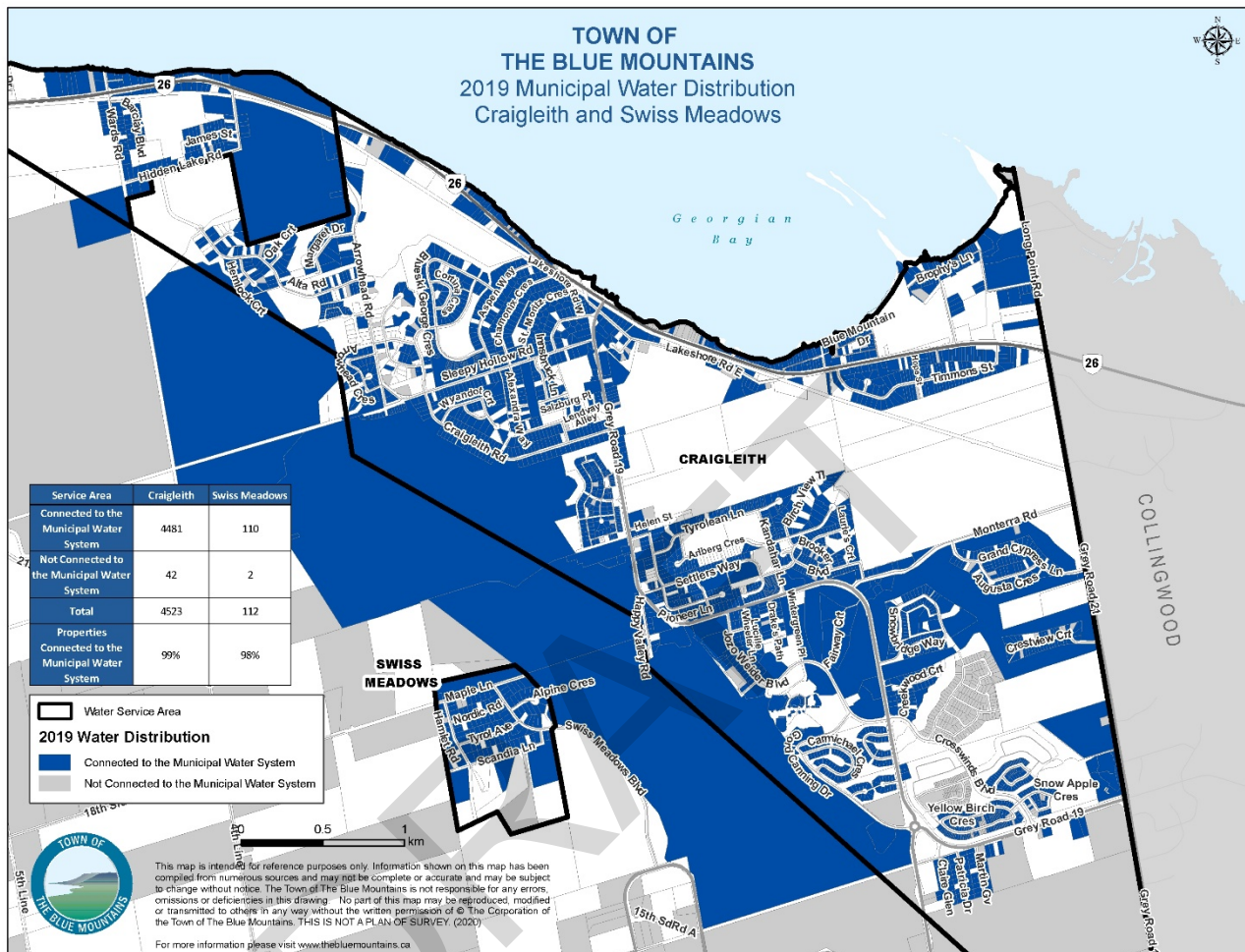
Map 6
Municipal Water Connections by Service Area-Thornbury/Clarksburg



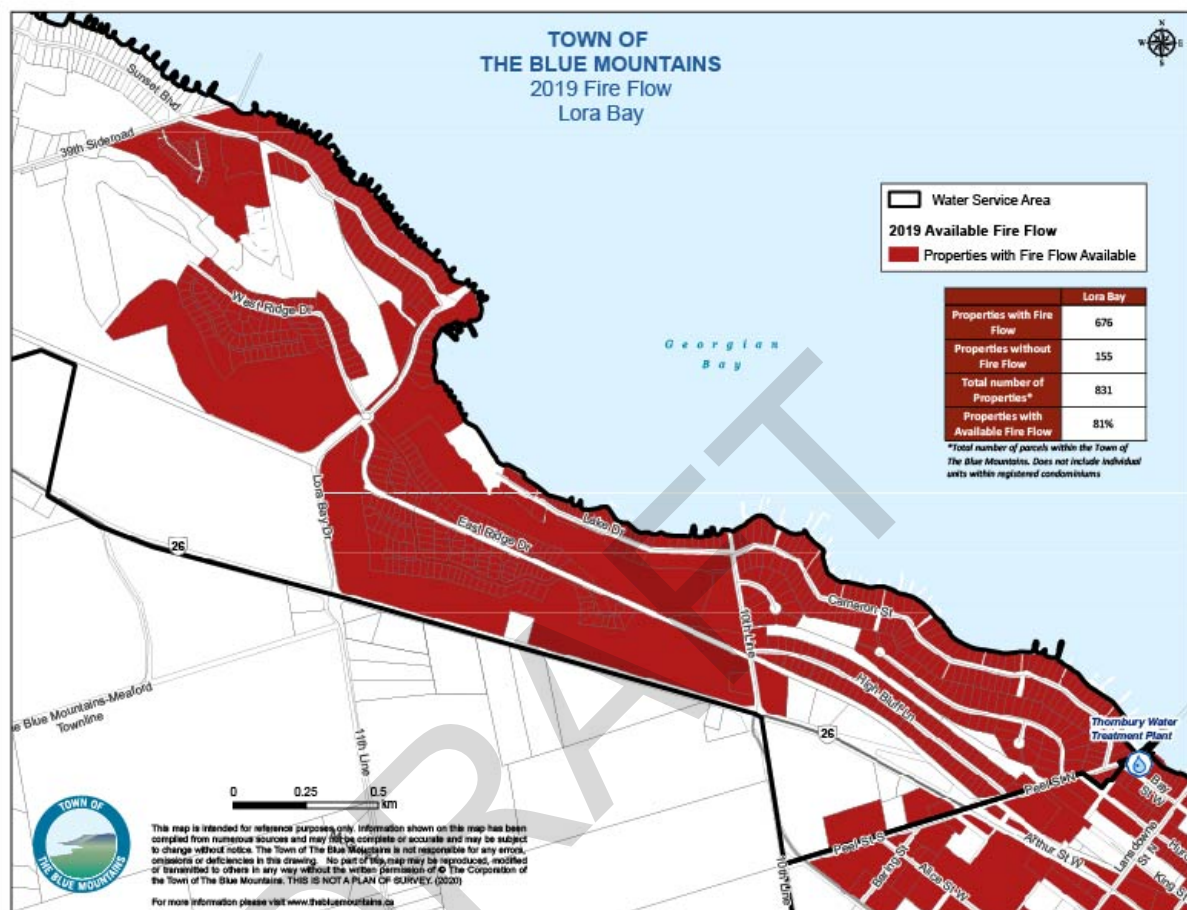
Map 7
Municipal Water Connections by Service Area-Camperdown

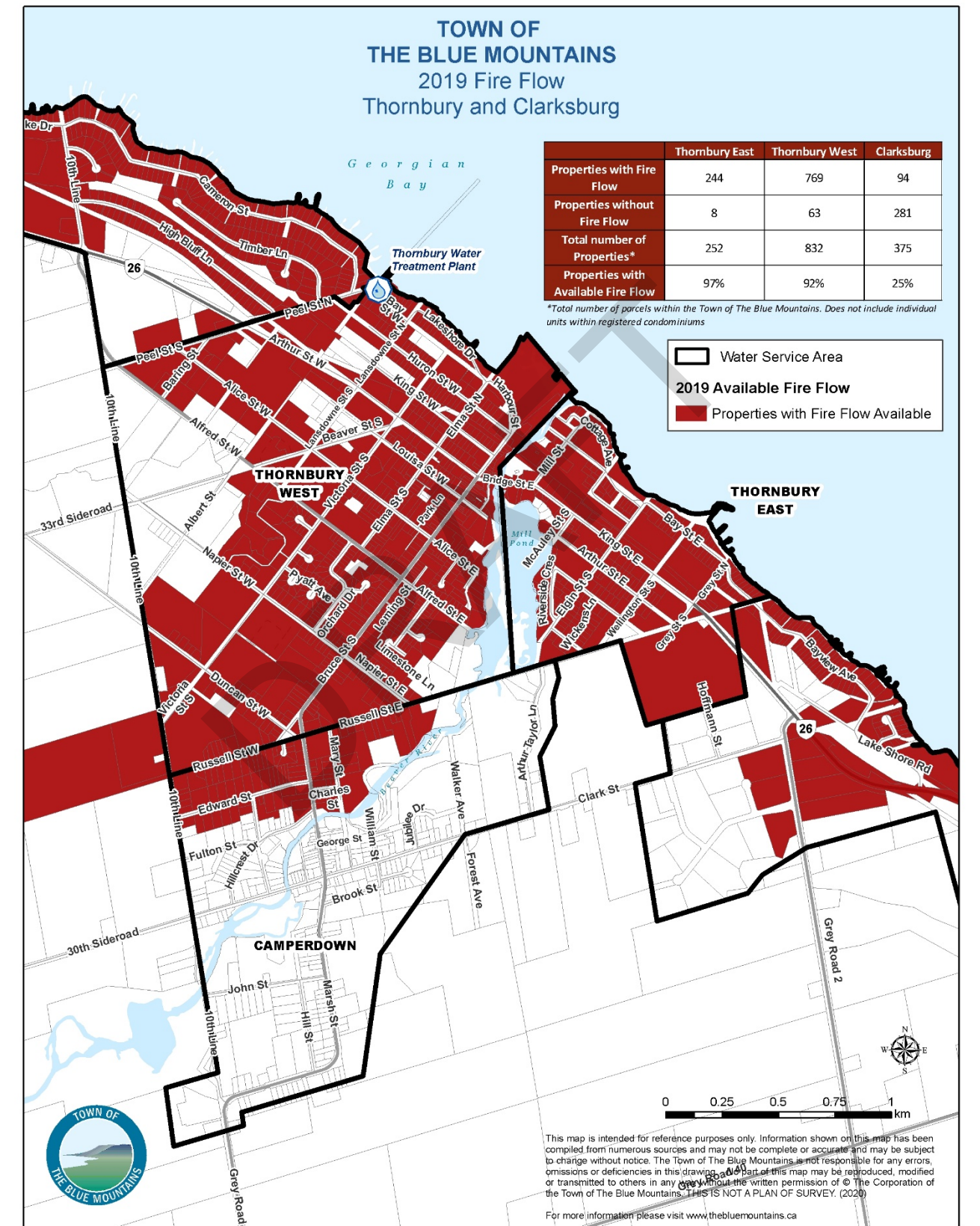


Map 8
Municipal Water Connections by Service Area-Craigleith



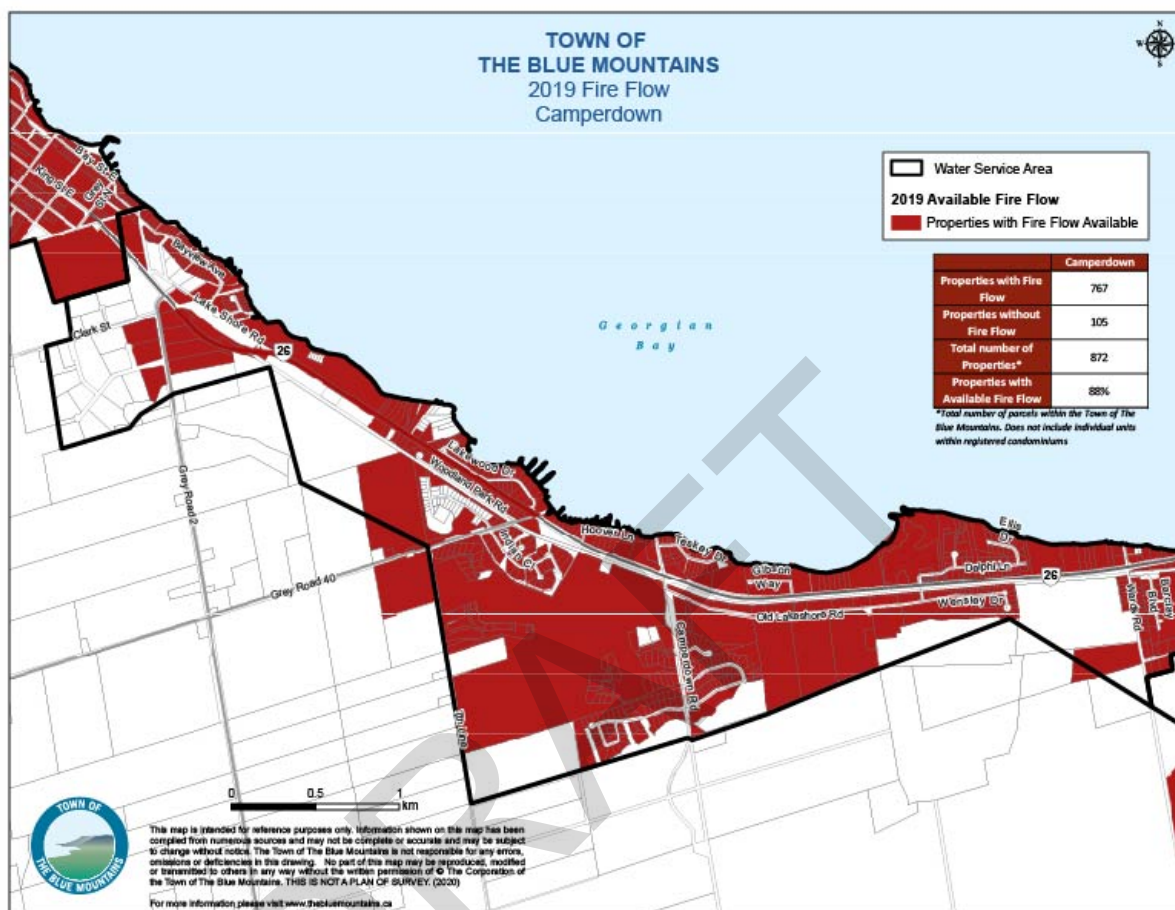
Map 9
Fire Flow by Service Areas-Lora Bay





Map 11

Fire Flow by Service Areas-Lora Camperdown



Map 12
Fire Flow by Service Areas-Craigleith

