

# **The Corporation of the City of Kawartha Lakes**

## **Council Report**

**Report Number EA2018-014**

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**Date:** June 19<sup>th</sup>, 2018  
**Time:** 2:00 p.m.  
**Place:** Council Chambers

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**Ward Community Identifier:** All Wards

**Title:** Implications of Lowering the Traffic Volume Threshold for the Paving of Gravel Roads

**Description:** This report reviews the estimated servicing and financial implications of lowering the traffic volume threshold for the paving of gravel roads.

**Author and Title:** Adam Found, Manager of Corporate Assets

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### **Recommendation(s):**

**That Report EA2018-014, Implications of Lowering the Traffic Volume Threshold for the Paving of Gravel Roads, be received.**

**Department Head:** \_\_\_\_\_

**Financial/Legal/HR/Other:** \_\_\_\_\_

**Chief Administrative Officer:** \_\_\_\_\_

## **Background:**

At the Council Meeting of October 24<sup>th</sup>, 2017, Council adopted the following resolution:

### **CR2017-933**

**Moved By** Councillor Strangway

**Seconded By** Councillor Elmslie

**RESOLVED THAT** staff be directed to investigate costing and service implications of revising the traffic volume threshold to warrant hard-topping of gravel roads from an annual average daily traffic (AADT) level of 400 to an AADT of both 200 or 300 with a report back to Council by end of Q2 2018.

**CARRIED**

This report addresses that direction.

The implications of lowering the gravel-to-hardtop threshold of 400 AADT (measured in vehicles per day) was previously examined by staff in 2013 through Council report PW2013-015, attached hereto as Appendix A. Based on that examination and budgetary constraints, the report did not recommend lowering the threshold. Through CR2017-933, Council has directed staff to revisit this matter and bring forward the present report to Council.

## **Rationale:**

According to the 2016 Roads Needs Study, the City has an inventory of approximately 895Km of assumed gravel road, of which an estimated 52Km have AADT of 200 or larger. The inventory of gravel roads making up this latter figure is summarized in Appendix B attached hereto. In terms of the service level categories underlying the 10-Year Gravel Resurfacing Plan, this inventory is distributed as follows:

1. 200 ≤ AADT < 300: 40.85Km
2. 300 ≤ AADT < 400: 9.20Km
3. 400 ≤ AADT: 1.76Km

Hereinafter, this inventory is referred to as "high-volume gravel roads". Due to general growth in traffic volume, the quantity of high-volume gravel roads has increased by about 4.0Km between 2011 and 2016. Also owing to such growth, about 1.76Km of gravel road now surpasses the 400 AADT warrant threshold for paving. Still, high-volume gravel roads represent less than 6% of the total of 895Km of gravel road assumed by the City.

For the purpose of this report, the term "paving" refers to the upgrading a gravel road to a hardtop surface through the application of surface treatment (aka tar and chip). As discussed at length in Report PW2013-015, a natural tradeoff exists respecting the paving of a gravel road. On the one hand paving provides for an enhanced service level and decreased operating costs, while on the other it entails increased lifecycle (capital + operating) costs primarily due to the relatively large upfront capital investment required.

While operational efficiencies arise from the paving of a gravel road, this benefit, at current lifecycle cost trends and service levels, is more than offset by the increased capital costs associated with surface treatment. This holds even in the case of high-volume gravel roads, which are on an enhanced gravel resurfacing cycle (5-8 years instead of the standard 10 years).

Hence, the increased service level conferred by paving a gravel road must be weighed against the associated increased lifecycle cost. At the centre of this report is the 400 AADT mark the City has fixed for the purpose of this weighing of benefits and costs. That is, a gravel road is considered a candidate for paving once its traffic volume reaches at least 400 AADT.

**Table 1: Projected Lifecycle Costs for High-Volume Gravel Roads Over 15 Years if Left Unpaved (2019\$)**

Traffic Volume Range	Length (Km)	Capital		Operating			Total
		Gravel Resurfacing	Calcium Chloride	Grading	Winter Control	Other Maintenance	
200 ≤ AADT < 300	40.850	1,413,640	964,994	793,557	2,360,921	2,368,389	7,901,501
300 ≤ AADT < 400	9.201	447,135	217,356	178,742	531,777	533,459	1,908,469
400 ≤ AADT	1.758	90,675	41,529	34,152	101,605	101,926	369,886
<b>Total</b>	<b>51.809</b>	<b>1,951,450</b>	<b>1,223,879</b>	<b>1,006,451</b>	<b>2,994,302</b>	<b>3,003,774</b>	<b>10,179,856</b>

**Table 2: Projected Lifecycle Costs for High-Volume Gravel Roads Over 15 Years if Paved in 2019 (2019\$)**

Traffic Volume Range	Length (Km)	Capital			Operating		Total
		Double Surface Treatment	Single Surface Treatment	Pulverization	Winter Control	Other Maintenance	
200 ≤ AADT < 300	40.850	3,952,374	902,454	306,494	2,360,921	2,157,764	9,680,008
300 ≤ AADT < 400	9.201	890,238	203,270	69,035	531,777	486,018	2,180,337
400 ≤ AADT	1.758	170,094	38,838	13,190	101,605	92,862	416,589
<b>Total</b>	<b>51.809</b>	<b>5,012,706</b>	<b>1,144,562</b>	<b>388,719</b>	<b>2,994,302</b>	<b>2,736,643</b>	<b>12,276,933</b>

**Table 3: Projected Incremental Lifecycle Costs Over 15 Years if High-Volume Gravel Roads are Paved in 2019 (2019\$)**

Traffic Volume Range	Length (Km)	Capital	Operating	Total
200 ≤ AADT < 300	40.850	3,747,682	-1,969,175	1,778,507
300 ≤ AADT < 400	9.201	715,408	-443,540	271,868
400 ≤ AADT	1.758	131,448	-84,745	46,702
<b>Total</b>	<b>51.809</b>	<b>4,594,538</b>	<b>-2,497,460</b>	<b>2,097,077</b>



Based on current service levels, maintenance practices and various recent data (e.g. tender prices, Financial Information Return reports etc.), Tables 1-3 summarize lifecycle cost projections for high-volume gravel roads depending on whether they remain with a gravel surface or are paved. To provide for comparability between gravel and hardtop road surfaces, the tables align with the 15-year lifecycle expected of a hardtop road surface whereby paving is set to occur in 2019. For simplicity, cost figures in the tables are normalized to 2019 dollars, based on an assumed inflation rate of 2%/year, and have not been discounted to present value.

Double surface treatment of high-volume gravel roads is estimated to cost about \$5.0M if done in 2019. This does not include future capital costs associated with single surface treatment (a capital intervention typically in year 8 to maintain the 15-year lifecycle) and eventual pulverization of the hardtop road surface at the end of its lifecycle. Table 3 projects incremental lifecycle costs by cost type, indicating renewal and operation of high-volume gravel roads, if paved, would cost an estimated \$2.1M more over the 15-year horizon.

#### **Other Alternatives Considered:**

As staff is not recommending a change to the 400 AADT threshold, no alternatives to Council's receiving this report are being considered or proposed by staff at this time. Should Council nonetheless resolve to lower this threshold, staff suggests direction of the following form, where "X" stands for the new desired threshold, be added to the resolution of the present report:

"That proposed capital budgets identify for upgrade to a hardtop surface only those gravel roads for which the annual average daily traffic (AADT) is at least "X" vehicles per day; and

That updates to the 5-Year Roads Capital Plan, 10-Year Gravel Resurfacing Plan, Asset Management Plan and Long-Term Financial Plan reflect this enhanced level of service."

#### **Financial/Operation Impacts:**

Council's receiving this report has no financial impact. However, should Council elect to lower the 400 AADT threshold, the expected resulting financial impacts are those indicated by Tables 1-3 herein.

#### **Relationship of Recommendation(s) To The 2016-2019 Strategic Plan:**

N/A



**Consultations:**

Supervisor of Technical Services

**Attachments:**

Appendix A: Report PW2013-015

PDF



Report  
PW2013-015.pdf

Appendix B: Inventory of High-Volume Gravel Roads

PDF

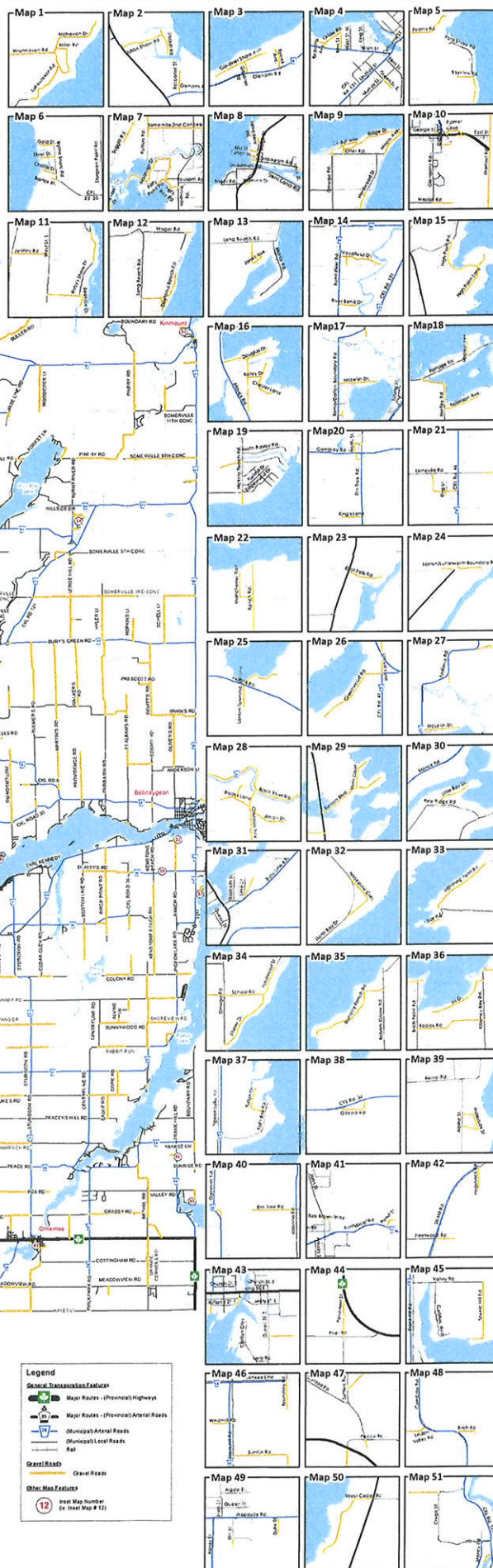
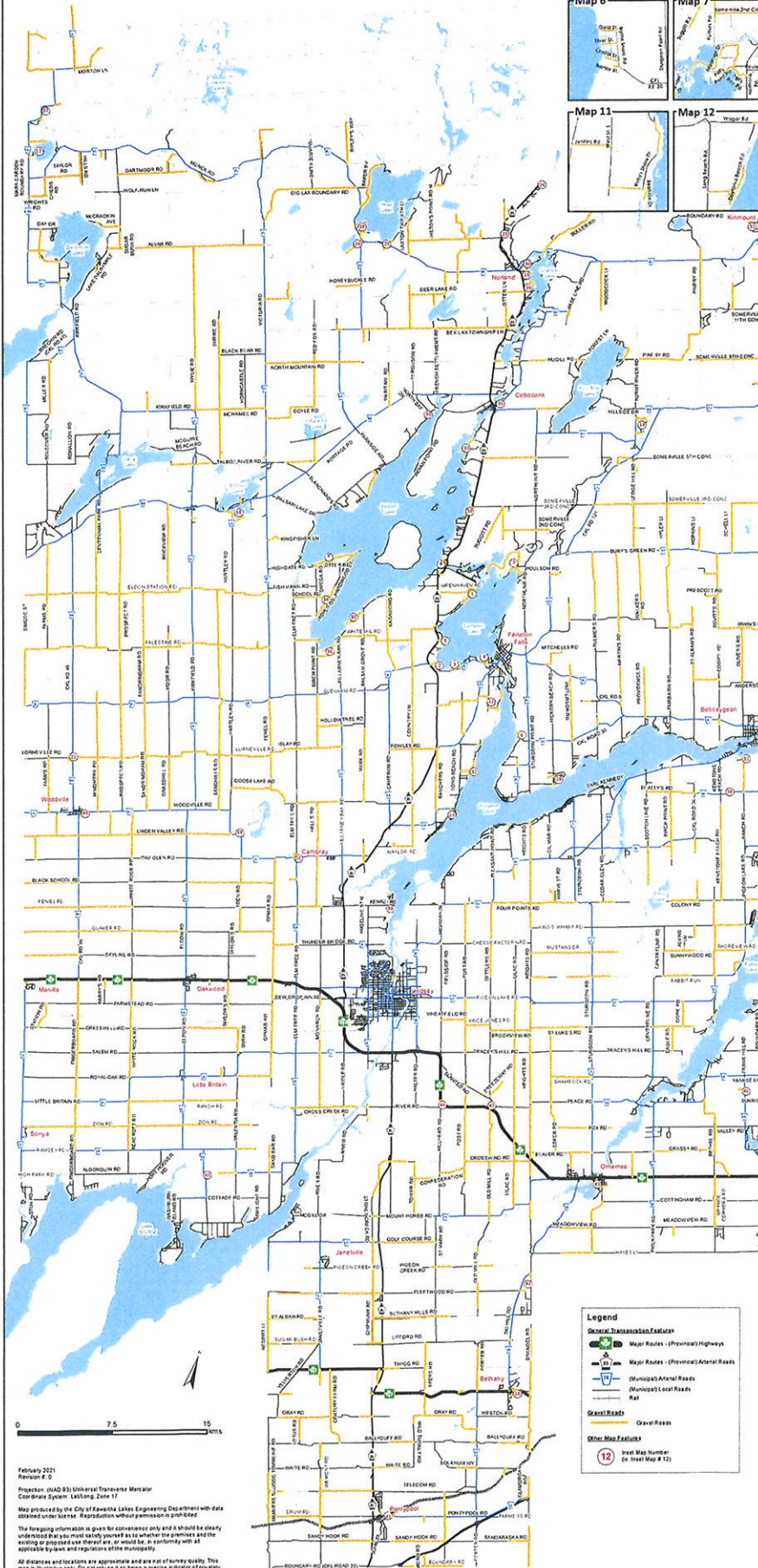


Inventory of  
High-Volume Gravel R

**Department Head E-Mail:** [jrojas@kawarthalakes.ca](mailto:jrojas@kawarthalakes.ca)

**Department Head:** Juan Rojas, Director of Engineering and Corporate  
Assets





**Legend**

**General Transportation Features**

- Major Routes - (Provincial) Highways
- Major Routes - (Provincial) Arterial Roads
- Municipal Arterial Roads
- Municipal Local Roads
- Rail

**Gravel Roads**

- Gravel Roads

**Other Map Features**

- Inset Map Number (e.g. Inset Map # 12)

February 2021  
Revision # 0

Prepared: (NAD 83) Universal Transverse Mercator  
Coordinate System: UTM Zone 17

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All distances and locations are approximate and are not of survey quality. This map is for reference only. Do not rely on it as being a precise indication of the survey or publicly owned roads, routes, locations or features, nor as a guide to navigation.

(Gravel Resurfacing Program Roads Not Included in Above Table)

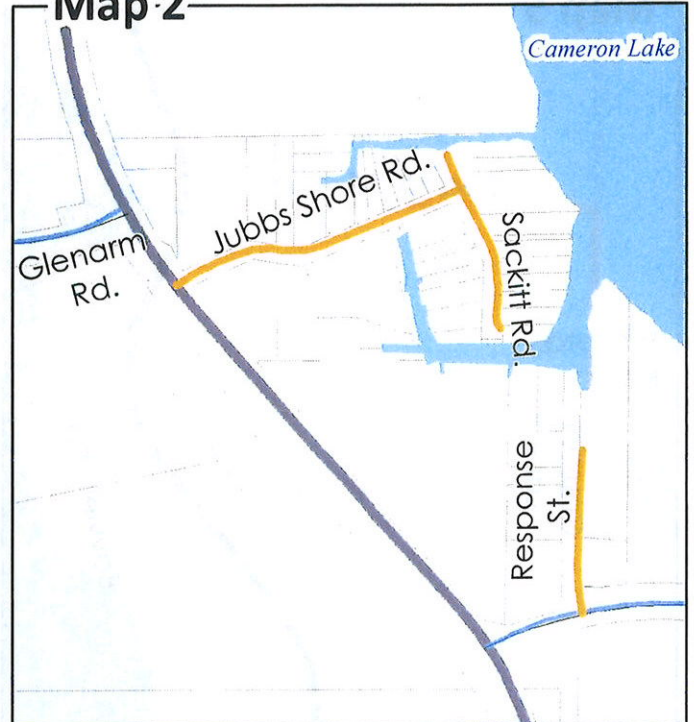


# City of Kawartha Lakes Gravel Roads (Inset Maps)

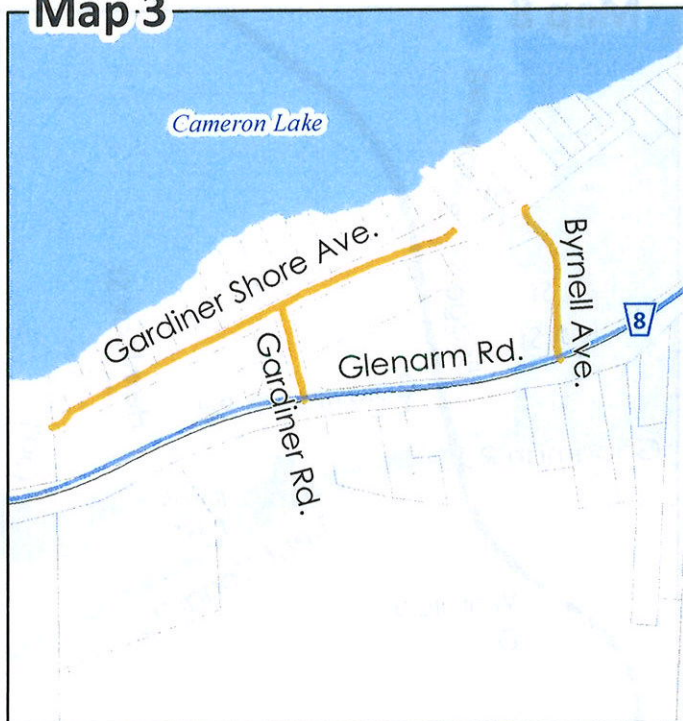
Map 1



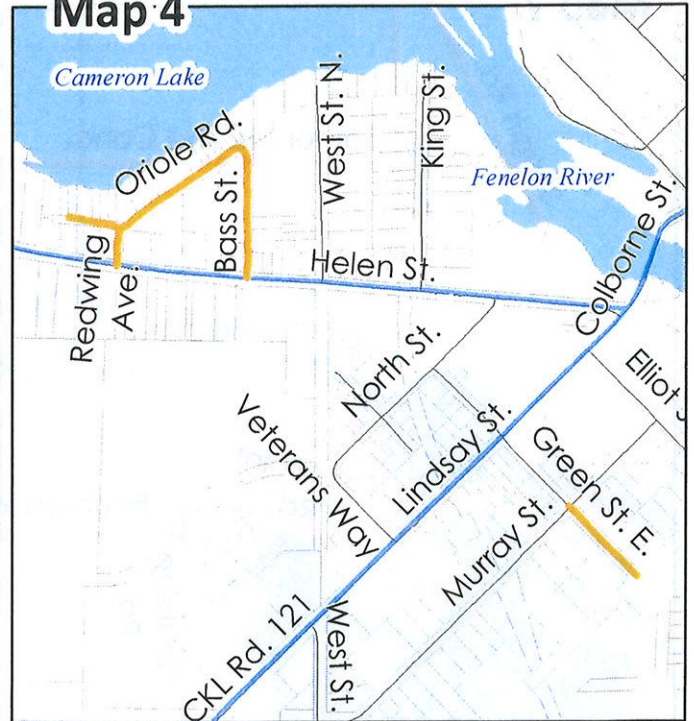
Map 2



Map 3



Map 4



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(Individual maps derived from Gravel Roads map published February 2021)

## Legend

### General Transportation Features

- Major Routes - (Provincial) Highways
- Major Routes - (Provincial) Arterial Roads
- (Municipal) Arterial Roads
- (Municipal) Local Roads

### Gravel Roads

Gravel Roads



# City of Kawartha Lakes Gravel Roads (Inset Maps)

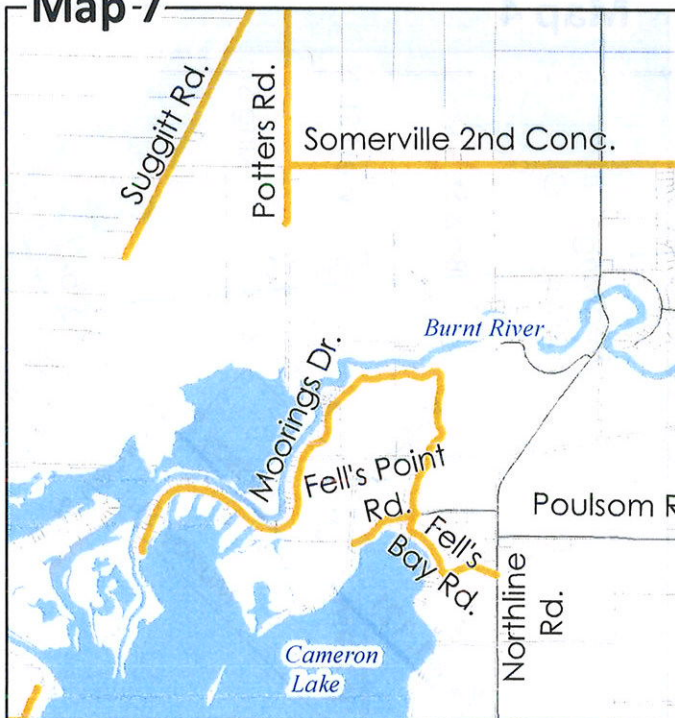
Map 5



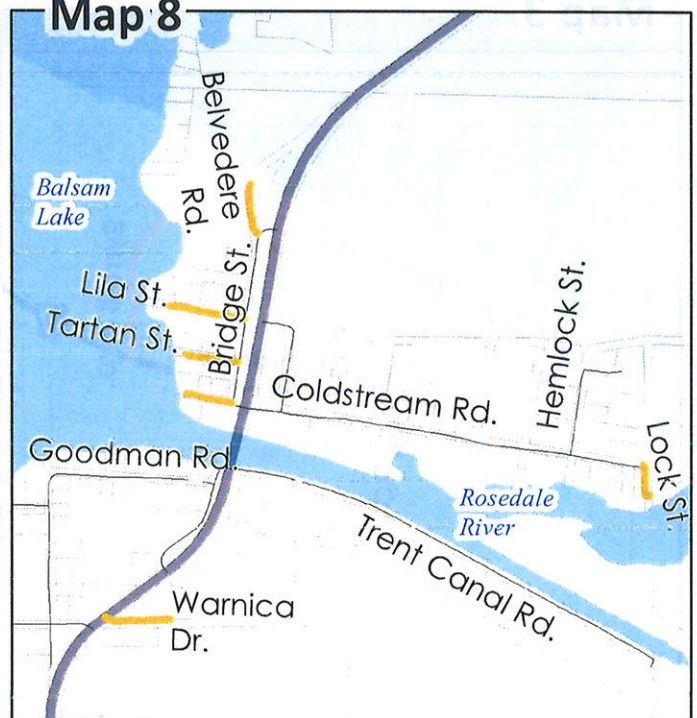
Map 6



Map 7



Map 8



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### Gravel Roads

- Gravel Roads

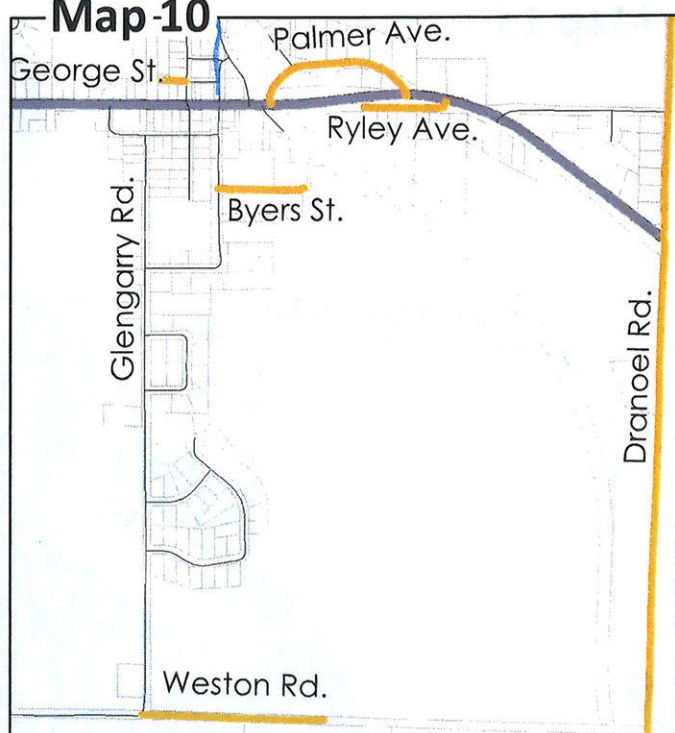


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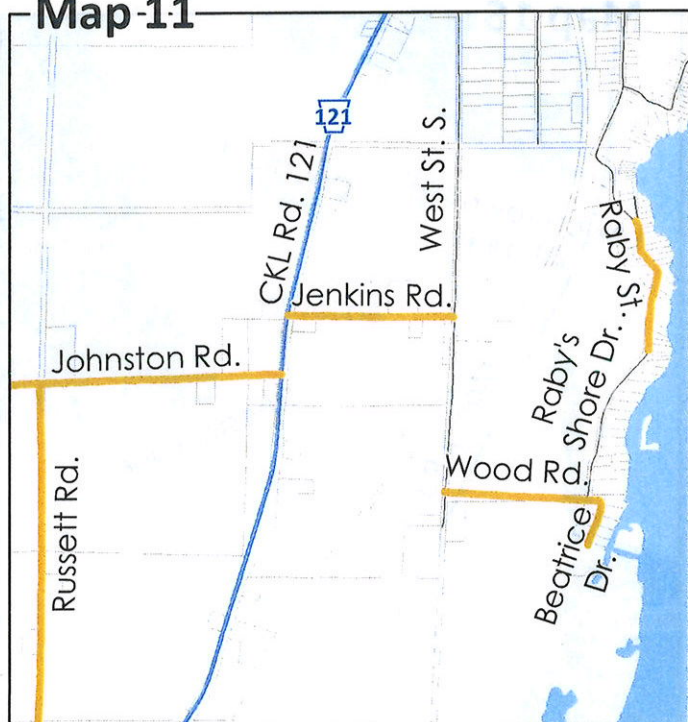
Map 9



Map 10



Map 11



Map 12



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- Gravel Roads

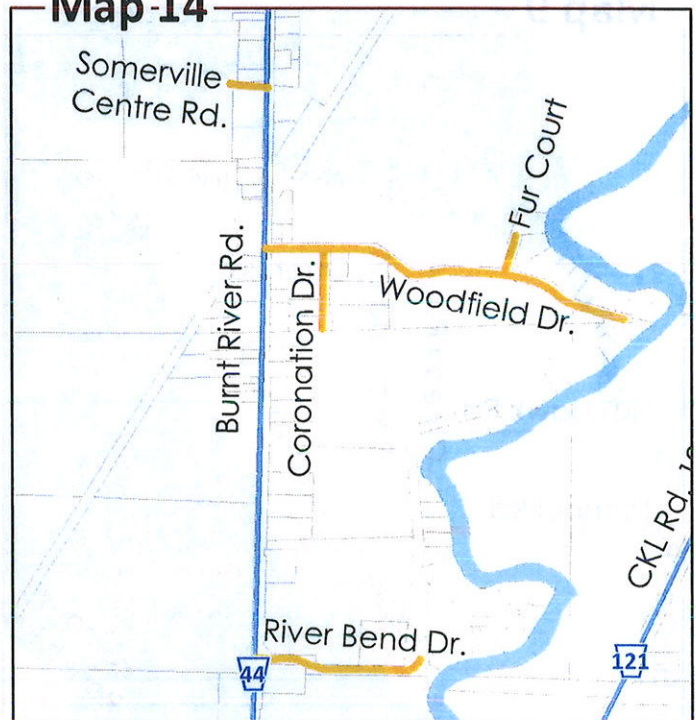


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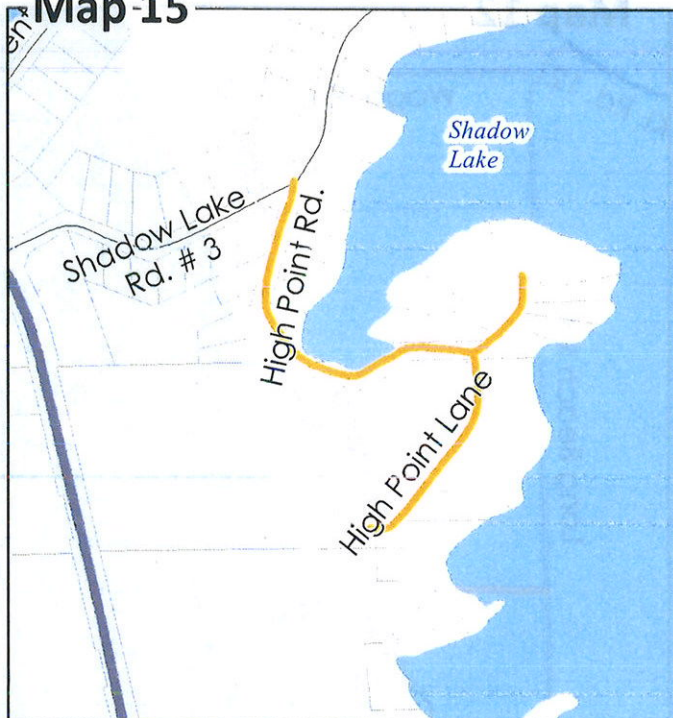
Map 13



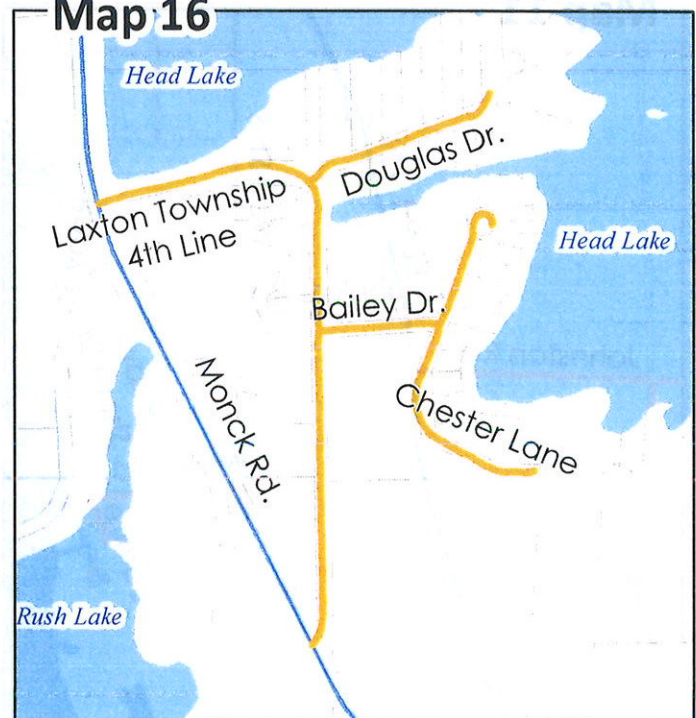
Map 14



Map 15



Map 16



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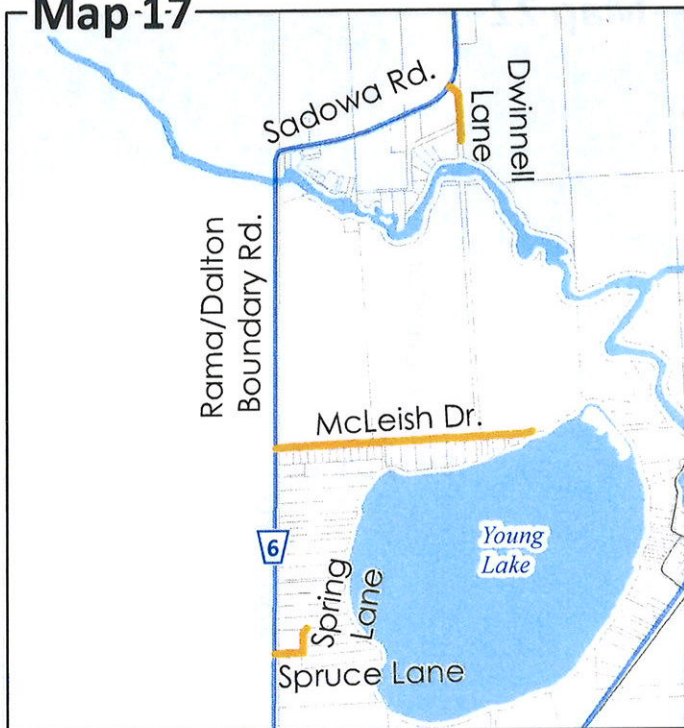
### Gravel Roads

- Gravel Roads

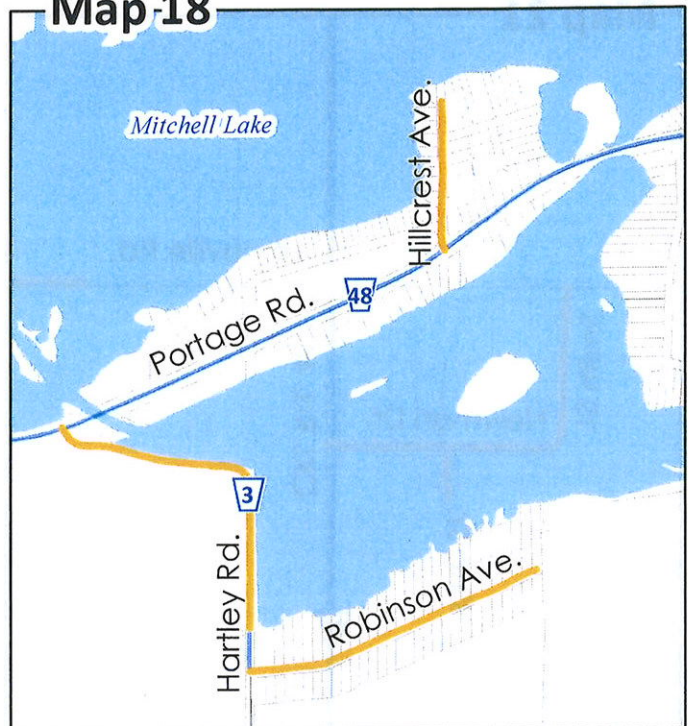


# City of Kawartha Lakes Gravel Roads (Inset Maps)

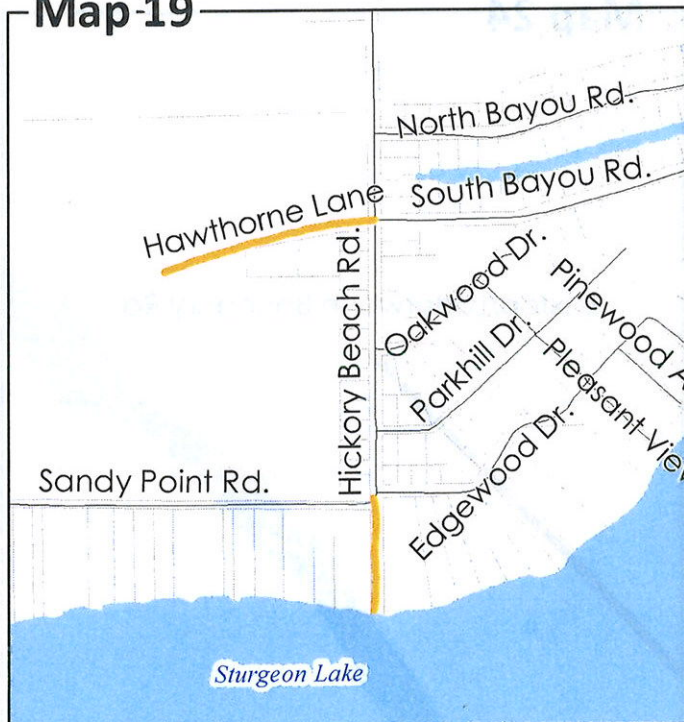
Map-17



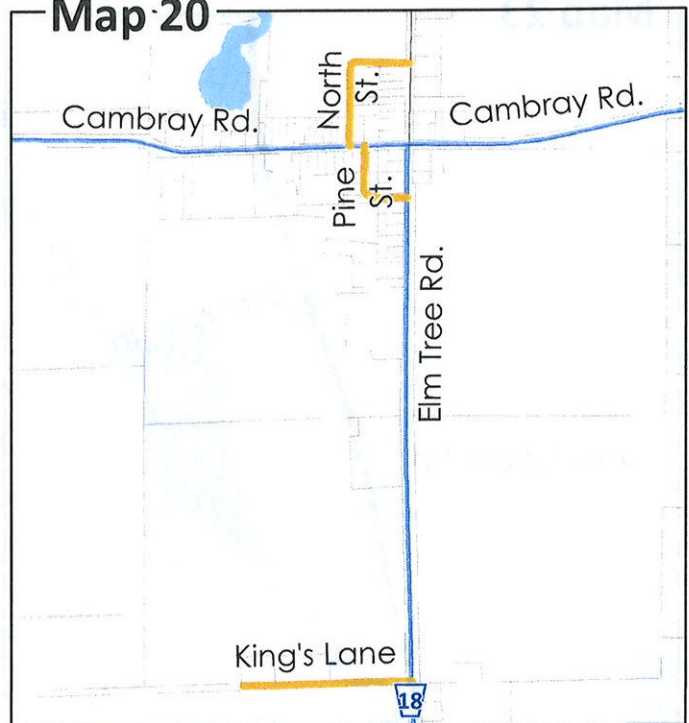
Map-18



Map-19



Map-20



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### Gravel Roads

Gravel Roads

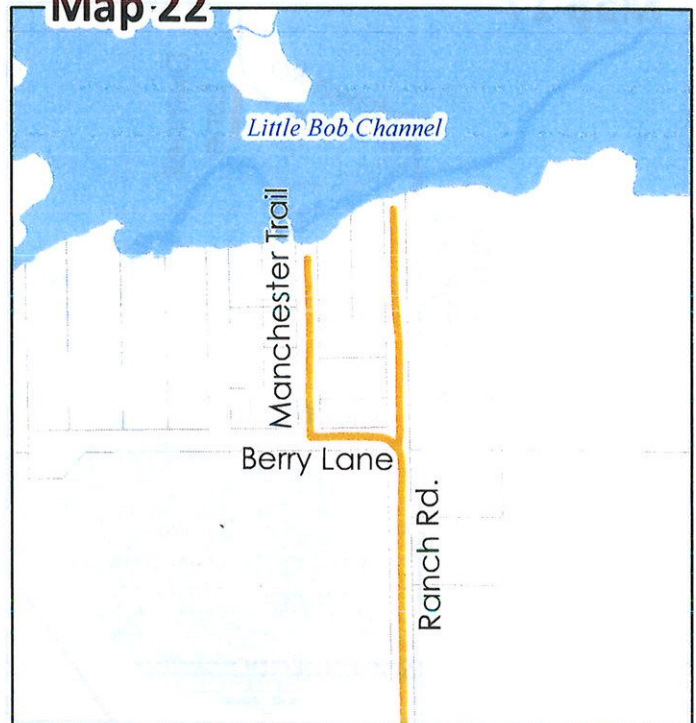


# City of Kawartha Lakes Gravel Roads (Inset Maps)

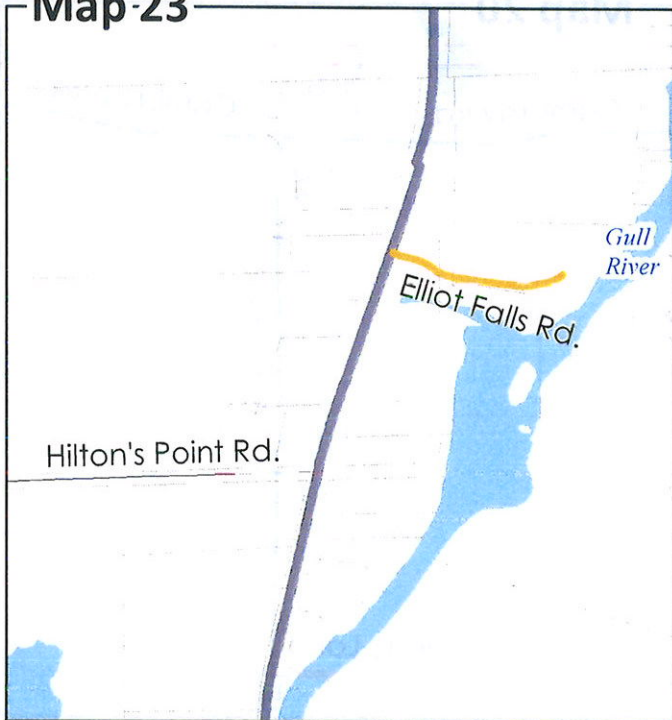
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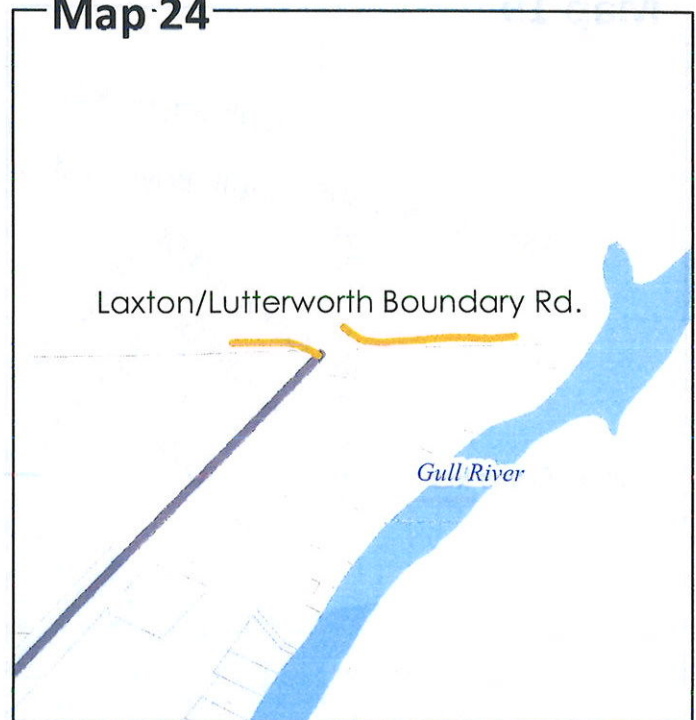
Map-22



Map-23



Map-24



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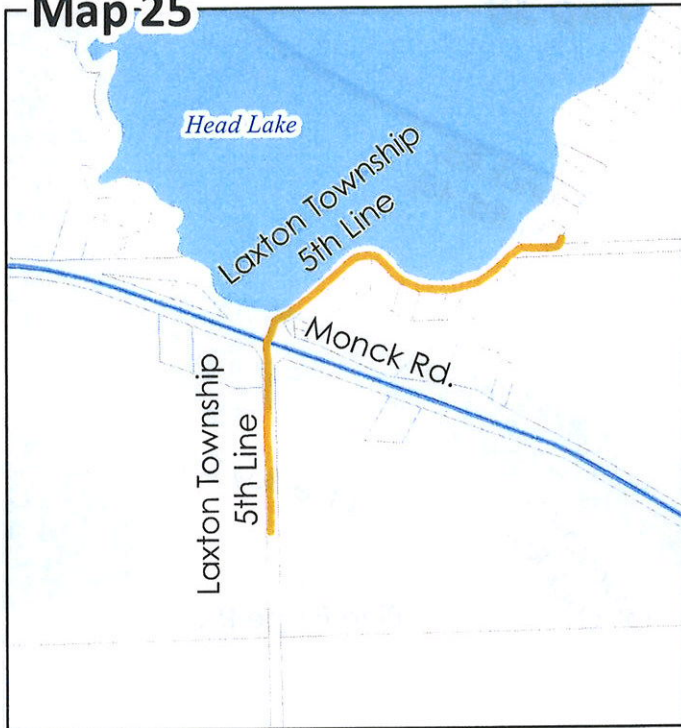
### Gravel Roads

- Gravel Roads

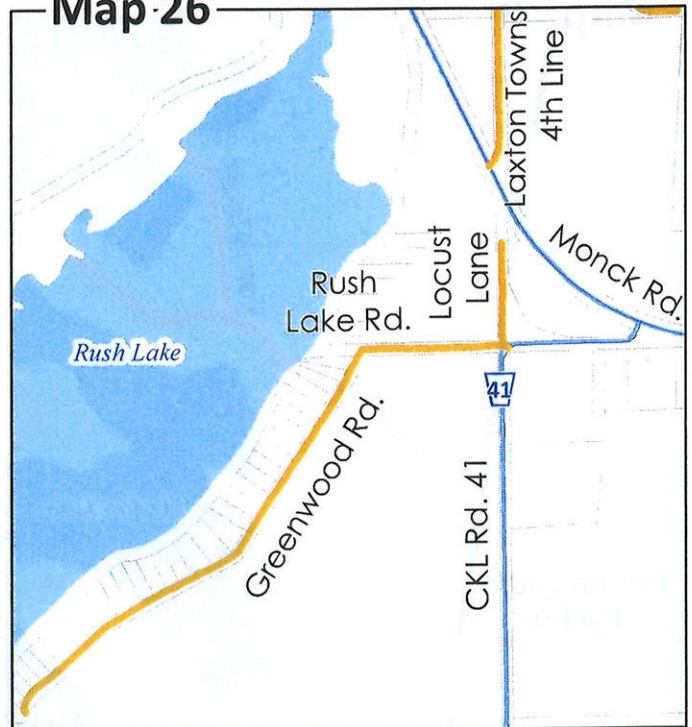


# City of Kawartha Lakes Gravel Roads (Inset Maps)

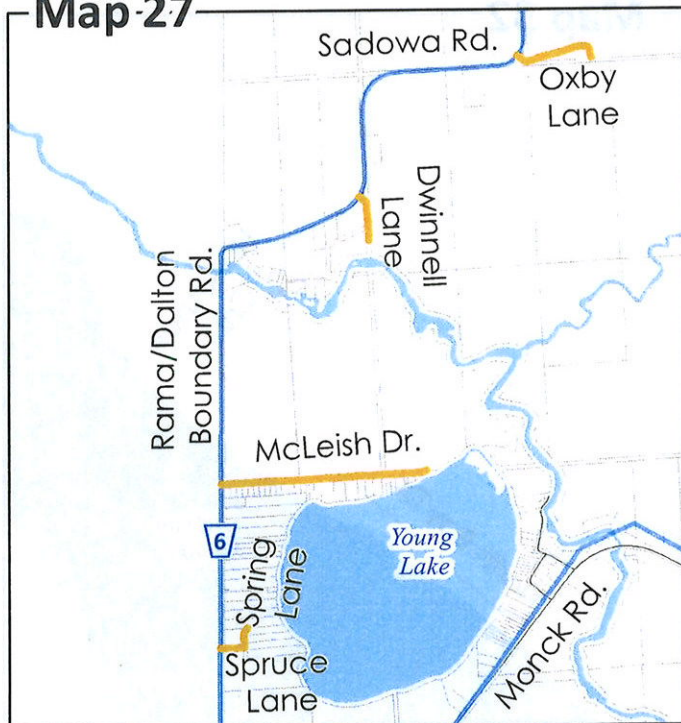
Map 25



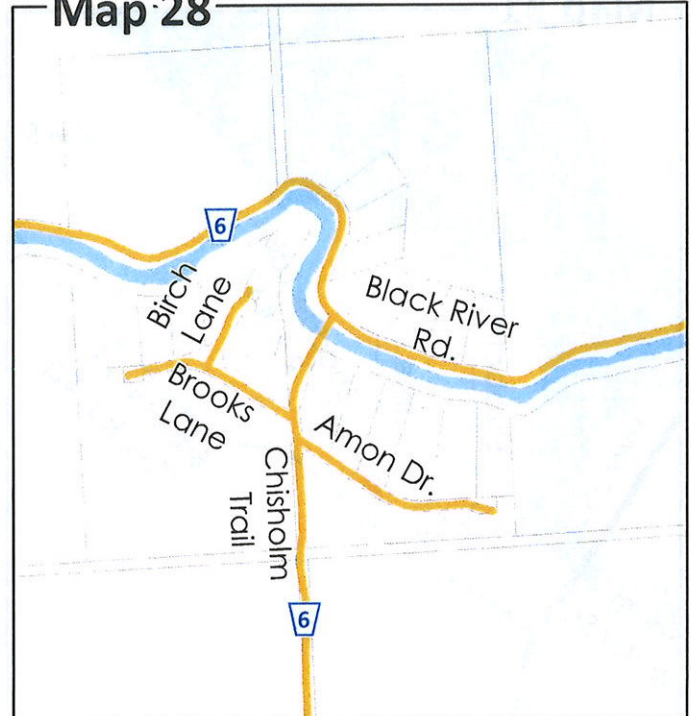
Map 26



Map 27



Map 28



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### Gravel Roads

Gravel Roads

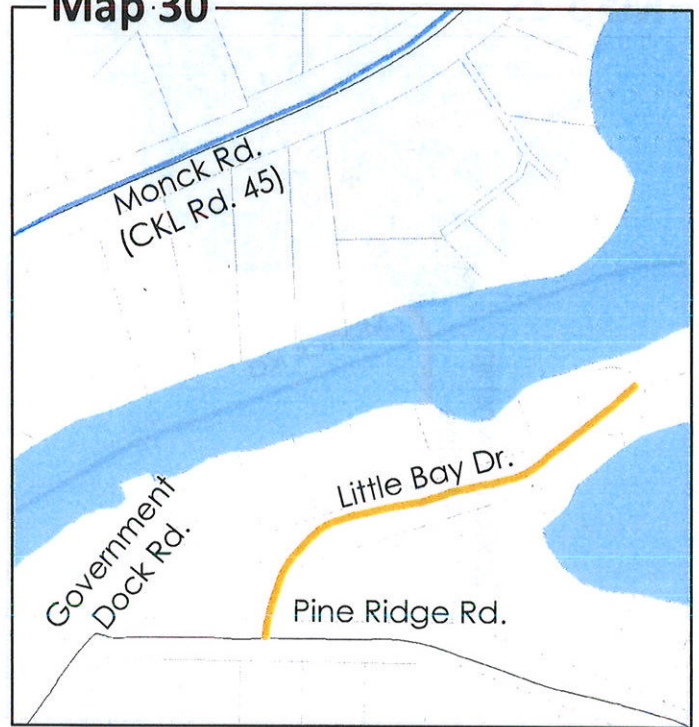


# City of Kawartha Lakes Gravel Roads (Inset Maps)

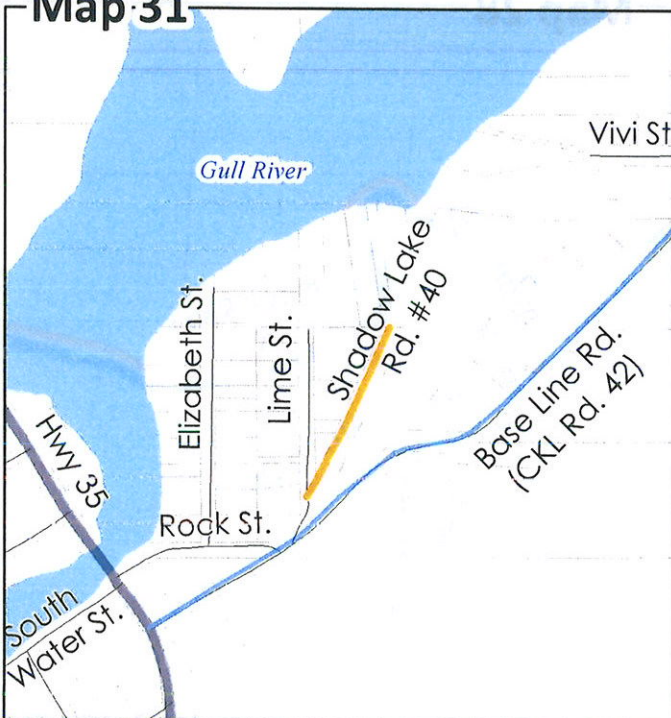
Map 29



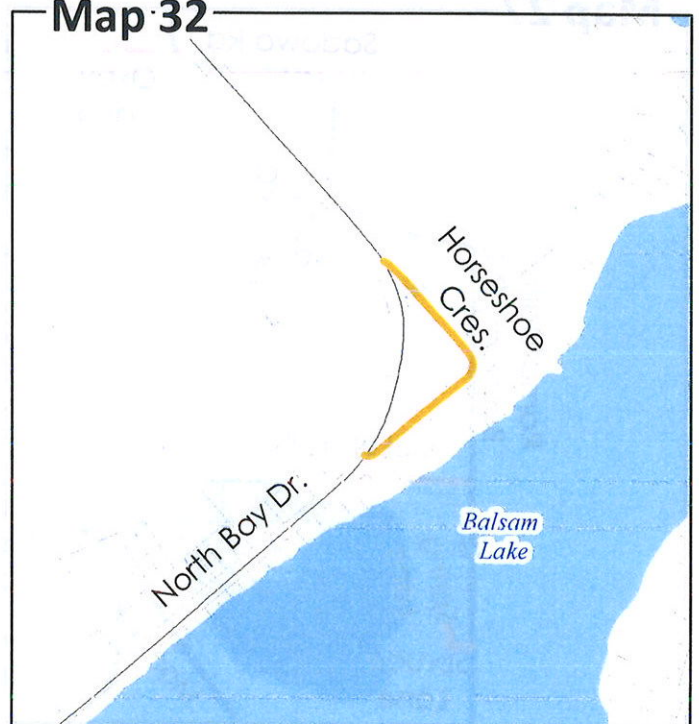
Map 30



Map 31



Map 32



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

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(Individual maps derived from Gravel Roads  
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## Legend

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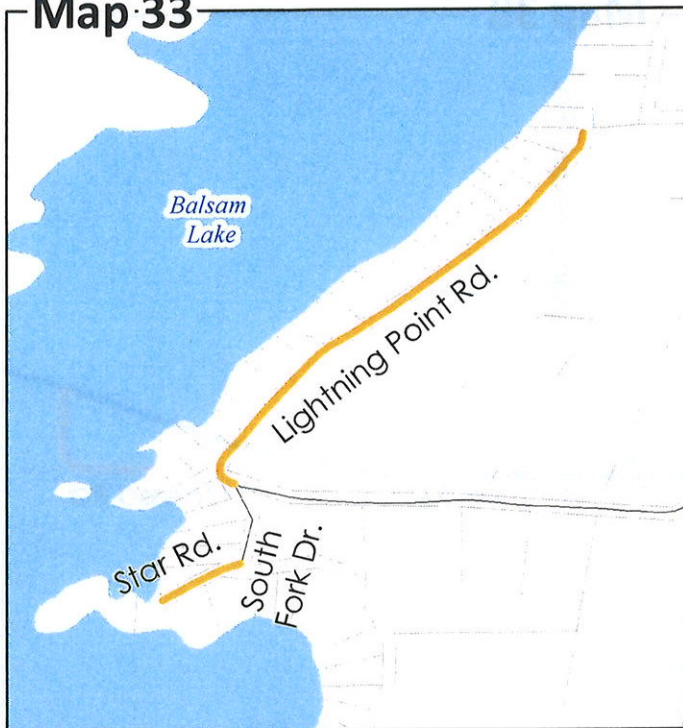
### Gravel Roads

-  Gravel Roads



# City of Kawartha Lakes Gravel Roads (Inset Maps)

Map 33



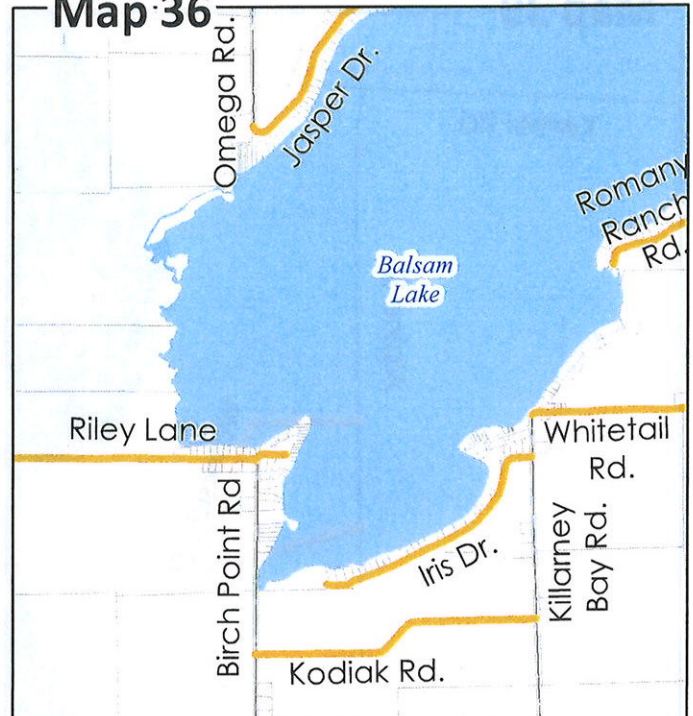
Map 34



Map 35



Map 36



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Revision F. 0

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(Individual maps derived from Gravel Roads map published February 2021)

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### Gravel Roads

- Gravel Roads

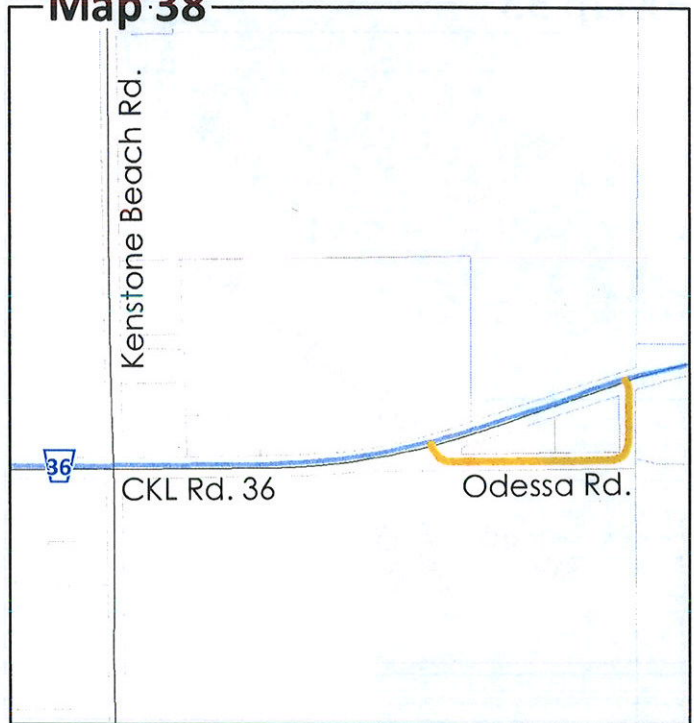


# City of Kawartha Lakes Gravel Roads (Inset Maps)

Map 37



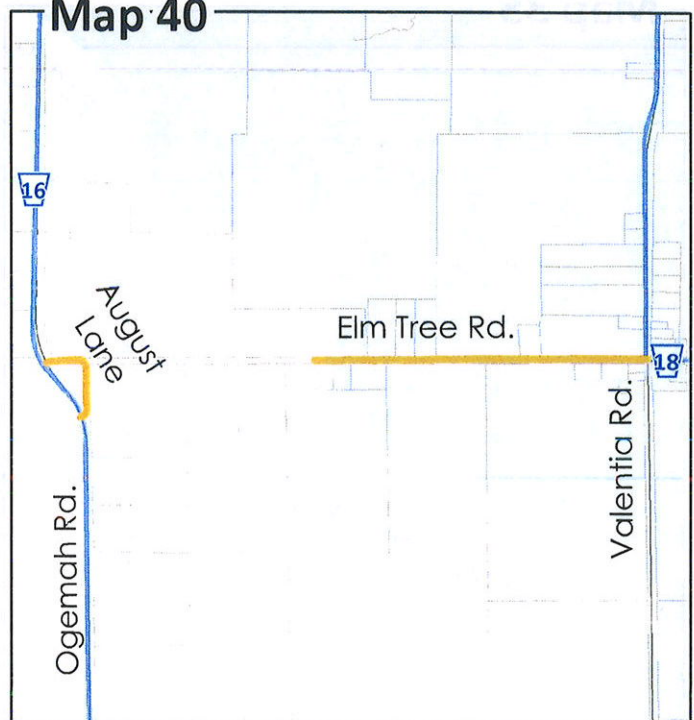
Map 38



Map 39



Map 40



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## Legend

### General Transportation Features

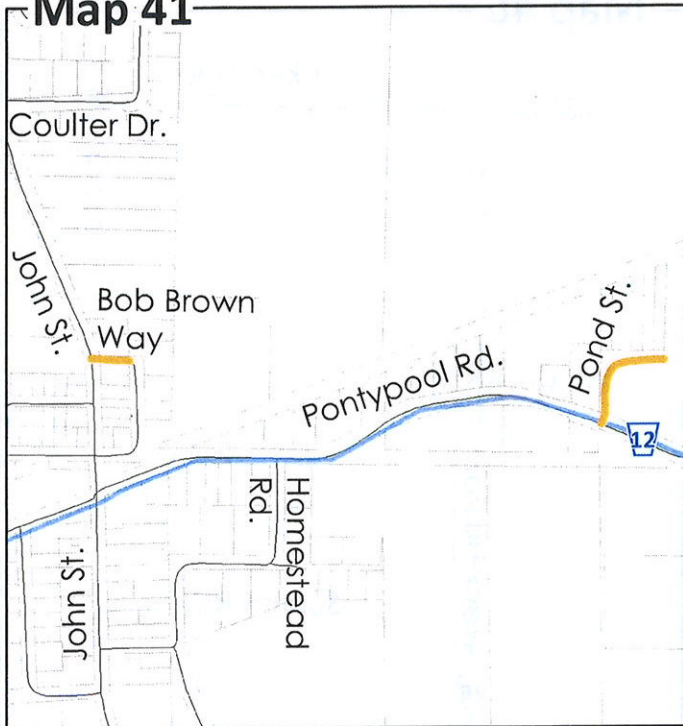
-  Major Routes - (Provincial) Highways
-  Major Routes - (Provincial) Arterial Roads
-  (Municipal) Arterial Roads
-  (Municipal) Local Roads

### Gravel Roads

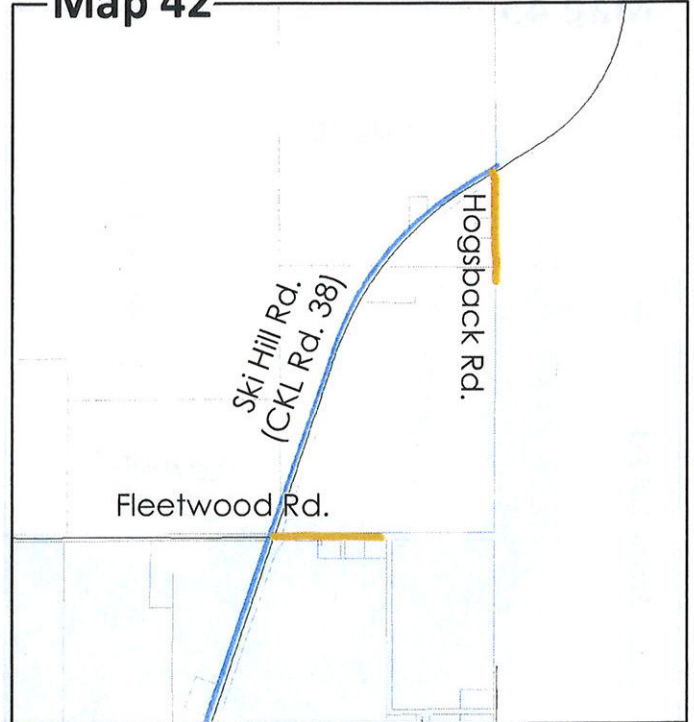
-  Gravel Roads

# City of Kawartha Lakes Gravel Roads (Inset Maps)

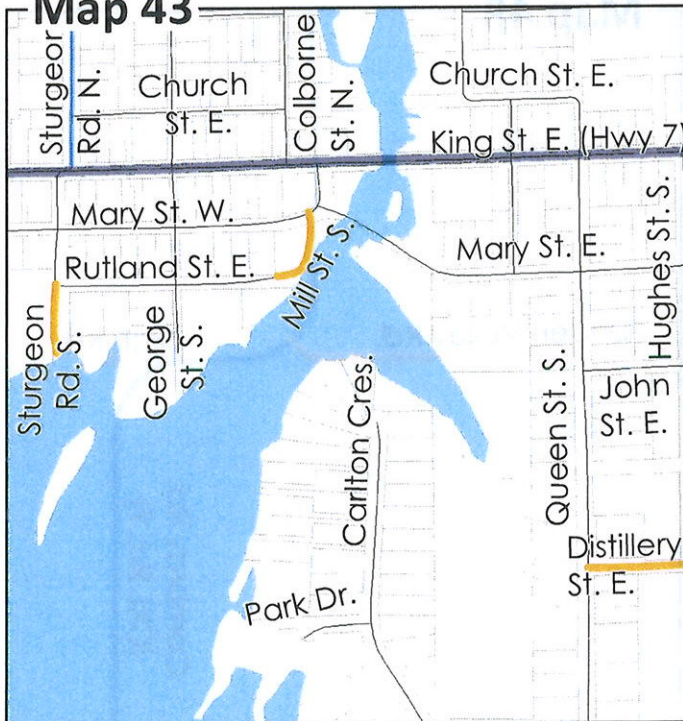
Map 41



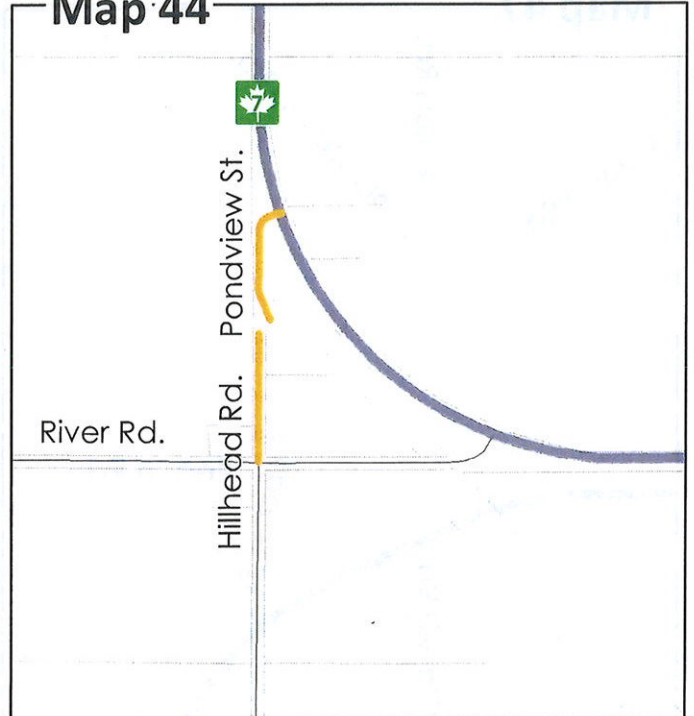
Map 42



Map 43



Map 44



May 2021  
Revision # 0  
Projection: (NAD 83) Universal Transverse Mercator  
Coordinate System: Lat/Long, Zone 17  
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All distances and locations are approximate and are not of survey quality. This map is illustrative only. Do not rely on it as being a precise indicator of privately or publicly owned land, routes, locations or features, nor as a guide to navigate.



(Individual maps derived from Gravel Roads map published February 2021)

## Legend

### General Transportation Features

- Major Routes - (Provincial) Highways
- Major Routes - (Provincial) Arterial Roads
- (Municipal) Arterial Roads
- (Municipal) Local Roads

### Gravel Roads

Gravel Roads

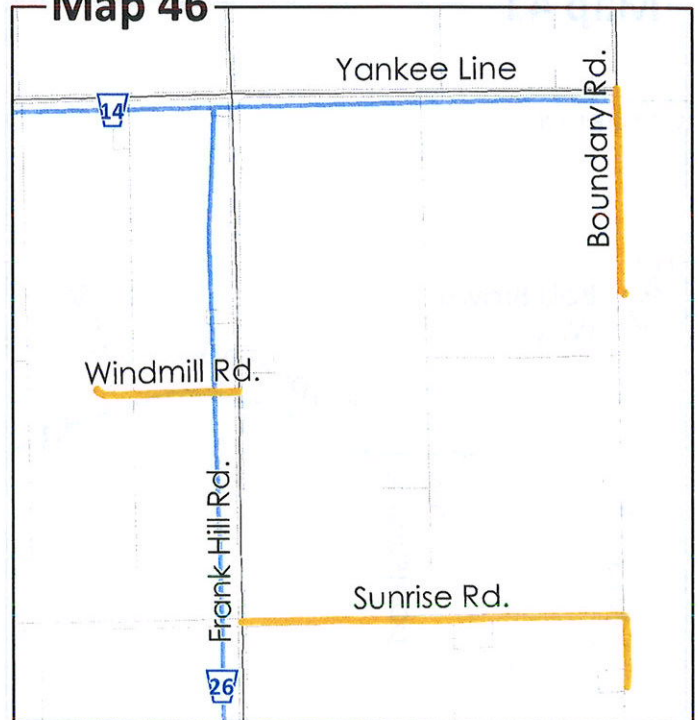


# City of Kawartha Lakes Gravel Roads (Inset Maps)

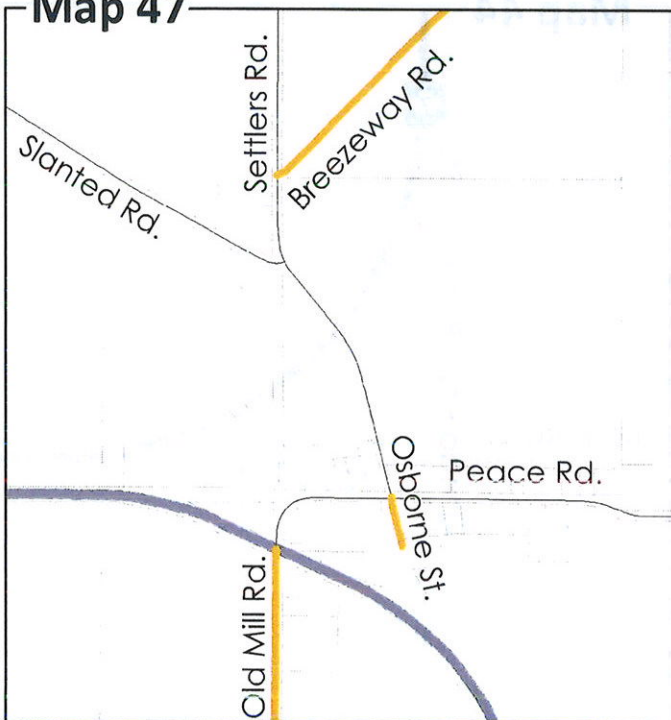
Map 45



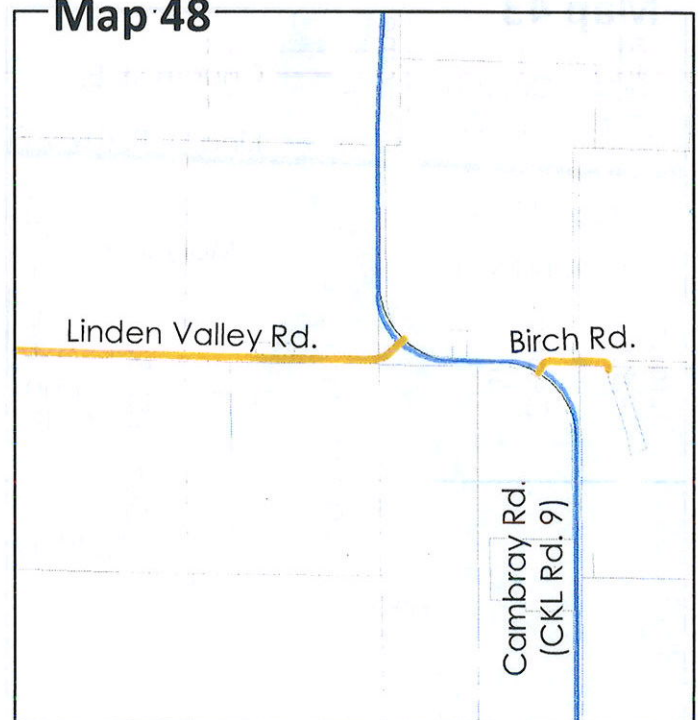
Map 46



Map 47



Map 48



May 2021  
Revision # 0

Projection: (NAD 83) Universal Transverse Mercator  
Coordinate System: Lat/Long, Zone 17

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(Individual maps derived from Gravel Roads map published February 2021)

## Legend

### General Transportation Features

- Major Routes - (Provincial) Highways
- Major Routes - (Provincial) Arterial Roads
- (Municipal) Arterial Roads
- (Municipal) Local Roads

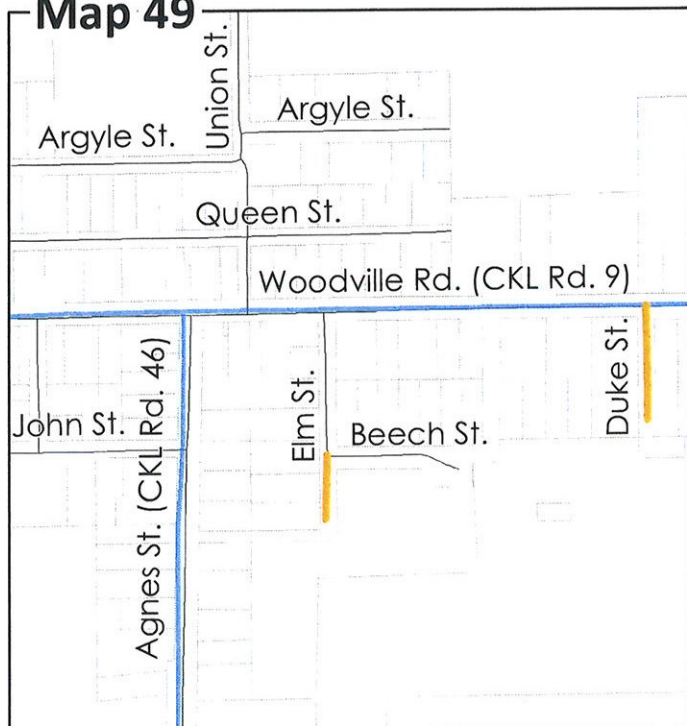
### Gravel Roads

- Gravel Roads

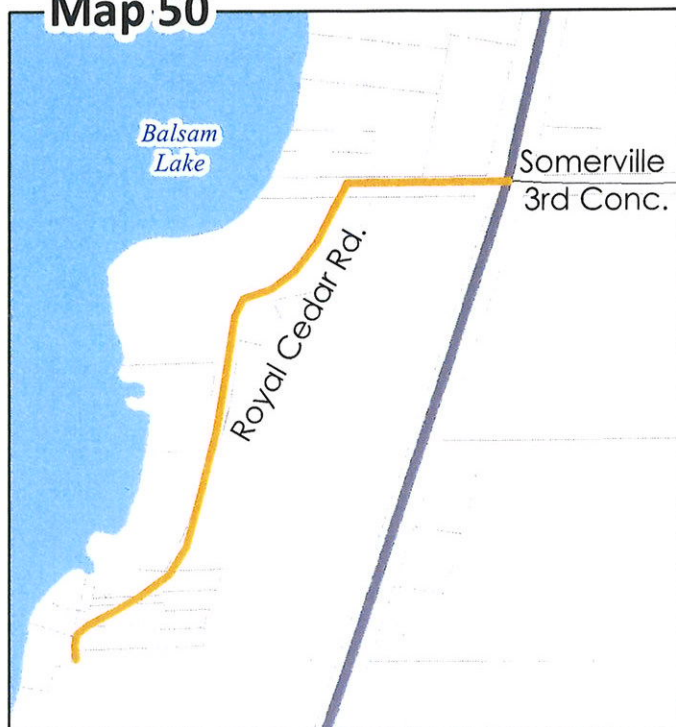


# City of Kawartha Lakes Gravel Roads (Inset Maps)

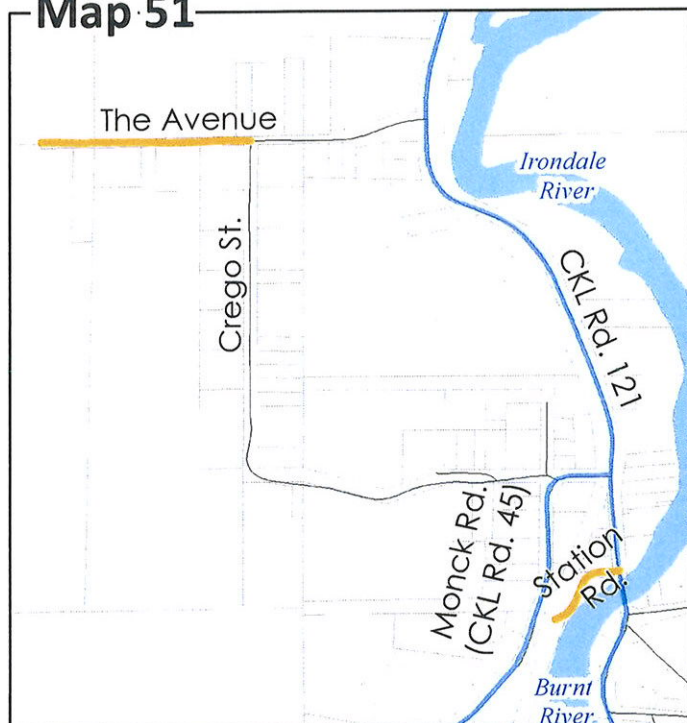
**Map 49**



**Map 50**



**Map 51**



May 2021  
Revision # 0

Projection: (NAD 83) Universal Transverse Mercator  
Coordinate System: Lat, Long, Zone 17

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(Individual maps derived from Gravel Roads map published February 2021)

## Legend

### General Transportation Features

-  Major Routes - (Provincial) Highways
-  Major Routes - (Provincial) Arterial Roads
-  (Municipal) Arterial Roads
-  (Municipal) Local Roads

### Gravel Roads

 Gravel Roads

Chart of low volume roads with costs for  
upgrading to a hardtop Road

Road Name	From	To	Length (km)	Adjusted AADT	Estimated Cost to upgrade to Hardtop
Amon Dr.	Chisholm Trail	East End	0.416	28	\$41,600.00
Bailey Dr.	Chester Lane	East End	0.201	28	\$20,100.00
Bailey Dr.	Laxton Township 4th Line	Chester Lane	0.174	28	\$17,400.00
Bass St.	K.L. Rd. 8 (Fenelon/Verulam)	Oriole Rd.	0.201	44	\$20,100.00
Bayview Rd. (Fenelon)	Highway #35	South End	0.575	27	\$57,500.00
Belvedere Rd.	Bridge St.	North End	0.129	44	\$12,900.00
Benson Blvd. (Laxton)	Vern Court	East End	0.248	55	\$24,800.00
Benson Blvd. (Laxton)	Highway #35	Vern Court	0.378	55	\$37,800.00
Berry Lane	Ranch Rd. (Verulam)	Manchester Trail	0.084	33	\$8,400.00
Birch Lane (Dalton)	Brooks Lane (Dalton)	North End	0.171	11	\$17,100.00
Birch Rd. (Mariposa)	Cambray Rd.	East End	0.257	11	\$25,700.00
Boundary Rd. (Emily)	Yankee Line	South End	0.564	11	\$56,400.00
Breezeway Rd.	Settlers Rd.	East End	1.1	6	\$110,000.00
Bronze St.	Blythe Shore Rd.	West End	0.06	6	\$6,000.00
Brooks Lane (Dalton)	Chisholm Trail	Birch Lane (Dalton)	0.193	22	\$19,300.00
Brooks Lane (Dalton)	Birch Lane (Dalton)	West End	0.157	22	\$15,700.00
Byrnell Ave.	K.L. Rd. 8 (Fenelon/Verulam)	Grove Rd.	0.187	44	\$18,700.00
Cedar Ave. (Bexley)	West End	Bona Vista Dr.	0.213	33	\$21,300.00
Cedar Ave. (Bexley)	Bona Vista Dr.	Ridge Dr. (Bexley)	0.482	33	\$48,200.00
Chester Lane	Bailey Dr.	South End	0.33	22	\$33,000.00
Chisholm Trail	Brooks Lane (Dalton)	Black River Rd. (Dalton)	0.216	110	\$21,600.00
Chisholm Trail	Eldridge Lane	Amon Dr.	4.282	111	\$428,200.00



Coldstream Rd.	Bridge St.	West End	0.115	44	\$11,500.00
Coronation Dr.	Woodfield Dr. (Somerville)	South End	0.161	6	\$16,100.00
Crystal St.	Blythe Shore Rd.	West End	0.156	11	\$15,600.00
Daytonia Beach Rd.	Pleasure St.	North End	0.719	209	\$71,900.00
Daytonia Beach Rd.	Long Beach Rd.	Pleasure St.	0.456	209	\$45,600.00
Distillery St. E.	Queen St. S. (Omeme)	East End	0.278	11	\$27,800.00
Douglas Dr.	Laxton Township 4th Line	East End	0.301	33	\$30,100.00
Duke St. (Woodville)	King St. (Woodville)	South End	0.1	17	\$10,000.00
Dwinnell Lane	Sadowa Rd.	South End	0.227	17	\$22,700.00
Elliot Falls Rd.	Highway #35	East End	0.259	22	\$25,900.00
Elm St. (Woodville)	Beech St. (Woodville)	South End	0.057	78	\$5,700.00
Elm Tree Rd.	West End	Valentia Rd.	0.986	61	\$98,600.00
Fell's Bay Rd.	Northline Rd.	Fell's Point Rd.	0.77	33	\$77,000.00
Fell's Point Rd.	Moorings Dr.	West End	0.432	61	\$43,200.00
Fulton Dr.	Fall's Bay Rd.	North End	0.336	22	\$33,600.00
Fur Court	Woodfield Dr. (Somerville)	North End	0.083	11	\$8,300.00
Gardiner Rd. (Fenelon)	K.L. Rd. 8 (Fenelon/Verulam)	Gardiner Shore Ave. (Fenelon)	0.113	44	\$11,300.00
Gardiner Shore Ave. (Fenelon)	West End	Gardiner Rd. (Fenelon)	0.299	33	\$29,900.00
Gardiner Shore Ave. (Fenelon)	Gardiner Rd. (Fenelon)	East End	0.217	33	\$21,700.00
George St. (Manvers)	West End	Wilson St. (Manvers)	0.061	11	\$6,100.00
Glenvale Dr.	Pleasure St.	South End	0.211	22	\$21,100.00
Gold St.	Blythe Shore Rd.	West End	0.145	6	\$14,500.00
Green St. E.	Murray St. (Fenelon Falls)	East End	0.153	22	\$15,300.00

Greenwood Rd. (Laxton)	Rush Lake Rd.	South End	0.842	78	\$84,200.00
Hardwood St.	School Rd. (Fenelon)	0.3 Km North of School Rd. (Fenelon)	0.3	22	\$30,000.00
Hardwood St.	0.3 Km North of School Rd. (Fenelon)	1.2 Km South of Otter Rd. (Bexley/Fenelon)	0.352	22	\$35,200.00
Hartley Rd.	0.1 Km North of Robinson Ave.	Portage Rd.	0.807	232	\$80,700.00
Hawthorne Lane	Hickory Beach Rd.	West End	0.336	11	\$33,600.00
Heron St.	Jones Ave.	Jones Ave.	0.106	22	\$10,600.00
Hickory Beach Rd.	South End	Sandy Point Rd.	0.174	67	\$17,400.00
High Point Lane	High Point Rd.	South End	0.25	17	\$25,000.00
High Point Rd.	Shadow Lake Rd. # 3	High Point Lane	0.418	28	\$41,800.00
High Point Rd.	High Point Lane	North End	0.11	28	\$11,000.00
Hillcrest Ave.	Portage Rd.	North End	0.339	67	\$33,900.00
Hillhead Rd.	River Rd. (Manvers/Ops)	North End	0.2	17	\$20,000.00
Horseshoe Cres.	North Bay Dr.	North Bay Dr.	0.373	22	\$37,300.00
Iris Dr.	Killarney Bay Rd.	West End	1.2	33	\$120,000.00
Jasper Dr.	Omega Rd.	School Rd. (Fenelon)	1.334	44	\$133,400.00
Jenkins Rd.	K.L. Rd. 121 (Fenelon/Somerville/Verulam)	West St. S. (Fenelon/Fenelon Falls)	0.601	89	\$60,100.00
Jones Ave.	Heron St.	Heron St.	0.202	44	\$20,200.00
Jones Ave.	Long Beach Rd.	Heron St.	0.148	44	\$14,800.00
Jubbs Shore Rd.	Highway #35	Sackitt Rd.	0.346	44	\$34,600.00
King St. (Eldon)	Newman Dr. (Eldon)	South End	0.051	11	\$5,100.00
King's Lane (Fenelon)	Elm Tree Rd.	West End	0.393	22	\$39,300.00
Kodiak Rd.	Birch Point Rd (Fenelon)	Killarney Bay Rd.	1.356	72	\$135,600.00
Lakebreeze Rd. (Fenelon)	Wrenhaven Rd.	0.6 Km South of Wrenhaven Rd.	0.601	44	\$60,100.00



Lawson Court (Emily)	Scenic Hill Rd.	West End	0.157	33	\$15,700.00
Laxton Township 4th Line	Bailey Dr.	Monck Rd.	0.455	67	\$45,500.00
Laxton Township 4th Line	Monck Rd.	Douglas Dr.	0.315	67	\$31,500.00
Laxton Township 4th Line	Douglas Dr.	Bailey Dr.	0.22	67	\$22,000.00
Laxton Township 5th Line	Monck Rd.	South End	0.309	11	\$30,900.00
Laxton Township 5th Line	Monck Rd.	Sunset Beach Rd.	0.579	67	\$57,900.00
Laxton/Lutterworth Boundary Rd.	Highway #35	East End	0.201	11	\$20,100.00
Laxton/Lutterworth Boundary Rd.	Highway #35	West End	0.101	6	\$10,100.00
Lila St. (Fenelon/Somerville)	Bridge St.	West End	0.189	44	\$18,900.00
Lindsay St. N. (Lindsay)	Pottinger St.	55m south of Daniel Court	0.1688	44	\$16,880.00
Little Bay Dr. (Laxton)	Pine Ridge Rd. (Laxton)	East End	0.234	22	\$23,400.00
Lock St.	Coldstream Rd.	South End	0.088	44	\$8,800.00
Locust Lane	Rush Lake Rd.	North End	0.176	6	\$17,600.00
Manchester Trail	Berry Lane	North End	0.161	33	\$16,100.00
Maple Ave. (Bexley)	Otter Rd. (Bexley/Fenelon)	Ridge Dr. (Bexley)	0.903	33	\$90,300.00
Maple Ave. (Bexley)	Ridge Dr. (Bexley)	North End	0.203	33	\$20,300.00
McLeish Dr.	Rama/Dalton Boundary Rd.	East End	1.008	44	\$100,800.00
McNevan Dr.	Wrenhaven Rd.	Miller Rd. (Fenelon)	0.061	27	\$6,100.00
McNevan Dr.	Miller Rd. (Fenelon)	North End	0.721	27	\$72,100.00
Mill St. S. (Omeme)	Rutland St. E.	Mary St. E. (Omeme)	0.097	22	\$9,700.00
Miller Rd. (Fenelon)	McNevan Dr.	Wrenhaven Rd.	0.135	6	\$13,500.00

Moorings Dr.	2.0 Km West of Fell's Point Rd.	South End	1.307	189	\$130,700.00
Moorings Dr.	0.3 Km North of Fell's Point Rd.	2.0 Km West of Fell's Point Rd.	2.002	189	\$200,200.00
Moorings Dr.	Fell's Point Rd.	0.3 Km North of Fell's Point Rd.	0.304	67	\$30,400.00
Newman Dr. (Eldon)	Smith St. (Eldon)	King St. (Eldon)	0.112	78	\$11,200.00
Newman Dr. (Eldon)	King St. (Eldon)	K.L. Rd. 46 (Eldon/Mariposa)	0.116	78	\$11,600.00
North St. (Fenelon)	Cambray Rd.	Elm Tree Rd.	0.325	33	\$32,500.00
Odessa Rd.	K.L. Rd. 36 (Fenelon/Ops/Verulam)	K.L. Rd. 36 (Fenelon/Ops/Verulam)	0.34	28	\$34,000.00
Oriole Rd.	West End	Redwing Ave. (Fenelon)	0.082	44	\$8,200.00
Oriole Rd.	Redwing Ave. (Fenelon)	Bass St.	0.23	44	\$23,000.00
Oriole Rd.	K.L. Rd. 8 (Fenelon/Verulam)	North End	0.009	5	\$900.00
Osborne St.	Peace Rd.	South End	0.101	22	\$10,100.00
Oxby Lane	Sadowa Rd.	East End	0.419	6	\$41,900.00
Pine St. (Fenelon)	Elm Tree Rd.	Cambray Rd.	0.211	28	\$21,100.00
Pleasure St.	Glenvale Dr.	East End	0.057	33	\$5,700.00
Pleasure St.	Daytonia Beach Rd.	Glenvale Dr.	0.185	33	\$18,500.00
Pondview St.	Highway #7	South End	0.19	11	\$19,000.00
Raby's Shore Dr.	0.6 Km North of Wood Rd. (Fenelon)	Raby St.	0.495	61	\$49,500.00
Ranch Rd. (Verulam)	Berry Lane	North End	0.216	61	\$21,600.00
Redwing Ave. (Fenelon)	K.L. Rd. 8 (Fenelon/Verulam)	Oriole Rd.	0.059	44	\$5,900.00
Response St.	K.L. Rd. 8 (Fenelon/Verulam)	North End	0.185	22	\$18,500.00
Ridge Dr. (Bexley)	Cedar Ave. (Bexley)	Maple Ave. (Bexley)	1.534	61	\$153,400.00
Ridge Dr. (Bexley)	Bona Vista Dr.	Cedar Ave. (Bexley)	0.466	61	\$46,600.00