



TOWN OF NEW TECUMSETH

MUNICIPAL STRUCTURE INVENTORY AND INSPECTION 2016

GHD | 65 Sunray Street Whitby Ontario L1N 8Y3 Canada

11115441 | November 22, 2016



November 22, 2016

Doug Austin, C.E.T.
Manager of Capital Projects and Asset Management
Engineering Department
Town of New Tecumseth
10 Wellington Street East
Alliston, Ontario
L9R 1A1

Dear Mr. Austin:

Project No: 11115441

Regarding: Municipal Structure Inventory and Inspection – 2016

GHD is pleased to submit this report with the respect to the results of the 2016 Municipal Structure Inventory and Inspection which outlines the results of our field inspection investigations for the above noted project.

This study was completed for the Structure Inspections using Worktech's Asset Foundation Software. Structures were reviewed in accordance with the Municipal Bridge Appraisal Manual and Municipal Culvert Appraisal Manual.

With this report, all structure related data for those structures inspected in 2016 have been updated to present day values and the content of the report reflects conditions as of the time of the field data collection, in the summer of 2016 for the structure inventory.

We trust that this report will be beneficial to the Town of New Tecumseth in developing their asset management plans and wish to express appreciation for the opportunity for GHD to participate in the work.

Sincerely,
GHD Limited

A handwritten signature in black ink, appearing to read 'D. Baxter', is written over the printed name and title of the sender.

Dennis Baxter, P. Eng.
Associate
Senior Manager, Bridges
dennis.baxter@ghd.com

DLB/jrep
Encl.



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Revision Log

| Revision # | Revised By | Date | Issue / Revision Description |
|------------|------------|-------------------|--|
| - | DLB | October 2016 | Final |
| A | JREP | October 27, 2016 | Revised as per Town's comments |
| B | JREP | November 22, 2016 | Revised summary to reflect Adjusted for Owners Share |

Report Prepared By:

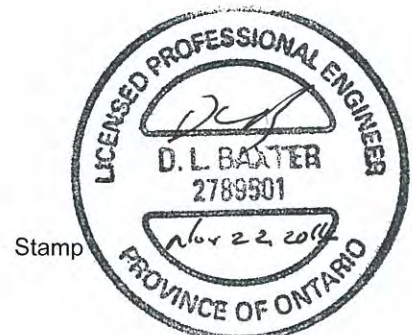
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Executive Summary

The Town of New Tecumseth 2016 Municipal Structure Inventory and Inspection Study provides a summary of structure condition ratings identified during rating surveys conducted by GHD Limited in 2016. All of the Town of New Tecumseth's structures of 3.0 m span or greater were reviewed in 2016. The Town of New Tecumseth's total inventory of eighty (83) structures are included in this report.

Data collection and structure ratings were completed in accordance with the Municipal Bridge Appraisal and Municipal Culvert Appraisal Manuals and the Ontario Structure Inspection Manual. The scope of the report includes summaries of collected data, with discussion and analysis regarding same.

A total of eighty-three (83) bridge and culvert structures were appraised in 2016. A total of eighty (80) bridge and culvert structures are owned by the Town with two (2) culverts owned by the County of Simcoe and one (1) bridge owned by the Canadian Pacific Railway. The assignment included an assessment of fifty-nine (59) bridges and twenty-four (24) culverts which are currently identified on the Town of New Tecumseth's Road System. Key items contained within the inspection report are summarized below:

- The County of Simcoe has confirmed ownership of Culvert No. 12055 and 12060 located on 15th Sideroad and the Canadian Pacific Railway has confirmed ownership of Bridge No. 12034 located on 9th Line.
- Two (2) bridges have existing load limit postings. These existing load limits can be retained.
- There are seventeen (17) bridges designated for further engineering investigations at a total cost of **\$472,000**.
- Five (5) bridges are designated for replacement at a total cost of **\$11,069,000**. The bridge replacement needs are based on travel deck width deficiency, surface width deficiency, vertical clearance and deteriorated condition. Bridge No. 12034 has been designated for replacement and is owned by the Canadian Pacific Railway for which the replacement costs have been omitted from the total shown above.
- Fifty (50) bridges require rehabilitation at an estimated cost of **\$10,553,000**. Bridge No. 11011 Boyne River Pedestrian Bridge has moved to priority #1 due to deteriorated condition of the deck superstructure. Bridge No. 12034 has been designated for replacement and is owned by the Canadian Pacific Railway for which the rehabilitation costs have been omitted from the total shown above.
- Sixteen (16) culverts require rehabilitation at an estimated cost of **\$575,000**.
- Thirty-eight (38) bridges and six (6) culverts require guide rail installation, extension or upgrades at a total cost of **\$3,704,000**. All NOW need guide rail requirement costs provided do not include the potential traffic control costs that may be incurred if the guide rail work is undertaken independent of other necessary works.
- Bridge No. 12063 & 12065 will require on-going monitoring of the piers and abutments every 3 months to ensure safety and serviceability. Monitoring is to be completed by the Town. If a change in the existing condition is identified a structural engineer should be notified.
- An Adjusted for Owners Share summary of the total structure construction and rehabilitation needs resultant from the 2016 Structure Inspection for the ten year period is estimated to be **\$27,761,650** for the existing Town's structure system. Of this total cost **\$19,108,650** are for NOW needs, **\$7,630,000** are for structure 1-5 year needs and **\$1,023,000** are for the 6-10 year needs.
- The average age of the Town's bridge structures is **58.5** years; the average age of the culvert structures is **33.7** years.

Recommended funding for the structure inventory would include sufficient capital expenditures that would allow the replacement of infrastructure as it meets its design life.



For new structures, the design lifespan is now 75 years; however, structures constructed prior to 2000 were generally designed for a 50 year lifespan. Accordingly for a typical system annual expenditures are between 1.5% and 2.0% of the value of the entire structure inventory and should be expended annually to ensure that the structure inventory can be maintained in perpetuity. It is noted that as the structures are replaced, the annual allocation could be reduced to 1.5%.

Based on the aforementioned and the data included in this report, for the Town's system the estimated minimum annual capital program for structures should be in the amount of **\$960,000** (or 2.9%) per year for the Town of New Tecumseth to maintain the current system adequacy. However, given the average age of the Town's structures inventory, it is quite probable that expenditures on structures will be even higher than estimated over the next decade as the older structures reach a terminal condition.

All costs contained within the structure appraisal reports include engineering and contingencies, and are based on 2016 construction dollars.

Rehabilitation and replacement recommendations are provided within this report. The costs associated within these recommendations should be budgeted above and beyond the recommended replacement budget to maximize the service life of the structures.

Completion of the 2016 re-inspection of eighty-three (83) bridge and culvert structures on the Town's road system has resulted in reliable and current data being available to the Town to implement a maintenance program ensuring the Town's structures are kept safe and in good repair. Maintenance of the Bridge and Culvert Management Program will require updating of databases on an on-going annual basis to reflect previous year rehabilitation/replacement project updates. It is recommended that the structures be re-inspected under the direction of a qualified structural engineer every two (2) years.



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1. Introduction

The Town of New Tecumseth 2016 Municipal Structure Inventory and Inspection Study provides a summary of structure condition ratings identified during rating surveys conducted by GHD in 2016. All of the Town of New Tecumseth's structures of 3.0 m span or greater were reviewed in 2016. The Town of New Tecumseth's total inventory of eighty-three (83) structures are included in this report.

The Province of Ontario passed amendments in 1997 to existing legislation in the Highway Traffic Act (HTA), The Bridge Act (BA) and the Public Transportation and Highway Improvement Act (PTHIA) that required all bridge, culvert and retaining wall structures with a span greater than 3.0 m to be inspected under the direction of a Professional Engineer at no greater than two (2) year intervals. The inspection methodology and reporting must be in accordance with the Ontario Structure Inspection Manual (or equivalent).

Data collection and structure ratings were completed in accordance with the Municipal Bridge Appraisal and Municipal Culvert Appraisal Manuals and the Ontario Structure Inspection Manual.

The scope of the report includes summaries of collected data, with discussion and analysis regarding same.

Also under the new regulations, municipalities are still responsible for passing load limit bylaws. In place of the MTO review, engineering recommendations to support the load limit and the duration for which it is valid, must now be stamped by two (2) professional engineers.

GHD Limited was retained by the Town of New Tecumseth to re-inspect a total of eighty-three (83) bridge and culvert structures on the Town's road system and prioritize the maintenance, repair and replacement works for these structures.

GHD Limited has completed the structure appraisals using WorkTech's Asset Foundation Software.

The procedures used to carry out this 2016 structure inventory are explained in detail in the following manuals published by the Ministry of Transportation and Municipal Engineers Association.

- a) **Municipal Bridge Appraisal Manual**
February 1992
- b) **Municipal Culvert Appraisal Manual**
August 1993
- c) **Ontario Structure Inspection Manual 2000 (OSIM)**
Revised (Nov 2003 and Apr 2008)

This report documents the visual inspection and recommendations for the maintenance, repair or replacement (MR&R) of the structures.



2. Scope of Work

The assignment included an assessment of fifty-nine (59) bridges and twenty-four (24) culverts which are currently identified on the Town of New Tecumseth's Road System. The work involved the following tasks:

1. A visual re-inspection for deficiencies and the recording of any relevant dimensions.
2. An updated photographic inventory of the structure appearance and deficiencies.
3. The compilation of the field review using Worktech Asset Foundation Software.
4. An individual assessment of the condition and state of repair/non-repair of each structure, as well as the recommendation of improvements and estimated costs to bring the existing structure to an acceptable level-of-service.
5. Recommendation of the feasible options and cost-effectiveness of maintaining the existing structure versus possible replacement and the costs and timing of the same.
6. Development of a spread sheet program to determine various condition and appraisal ratings for each structure. The program includes an algorithm to determine an Overall Condition Rating, Functional Needs Rating and Overall Rating for each structure as outlined in **Appendix D**. Relative rankings of bridge and culvert needs have also been provided.
7. Identification of specific budget recommendations for detailed condition surveys and bridge rehabilitation/replacement including associated engineering design and supervision and construction estimates.

3. Structure Categorization

The following definitions were used in the preparation of the Bridge and Culvert Appraisal Reports:

Bridge - In general, transfers all live loads through a superstructure to a substructure and foundations. Bridges that were originally designed as a bridge and have some depth of fill placed over the deck have been inspected as a bridge.

Box or open type structure having less than 600 mm of cover have been inspected as a bridge and those with more than 600 mm of cover have been inspected as a culvert.

Culvert - In general, transfers all live loads through fill.



4. Structure Appraisals and Identification of Maintenance, Repair and Replacement Needs

A total of eighty-three (83) bridge and culvert structures were appraised in 2016. The results of our inspection and recommendations are summarized on the Municipal Bridge and Culvert Appraisal Sheets which are provided in **Appendix E**. A summary of the results of the inspection and appraisal program for all bridge and culvert structures has been presented in **Appendices B and C**. **Appendix B** contains a list of the fifty-nine (59) bridges inventoried and appraised while **Appendix C** lists the Twenty-four (24) culverts.

Based on a review of our inspection findings, recommendations and cost estimates were developed for structures which required maintenance, repair or replacement as shown in the Recommended Needs section of the structure appraisal sheets. **Tables B1 and C1** included in **Appendix B** and **Appendix C** summarize basic structure data for all bridge and culvert needs identified through the structure appraisal. The priority ranking of the bridges and culverts based on the results of the Bridge and Culvert Management System are also shown. Of the eighty-three (83) bridge and culvert structures that were appraised in 2016, recommendations are summarized in **Sections 4.1 to 4.4** of this report.

All costs contained within the structure appraisal reports include engineering and contingencies, and are based on 2016 construction dollars.

4.1 Load Limit Bylaws

L3 postings govern single unit vehicles; L2 postings govern two unit vehicles; and L1 postings govern vehicle trains. Section 13 of Bill 92 amends Section 123 of the Highway Traffic Act dealing with the load limit by-laws. Municipalities retain the authority to pass load limit by-laws, but approval of the Minister of Transportation is no longer required. Two engineer's stamps for all load limit by-law recommendations, including load posting and duration, generally 2 years, are now required. Load posting assessments are currently being carried out during the annual bridge inspection updates. Load limit recommendations are summarized in **Table 1**.

Table 1 Load Limit Recommendations

| Load Limit Recommendations | | | | | | | | |
|----------------------------|---|---------------------|----|----|------------------------|----|----|--|
| Structure No. | Location | Existing Load Limit | | | Recommended Load Limit | | | |
| | | L3 | L2 | L1 | L3 | L2 | L1 | |
| 12001 | 14TH LINE, LOT 9, CONC XIII/XIV, 14TH LINE, 1.50 km E of TOWN ROAD 10 | 15 | - | - | 15 | - | - | |
| 12034(*) | 9TH LINE, LOT 6, CONC VIII/IX, 9TH LINE, 0.15 km E of TOTTENHAM ROAD | 15 | - | - | 15 | - | - | |

(*) Structures assumed to be not owned by the Town of New Tecumseth



4.2 Engineering Investigations

There are a total of seventeen (17) bridges designated for further engineering investigations to confirm visual repair recommendations as summarized in **Table 2** at a total cost of **\$472,000**. It is recommended that engineering investigations be completed within 2 to 4 years prior to structure rehabilitations.

Table 2 Engineering Investigations

| Engineering Investigations | | | | | |
|----------------------------|----------|---|---|--------------------------|-------------------------------|
| Structure No. | Priority | Location | Recommended Engineering Investigation | Cost for Budget Purposes | Estimated Rehabilitation Cost |
| 11011 | 1 | BOYNE RIVER PEDESTRIAN WALKWAY, DOMINION STREET, ALLISTON, 0.05 km S of FLETCHER CRESCENT | Deck Condition Survey | \$10,000 | \$130,000 |
| 12065 | 2 | BEATTIE BRIDGE, 13 th LINE, 0.20KM S OF 13TH LINE | Environmental Study | \$50,000 | \$74,000 |
| 12063 | 3 | BEETON CREEK CROSSING, 9 th LINE, 0.22 km N of 9 th LINE | Environmental Study | \$50,000 | \$128,000 |
| 12020 | 4 | 5TH LINE, LOT 21, CONC IV/V, 5TH LINE, 0.30 km E of 20TH SIDEROAD | Deck Condition Survey / Rehabilitate/Replace Analysis | \$15,000 | \$169,000 |
| 12064 | 7 | BAILEY CREEK BRIDGE, 10th Line, 0.10 KM N OF 10TH LINE | Environmental Study | \$50,000 | \$80,000 |
| 12032 | 8 | STRANGWAYS BRIDGE, LOT 10/11, CONC IX, 10TH SIDEROAD, 0.35 km N of 9TH LINE | Deck Condition Survey | \$20,000 | \$886,000 |
| 11001 | 11 | CUNNINGHAM BRIDGE, CHURCH STREET NORTH, ALLISTON, 0.13 km N of VICTORIA STREET WEST | Deck Condition Survey | \$35,000 | \$1,212,000 |
| 12039 | 15 | 6TH LINE, LOT 7, CONC V/VI, 6TH LINE, 0.75 km E of TOTTENHAM ROAD | Deck Condition Survey / Environmental Study | \$35,000 | \$478,000 |
| 12013 | 16 | 11TH LINE, LOT 19, CONC X/XI, 11TH LINE, 0.90 km W of 20TH SIDEROAD | Deck Condition Survey | \$15,000 | \$137,000 |
| 12024 | 18 | 9TH LINE, LOT 16, CONC VIII/IX, 9TH LINE, 0.50 km E of 15TH SIDEROAD | Deck Condition Survey / Environmental Study | \$30,000 | \$425,000 |
| 12012 | 20 | 14TH LINE, LOT 21, CONC XIII/XIV, 14TH LINE, 0.40 km E of 20TH SIDEROAD | Deck Condition Survey | \$15,000 | \$350,000 |
| 12002 | 21 | 13TH LINE, LOT 9, CONC XII/XIII, 13TH LINE, 0.90 km W of 10TH SIDEROAD | Deck Condition Survey | \$25,000 | \$236,000 |
| 12005 | 22 | 12TH LINE, LOT 12, CONC XI/XII, 12TH LINE, 1.10 km E of 10TH SIDEROAD | Deck Condition Survey | \$15,000 | \$307,000 |
| 12016 | 34 | 9TH LINE LOT 21 CONC VIII/IX, 9TH LINE, 0.40 km E of 20TH SIDEROAD | Environmental Study | \$20,000 | \$195,000 |
| 11010 | 43 | SPRING CREEK PEDESTRIAN BRIDGE, ALBERT STREET SCHOOL SITE, ALLISTON, 0.05 km S of ALBERT STREET | Load Capacity Evaluation | \$7,000 | \$67,000 |
| 12038 | 50 | 7TH LINE, LOT 5, CONC VI/VII, 7TH LINE, 0.50 km W of TOTTENHAM ROAD | Environmental Study | \$20,000 | \$316,000 |
| 11000 | 59 | VICTORIA STREET, VICTORIA STREET WEST (HWY #89), 0.05 km W of DUFFERIN STREET | Environmental Study | \$60,000 | \$0.00 |

A detailed deck condition survey is generally carried out after a bridge has been identified for rehabilitation. The data collected is used to confirm the rehabilitation method and to provide improved quantity estimates for construction contract documents. The procedure for carrying out a detailed condition survey involves the observation and recording of surface defects and may also involve a delamination survey, cover meter survey, corrosion potential survey, coring of concrete components, asphalt sawn samples and physical testing of the concrete cores.



An environmental study is twofold. For minor projects, it provides background studies necessary for obtaining permits from approving agencies. For major projects, it provides a full assessment of various rehabilitation/replacement alternatives, includes detailed environmental investigations, provides a public consultation process, confirms requirements from approving agencies and develops mitigating methods required for inclusion in construction contracts. For bridge structures over 40 years old, the environmental study will also assess the heritage value of the built structure and identify heritage considerations for the design process.

4.3 Structure Removal

- There are no structures designated for removal at this time.

4.4 Structure Replacements

- There are five (5) bridges designated for replacement at this time, as identified in **Table 4** at a total cost of **\$11,069,000**. Bridge No. 12034 has been designated for replacement and is owned by the Canadian Pacific Railway for which the replacement costs have been omitted from the total shown above.
- There are no culverts designated for replacement at this time.

4.5 Structure Rehabilitations

- Fifty (50) bridges require rehabilitation, as identified in **Table 5** at a total cost of **\$10,553,000**. They are presented in order of priority as determined from the Bridge Improvement Priority Program. Bridge No. 11011 Boyne River Pedestrian Bridge has moved to priority #1 due to deteriorated condition of the deck superstructure. Bridge No. 12034 has been designated for replacement and is owned by the Canadian Pacific Railway for which the rehabilitation costs have been omitted from the total shown above.
- Sixteen (16) culverts require rehabilitation, as identified in **Table 6** at a total cost of **\$575,000**. They are presented in order of priority as determined from the Culvert Improvement Priority Program.
- There are a total of thirty-eight (38) bridges and six (6) culverts that require guide rail installation, extension or upgrades as identified in **Table 7** at a total cost of **\$3,704,000**.
- Overall Structure Inventory with priority rankings for all bridge and culvert structures has been identified in **Tables 8, 9, 10 & 11**.
- Structures identified as not being owned by the Town have been presented in **Table 12**.



Table 3 Structure Removal

| Bridge Removal - 2016 | | | | | | | | |
|-----------------------|----------|----------|--|------------------------|----------------------------------|--------------------|------------------------------|------------------|
| Bridge No. | Priority | Location | | Reason for Improvement | Estimated Remaining Service Life | Impact of Deferral | Interim Works to Extend Life | Replacement Cost |
| - | - | - | | - | - | - | - | - |

| Culvert Removal - 2016 | | | | | | | | |
|------------------------|----------|----------|--|------------------------|----------------------------------|--------------------|------------------------------|------------------|
| Culvert No. | Priority | Location | | Reason for Improvement | Estimated Remaining Service Life | Impact of Deferral | Interim Works to Extend Life | Replacement Cost |
| - | - | - | | - | - | - | - | - |



Table 4 Structure Replacements

| Bridge Replacements - 2016 | | | | | | | |
|----------------------------|----------|---|---|----------------------------------|-------------------------------|--|------------------|
| Bridge No. | Priority | Location | Reason for Improvement | Estimated Remaining Service Life | Impact of Deferral | Interim Works to Extend Life and/or Address Safety Issues | Replacement Cost |
| 12004 | 6 | 12TH LINE, LOT II, CONC XI/XII, 12TH LINE, 0.35 km E of 10TH SIDEROAD | Deteriorated condition | 5 -10 yrs | Reduced load limit posting | N/A | \$1,820,000 |
| 12001 | 9 | 14TH LINE, LOT 9, CONC XIII/XIV, 14TH LINE, 1.50 km E of TOWN ROAD 10 | Travel deck width deficiency and deteriorated condition | 5 -10 yrs | Reduced load limit posting | N/A | \$3,723,000 |
| 12034(*) | 12 | 9TH LINE, LOT 6, CONC VIII/IX, 9TH LINE, 0.15 km E of TOTTENHAM ROAD | Travel deck width deficiency and deteriorated condition | 5 -10 yrs | Reduced load limit posting | Install steel beam guide rails on the bridge approaches | \$5,170,000 |
| 12033 | 25 | 9TH LINE, LOT 9, CONC VIII/IX, 9TH LINE, 0.90 km W of 10TH SIDEROAD | Travel deck width deficiency and deteriorated condition | >10 yrs | Load limit posting | Install steel beam guide rails on the bridge approaches | \$1,524,000 |
| 12037 | 31 | 7TH LINE, LOT 7, CONC VI/VII, 7TH LINE, 0.80 km E of TOTTENHAM ROAD | Surface width deficiency and vertical clearance deficiency | >10 yrs | N/A | N/A | \$4,002,000 |

(*) Structure Ownership other than that of 1the Town of New Tecumseth

| Culvert Replacements - 2016 | | | | | | | |
|-----------------------------|----------|----------|------------------------|----------------------------------|--------------------|---|------------------|
| Culvert No. | Priority | Location | Reason for Improvement | Estimated Remaining Service Life | Impact of Deferral | Interim Works to Extend Life and/or Address Safety Issues | Replacement Cost |
| - | - | - | - | - | - | - | - |



| PROPOSED GRADE SEPARATIONS | | | | |
|----------------------------|---|--------|--------------------------|-------------|
| Bridge No. | Location | AADT | Estimated Exposure Index | Cost |
| 11000 | VICTORIA STREET, VICTORIA STREET WEST (HWY #89), 0.05 km W of DUFFERIN STREET | 16,490 | 346,290 | \$6,707,000 |

Table 5 Structure Rehabilitations – Bridges

| Bridge Rehabilitation Needs by Priority Ranking - 2016 | | | | | |
|--|----------|---------------------------------------|--|--|---------------------|
| Bridge No. | Priority | Bridge Name | Location | Recommended Work | Rehabilitation Cost |
| Rehabilitations | | | | | |
| 11011 | 1 | BOYNE RIVER PEDESTRIAN WALKWAY | DOMINION STREET, ALLISTON, 0.05 km S of FLETCHER CRESCENT | Patch concrete spalls and cracks, T-beam and abutments. Should reconstruct deck end and install expansion joints with suitable allowances for thermal expansion to relieve distress in the deck ends | \$130,000 |
| 12065 | 2 | BEATTIE BRIDGE | 13 TH LINE, 0.20 km S OF 13TH LINE | Replace miscellaneous piles (5 total) and pier cap at west pier | \$74,000 |
| 12063 | 3 | BEETON CREEK CROSSING | 9TH LINE, 0.22 km N OF 9TH LINE | Repair miscellaneous piles (14 in total), cross bracing and pier cap members | \$128,000 |
| 12020 | 4 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE, 0.30 km E of 20TH SIDEROAD | Reface concrete abutment footings, repair vertical cracks in the abutment faces, repair deck soffit, wingwalls and install steel beam guide rails over the structure and on the approaches | \$169,000 |
| 12028 | 5 | DEADMAN BRIDGE, LOT 10/11, CONC X | 10TH SIDEROAD, 0.40 km N of 10TH LINE | Replace existing concrete deck topping, install new deck expansion joints, replace safety grates, reconstruct curbs and parapet walls in conjunction with the deck topping replacement and install steel beam guide rails on the bridge approaches for traffic protection, repair bottoms of box girders | \$693,000 |
| 12064 | 7 | BAILEY CREEK BRIDGE | 10TH LINE, 0.10 km N OF 10TH LINE | Repair miscellaneous piles (8 total), rotted timber pier members and rotted timber cross bracing | \$80,000 |
| 12032 | 8 | STRANGWAYS BRIDGE, LOT 10/11, CONC IX | 10TH SIDEROAD, 0.35 km N of 9TH LINE | Replace concrete deck topping, waterproof and pave, install new sealed expansion joints, reconstruct concrete curbs and parapet walls in conjunction with the deck topping replacement, repair girders and wingwalls and install steel beam guide rails on the bridge approaches | \$886,000 |
| 12009 | 10 | 13TH LINE, LOT 21, CONC XII/XIII | 13TH LINE, 0.08 km E of 20TH SIDEROAD | Repair handrails, curbs, wingwalls, abutments, install steel beam guide rails on the bridge approaches, seal cracks in asphalt, repair soffit and restore roadway embankments | \$193,000 |
| 11001 | 11 | CUNNINGHAM BRIDGE | CHURCH STREET NORTH, ALLISTON, 0.13 km N of VICTORIA STREET WEST | Overlay, waterproof and pave the bridge deck, install new deck expansion joints, replace handrails, overlay concrete sidewalks, clean, paint and repair structural steel girders, restore embankments and patch wingwalls | \$1,212,000 |



| | | | | | |
|----------|----|------------------------------------|--|--|-----------|
| 12034(*) | 12 | 9TH LINE, LOT 6, CONC VIII/IX | 9TH LINE, 0.15 km E of TOTTENHAM ROAD | Install steel beam guide rails on the bridge approaches | \$99,000 |
| 12015 | 13 | 10TH LINE, LOT 21, CONC IX/X | 10TH LINE, 0.35 km E of 20TH SIDEROAD | Repair concrete deck, soffit, abutment, wingwall and wearing surface, install steel beam guide rails on the bridge approaches continuous with the guide rail on the structure and replace deteriorated posts | \$144,000 |
| 12043 | 14 | 2ND LINE, LOT 5, CONC I/II | 2ND LINE, 0.55 km W of TOTTENHAM ROAD | Install steel beam guide rails over the structure and on the approaches, repair concrete deck soffit, curbs, abutments, wingwalls and place rock protection in front of the abutments | \$224,000 |
| 12039 | 15 | 6TH LINE, LOT 7, CONC V/VI | 6TH LINE, 0.75 km E of TOTTENHAM ROAD | Remove granular material from the bridge deck and adjust the approach roads to the new deck profile, widen the superstructure to eliminate the deck width deficiency, provide curbs and barrier system, repair the concrete deck soffit and install steel beam guide rails on the bridge and approaches. | \$478,000 |
| 12013 | 16 | 11TH LINE, LOT 19, CONC X/XI | 11TH LINE, 0.90 km W of 20TH SIDEROAD | Repair concrete deck soffit, handrails, wingwalls, retaining walls, curbs, abutments and fascias and install steel beam guide rails on the bridge approaches | \$137,000 |
| 12006 | 17 | 12TH LINE, LOT 14, CONC XI/XII | 12TH LINE, 2.10 km E of 10TH SIDEROAD | Place rock protection on the embankments in front of the abutments and install steel beam guide rails on the bridge approaches, patch curbs, seal cracks in deck top and replace deteriorated section of soffit | \$135,000 |
| 12024 | 18 | 9TH LINE, LOT 16, CONC VIII/IX | 9TH LINE, 0.50 km E of 15TH SIDEROAD | Install steel beam guide rails on the bridge approaches, place rock slope protection in the river channel in front of the abutments, repair handrails, curbs and soffit | \$425,000 |
| 12018 | 19 | 6TH LINE, LOT 22, CONC V/VI | 6TH LINE, 0.75 km E of 20TH SIDEROAD | Replace the concrete curbs and handrails with cantilevered concrete curbs and parapet walls to eliminate the deck width deficiency, repair soffit and wingwalls and install steel beam guide rails on the bridge approaches | \$201,000 |
| 12012 | 20 | 14TH LINE, LOT 21, CONC XIII/XIV | 14TH LINE, 0.40 km E of 20TH SIDEROAD | Overlay the bridge deck with latex modified concrete, repair concrete curbs, handrail, soffit, wingwalls, replace rock protection in front of the west abutment, install steel beam guide rails on the bridge approaches | \$350,000 |
| 12002 | 21 | 13TH LINE, LOT 9, CONC XII/XIII | 13TH LINE, 0.90 km W of 10TH SIDEROAD | Repair concrete handrails, curbs and deck soffit, T-beam, pier, wingwalls, place rock protection on the embankments in front of the abutments and upgrade guide rail and replace deck drains | \$236,000 |
| 12005 | 22 | 12TH LINE, LOT 12, CONC XI/XII | 12TH LINE, 1.10 km E of 10TH SIDEROAD | Patch, waterproof and pave the bridge deck, repair concrete handrails, curbs and wingwalls, backfill eroded areas of the roadway embankments and streambanks, place rock protection and install steel beam guide rail on the bridge approaches | \$307,000 |
| 12010 | 23 | 20TH SIDEROAD, LOT 20/21, CON XIII | 20TH SIDEROAD, 0.70 km N of 13TH LINE | Repair concrete handrails, wingwall, soffit and install steel beam guide rails on the bridge approaches | \$143,000 |
| 12059 | 24 | GILROY BRIDGE, LOT 1, CONC XII | ADJALA -TECUMSETH TOWNLINE, 0.20 km N of 12TH LINE | Replace curbs and handrails with parapet walls, install guide rail on the approaches and seal cracks in asphalt, restore roadway embankments, patch soffit and wingwall | \$310,000 |
| 12033 | 25 | 9TH LINE, LOT 9, CONC VIII/IX | 9TH LINE, 0.90 km W of 10TH SIDEROAD | Install steel beam guide rails on the bridge approaches | \$102,000 |
| 12019 | 26 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE, 0.10 km E of 20TH SIDEROAD | Install steel beam guide rails over the structure and on the approaches, repair concrete deck soffit, curbs, abutments, wingwalls, reface concrete abutment footings and repair vertical cracks in the abutment faces | \$176,000 |



| | | | | | |
|-------|----|--|---|---|-----------|
| 12054 | 27 | CENTRE STREET NORTH | CENTRE STREET NORTH, BEETON, 0.72 km N of MAIN STREET | Patch repair fascia, soffit and curbs | \$13,000 |
| 12021 | 28 | 4TH LINE, LOT 20, CONC III/IV | 4TH LINE, 0.45 km W of 20TH SIDEROAD | Repair curbs, abutments, deck soffit, north and south fascia and install steel beam guide rails over the structure and on the approaches | \$150,000 |
| 12049 | 30 | 2ND LINE, LOT 21, CONC I/II | 2ND LINE, 0.40 km E of 20TH SIDEROAD | Repair curb, soffit, abutments, t-beams, wingwalls and guide rail end treatment | \$49,000 |
| 12044 | 32 | 5TH LINE, LOT 7, CONC IV/V | 5TH LINE, 0.80 km E of TOTTENHAM ROAD | Patch soffit, wingwalls and curb and stabilize roadway embankments | \$48,000 |
| 12030 | 33 | BEDER TURF BRIDGE, LOT 5, CONC IX/X | 10TH LINE, 0.55 km W of TOTTENHAM ROAD | Repair deck surface, handrails, soffit and install steel beam guide rails on the bridge approaches | \$144,000 |
| 12016 | 34 | 9TH LINE LOT 21 CONC VIII/IX | 9TH LINE, 0.40 km E of 20TH SIDEROAD | Repair deck soffit, fascias and wingwalls, replace the concrete curbs and handrails with cantilevered concrete curbs and parapet walls to eliminate the deck width deficiency and install steel beam guide rails on the bridge approaches | \$195,000 |
| 12008 | 35 | JEBB BRIDGE, LOT 20/21, CONC XII | 20TH SIDEROAD, 0.68 km N of 12TH LINE | Seal crack and patch concrete deck, repair concrete handrail and install steel beam guide rail on the bridge approaches | \$122,000 |
| 12023 | 36 | 10TH LINE, LOT 16, CONC IX/X | 10TH LINE, 0.63 km E of 15TH SIDEROAD | Repair concrete railings, curbs and wingwalls, and install steel beam guide rails on the bridge approaches | \$137,000 |
| 12047 | 37 | RANSOM BRIDGE | 10TH SIDEROAD, 0.25 km N of 4TH LINE | Install steel beam guide rails over the structure and on the approaches, seal cracks, patch pot holes in wearing surface and repair abutment | \$137,000 |
| 12026 | 38 | BROOM BRIDGE, LOT 18, CONC IX/X | 10TH LINE, 1.20 km E of 15TH SIDEROAD | Install steel beam guide rails on the bridge approaches, patch curbs, wingwalls and abutment | \$124,000 |
| 12003 | 39 | MAYNARD BRIDGE, LOT 10/11, CONC XII | 10TH SIDEROAD, 0.35 km N of 12TH LINE | Backfill eroded areas of the embankments and place rock protection and install steel beam guide rails on the approaches at the structure, repair parapet walls, curbs and deck soffit, patch waterproof and pave | \$242,000 |
| 12036 | 40 | 7TH LINE, LOT 7, CONC VI/VII | 7TH LINE, 1.10 km E of TOTTENHAM ROAD | Widen super structure to eliminate the deck width deficiency, provide new curbs and barrier system and upgrade guide rail end treatments. | \$617,000 |
| 12029 | 41 | McCARRON BRIDGE, LOT 7, CONC IX | 10TH LINE, 1.10 km E of TOTTENHAM ROAD | Install steel beam guide rails on the bridge approaches, patch curbs, handrail, seal construction joint on southeast wingwall and repair soffit. | \$129,000 |
| 12050 | 42 | 20TH SIDEROAD, LOT 20/21, CONC 1 | 20TH SIDEROAD, 0.30 km N of HIGHWAY 9 | Upgrade guide rail end treatments, upgrade timber guide rail posts, seal cracks in the asphalt, patch potholes, patch repair curbs and soffit and replace expansion joint seals | \$147,000 |
| 11010 | 43 | SPRING CREEK PEDESTRIAN BRIDGE | ALBERT STREET SCHOOL SITE, ALLISTON, 0.05 km S of ALBERT STREET | Clean and paint structural steel | \$67,000 |
| 12025 | 44 | EAST VARCOE BRIDGE, LOT 16, CONC X/X1 | 11TH LINE, 0.95 km E of 15TH SIDEROAD | Install steel beam guide rails on the bridge approaches, patch soffit and wingwall | \$113,000 |
| 11002 | 45 | JJE McCAGUE BRIDGE | BOYNE STREET, ALLISTON, 0.35 km N of VICTORIA STREET EAST | Patch concrete end post, sidewalks, girders, restore undermined areas, place rock protection in front of abutments, replace damaged section of railway system and expansion joint seals | \$142,000 |
| 12035 | 46 | FISH BRIDGE, LOT 5, CONC VIII/IX | 9TH LINE, 0.50 km W of TOTTENHAM ROAD | Install steel beam guide rails on the bridge approaches, patch repair handrails, soffit, fascia and curbs | \$129,000 |
| 12022 | 47 | WEST VARCOE BRIDGE (LOT 16, CONC X/X1) | 11TH LINE, 0.65 km E of 15TH SIDEROAD | Install steel beam guide rail on the bridge approaches, patch handrails, curbs and abutments | \$124,000 |
| 12014 | 48 | 20TH SIDEROAD, LOT 20/21, CONC X | 20TH SIDEROAD, 0.50 km N of 10TH LINE | Install steel beam guide rails on the bridge approaches, patch repair soffit and wingwalls | \$124,000 |



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|-------|----|--------------------------------------|--|--|-----------|
| 12007 | 49 | 15TH SIDEROAD, LOT 15/16, CONC XI | 15TH SIDEROAD, 0.10 km S of 12TH LINE | Upgrade guide rail end treatments and patch repair end dams | \$94,000 |
| 12038 | 50 | 7TH LINE, LOT 5, CONC VI/VII | 7TH LINE, 0.50 km W of TOTTENHAM ROAD | Patch soffit and consider reconstructing the curbs with cantilevered sections, replacing railings to eliminate the travel deck width need and install steel beam guide rail on the bridge approaches | \$316,000 |
| 12011 | 53 | 20TH SIDEROAD, LOT 20/21, CONC XIII | 20TH SIDEROAD, 0.40 km S of 14TH LINE | Patch repair wingwalls, soffit, curbs and install guide rail on the approaches and restore embankments | \$153,000 |
| 12057 | 55 | ADJALA-TECUMSETH T/L, LOT 1, CONC IX | ADJALA-TECUMSETH TOWNLINE, 0.30 km N of 9TH LINE | Patch repair parapet wall | \$6,000 |
| 12031 | 57 | 10TH LINE, LOT 13, CONC IX/X | 10TH LINE, 1.40 km E of 10TH SIDEROAD | Patch repair approach curb | \$12,000 |
| 11003 | 58 | SIR FREDRICK BANTING ROAD | SIR FREDRICK BANTING ROAD, ALLISTON, 0.20 km N of VICTORIA STREET EAST | Repair curb and reconstruct approach sidewalks | \$86,000 |

(*) Structure Ownership other than that of the Town of New Tecumseth



Table 6 Structure Rehabilitations – Culverts

| Culvert Rehabilitation Needs by Priority Ranking - 2016 | | | | | |
|---|----------|---------------------------------------|--|---|---------------------|
| Culvert No. | Priority | Culvert Name | Location | Recommended Work | Rehabilitation Cost |
| Rehabilitations | | | | | |
| 12051 | 1 | 17TH SIDEROAD, LOT 17/18, CONC I | 17TH SIDEROAD, 0.07 km S of 2 nd LINE | Repair concrete on soffit and abutment | \$21,000 |
| 12042 | 2 | 3RD LINE, LOT 4, CONC II/III | 3RD LINE, 0.75 km W of TOTTENHAM ROAD | Patch repair soffit and abutments | \$34,000 |
| 12041 | 3 | MILL STREET WEST | MILL STREET WEST, TOTTENHAM, 0.35 km W of QUEEN STREET | Repair abutment wall, soffit and barrel ends | \$21,000 |
| 12017 | 4 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE, 1.20 km E of 20TH SIDEROAD | Install steel beam guide rails over the structure and on the approaches | \$102,000 |
| 12040 | 5 | TECUMSETH HEIGHTS DRIVE | TECUMSETH HEIGHTS DRIVE, 0.12 km S of 6TH LINE | Patch repair barrel and wingwall | \$22,000 |
| 12052-1-2 | 7 | LILLY STREET EAST | LILLY STREET EAST, BEETON, 0.09 km E of CENTRE STREET | Upgrade guide rail end treatments | \$74,000 |
| 11012 | 8 | CPR PEDESTRIAN UNDERPASS | WELLINGTON STREET, ALLISTON, 0.10 km E of CENTRE STREET | Repair abutment and retaining wall | \$7,000 |
| 11005 | 9 | BEATTIE AVENUE | BEATTIE AVENUE, ALLISTON, 0.10 km S of CUNNINGHAM DRIVE | Restore grouted rip-rap slope protection | \$8,000 |
| 12062 | 12 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE, 0.54 km E of 20TH SIDEROAD | Upgrade guide rail end treatments | \$74,000 |
| 12048 | 13 | 4TH LINE, LOT 14, CONC III/IV | 4TH LINE, 1.90 km E of 10TH SIDEROAD | Patch repair barrel and repair guide rail end treatments | \$28,000 |
| 11009 | 14 | INDUSTRIAL PARKWAY/SPRING CREEK | INDUSTRIAL PARKWAY, ALLISTON, 0.51 km S of YOUNG STREET | Patch repair barrel and headwall | \$8,000 |
| 11007 | 15 | EIGHTH AVENUE | EIGHTH AVENUE, ALLISTON, 0.03 km S of TUPPER BOULEVARD | Repair areas of culvert | \$14,000 |
| 12069 | 18 | Boyne Street High Flow Relief Culvert | Boyne Street, Alliston, 0.07 km N of Shephard Avenue | Patch repair soffit | \$8,000 |
| 12061 | 19 | 20TH SIDEROAD, LOT 20/21, CONC IV | 20TH SIDEROAD, 0.60 km N of 4TH LINE | Place rock protection at outlet to repair undermining | \$6,000 |
| 12053 | 21 | ENGLISH DRIVE | ENGLISH DRIVE, BEETON, 0.09 km E of CENTRE STREET NORTH | Upgrade guide rail end treatments | \$74,000 |
| 11008 | 22 | CHURCH STREET SOUTH | CHURCH STREET SOUTH, ALLISTON, 0.27 km N of ALDERSON COURT | Upgrade guide rail end treatments and replace deteriorated wooden guide rail post | \$74,000 |



Table 7 Summary of NOW Guide Rail Requirements

Older structures often lack approach guide rail or incorporate approach guide rail systems with buried or terminal ends that are considered to be deficient relative to current standards for end treatments. Additionally, railing systems on older structures often require augmentation with guide rail type systems installed in front of the railings. There are a total of thirty-eight (38) bridges and six (6) culverts that require guide rail installation, extension or upgrades as identified in **Table 7** at a total cost of **\$3,704,000**.

| Bridge Guide Rail Requirements - 2016 | | | | |
|---------------------------------------|-------------------------------------|---------------------------------------|---|----------------|
| Bridge No. | Bridge Name | Location | Recommended Work | Estimated Cost |
| 12002 | 13TH LINE, LOT 9, CONC XII/XIII | 13TH LINE, 0.90 km W of 10TH SIDEROAD | Upgrade guide rail | \$91,000 |
| 12003 | MAYNARD BRIDGE, LOT 10/11, CONC XII | 10TH SIDEROAD, 0.35 km N of 12TH LINE | Install steel beam guide rail on approaches | \$91,000 |
| 12005 | 12TH LINE, LOT 12, CONC XI/XII | 12TH LINE, 1.10 km E of 10TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12006 | 12TH LINE, LOT 14, CONC XI/XII | 12TH LINE, 2.10 km E of 10TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12007 | 15TH SIDEROAD, LOT 15/16, CONC XI | 15TH SIDEROAD, 0.10 km S of 12TH LINE | Upgrade guide rail end treatments | \$78,000 |
| 12008 | JEBB BRIDGE, LOT 20/21, CONC XII | 20TH SIDEROAD, 0.68 km N of 12TH LINE | Install steel beam guide rail on approaches | \$91,000 |
| 12009 | 13TH LINE, LOT 21, CONC XII/XIII | 13TH LINE, 0.08 km E of 20TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12010 | 20TH SIDEROAD, LOT 20/21, CON XIII | 20TH SIDEROAD, 0.70 km N of 13TH LINE | Install steel beam guide rail on approaches | \$91,000 |
| 12011 | 20TH SIDEROAD, LOT 20/21, CONC XIII | 20TH SIDEROAD, 0.40 km S of 14TH LINE | Install steel beam guide rail on approaches | \$91,000 |
| 12012 | 14TH LINE, LOT 21, CONC XIII/XIV | 14TH LINE, 0.40 km E of 20TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12013 | 11TH LINE, LOT 19, CONC X/XI | 11TH LINE, 0.90 km W of 20TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12014 | 20TH SIDEROAD, LOT 20/21, CONC X | 20TH SIDEROAD, 0.50 km N of 10TH LINE | Install steel beam guide rail on approaches | \$91,000 |
| 12015 | 10TH LINE, LOT 21, CONC IX/X | 10TH LINE, 0.35 km E of 20TH SIDEROAD | Install steel beam guide rails on the bridge approaches continuous with the guide rail on the structure | \$91,000 |
| 12016 | 9TH LINE LOT 21 CONC VIII/IX | 9TH LINE, 0.40 km E of 20TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12018 | 6TH LINE, LOT 22, CONC V/VI | 6TH LINE, 0.75 km E of 20TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12019 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE, 0.10 km E of 20TH SIDEROAD | Install steel beam guide rail over the structure and on the approaches | \$91,000 |



| | | | | |
|----------|--|---|--|----------|
| 12020 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE, 0.30 km E of 20TH SIDEROAD | Install steel beam guide rail over the structure and on the approaches | \$91,000 |
| 12021 | 4TH LINE, LOT 20, CONC III/IV | 4TH LINE, 0.45 km W of 20TH SIDEROAD | Install steel beam guide rail over the structure and on the approaches | \$91,000 |
| 12022 | WEST VARCOE BRIDGE (LOT 16, CONC X/XI) | 11TH LINE, 0.65 km E of 15TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12023 | 10TH LINE, LOT 16, CONC IX/X | 10TH LINE, 0.63 km E of 15TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12024 | 9TH LINE, LOT 16, CONC VIII/IX | 9TH LINE, 0.50 km E of 15TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12025 | EAST VARCOE BRIDGE, LOT 16, CONC X/X1 | 11TH LINE, 0.95 km E of 15TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12026 | BROOM BRIDGE, LOT 18, CONC IX/X | 10TH LINE, 1.20 km E of 15TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12028 | DEADMAN BRIDGE, LOT 10/11, CONC X | 10TH SIDEROAD, 0.40 km N of 10TH LINE | Install steel beam guide rail on approaches | \$91,000 |
| 12029 | McCARRON BRIDGE, LOT 7, CONC IX | 10TH LINE, 1.10 km E of TOTTENHAM ROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12030 | BEDER TURF BRIDGE, LOT 5, CONC IX/X | 10TH LINE, 0.55 km W of TOTTENHAM ROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12032 | STRANGWAYS BRIDGE, LOT 10/11, CONC IX | 10TH SIDEROAD, 0.35 km N of 9TH LINE | Install steel beam guide rail on approaches | \$91,000 |
| 12033 | 9TH LINE, LOT 9, CONC VIII/IX | 9TH LINE, 0.90 km W of 10TH SIDEROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12034(*) | 9TH LINE, LOT 6, CONC VIII/IX | 9TH LINE, 0.15 km E of TOTTENHAM ROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12035 | FISH BRIDGE, LOT 5, CONC VIII/IX | 9TH LINE, 0.50 km W of TOTTENHAM ROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12036 | 7TH LINE, LOT 7, CONC VI/VII | 7TH LINE, 1.10 km E of TOTTENHAM ROAD | Upgrade guide rail end treatments | \$91,000 |
| 12038 | 7TH LINE, LOT 5, CONC VI/VII | 7TH LINE, 0.50 km W of TOTTENHAM ROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12039 | 6TH LINE, LOT 7, CONC V/VI | 6TH LINE, 0.75 km E of TOTTENHAM ROAD | Install steel beam guide rail on approaches | \$91,000 |
| 12043 | 2ND LINE, LOT 5, CONC I/II | 2ND LINE, 0.55 km W of TOTTENHAM ROAD | Install steel beam guide rail over the structure and on the approaches | \$91,000 |
| 12047 | RANSOM BRIDGE | 10TH SIDEROAD, 0.25 km N of 4TH LINE | Install steel beam guide rail over the structure and on the approaches | \$91,000 |
| 12049 | 2ND LINE, LOT 21, CONC I/II | 2ND LINE, 0.40 km E of 20TH SIDEROAD | Repair end treatment | \$12,000 |
| 12050 | 20TH SIDEROAD, LOT 20/21, CONC 1 | 20TH SIDEROAD, 0.30 km N of HIGHWAY 9 | Upgrade guide rail end treatments | \$65,000 |
| 12059 | GILROY BRIDGE, LOT 1, CONC XII | ADJALA-TECUMSETH TOWNLINE, 0.20 km N of 12TH LINE | Install steel beam guide rail on the approaches | \$91,000 |

(*) Structure Ownership other than that of the Town of New Tecumseth



| Culvert Guide Rail Requirements - 2016 | | | | |
|--|-------------------------------|--|---|----------------|
| Culvert No. | Culvert Name | Location | Recommended Work | Estimated Cost |
| 11008 | CHURCH STREET SOUTH | CHURCH STREET SOUTH, ALLISTON, 0.27 km N of ALDERSON COURT | Upgrade guide rail end treatments and replace deteriorated wooden guide rail post | \$65,000 |
| 12017 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE, 1.20 km E of 20TH SIDEROAD | Install steel beam guide rails over the structure and on the approaches | \$91,000 |
| 12048 | 4TH LINE, LOT 14, CONC III/IV | 4TH LINE, 1.90 km E of 10TH SIDEROAD | Repair guide rail end treatments | \$13,000 |
| 12052-1-2 | LILLY STREET EAST | LILLY STREET EAST, BEETON, 0.09 km E of CENTRE STREET | Upgrade guide rail end treatments | \$65,000 |
| 12053 | ENGLISH DRIVE | ENGLISH DRIVE, BEETON, 0.09 km E of CENTRE STREET NORTH | Upgrade guide rail end treatments | \$65,000 |
| 12062 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE, 0.54 km E of 20TH SIDEROAD | Upgrade guide rail end treatments | \$65,000 |

All guide rail requirement costs provided do not include the potential traffic control costs that may be incurred if the guide rail work is undertaken independent of other necessary works.



Table 8 Overall Bridge Inventory

| Overall Bridge Inventory - 2016 | | | |
|---------------------------------|----------|---|--|
| Bridge No. | Priority | Bridge Name | Location |
| 11000 | 59 | VICTORIA STREET PROPOSED GRADE SEPARATION | VICTORIA STREET WEST (#89), 0.05 km W of DUFFERIN STREET |
| 11001 | 11 | CUNNINGHAM BRIDGE | CHURCH STREET NORTH, ALLISTON, 0.13 km N of VICTORIA STREET WEST |
| 11002 | 45 | JJE McCAGUE BRIDGE | BOYNE STREET, ALLISTON, 0.35 km N of VICTORIA STREET EAST |
| 11003 | 58 | SIR FREDRICK BANTING ROAD | SIR FREDRICK BANTING ROAD, ALLISTON, 0.20 km N of VICTORIA STREET EAST |
| 11010 | 43 | SPRING CREEK PEDESTRIAN BRIDGE | ALBERT STREET SCHOOL SITE, ALLISTON, 0.05 km S of ALBERT STREET |
| 11011 | 1 | BOYNE RIVER PEDESTRIAN WALKWAY | DOMINION STREET, ALLISTON, 0.05 km S of FLETCHER CRESCENT |
| 12001 | 9 | 14TH LINE, LOT 9, CONC XIII/XIV | 14TH LINE, 1.50 km E of COUNTY ROAD 10 |
| 12002 | 21 | 13TH LINE, LOT 9, CONC XII/XIII | 13TH LINE, 0.90 km W of 10TH SIDEROAD |
| 12003 | 39 | MAYNARD BRIDGE, LOT 10/11, CONC XII | 10TH SIDEROAD, 0.35 km N of 12TH LINE |
| 12004 | 6 | 12TH LINE, LOT II, CONC XI/XII | 12TH LINE, 0.35 km E of 10TH SIDEROAD |
| 12005 | 22 | 12TH LINE, LOT 12, CONC XI/XII | 12TH LINE, 1.10 km E of 10TH SIDEROAD |
| 12006 | 17 | 12TH LINE, LOT 14, CONC XI/XII | 12TH LINE, 2.10 km E of 10TH SIDEROAD |
| 12007 | 49 | 15TH SIDEROAD, LOT 15/16, CONC XI | 15TH SIDEROAD, 0.10 km S of 12TH LINE |
| 12008 | 35 | JEBB BRIDGE, LOT 20/21, CONC XII | 20TH SIDEROAD, 0.68 km N of 12TH LINE |
| 12009 | 10 | 13TH LINE, LOT 21, CONC XII/XIII | 13TH LINE, 0.08 km E of 20TH SIDEROAD |
| 12010 | 23 | 20TH SIDEROAD, LOT 20/21, CON XIII | 20TH SIDEROAD, 0.70 km N of 13TH LINE |
| 12011 | 53 | 20TH SIDEROAD, LOT 20/21, CONC XIII | 20TH SIDEROAD, 0.40 km S of 14TH LINE |
| 12012 | 20 | 14TH LINE, LOT 21, CONC XIII/XIV | 14TH LINE, 0.40 km E of 20TH SIDEROAD |
| 12013 | 16 | 11TH LINE, LOT 19, CONC X/XI | 11TH LINE, 0.90 km W of 20TH SIDEROAD |
| 12014 | 48 | 20TH SIDEROAD, LOT 20/21, CONC X | 20TH SIDEROAD, 0.50 km N of 10TH LINE |
| 12015 | 13 | 10TH LINE, LOT 21, CONC IX/X | 10TH LINE, 0.35 km E of 20TH SIDEROAD |
| 12016 | 34 | 9TH LINE LOT 21 CONC VIII/IX | 9TH LINE, 0.40 km E of 20TH SIDEROAD |
| 12018 | 19 | 6TH LINE, LOT 22, CONC V/VI | 6TH LINE, 0.75 km E of 20TH SIDEROAD |
| 12019 | 26 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE, 0.10 km E of 20TH SIDEROAD |
| 12020 | 4 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE, 0.30 km E of 20TH SIDEROAD |
| 12021 | 28 | 4TH LINE, LOT 20, CONC III/IV | 4TH LINE, 0.45 km W of 20TH SIDEROAD |
| 12022 | 47 | WEST VARCOE BRIDGE (LOT 16, CONC X/XI) | 11TH LINE, 0.65 km E of 15TH SIDEROAD |



| | | | |
|----------|----|---------------------------------------|---|
| 12023 | 36 | 10TH LINE, LOT 16, CONC IX/X | 10TH LINE, 0.63 km E of 15TH SIDEROAD |
| 12024 | 18 | 9TH LINE, LOT 16, CONC VIII/IX | 9TH LINE, 0.50 km E of 15TH SIDEROAD |
| 12025 | 44 | EAST VARCOE BRIDGE, LOT 16, CONC X/X1 | 11TH LINE, 0.95 km E of 15TH SIDEROAD |
| 12026 | 38 | BROOM BRIDGE, LOT 18, CONC IX/X | 10TH LINE, 1.20 km E of 15TH SIDEROAD |
| 12027 | 56 | 11TH LINE, LOT 15, CONC X/X1 | 11TH LINE, 0.35 km W of 15TH SIDEROAD |
| 12028 | 5 | DEADMAN BRIDGE, LOT 10/11, CONC X | 10TH SIDEROAD, 0.40 km N of 10TH LINE |
| 12029 | 41 | McCARRON BRIDGE, LOT 7, CONC IX | 10TH LINE, 1.10 km E of TOTTENHAM ROAD |
| 12030 | 33 | BEDER TURF BRIDGE, LOT 5, CONC IX/X | 10TH LINE, 0.55 km W of TOTTENHAM ROAD |
| 12031 | 57 | 10TH LINE, LOT 13, CONC IX/X | 10TH LINE, 1.40 km E of 10TH SIDEROAD |
| 12032 | 8 | STRANGWAYS BRIDGE, LOT 10/11, CONC IX | 10TH SIDEROAD, 0.35 km N of 9TH LINE |
| 12033 | 25 | 9TH LINE, LOT 9, CONC VIII/IX | 9TH LINE, 0.90 km W of 10TH SIDEROAD |
| 12034(*) | 12 | 9TH LINE, LOT 6, CONC VIII/IX | 9TH LINE, 0.15 km E of TOTTENHAM ROAD |
| 12035 | 46 | FISH BRIDGE, LOT 5, CONC VIII/IX | 9TH LINE, 0.50 km W of TOTTENHAM ROAD |
| 12036 | 40 | 7TH LINE, LOT 7, CONC VI/VII | 7TH LINE, 1.10 km E of TOTTENHAM ROAD |
| 12037 | 31 | 7TH LINE, LOT 7, CONC VI/VII | 7TH LINE, 0.80 km E of TOTTENHAM ROAD |
| 12038 | 50 | 7TH LINE, LOT 5, CONC VI/VII | 7TH LINE, 0.50 km W of TOTTENHAM ROAD |
| 12039 | 15 | 6TH LINE, LOT 7, CONC V/VI | 6TH LINE, 0.75 km E of TOTTENHAM ROAD |
| 12043 | 14 | 2ND LINE, LOT 5, CONC I/II | 2ND LINE, 0.55 km W of TOTTENHAM ROAD |
| 12044 | 32 | 5TH LINE, LOT 7, CONC IV/V | 5TH LINE, 0.80 km E of TOTTENHAM ROAD |
| 12045 | 29 | 4TH LINE, LOT 7, CONC III/IV | 4TH LINE, 1.10 km E of TOTTENHAM ROAD |
| 12046 | 54 | 4TH LINE, LOT 9, CONC III/IV | 4TH LINE, 0.85 km W of 10TH SIDEROAD |
| 12047 | 37 | RANSOM BRIDGE | 10TH SIDEROAD, 0.25 km N of 4TH LINE |
| 12049 | 30 | 2ND LINE, LOT 21, CONC I/II | 2ND LINE, 0.40 km E of 20TH SIDEROAD |
| 12050 | 42 | 20TH SIDEROAD, LOT 20/21, CONC 1 | 20TH SIDEROAD, 0.30 km N of HIGHWAY 9 |
| 12054 | 27 | CENTRE STREET NORTH | CENTRE STREET NORTH, BEETON, 0.72 km N of MAIN STREET |
| 12056 | 52 | 2ND LINE, LOT 22, CONC I/II | 2ND LINE, 0.80 km E of 20TH SIDEROAD |
| 12057 | 55 | ADJALA-TECUMSETH T/L, LOT 1, CONC IX | ADJALA-TECUMSETH TOWNLINE, 0.30 km N of 9TH LINE |
| 12058 | 51 | ADJALA-TECUMSETH T/L, LOT 1, CONC X | ADJALA-TECUMSETH TOWNLINE, 1.15 km N of 10TH LINE |
| 12059 | 24 | GILROY BRIDGE, LOT 1, CONC XII | ADJALA-TECUMSETH TOWNLINE, 0.20 km N of 12TH LINE |
| 12063 | 3 | BEETON CREEK CROSSING | 9th Line, 0.22KM N OF 9TH LINE |
| 12064 | 7 | BAILEY CREEK BRIDGE | 10th Line, 0.10KM N OF 10TH LINE |



| | | | |
|-------|---|----------------|----------------------------------|
| 12065 | 2 | BEATTIE BRIDGE | 13th Line, 0.20KM S OF 13TH LINE |
|-------|---|----------------|----------------------------------|

Table 9 Overall Bridge Inventory by Priority Ranking

| Overall Bridge Inventory by Priority Ranking - 2016 | | | |
|---|----------|---------------------------------------|--|
| Bridge No. | Priority | Bridge Name | Location |
| 11011 | 1 | BOYNE RIVER PEDESTRIAN WALKWAY | DOMINION STREET, ALLISTON, 0.05 km S of FLETCHER CRESCENT |
| 12065 | 2 | BEATTIE BRIDGE | 13th Line, 0.20KM S OF 13TH LINE |
| 12063 | 3 | BEETON CREEK CROSSING | 9th Line, 0.22KM N OF 9TH LINE |
| 12020 | 4 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE, 0.30 km E of 20TH SIDEROAD |
| 12028 | 5 | DEADMAN BRIDGE, LOT 10/11, CONC X | 10TH SIDEROAD, 0.40 km N of 10TH LINE |
| 12004 | 6 | 12TH LINE, LOT II, CONC XI/XII | 12TH LINE, 0.35 km E of 10TH SIDEROAD |
| 12064 | 7 | BAILEY CREEK BRIDGE | 10th Line, 0.10KM N OF 10TH LINE |
| 12032 | 8 | STRANGWAYS BRIDGE, LOT 10/11, CONC IX | 10TH SIDEROAD, 0.35 km N of 9TH LINE |
| 12001 | 9 | 14TH LINE, LOT 9, CONC XIII/XIV | 14TH LINE, 1.50 km E of COUNTY ROAD 10 |
| 12009 | 10 | 13TH LINE, LOT 21, CONC XII/XIII | 13TH LINE, 0.08 km E of 20TH SIDEROAD |
| 11001 | 11 | CUNNINGHAM BRIDGE | CHURCH STREET NORTH, ALLISTON, 0.13 km N of VICTORIA STREET WEST |
| 12034(*) | 12 | 9TH LINE, LOT 6, CONC VIII/IX | 9TH LINE, 0.15 km E of TOTTENHAM ROAD |
| 12015 | 13 | 10TH LINE, LOT 21, CONC IX/X | 10TH LINE, 0.35 km E of 20TH SIDEROAD |
| 12043 | 14 | 2ND LINE, LOT 5, CONC I/II | 2ND LINE, 0.55 km W of TOTTENHAM ROAD |
| 12039 | 15 | 6TH LINE, LOT 7, CONC V/VI | 6TH LINE, 0.75 km E of TOTTENHAM ROAD |
| 12013 | 16 | 11TH LINE, LOT 19, CONC X/XI | 11TH LINE, 0.90 km W of 20TH SIDEROAD |
| 12006 | 17 | 12TH LINE, LOT 14, CONC XI/XII | 12TH LINE, 2.10 km E of 10TH SIDEROAD |
| 12024 | 18 | 9TH LINE, LOT 16, CONC VIII/IX | 9TH LINE, 0.50 km E of 15TH SIDEROAD |
| 12018 | 19 | 6TH LINE, LOT 22, CONC V/VI | 6TH LINE, 0.75 km E of 20TH SIDEROAD |
| 12012 | 20 | 14TH LINE, LOT 21, CONC XIII/XIV | 14TH LINE, 0.40 km E of 20TH SIDEROAD |
| 12002 | 21 | 13TH LINE, LOT 9, CONC XII/XIII | 13TH LINE, 0.90 km W of 10TH SIDEROAD |
| 12005 | 22 | 12TH LINE, LOT 12, CONC XI/XII | 12TH LINE, 1.10 km E of 10TH SIDEROAD |
| 12010 | 23 | 20TH SIDEROAD, LOT 20/21, CON XIII | 20TH SIDEROAD, 0.70 km N of 13TH LINE |
| 12059 | 24 | GILROY BRIDGE, LOT 1, CONC XII | ADJALA-TECUMSETH TOWNLINE, 0.20 km N of 12TH LINE |
| 12033 | 25 | 9TH LINE, LOT 9, CONC VIII/IX | 9TH LINE, 0.90 km W of 10TH SIDEROAD |



| | | | |
|-------|----|--|---|
| 12019 | 26 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE, 0.10 km E of 20TH SIDEROAD |
| 12054 | 27 | CENTRE STREET NORTH | CENTRE STREET NORTH, BEETON, 0.72 km N of MAIN STREET |
| 12021 | 28 | 4TH LINE, LOT 20, CONC III/IV | 4TH LINE, 0.45 km W of 20TH SIDEROAD |
| 12045 | 29 | 4TH LINE, LOT 7, CONC III/IV | 4TH LINE, 1.10 km E of TOTTENHAM ROAD |
| 12049 | 30 | 2ND LINE, LOT 21, CONC I/II | 2ND LINE, 0.40 km E of 20TH SIDEROAD |
| 12037 | 31 | 7TH LINE, LOT 7, CONC VI/VII | 7TH LINE, 0.80 km E of TOTTENHAM ROAD |
| 12044 | 32 | 5TH LINE, LOT 7, CONC IV/V | 5TH LINE, 0.80 km E of TOTTENHAM ROAD |
| 12030 | 33 | BEDER TURF BRIDGE, LOT 5, CONC IX/X | 10TH LINE, 0.55 km W of TOTTENHAM ROAD |
| 12016 | 34 | 9TH LINE LOT 21 CONC VIII/IX | 9TH LINE, 0.40 km E of 20TH SIDEROAD |
| 12008 | 35 | JEBB BRIDGE, LOT 20/21, CONC XII | 20TH SIDEROAD, 0.68 km N of 12TH LINE |
| 12023 | 36 | 10TH LINE, LOT 16, CONC IX/X | 10TH LINE, 0.63 km E of 15TH SIDEROAD |
| 12047 | 37 | RANSOM BRIDGE | 10TH SIDEROAD, 0.25 km N of 4TH LINE |
| 12026 | 38 | BROOM BRIDGE, LOT 18, CONC IX/X | 10TH LINE, 1.20 km E of 15TH SIDEROAD |
| 12003 | 39 | MAYNARD BRIDGE, LOT 10/11, CONC XII | 10TH SIDEROAD, 0.35 km N of 12TH LINE |
| 12036 | 40 | 7TH LINE, LOT 7, CONC VI/VII | 7TH LINE, 1.10 km E of TOTTENHAM ROAD |
| 12029 | 41 | McCARRON BRIDGE, LOT 7, CONC IX | 10TH LINE, 1.10 km E of TOTTENHAM ROAD |
| 12050 | 42 | 20TH SIDEROAD, LOT 20/21, CONC 1 | 20TH SIDEROAD, 0.30 km N of HIGHWAY 9 |
| 11010 | 43 | SPRING CREEK PEDESTRIAN BRIDGE | ALBERT STREET SCHOOL SITE, ALLISTON, 0.05 km S of ALBERT STREET |
| 12025 | 44 | EAST VARCOE BRIDGE, LOT 16, CONC X/X1 | 11TH LINE, 0.95 km E of 15TH SIDEROAD |
| 11002 | 45 | JJE McCAGUE BRIDGE | BOYNE STREET, ALLISTON, 0.35 km N of VICTORIA STREET EAST |
| 12035 | 46 | FISH BRIDGE, LOT 5, CONC VIII/IX | 9TH LINE, 0.50 km W of TOTTENHAM ROAD |
| 12022 | 47 | WEST VARCOE BRIDGE (LOT 16, CONC X/X1) | 11TH LINE, 0.65 km E of 15TH SIDEROAD |
| 12014 | 48 | 20TH SIDEROAD, LOT 20/21, CONC X | 20TH SIDEROAD, 0.50 km N of 10TH LINE |
| 12007 | 49 | 15TH SIDEROAD, LOT 15/16, CONC XI | 15TH SIDEROAD, 0.10 km S of 12TH LINE |
| 12038 | 50 | 7TH LINE, LOT 5, CONC VI/VII | 7TH LINE, 0.50 km W of TOTTENHAM ROAD |
| 12058 | 51 | ADJALA-TECUMSETH T/L, LOT 1, CONC X | ADJALA-TECUMSETH TOWNLINE, 1.15 km N of 10TH LINE |
| 12056 | 52 | 2ND LINE, LOT 22, CONC I/II | 2ND LINE, 0.80 km E of 20TH SIDEROAD |
| 12011 | 53 | 20TH SIDEROAD, LOT 20/21, CONC XIII | 20TH SIDEROAD, 0.40 km S of 14TH LINE |
| 12046 | 54 | 4TH LINE, LOT 9, CONC III/IV | 4TH LINE, 0.85 km W of 10TH SIDEROAD |
| 12057 | 55 | ADJALA-TECUMSETH T/L, LOT 1, CONC IX | ADJALA-TECUMSETH TOWNLINE, 0.30 km N of 9TH LINE |
| 12027 | 56 | 11TH LINE, LOT 15, CONC X/XI | 11TH LINE, 0.35 km W of 15TH SIDEROAD |



| | | | |
|-------|----|---|--|
| 12031 | 57 | 10TH LINE, LOT 13, CONC IX/X | 10TH LINE, 1.40 km E of 10TH SIDEROAD |
| 11003 | 58 | SIR FREDRICK BANTING ROAD | SIR FREDRICK BANTING ROAD, ALLISTON, 0.20 km N of VICTORIA STREET EAST |
| 11000 | 59 | VICTORIA STREET PROPOSED GRADE SEPARATION | VICTORIA STREET WEST (#89), 0.05 km W of DUFFERIN STREET |

Table 10 Overall Culvert Inventory

| Overall Culvert Inventory - 2016 | | | |
|----------------------------------|----------|-----------------------------------|---|
| Culvert No. | Priority | Culvert Name | Location |
| 11004 | 24 | DUFFERIN STREET SOUTH | DUFFERIN STREET SOUTH, ALLISTON, 0.01 km N of PARSONS ROAD |
| 11005 | 9 | BEATTIE AVENUE | BEATTIE AVENUE, ALLISTON, 0.10 km S of CUNNINGHAM DRIVE |
| 11006 | 6 | KING STREET SOUTH | KING STREET SOUTH, ALLISTON, 0.05 km N of BEATTIE AVENUE |
| 11007 | 15 | EIGHTH AVENUE | EIGHTH AVENUE, ALLISTON, 0.03 km S of TUPPER BOULEVARD |
| 11008 | 22 | CHURCH STREET SOUTH | CHURCH STREET SOUTH, ALLISTON, 0.27 km N of ALDERSON COURT |
| 11009 | 14 | INDUSTRIAL PARKWAY/SPRING CREEK | INDUSTRIAL PARKWAY, ALLISTON, 0.51 km S of YOUNG STREET |
| 11012 | 8 | CPR PEDESTRIAN UNDERPASS | WELLINGTON STREET, ALLISTON, 0.10 km E of CENTRE STREET |
| 12017 | 4 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE, 1.20 km E of 20TH SIDEROAD |
| 12040 | 5 | TECUMSETH HEIGHTS DRIVE | TECUMSETH HEIGHTS DRIVE, 0.12 km S of 6TH LINE |
| 12041 | 3 | MILL STREET WEST | MILL STREET WEST, TOTTENHAM, 0.35 km W of QUEEN STREET |
| 12042 | 2 | 3RD LINE, LOT 4, CONC II/III | 3RD LINE, 0.75 km W of TOTTENHAM ROAD |
| 12048 | 13 | 4TH LINE, LOT 14, CONC III/IV | 4TH LINE, 1.90 km E of 10TH SIDEROAD |
| 12051 | 1 | 17TH SIDEROAD, LOT 17/18, CONC I | 17TH SIDEROAD, 0.07 km S of 2ND LINE |
| 12052-1-2 | 7 | LILLY STREET EAST | LILLY STREET EAST, BEETON, 0.09 km E of CENTRE STREET |
| 12052-2-2 | 20 | LILLY STREET EAST | LILLY STREET EAST, BEETON, 0.09 km E of CENTRE STREET |
| 12053 | 21 | ENGLISH DRIVE | ENGLISH DRIVE, BEETON, 0.09 km E of CENTRE STREET NORTH |
| 12055(*) | 11 | 15TH SIDEROAD, LOT 15/16, CONC V | 15TH SIDEROAD, 0.50 km N of 5TH LINE |
| 12060(*) | 10 | 15TH SIDEROAD, LOT 15/16, CONC I | 15TH SIDEROAD, 0.30 km N of HIGHWAY 9 |
| 12061 | 19 | 20TH SIDEROAD, LOT 20/21, CONC IV | 20TH SIDEROAD, 0.60 km N of 4TH LINE |
| 12062 | 12 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE, 0.54 km E of 20TH SIDEROAD |
| 12066 | 23 | PARSONS ROAD CULVERT | PARSONS ROAD, ALLISTON, 0.1 km S of ALBERT STREET |
| 12067 | 16 | 10 th SIDEROAD CULVERT | 10 th SIDEROAD, 0.27 km N of 14 th LINE |
| 12068 | 17 | BOYNE STREET CULVERT | BOYNE STREET, 0.06 km N of SHEPHARD AVENUE |



| | | | |
|-------|----|---------------------------------------|--|
| 12069 | 18 | BOYNE STREET HIGH FLOW RELIEF CULVERT | BOYNE STREET, 0.07 km N of SHEPHARD AVENUE |
|-------|----|---------------------------------------|--|

Table 11 Overall Culvert Inventory by Priority Ranking

| Overall Culvert Inventory by Priority Ranking - 2016 | | | |
|--|----------|---------------------------------------|---|
| Culvert No. | Priority | Culvert Name | Location |
| 12051 | 1 | 17TH SIDEROAD, LOT 17/18, CONC I | 17TH SIDEROAD, 0.07 km S of 2ND LINE |
| 12042 | 2 | 3RD LINE, LOT 4, CONC II/III | 3RD LINE, 0.75 km W of TOTTENHAM ROAD |
| 12041 | 3 | MILL STREET WEST | MILL STREET WEST, TOTTENHAM, 0.35 km W of QUEEN STREET |
| 12017 | 4 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE, 1.20 km E of 20TH SIDEROAD |
| 12040 | 5 | TECUMSETH HEIGHTS DRIVE | TECUMSETH HEIGHTS DRIVE, 0.12 km S of 6TH LINE |
| 11006 | 6 | KING STREET SOUTH | KING STREET SOUTH, ALLISTON, 0.05 km N of BEATTIE AVENUE |
| 12052-1-2 | 7 | LILLY STREET EAST | LILLY STREET EAST, BEETON, 0.09 km E of CENTRE STREET |
| 11012 | 8 | CPR PEDESTRIAN UNDERPASS | WELLINGTON STREET, ALLISTON, 0.10 km E of CENTRE STREET |
| 11005 | 9 | BEATTIE AVENUE | BEATTIE AVENUE, ALLISTON, 0.10 km S of CUNNINGHAM DRIVE |
| 12060(*) | 10 | 15TH SIDEROAD, LOT 15/16, CONC I | 15TH SIDEROAD, 0.30 km N of HIGHWAY 9 |
| 12055(*) | 11 | 15TH SIDEROAD, LOT 15/16, CONC V | 15TH SIDEROAD, 0.50 km N of 5TH LINE |
| 12062 | 12 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE, 0.54 km E of 20TH SIDEROAD |
| 12048 | 13 | 4TH LINE, LOT 14, CONC III/IV | 4TH LINE, 1.90 km E of 10TH SIDEROAD |
| 11009 | 14 | INDUSTRIAL PARKWAY/SPRING CREEK | INDUSTRIAL PARKWAY, ALLISTON, 0.51 km S of YOUNG STREET |
| 11007 | 15 | EIGHTH AVENUE | EIGHTH AVENUE, ALLISTON, 0.03 km S of TUPPER BOULEVARD |
| 12067 | 16 | 10 th SIDEROAD CULVERT | 10 th SIDEROAD, 0.27 km N of 14 th LINE |
| 12068 | 17 | BOYNE STREET CULVERT | BOYNE STREET, 0.06 km N of SHEPHARD AVENUE |
| 12069 | 18 | BOYNE STREET HIGH FLOW RELIEF CULVERT | BOYNE STREET, 0.07 km N of SHEPHARD AVENUE |
| 12061 | 19 | 20TH SIDEROAD, LOT 20/21, CONC IV | 20TH SIDEROAD, 0.60 km N of 4TH LINE |
| 12052-2-2 | 20 | LILLY STREET EAST | LILLY STREET EAST, BEETON, 0.09 km E of CENTRE STREET |
| 12053 | 21 | ENGLISH DRIVE | ENGLISH DRIVE, BEETON, 0.09 km E of CENTRE STREET NORTH |
| 11008 | 22 | CHURCH STREET SOUTH | CHURCH STREET SOUTH, ALLISTON, 0.27 km N of ALDERSON COURT |
| 12066 | 23 | PARSONS ROAD CULVERT | PARSONS ROAD, ALLISTON, 0.1 km S of ALBERT STREET |
| 11004 | 24 | DUFFERIN STREET SOUTH | DUFFERIN STREET SOUTH, ALLISTON, 0.01 km N of PARSONS ROAD |



Table 12 Non-Owned Structures within the Town of New Tecumseth

| Non-Owned Structures - 2016 | | | |
|-----------------------------|--------------------------|----------------------------------|---------------------------------------|
| Structure No. | Owner | Culvert Name | Location |
| 12034(*) | Canadian Pacific Railway | 9TH LINE, LOT 6, CONC VIII/IX | 9TH LINE, 0.15 km E of TOTTENHAM ROAD |
| 12055(*) | County of Simcoe | 15TH SIDEROAD, LOT 15/16, CONC I | 15TH SIDEROAD, 0.30 km N of HIGHWAY 9 |
| 12060(*) | County of Simcoe | 15TH SIDEROAD, LOT 15/16, CONC V | 15TH SIDEROAD, 0.50 km N of 5TH LINE |

(*) Structure Ownership other than that of the Town of New Tecumseth



4.6 Monitoring

Bridge No. 12063 & 12065 will require on-going monitoring to ensure safety and serviceability as shown in **Table 9**. Monitoring is to be completed by the Town. If a change in the existing condition is identified a structural engineer should be notified.

Table 13 Monitoring

| Monitoring | | |
|---------------|---|--|
| Structure No. | Location | Monitoring Requirements |
| 12063 | BEETON CREEK CROSSING, 9th Line, 0.22 km N OF 9TH LINE | Monitor piers and abutments every 3 months |
| 12065 | BEATTIE BRIDGE, 13 TH LINE, 0.20 km S OF 13TH LINE | Monitor piers and abutments every 3 months |

5. Structure Inventory and Construction Needs Summary

Tables 14 and 15 which follow provide a summary of the total structure construction and rehabilitation needs resultant from the 2016 Structure Inspections. For the ten year period, the Adjusted for Owners Share rehabilitation needs are estimated to be **\$27,761,650** for the existing Town's structure system. Of this total cost **\$19,108,650** are for NOW needs, **\$7,630,000** are for structure 1-5 year needs and **\$1,023,000** are for the 6-10 year needs.

Table 14 Bridge Improvement Needs Summary

| Not Adjusted for Owners Share (\$) | | | | |
|------------------------------------|----------------------|----------------------|-------------------|----------------------|
| | NOW | 1-5 | 6-10 | Total |
| Const | 11,732,000.00 | 4,259,000.00 | 0.00 | 15,991,000.00 |
| Const Extra | 4,224,000.00 | 2,731,000.00 | 0.00 | 6,955,000.00 |
| Inspection | 235,000.00 | 217,000.00 | 20,000.00 | 472,000.00 |
| Rehab | 3,713,000.00 | 3,794,000.00 | 682,000.00 | 8,189,000.00 |
| Rehab Extra | 501,000.00 | 1,799,000.00 | 163,000.00 | 2,463,000.00 |
| Total | 20,405,000.00 | 12,800,000.00 | 865,000.00 | 34,070,000.00 |

| Adjusted for Owners Share (\$) | | | | |
|--------------------------------|----------------------|---------------------|-------------------|----------------------|
| | NOW | 1-5 | 6-10 | Total |
| Const | 10,659,500.00 | 1,594,000.00 | 0.00 | 12,253,500.00 |
| Const Extra | 3,690,150.00 | 226,000.00 | 0.00 | 3,916,150.00 |
| Inspection | 226,000.00 | 217,000.00 | 20,000.00 | 463,000.00 |
| Rehab | 3,622,000.00 | 3,794,000.00 | 682,000.00 | 8,098,000.00 |
| Rehab Extra | 493,000.00 | 1,799,000.00 | 163,000.00 | 2,455,000.00 |
| Total | 18,690,650.00 | 7,630,000.00 | 865,000.00 | 27,185,650.00 |

Bridge No. 12037 – 7th Line, Lot 7, Conc VI/VII located 0.8 km E of Tottenham Road, constructed in 1930 carries 7th Line under the CPR railway mileage marker 38.01. The bridge is assumed to have shared ownership with the Canadian Pacific Railway (assumed 85% New Tecumseth ownership, 15% CPR ownership). Culvert No. 12055 and



12060 along 15th Sideroad have been assumed by the County of Simcoe and Bridge No. 12034 (9th Line Wooden Bridge) is currently owned by the CPR (assumed 0% New Tecumseth ownership). The appraisals for these structures include improvement needs and all associated costs and the rationale for those assumptions. The structures assumed to have shared or 0% ownership have been detailed in **Table 14 & 15 – Adjusted for Owner Share**.

Table 15 Culvert Improvement Needs Summary

| Not Adjusted for Owners Share (\$) | | | | |
|------------------------------------|-------------------|-------------|-------------------|-------------------|
| | NOW | 1-5 | 6-10 | Total |
| Const | 0.00 | 0.00 | 0.00 | 0.00 |
| Const Extra | 0.00 | 0.00 | 0.00 | 0.00 |
| Inspection | 0.00 | 0.00 | 0.00 | 0.00 |
| Rehab | 364,000.00 | 0.00 | 140,000.00 | 504,000.00 |
| Rehab Extra | 54,000.00 | 0.00 | 18,000.00 | 72,000.00 |
| Total | 418,000.00 | 0.00 | 158,000.00 | 576,000.00 |

| Adjusted for Owners Share (\$) | | | | |
|--------------------------------|-------------------|-------------|-------------------|-------------------|
| | NOW | 1-5 | 6-10 | Total |
| Const | 0.00 | 0.00 | 0.00 | 0.00 |
| Const Extra | 0.00 | 0.00 | 0.00 | 0.00 |
| Inspection | 0.00 | 0.00 | 0.00 | 0.00 |
| Rehab | 364,000.00 | 0.00 | 140,000.00 | 504,000.00 |
| Rehab Extra | 54,000.00 | 0.00 | 18,000.00 | 72,000.00 |
| Total | 418,000.00 | 0.00 | 158,000.00 | 576,000.00 |

5.1 Structure Inventory Replacement Value

Table 16 (below) provides a conservative estimate of current replacement value on a per structure basis. The Current Replacement Value (CRV) is the estimated in-kind replacement cost of each structure. The construction cost of a structure is primarily a function of the size of the structure measured in terms of its span and width and represented by the total deck area (plan area = length x span for culverts). As such, the basic construction cost of the structure is established using the dimensions of the bridge or culvert and a \$/m² of deck area/plan area unit cost. Current Replacement Value Factors are summarized in **Section 4** of this report.

Table 16 Structure Replacement Value

| Structure Type | Range of Replacement Values | Average Replacement Value |
|----------------|-----------------------------|---------------------------|
| Bridge | \$316,363 - \$2,014,338 | \$741,382 |
| Culvert | \$268,369 - \$894,495 | \$503,467 |



6. Normal Structure Maintenance

A summary of normal structure maintenance for all bridge and culvert structures has been presented in **Table 17** (below) as a result of the 2016 inspections.

Table 17 Normal Structure Maintenance Summary

| Bridge Maintenance | | |
|--------------------|---|--|
| Bridge No. | Location | Maintenance Requirements |
| 11002 | JJE McCAGUE BRIDGE, BOYNE STREET, ALLISTON, 0.35 km N of VICTORIA STREET EAST | Replace junction box cover plates and patch wearing surface |
| 11003 | SIR FREDRICK BANTING ROAD, SIR FREDRICK BANTING ROAD, ALLISTON, 0.20 km N of VICTORIA STREET EAST | Pad approach sidewalks |
| 11010 | SPRING CREEK PEDESTRIAN BRIDGE, ALBERT STREET SCHOOL SITE, ALLISTON, 0.05 km S of ALBERT STREET | Replace broken longitudinal brace on west side and level approach |
| 11011 | BOYNE RIVER PEDESTRIAN WALKWAY, DOMINION STREET, ALLISTON, 0.05 km S of FLETCHER CRESCENT | Replace missing bolt and railing fasteners and repair handrails. |
| 12006 | 12TH LINE, LOT 14, CONC XI/XII, 12TH LINE, 2.10 km E of 10TH SIDEROAD | Replace broken cross brace and clean channel |
| 12007 | 15TH SIDEROAD, LOT 15/16, CONC XI, 15TH SIDEROAD, 0.10 km S of 12TH LINE | Pad approaches and replace worn deck boards |
| 12009 | 13TH LINE, LOT 21, CONC XII/XIII, 13TH LINE, 0.08 km E of 20TH SIDEROAD | Patch potholes, unplug deck drains and remove beaver dam |
| 12010 | 20TH SIDEROAD, LOT 20/21, CONC XIII, 20TH SIDEROAD, 0.70 km N of 13TH LINE | Remove beaver dam, tree from watercourse and regrade approaches |
| 12011 | 20TH SIDEROAD, LOT 20/21, CONC XIII, 20TH SIDEROAD, 0.40 km S of 14TH LINE | Unplug deck drains and remove beaver dam |
| 12012 | 14TH LINE, LOT 21, CONC XIII/XIV, 14TH LINE, 0.40 km E of 20TH SIDEROAD | Unplug deck drains |
| 12013 | 11TH LINE, LOT 19, CONC X/XI, 11TH LINE, 0.90 km W of 20TH SIDEROAD | Clear deck drains and patch asphalt deck |
| 12014 | 20TH SIDEROAD, LOT 20/21, CONC X, 20TH SIDEROAD, 0.50 km N of 10TH LINE | Clean deck drains |
| 12015 | 10TH LINE, LOT 21, CONC IX/X, 10TH LINE, 0.35 km E of 20TH SIDEROAD | Clean deck drains, remove beaver dam and repair hazard markers |
| 12016 | 9TH LINE LOT 21 CONC VIII/IX, 9TH LINE, 0.40 km E of 20TH SIDEROAD | Clear deck drains, remove vegetation and repair hazard markers |
| 12018 | 6TH LINE, LOT 22, CONC V/VI, 6TH LINE, 0.75 km E of 20TH SIDEROAD | Repair hazard markers |
| 12022 | WEST VARCOE BRIDGE (LOT 16, CONC X/XI), 11TH LINE, 0.65 km E of 15TH SIDEROAD | Repair surface treatment and pad approaches |
| 12023 | 10TH LINE, LOT 16, CONC IX/X, 10TH LINE, 0.63 km E of 15TH SIDEROAD | Clean deck drains |
| 12024 | 9TH LINE, LOT 16, CONC VIII/IX, 9TH LINE, 0.50 km E of 15TH SIDEROAD | Clean deck drains |
| 12025 | EAST VARCOE BRIDGE, LOT 16, CONC X/X1, 11TH LINE, 0.95 km E of 15TH SIDEROAD | Patch wearing surface |
| 12027 | 11TH LINE, LOT 15, CONC X/XI, 11TH LINE, 0.35 km W of 15TH SIDEROAD | Repair steel beam guide rail |
| 12031 | 10TH LINE, LOT 13, CONC IX/X, 10TH LINE, 1.40 km E of 10TH SIDEROAD | Provide form and fill groove seal at end of approach slabs |
| 12032 | STRANGWAYS BRIDGE, LOT 10/11, CONC IX, 10TH SIDEROAD, 0.35 km N of 9TH LINE | Remove trees from under structure, remove beaver dam and replace deteriorated timber guide posts |
| 12033 | 9TH LINE, LOT 9, CONC VIII/IX, 9TH LINE, 0.90 km W of 10TH SIDEROAD | Clean out debris from deck drains |



| | | |
|----------|--|---|
| 12034(*) | 9TH LINE, LOT 6, CONC VIII/IX, 9TH LINE, 0.15 km E of TOTTENHAM ROAD | Repair/replace damaged hazard markers and repair/replace deck bolts and loose members |
| 12035 | FISH BRIDGE, LOT 5, CONC VIII/IX, 9TH LINE, 0.50 km W of TOTTENHAM ROAD | Patch wearing surface and repair hazard markers |
| 12036 | 7TH LINE, LOT 7, CONC VI/VII, 7TH LINE, 1.10 km E of TOTTENHAM ROAD | Restore roadway embankment and attach guide rail to structure |
| 12038 | 7TH LINE, LOT 5, CONC VI/VII, 7TH LINE, 0.50 km W of TOTTENHAM ROAD | Seal cracks in approaches |
| 12039 | 6TH LINE, LOT 7, CONC V/VI, 6TH LINE, 0.75 km E of TOTTENHAM ROAD | Repair hazard marker, patch wearing surface and remove vegetation from hand railing |
| 12044 | 5TH LINE, LOT 7, CONC IV/V, 5TH LINE, 0.80 km E of TOTTENHAM ROAD | Remove beaver dam from watercourse. |
| 12049 | 2ND LINE, LOT 21, CONC I/II, 2ND LINE, 0.40 km E of 20TH SIDEROAD | Restore hazard marker, remove sand and vegetation from deck top |
| 12050 | 20TH SIDEROAD, LOT 20/21, CONC 1, 20TH SIDEROAD, 0.30 km N of HIGHWAY 9 | Clean deck expansion joints and replace missing asphalt deck drain |
| 12057 | ADJALA-TECUMSETH T/L, LOT 1, CONC IX, ADJALA-TECUMSETH TOWNLINE, 0.30 km N of 9TH LINE | Repair East handrail |

| Culvert Maintenance | | |
|---------------------|--|--|
| Culvert No. | Location | Maintenance Requirements |
| 11004 | DUFFERIN STREET SOUTH, DUFFERIN STREET SOUTH, ALLISTON, 0.01 km N of PARSONS ROAD | Reattach extruder loader end treatment in the northwest quadrant |
| 11005 | BEATTIE AVENUE, BEATTIE AVENUE, ALLISTON, 0.10 km S of CUNNINGHAM DRIVE | Replace broken and deteriorated guide rail posts. |
| 11009 | INDUSTRIAL PARKWAY/SPRING CREEK, INDUSTRIAL PARKWAY, ALLISTON, 0.51 km S of YOUNG STREET | Patch pothole in sidewalk |
| 12040 | TECUMSETH HEIGHTS DRIVE, TECUMSETH HEIGHTS DRIVE, 0.12 km S of 6TH LINE | Replace wooden posts as required and reattach cables and tighten |
| 12041 | MILL STREET WEST, MILL STREET WEST, TOTTENHAM, 0.35 km W of QUEEN STREET | Repair sidewalks |
| 12051 | 17TH SIDEROAD, LOT 17/18, CONC I, 17TH SIDEROAD, 0.07 km S of 2ND LINE | Tighten loose cables, replace deteriorated/broken guide rail posts and extend guide rail cable |
| 12053 | ENGLISH DRIVE, ENGLISH DRIVE, BEETON, 0.09 km E of CENTRE STREET NORTH | Replace broken wood post on sidewalk guide rail and repair chain link fence |
| 12055(*) | 15TH SIDEROAD, LOT 15/16, CONC V, 15TH SIDEROAD, 0.50 km N of 5TH LINE | Repair hazard markers |
| 12062 | 7TH LINE, LOT 22, CONC VI/VII, 7TH LINE, 0.54 km E of 20TH SIDEROAD | Re-instate hazard markers |
| 12066 | Parsons Road Culvert, Parsons Road, Alliston, 0.1 km S of Albert Street | Tighten cable guide rail |



7. Recommended Program Funding Levels

Recommended program funding level calculations are typically based on the length of or number of the infrastructure types and average widths of same within the database.

It should be noted that the budgetary recommendations in this report do not include items in the budget related to development and growth. Those items are in addition to the recommendations in this report and should require another funding source.

7.1 Capital Replacements

Recommended funding for the structures inventory would include sufficient capital expenditures that would allow the replacement of infrastructure as it meets its design life.

For new structures, the design lifespan is now 75 years; however, structures constructed prior to 2000 were generally designed for a 50 year lifespan. Accordingly between 1.5% and 2.0% of the value of the entire structure inventory should be expended annually to ensure that the structure inventory can be maintained in perpetuity. It is noted that as the structures are replaced, the annual allocation could be reduced to 1.5%.

The average age of the Town's bridge structures is **58.5** years; the average age of the culvert structures is **33.7** years.

Based on the aforementioned and the data shown in **Section 4** of this report, the estimated minimum annual capital program for structures should be in the amount of **\$960,000** per year for the Town of New Tecumseth to maintain the current system adequacy. However, given the average age of the Town's structures inventory, it is quite probable that expenditures on structures will be even higher than estimated over the next decade as the older structures reach a terminal condition.

7.2 Major Maintenance

Rehabilitation and replacement recommendations are provided within this report (**see section 4**). The costs associated within these recommendations should be budgeted above and beyond the recommended replacement budget suggested in **Section 7.1** to maximize the service life of the structures.

8. Conclusions

Completion of the 2016 re-inspection of the eighty-three (83) bridge and culvert structures on the Town's road system has resulted in reliable and current data being available to the Town to implement a maintenance program ensuring the Town's structures are kept safe and in good repair.

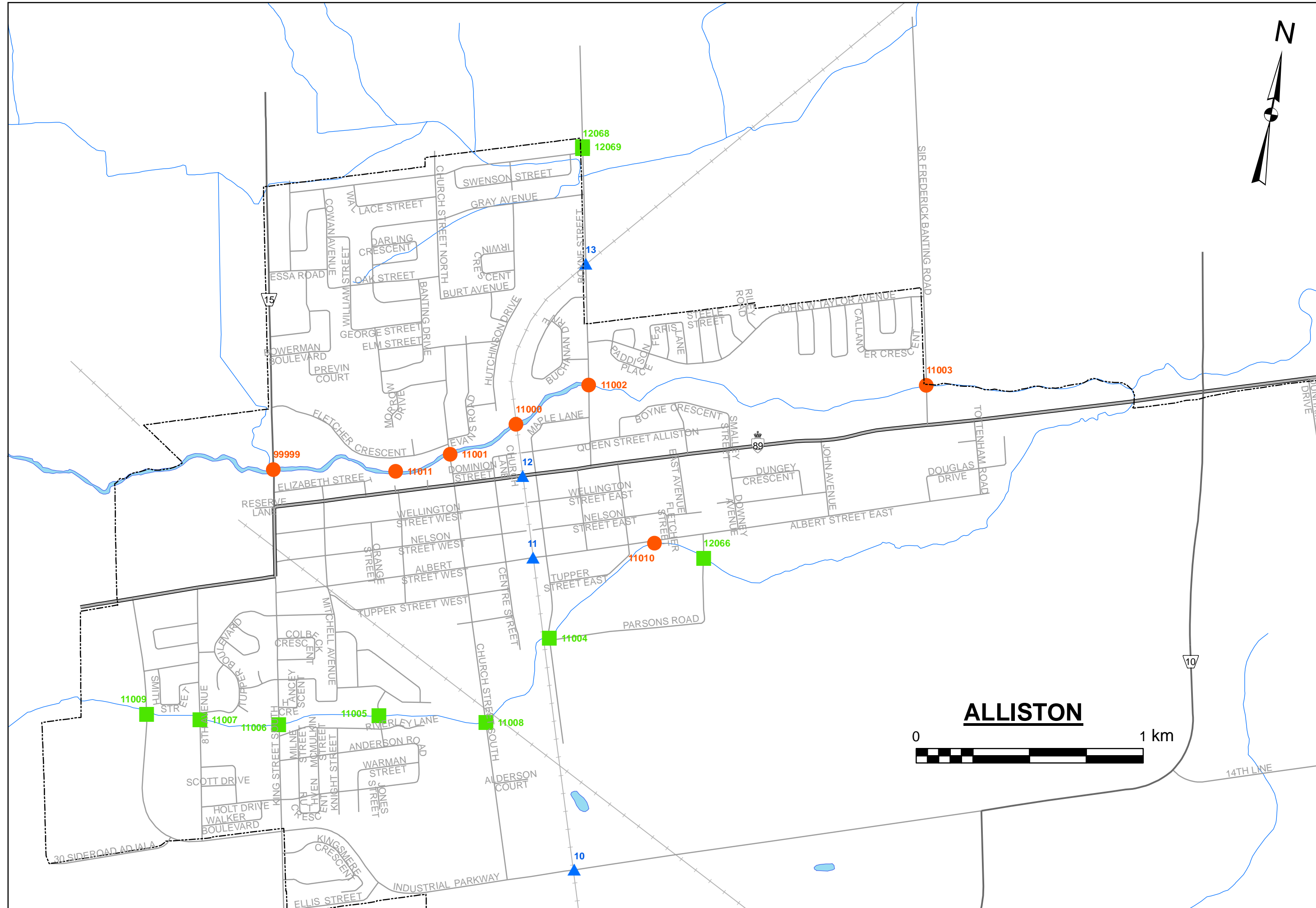
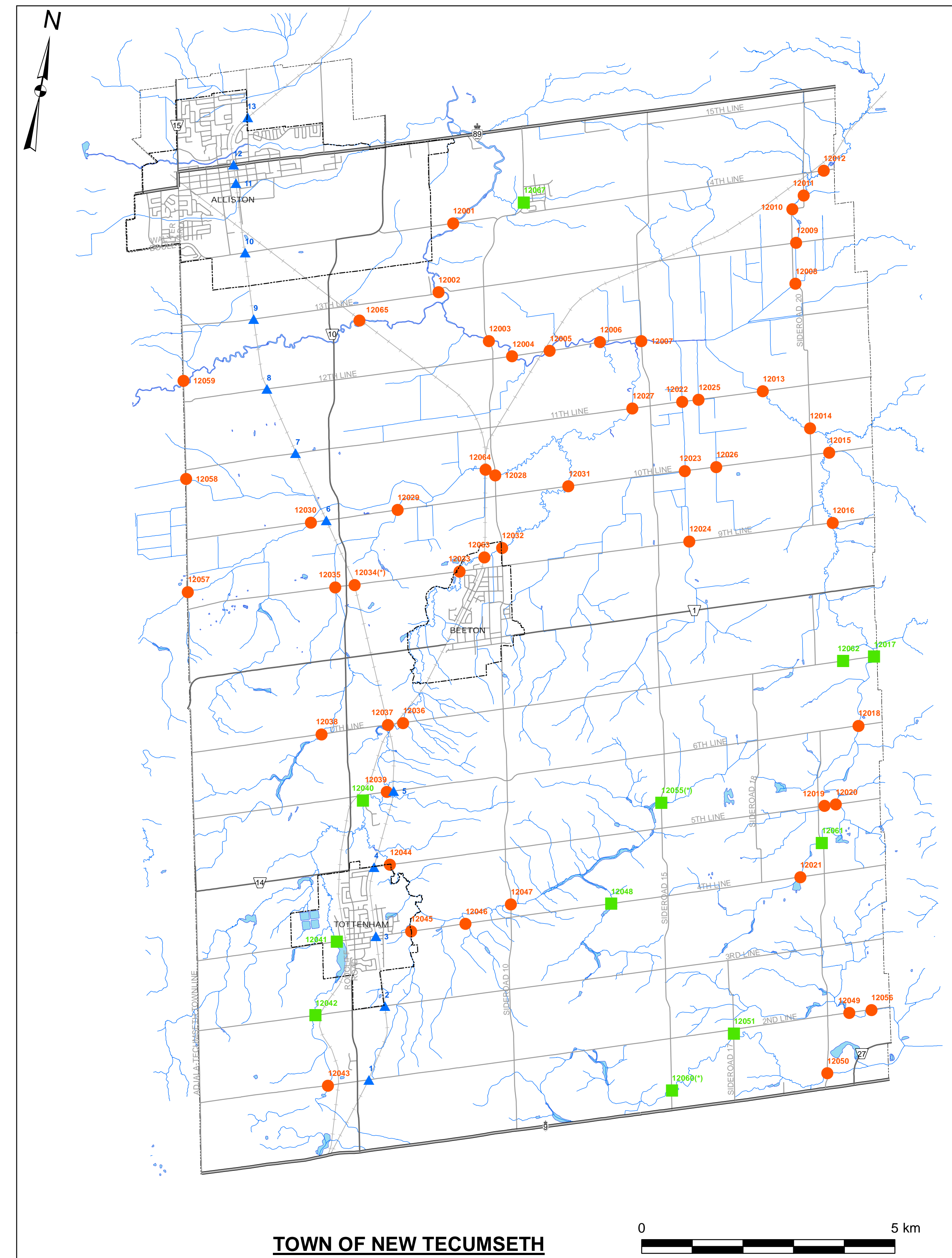
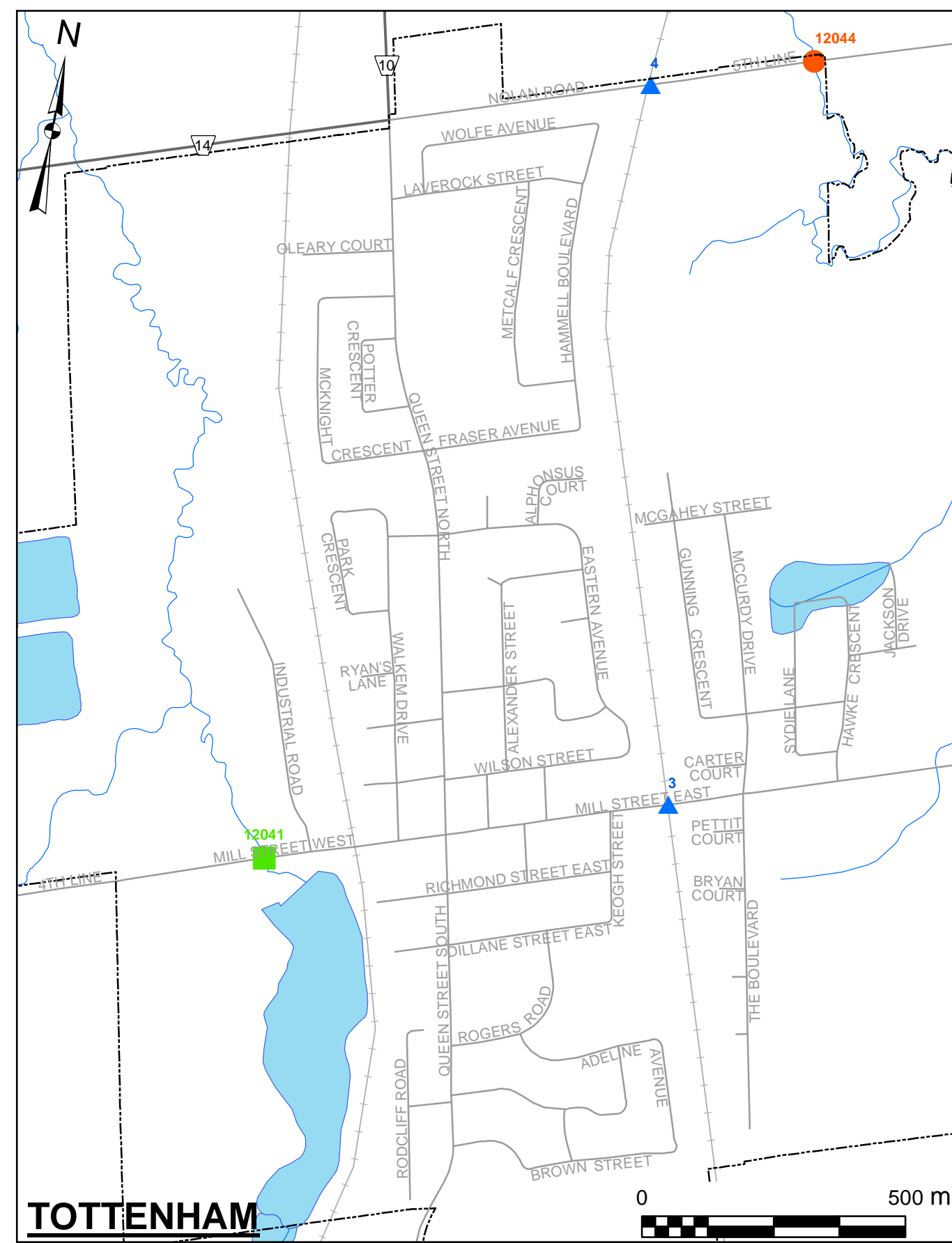
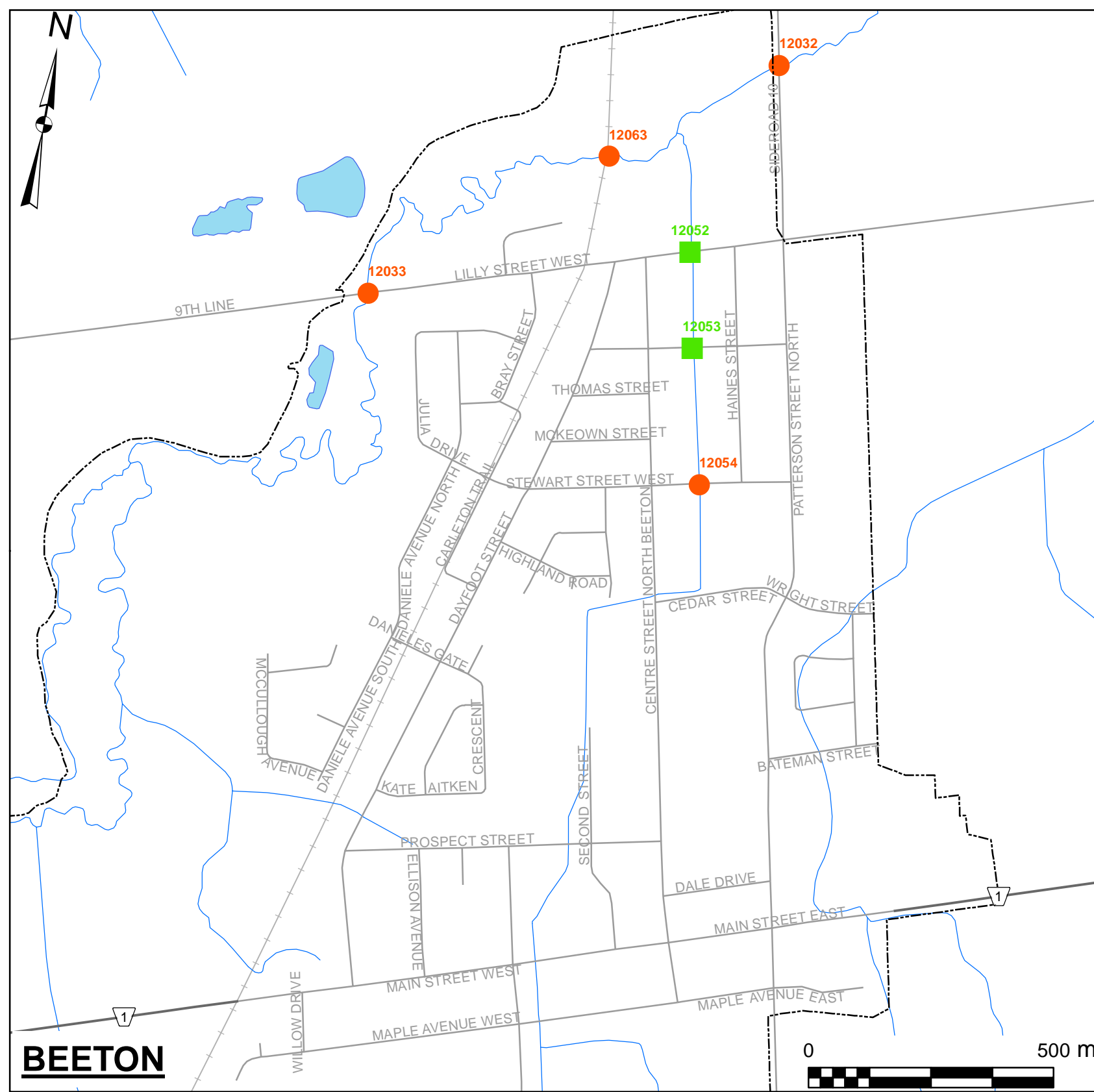
Maintenance of the Bridge and Culvert Management Program will require updating of the database on an on-going annual basis to reflect previous year rehabilitation/replacement project updates. It is recommended that the structures be re-inspected by a qualified structure engineer every two (2) years.

We trust that the foregoing will assist you in implementing a cost effective structure maintenance, repair and replacement program.



Appendix A

Key Plans



TOWN OF NEW TECUMSETH 2016 STRUCTURE INSPECTIONS

APPENDIX A - KEY PLAN

| LEGEND | |
|---------------------------------|----------------------|
| — PROVINCIAL HIGHWAY STRUCTURES | ● BRIDGE |
| — COUNTY ROAD | ■ CULVERT |
| — LOCAL ROAD | ▲ RAIL LINE CROSSING |
| (*) Non-Owned Town Structure | |



Appendix B

Bridge Improvement Needs

Town of New Tecumseth Bridge Improvement Needs

Data Last Refreshed October 28, 2016
10:46:35AM

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|-----------------------------------|------------------------------|-----------------------------------|--------------------------------|---------------------|-----|-----|------------------|--------------------|-----------------------|----------------------|------------------------------------|-----------------------------|--------|-----|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 11011 | 1.00 | BOYNE RIVER PEDESTRIAN WALKWAY | DOMINION STREET, ALLISTON | 0.05 km S of FLETCHER CRESCENT | 1974 1974 | 0 | 0 | 0 | O-WAT, Over | 1 | 30.40 | 1.80 | DCS 10,000 | Rehab | TJR | NOW | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 1,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 21,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | EIR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 65,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab | WSR | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 4,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 109,000 |
| Total Cost | | | 130,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 130,000 | | | | | | | | | | | | | | |
| 12065 | 2.00 | BEATTIE BRIDGE | 13th Line | 0.20KM S OF 13TH LINE | 1930 1930 | 0 | 0 | 0 | O-WAT, Over | 07 | 40.00 | 4.10 | ENV 50,000 | Rehab | RSB | NOW | 59,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 2,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | NOW | 13,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 74,000 |
| | | | | | | | | | | | | | | Total Cost | | | 74,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 74,000 | | | | | | | | | | | | | | |
| 12063 | 3.00 | BEETON CREEK CROSSING | 9th Line | 0.22KM N OF 9TH LINE | 1930 1930 | 0 | 0 | 0 | O-WAT, Over | 06 | 32.00 | 4.10 | ENV 50,000 | Rehab | RSB | NOW | 111,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | NOW | 13,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 128,000 |
| | | | | | | | | | | | | | | Total Cost | | | 128,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 128,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|-----------------------------------|----------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|-------------------------------|-----------------------------|--------|-----|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12020 | 4.00 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE | 0.30 km E of 20TH SIDEROAD | 1945 1945 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.40 | 9.80 | DCS 10,000 RRA 5,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab | RIR | NOW | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 115,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 39,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 2,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 54,000 |
| | | | | | | | | | | | | | | Total Cost | | | 169,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 169,000 | | | | | | | | | | | | | | |
| 12028 | 5.00 | DEADMAN BRIDGE, LOT 10/11, CONC X | 10TH SIDEROAD | 0.40 km N of 10TH LINE | 1968 1968 | 0 | 0 | 0 | O-WAT, Over | 1 | 17.10 | 10.40 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 98,000 |
| | | | | | | | | | | | | | | Rehab | CDR | 1-5 | 156,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 33,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 39,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab | TJR | 1-5 | 86,000 |
| | | | | | | | | | | | | | | Rehab Extra | brAPP | 1-5 | 72,000 |
| | | | | | | | | | | | | | | Rehab Extra | brENV | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 26,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 130,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 595,000 |
| | | | | | | | | | | | | | | Total Cost | | | 693,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 693,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|--------------------------------|-----------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|------------|------------------|-----------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12004 | 6.00 | 12TH LINE, LOT II, CONC XI/XII | 12TH LINE | 0.35 km E of 10TH SIDEROAD | 1945 1945 | 0 | 0 | 0 | O-WAT, Over | 3 | 24.90 | 7.40 | | Const | REB | 1-5 | 138,000 |
| | | | | | | | | | | | | | | Const | RSL | 1-5 | 1,456,000 |
| | | | | | | | | | | | | | | Const Extra | bcApp | 1-5 | 65,000 |
| | | | | | | | | | | | | | | Const Extra | bcENV | 1-5 | 50,000 |
| | | | | | | | | | | | | | | Const Extra | bcMB | 1-5 | 104,000 |
| | | | | | | | | | | | | | | Const Extra | bcTCP | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Total Cost | 1-5 | 1,820,000 | |
| Total Cost | | | | | | | | | | | | | 1,820,000 | | | | |
| Municipal % | | | | | | | | | | | | | 100 | | | | |
| MunicipalCost | | | | | | | | | | | | | 1,820,000 | | | | |
| 12064 | 7.00 | BAILEY CREEK BRIDGE | 10th Line | 0.10KM N OF 10TH LINE | 1930 1930 | 0 | 0 | 0 | O-WAT, Over | 05 | 27.00 | 4.10 | ENV 50,000 | Rehab | RSB | 1-5 | 65,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 2,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Total Cost | 1-5 | 80,000 | |
| | | | | | | | | | | | | | | Total Cost | | | |
| Municipal % | | | | | | | | | | | | | 100 | | | | |
| MunicipalCost | | | | | | | | | | | | | 80,000 | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|---------------------------------------|------------------|-----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|-----|------------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12032 | 8.00 | STRANGWAYS BRIDGE, LOT 10/11, CONC IX | 10TH SIDEROAD | 0.35 km N of 9TH LINE | 1968 1968 | 0 | 0 | 0 | O-WAT, Over | 1 | 21.90 | 10.20 | DCS 20,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | CDR | 1-5 | 191,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 52,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 52,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab | TJR | 1-5 | 126,000 |
| | | | | | | | | | | | | | | Rehab | WAP | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brAPP | 1-5 | 72,000 |
| | | | | | | | | | | | | | | Rehab Extra | brENV | 1-5 | 26,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 30,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 130,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 65,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 784,000 |
| Total Cost | | | 886,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 886,000 | | | | | | | | | | | | | | |
| 12001 | 9.00 | 14TH LINE, LOT 9, CONC XIII/XIV | 14TH LINE | 1.50 km E of COUNTY ROAD 10 | 1940 1940 | 15 | 0 | 0 | O-WAT, Over | 3 | 38.40 | 7.20 | | Const | REB | NOW | 260,000 |
| | | | | | | | | | | | | | | Const | RSL | NOW | 3,094,000 |
| | | | | | | | | | | | | | | Const Extra | bcApp | NOW | 143,000 |
| | | | | | | | | | | | | | | Const Extra | bcDET | NOW | 13,000 |
| | | | | | | | | | | | | | | Const Extra | bcENV | NOW | 50,000 |
| | | | | | | | | | | | | | | Const Extra | bcMB | NOW | 130,000 |
| | | | | | | | | | | | | | | Const Extra | bcUTI | NOW | 33,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 3,723,000 |
| | | | | | | | | | | | | | | Total Cost | | | 3,723,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 3,723,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|-----------------------|----------|----------------------------------|-------------------------------|-----------------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|-----|------------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12009 | 10.00 | 13TH LINE, LOT 21, CONC XII/XIII | 13TH LINE | 0.08 km E of 20TH SIDEROAD | 1962 1962 | 0 | 0 | 0 | O-WAT, Over | 1 | 10.20 | 7.30 | | Maintenance | OTH | NOW | 0 |
| | | | | | | | | | | | | | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab | EIR | 1-5 | 5,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 5,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 26,000 |
| | | | | | | | | | | | | | | Rehab | WSR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 7,000 |
| Total Cost 1-5 | | | 91,000 | | | | | | | | | | | | | | |
| Total Cost | | | 193,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 193,000 | | | | | | | | | | | | | | |
| 11001 | 11.00 | CUNNINGHAM BRIDGE | CHURCH STREET NORTH, ALLISTON | 0.13 km N of VICTORIA STREET WEST | 1963 1963 | 0 | 0 | 0 | O-WAT, Over | 1 | 29.60 | 12.30 | DCS 35,000 | Rehab | CSS | 1-5 | 286,000 |
| | | | | | | | | | | | | | | Rehab | EIR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | OWP | 1-5 | 202,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 78,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 72,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | TJR | 1-5 | 169,000 |
| | | | | | | | | | | | | | | Rehab Extra | brAPP | 1-5 | 117,000 |
| | | | | | | | | | | | | | | Rehab Extra | brENV | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 39,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 143,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 65,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 1,212,000 |
| Total Cost | | | 1,212,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 1,212,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|-------------------------------|------------------|-----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|-----|------------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12034 | 12.00 | 9TH LINE, LOT 6, CONC VIII/IX | 9TH LINE | 0.15 km E of TOTTENHAM ROAD | 1930 1930 | 15 | 0 | 0 | O-RWY, Over | 6 | 27.00 | 6.50 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 99,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Const | REB | 1-5 | 117,000 |
| | | | | | | | | | | | | | | Const | RSL | 1-5 | 2,548,000 |
| | | | | | | | | | | | | | | Const Extra | bcApp | 1-5 | 2,158,000 |
| | | | | | | | | | | | | | | Const Extra | bcDET | 1-5 | 67,000 |
| | | | | | | | | | | | | | | Const Extra | bcENV | 1-5 | 55,000 |
| | | | | | | | | | | | | | | Const Extra | bcMB | 1-5 | 199,000 |
| | | | | | | | | | | | | | | Const Extra | bcROW | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Const Extra | bcUTI | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 5,170,000 |
| Total Cost | | | 5,269,000 | | | | | | | | | | | | | | |
| Municipal % | | | 0 | | | | | | | | | | | | | | |
| MunicipalCost | | | 0 | | | | | | | | | | | | | | |
| 12015 | 13.00 | 10TH LINE, LOT 21, CONC IX/X | 10TH LINE | 0.35 km E of 20TH SIDEROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 12.00 | 7.40 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | WSR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 42,000 |
| | | | | | | | | | | | | | | Total Cost | | | 144,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 144,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|----------------------------|----------------|-----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------------|-----------------------------|--------|-----|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12043 | 14.00 | 2ND LINE, LOT 5, CONC I/II | 2ND LINE | 0.55 km W of TOTTENHAM ROAD | 1934 1934 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.30 | 7.50 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab | RIR | NOW | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 118,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | PWP | 1-5 | 19,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 5,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | SPI | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brAPP | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brDET | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 8,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 106,000 |
| Total Cost | | | 224,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 224,000 | | | | | | | | | | | | | | |
| 12039 | 15.00 | 6TH LINE, LOT 7, CONC V/VI | 6TH LINE | 0.75 km E of TOTTENHAM ROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 12.00 | 7.20 | DCS 15,000 ENV 20,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 12,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 103,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 26,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 50,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 70,000 |
| | | | | | | | | | | | | | | Rehab | WSO | 1-5 | 104,000 |
| | | | | | | | | | | | | | | Rehab Extra | brAPP | 1-5 | 72,000 |
| | | | | | | | | | | | | | | Rehab Extra | brDET | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 375,000 |
| | | | | | | | | | | | | | | Total Cost | | | 478,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 478,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|--------------------------------|----------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12013 | 16.00 | 11TH LINE, LOT 19, CONC X/XI | 11TH LINE | 0.90 km W of 20TH SIDEROAD | 1950 1950 | 0 | 0 | 0 | O-WAT, Over | 1 | 13.90 | 7.30 | DCS 15,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 13,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 35,000 |
| Total Cost | | | 137,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 137,000 | | | | | | | | | | | | | | |
| 12006 | 17.00 | 12TH LINE, LOT 14, CONC XI/XII | 12TH LINE | 2.10 km E of 10TH SIDEROAD | 1930 1930 | 0 | 0 | 0 | O-WAT, Over | 5 | 23.20 | 6.10 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | EIR | 6-10 | 13,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 33,000 |
| Total Cost | | | 135,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 135,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|--------------------------------|----------------|----------------------------|-----------------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|---------------------------------|-----------------------------|-------|-----|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12024 | 18.00 | 9TH LINE, LOT 16, CONC VIII/IX | 9TH LINE | 0.50 km E of 15TH SIDEROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 7.10 | 7.30 | DCS 10,000 ENV 20,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab | RSP | NOW | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 26,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 131,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 39,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 46,000 |
| | | | | | | | | | | | | | | Rehab | SPI | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | WSO | 1-5 | 52,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 143,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 294,000 |
| Total Cost | | | 425,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 425,000 | | | | | | | | | | | | | | |
| 12018 | 19.00 | 6TH LINE, LOT 22, CONC V/VI | 6TH LINE | 0.75 km E of 20TH SIDEROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 6.80 | 7.50 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab | OTHr | NOW | 52,000 |
| | | | | | | | | | | | | | | Rehab Extra | brDET | NOW | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brENV | NOW | 26,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 186,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 1,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 15,000 |
| | | | | | | | | | | | | | | Total Cost | | | 201,000 |
| | | | | | | | | | | | | | | Municipal % | | | 100 |
| MunicipalCost | | | 201,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | | | |
|------------|----------|----------------------------------|-----------|----------------------------|-----------------------------|------------------|-----|-----|----------------|--------------|-----------------|----------------|---------------------------------|-----------------------------|------|--------|-----------------------|----------------|----------------------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | | | |
| 12012 | 20.00 | 14TH LINE, LOT 21, CONC XIII/XIV | 14TH LINE | 0.40 km E of 20TH SIDEROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 10.20 | 7.40 | DCS 15,000 | Rehab | IAG | NOW | 91,000 | | | |
| | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 | | | | |
| | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 | | | | |
| | | | | | | | | | | | | | | | | | Total Cost NOW | 102,000 | | |
| | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 | | | | |
| | | | | | | | | | | | | | Rehab | CDS | 1-5 | 7,000 | | | | |
| | | | | | | | | | | | | | Rehab | LMC | 1-5 | 52,000 | | | | |
| | | | | | | | | | | | | | Rehab | RCS | 1-5 | 26,000 | | | | |
| | | | | | | | | | | | | | Rehab | RIR | 1-5 | 13,000 | | | | |
| | | | | | | | | | | | | | Rehab | RSB | 1-5 | 13,000 | | | | |
| | | | | | | | | | | | | | Rehab | SPI | 1-5 | 13,000 | | | | |
| | | | | | | | | | | | | | Rehab Extra | brAPP | 1-5 | 65,000 | | | | |
| | | | | | | | | | | | | | Rehab Extra | brDET | 1-5 | 13,000 | | | | |
| | | | | | | | | | | | | | Rehab Extra | brENV | 1-5 | 20,000 | | | | |
| | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 13,000 | | | | |
| | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 13,000 | | | | |
| | | | | | | | | | | | | | | | | | Total Cost | 1-5 | 248,000 | |
| | | | | | | | | | | | | | | | | | | | Total Cost | 350,000 |
| | | | | | | | | | | | | | | | | | | | Municipal % | 100 |
| | | | | | | | | | | | | | | | | | | | MunicipalCost | 350,000 |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------|----------|---------------------------------|-----------|----------------------------|-----------------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|---------------------------------|-----------------------------|-------------|----------------|---------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12002 | 21.00 | 13TH LINE, LOT 9, CONC XII/XIII | 13TH LINE | 0.90 km W of 10TH SIDEROAD | 1940 1940 | 0 | 0 | 0 | O-WAT, Over | 3 | 34.00 | 7.40 | DCS 25,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 | |
| | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | NOW | 102,000 | |
| | | | | | | | | | | | | | Rehab | CDS | 1-5 | 33,000 | |
| | | | | | | | | | | | | | Rehab | EIR | 1-5 | 13,000 | |
| | | | | | | | | | | | | | Rehab | OThr | 1-5 | 7,000 | |
| | | | | | | | | | | | | | Rehab | RCS | 1-5 | 13,000 | |
| | | | | | | | | | | | | | Rehab | RIR | 1-5 | 13,000 | |
| | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 | |
| | | | | | | | | | | | | | Rehab | RSP | 1-5 | 7,000 | |
| | | | | | | | | | | | | | Rehab | SPI | 1-5 | 13,000 | |
| | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 1,000 | |
| | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 7,000 | |
| | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 13,000 | |
| | | | | | | | | | | | | | | Total Cost | 1-5 | 127,000 | |
| | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | | 236,000 | |
| | | | | | | | | | | | | | | Municipal % | | 100 | |
| | | | | | | | | | | | | | | MunicipalCost | | 236,000 | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------------------|----------|------------------------------------|----------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12005 | 22.00 | 12TH LINE, LOT 12, CONC XI/XII | 12TH LINE | 1.10 km E of 10TH SIDEROAD | 1945 1945 | 0 | 0 | 0 | O-WAT, Over | 1 | 21.10 | 7.40 | DCS 15,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 99,000 |
| | | | | | | | | | | | | | | Rehab | EIR | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab | PWP | 1-5 | 65,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brAPP | 1-5 | 59,000 |
| | | | | | | | | | | | | | | Rehab Extra | brDET | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brENV | 1-5 | 26,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 5,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 208,000 |
| Total Cost | | | 307,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 307,000 | | | | | | | | | | | | | | |
| 12010 | 23.00 | 20TH SIDEROAD, LOT 20/21, CON XIII | 20TH SIDEROAD | 0.70 km N of 13TH LINE | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 10.20 | 7.40 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 6-10 | 7,000 |
| Total Cost 6-10 | | | 41,000 | | | | | | | | | | | | | | |
| Total Cost | | | 143,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 143,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | |
|----------------------|----------|--------------------------------|---------------------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|-------|-----|------------|------------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | |
| 12059 | 24.00 | GILROY BRIDGE, LOT 1, CONC XII | ADJALA-TECUMSETH TOWNLINE | 0.20 km N of 12TH LINE | 1956 1956 | 0 | 0 | 0 | O-WAT, Over | 1 | 11.40 | 8.60 | | Rehab | IAG | NOW | 91,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | | | NOW | 102,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 7,000 | |
| | | | | | | | | | | | | | | Rehab | EIR | 1-5 | 52,000 | |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 65,000 | |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 | |
| | | | | | | | | | | | | | | Rehab | WSR | 1-5 | 7,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brENV | 1-5 | 26,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 5,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 39,000 | |
| | | | | | | | | | | | | | | Total Cost | | | 1-5 | 208,000 |
| | | | | | | | | | | | | | | Total Cost | | | | 310,000 |
| Municipal % | | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | | 310,000 | | | | | | | | | | | | | | |
| 12033 | 25.00 | 9TH LINE, LOT 9, CONC VIII/IX | 9TH LINE | 0.90 km W of 10TH SIDEROAD | 1920 1920 | 0 | 0 | 0 | O-WAT, Over | 1 | 13.20 | 6.40 | | Const | REB | NOW | 82,000 | |
| | | | | | | | | | | | | | | Const | RSL | NOW | 1,146,000 | |
| | | | | | | | | | | | | | | Const Extra | bcApp | NOW | 143,000 | |
| | | | | | | | | | | | | | | Const Extra | bcDET | NOW | 13,000 | |
| | | | | | | | | | | | | | | Const Extra | bcENV | NOW | 55,000 | |
| | | | | | | | | | | | | | | Const Extra | bcMB | NOW | 59,000 | |
| | | | | | | | | | | | | | | Const Extra | bcROW | NOW | 13,000 | |
| | | | | | | | | | | | | | | Const Extra | bcUTI | NOW | 13,000 | |
| | | | | | | | | | | | | | | Rehab | IAG | NOW | 91,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | | | NOW | 1,626,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 | |
| | | | | | | | | | | | | | | Total Cost | | | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost | | | | 1,626,000 |
| | | | | | | | | | | | | | | Municipal % | | | | 100 |
| | | | | | | | | | | | | | | MunicipalCost | | | | 1,626,000 |

- Notes:**
1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------------------|----------|-------------------------------|-----------------------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|-------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12019 | 26.00 | 5TH LINE, LOT 21, CONC IV/V | 5TH LINE | 0.10 km E of 20TH SIDEROAD | 1945 1945 | 0 | 0 | 0 | O-WAT, Over | 1 | 5.00 | 9.60 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab | RIR | NOW | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brDET | NOW | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 121,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 39,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 1,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 40,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| Total Cost 6-10 | | | 15,000 | | | | | | | | | | | | | | |
| Total Cost | | | | | | | | | | | | 176,000 | | | | | |
| Municipal % | | | | | | | | | | | | 100 | | | | | |
| MunicipalCost | | | | | | | | | | | | 176,000 | | | | | |
| 12054 | 27.00 | CENTRE STREET NORTH | CENTRE STREET NORTH, BEETON | 0.72 km N of MAIN STREET | 1940 1940 | 0 | 0 | 0 | O-WAT, Over | 2 | 5.20 | 15.10 | | Rehab | CDS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 13,000 |
| | | | | | | | | | | | | | | Total Cost | | | |
| Municipal % | | | | | | | | | | | | 100 | | | | | |
| MunicipalCost | | | | | | | | | | | | 13,000 | | | | | |
| 12021 | 28.00 | 4TH LINE, LOT 20, CONC III/IV | 4TH LINE | 0.45 km W of 20TH SIDEROAD | 1970 1970 | 0 | 0 | 0 | O-WAT, Over | 1 | 5.00 | 6.60 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab | RIR | NOW | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 115,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 13,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 35,000 |
| Total Cost | | | | | | | | | | | | 150,000 | | | | | |
| Municipal % | | | | | | | | | | | | 100 | | | | | |
| MunicipalCost | | | | | | | | | | | | 150,000 | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------------------|----------|------------------------------|------------------|-----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|-------|------|------------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12049 | 30.00 | 2ND LINE, LOT 21, CONC I/II | 2ND LINE | 0.40 km E of 20TH SIDEROAD | 1940 1940 | 0 | 0 | 0 | O-WAT, Over | 1 | 11.00 | 9.30 | | Rehab | IAG | NOW | 12,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 20,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| Total Cost 6-10 | | | 29,000 | | | | | | | | | | | | | | |
| Total Cost | | | 49,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 49,000 | | | | | | | | | | | | | | |
| 12037 | 31.00 | 7TH LINE, LOT 7, CONC VI/VII | 7TH LINE | 0.80 km E of TOTTENHAM ROAD | 1930 1930 | 0 | 0 | 0 | U-RWY, Under | 1 | 8.10 | 5.50 | | Const | REB | NOW | 65,000 |
| | | | | | | | | | | | | | | Const | RSL | NOW | 1,105,000 |
| | | | | | | | | | | | | | | Const Extra | bcApp | NOW | 1,950,000 |
| | | | | | | | | | | | | | | Const Extra | bcDET | NOW | 650,000 |
| | | | | | | | | | | | | | | Const Extra | bcENV | NOW | 72,000 |
| | | | | | | | | | | | | | | Const Extra | bcMB | NOW | 150,000 |
| | | | | | | | | | | | | | | Const Extra | bcROW | NOW | 10,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 4,002,000 |
| | | | | | | | | | | | | | | Total Cost | | | 4,002,000 |
| | | | | | | | | | | | | | | Municipal % | | | 85 |
| MunicipalCost | | | 3,401,700 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------------------|----------|--|----------------|-----------------------------|-----------------------------|------------------|-----|-----|----------------|--------------|-----------------|----------------|---------------------------------|-----------------------------|--------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12044 | 32.00 | 5TH LINE, LOT 7, CONC IV/V | 5TH LINE | 0.80 km E of TOTTENHAM ROAD | 1955 1955 | 0 | 0 | 0 | O-WAT, Over | 1 | 11.00 | 7.30 | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | EIR | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 1,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 21,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 27,000 |
| Total Cost | | | 48,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 48,000 | | | | | | | | | | | | | | |
| 12030 | 33.00 | BEDER TURF BRIDGE, LOT 5, CONC IX/X | 10TH LINE | 0.55 km W of TOTTENHAM ROAD | 1966 1966 | 0 | 0 | 0 | O-WAT, Over | 1 | 16.60 | 9.80 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | WSR | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 6-10 | 13,000 |
| Total Cost 6-10 | | | 42,000 | | | | | | | | | | | | | | |
| Total Cost | | | 144,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 144,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------------------|----------|----------------------------------|---------------|----------------------------|-----------------------------|------------------|-----|-----|----------------|--------------|-----------------|----------------|---------------------------------|-----------------------------|-------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12016 | 34.00 | 9TH LINE LOT 21 CONC VIII/IX | 9TH LINE | 0.40 km E of 20TH SIDEROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 12.00 | 7.40 | ENV 20,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab | OTHr | NOW | 52,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 26,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 173,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RRW | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| Rehab Extra | brWPTF | 6-10 | 7,000 | | | | | | | | | | | | | | |
| Total Cost 6-10 | | | 22,000 | | | | | | | | | | | | | | |
| Total Cost | | | | | | | | | | | | 195,000 | | | | | |
| Municipal % | | | | | | | | | | | | 100 | | | | | |
| MunicipalCost | | | | | | | | | | | | 195,000 | | | | | |
| 12008 | 35.00 | JEBB BRIDGE, LOT 20/21, CONC XII | 20TH SIDEROAD | 0.68 km N of 12TH LINE | 1962 1962 | 0 | 0 | 0 | O-WAT, Over | 1 | 13.30 | 9.90 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab | WSR | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 20,000 |
| | | | | | | | | | | | | | | Total Cost | | | |
| Municipal % | | | | | | | | | | | | 100 | | | | | |
| MunicipalCost | | | | | | | | | | | | 122,000 | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|------------------------------|----------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|-------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12023 | 36.00 | 10TH LINE, LOT 16, CONC IX/X | 10TH LINE | 0.63 km E of 15TH SIDEROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 7.20 | 7.40 | | Maintenance | OTH | NOW | 0 |
| | | | | | | | | | | | | | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 35,000 |
| | | | | | | | | | | | | | | Total Cost | | | 137,000 |
| | | | | | | | | | | | | | | Municipal % | | | 100 |
| MunicipalCost | | | 137,000 | | | | | | | | | | | | | | |
| 12047 | 37.00 | RANSOM BRIDGE | 10TH SIDEROAD | 0.25 km N of 4TH LINE | 1980 1980 | 0 | 0 | 0 | O-WAT, Over | 2 | 9.80 | 23.10 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab | RIR | NOW | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 115,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | WSR | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 15,000 |
| | | | | | | | | | | | | | | Total Cost | | | 137,000 |
| | | | | | | | | | | | | | | Municipal % | | | 100 |
| MunicipalCost | | | 137,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|-------------------------------------|----------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12026 | 38.00 | BROOM BRIDGE, LOT 18, CONC IX/X | 10TH LINE | 1.20 km E of 15TH SIDEROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 5.60 | 8.50 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 22,000 |
| | | | | | | | | | | | | | | Total Cost | | | 124,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 124,000 | | | | | | | | | | | | | | |
| 12003 | 39.00 | MAYNARD BRIDGE, LOT 10/11, CONC XII | 10TH SIDEROAD | 0.35 km N of 12TH LINE | 1968 1968 | 0 | 0 | 0 | O-WAT, Over | 3 | 41.20 | 10.10 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab | PWP | 1-5 | 72,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | SPI | 1-5 | 20,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 140,000 |
| | | | | | | | | | | | | | | Total Cost | | | 242,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 242,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|---------------------------------|----------------|-----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12036 | 40.00 | 7TH LINE, LOT 7, CONC VI/VII | 7TH LINE | 1.10 km E of TOTTENHAM ROAD | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 12.00 | 7.10 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 98,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 40,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 63,000 |
| | | | | | | | | | | | | | | Rehab | WSO | 1-5 | 364,000 |
| | | | | | | | | | | | | | | Rehab Extra | brDET | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 26,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 1-5 | 13,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 519,000 |
| | | | | | | | | | | | | | | Total Cost | | | 617,000 |
| | | | | | | | | | | | | | | Municipal % | | | 100 |
| MunicipalCost | | | 617,000 | | | | | | | | | | | | | | |
| 12029 | 41.00 | McCARRON BRIDGE, LOT 7, CONC IX | 10TH LINE | 1.10 km E of TOTTENHAM ROAD | 1957 1957 | 0 | 0 | 0 | O-WAT, Over | 1 | 12.60 | 8.50 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 27,000 |
| | | | | | | | | | | | | | | Total Cost | | | 129,000 |
| | | | | | | | | | | | | | | Municipal % | | | 100 |
| | | | | | | | | | | | | | | MunicipalCost | | | 129,000 |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|----------------------|----------|---------------------------------------|-------------------------------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|-------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12050 | 42.00 | 20TH SIDEROAD, LOT 20/21, CONC 1 | 20TH SIDEROAD | 0.30 km N of HIGHWAY 9 | 1985 1985 | 0 | 0 | 0 | O-WAT, Over | 1 | 17.50 | 9.80 | | Rehab | IAG | NOW | 65,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 73,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | TJS | 1-5 | 46,000 |
| | | | | | | | | | | | | | | Rehab | WSR | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 1-5 | 2,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 69,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 5,000 |
| | | | | | | | | | | | | | | Total Cost | | | 147,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 147,000 | | | | | | | | | | | | | | |
| 11010 | 43.00 | SPRING CREEK PEDESTRIAN BRIDGE | ALBERT STREET SCHOOL SITE, ALLISTON | 0.05 km S of ALBERT STREET | 1990 1990 | 0 | 0 | 0 | O-WAT, Over | 1 | 18.20 | 1.60 | LCE 7,000 | Maintenance | OTH | NOW | 0 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 0 |
| | | | | | | | | | | | | | | Rehab | CSS | 6-10 | 65,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 2,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 67,000 |
| | | | | | | | | | | | | | | Total Cost | | | 67,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 67,000 | | | | | | | | | | | | | | |
| 12025 | 44.00 | EAST VARCOE BRIDGE, LOT 16, CONC X/X1 | 11TH LINE | 0.95 km E of 15TH SIDEROAD | 1968 1968 | 0 | 0 | 0 | O-WAT, Over | 1 | 6.00 | 8.60 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 98,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 15,000 |
| | | | | | | | | | | | | | | Total Cost | | | 113,000 |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 113,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | |
|----------------------|----------|----------------------------------|------------------------|-----------------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|------|-------------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | |
| 11002 | 45.00 | JJE McCAGUE BRIDGE | BOYNE STREET, ALLISTON | 0.35 km N of VICTORIA STREET EAST | 1980 1980 | 0 | 0 | 0 | O-WAT, Over | 1 | 33.90 | 11.30 | | Maintenance | OTH | 1-5 | 0 | |
| | | | | | | | | | | | | | | Total Cost | | | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | EIR | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab | OTHr | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab | OTHr | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 13,000 | |
| | | | | | | | | | | | | | | Rehab | RIR | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab | RSP | 6-10 | 33,000 | |
| | | | | | | | | | | | | | | Rehab | SPI | 6-10 | 5,000 | |
| | | | | | | | | | | | | | | Rehab | TJS | 6-10 | 52,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 4,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | | | 6-10 | 142,000 |
| | | | | | | | | | | | | | | Total Cost | | | | 142,000 |
| Municipal % | | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | | 142,000 | | | | | | | | | | | | | | |
| 12035 | 46.00 | FISH BRIDGE, LOT 5, CONC VIII/IX | 9TH LINE | 0.50 km W of TOTTENHAM ROAD | 1961 1961 | 0 | 0 | 0 | O-WAT, Over | 1 | 9.00 | 8.60 | | Rehab | IAG | NOW | 91,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | | | NOW | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 | |
| | | | | | | | | | | | | | | Total Cost | | | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 5,000 | |
| | | | | | | | | | | | | | | Rehab | RIR | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 | |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | | | 6-10 | 27,000 |
| | | | | | | | | | | | | | | Total Cost | | | | 129,000 |
| | | | | | | | | | | | | | | Municipal % | | | | 100 |
| MunicipalCost | | | | 129,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------------------|----------|--|----------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12022 | 47.00 | WEST VARCOE BRIDGE (LOT 16, CONC X/XI) | 11TH LINE | 0.65 km E of 15TH SIDEROAD | 1958 1958 | 0 | 0 | 0 | O-WAT, Over | 1 | 8.10 | 8.60 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| Total Cost 6-10 | | | 22,000 | | | | | | | | | | | | | | |
| Total Cost | | | 124,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 124,000 | | | | | | | | | | | | | | |
| 12014 | 48.00 | 20TH SIDEROAD, LOT 20/21, CONC X | 20TH SIDEROAD | 0.50 km N of 10TH LINE | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 13.20 | 7.40 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 6-10 | 7,000 |
| Total Cost 6-10 | | | 22,000 | | | | | | | | | | | | | | |
| Total Cost | | | 124,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 124,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|-----------------------|----------|-----------------------------------|----------------|-----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|-------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12007 | 49.00 | 15TH SIDEROAD, LOT 15/16, CONC XI | 15TH SIDEROAD | 0.10 km S of 12TH LINE | 1930 1995 | 0 | 0 | 0 | O-WAT, Over | 1 | 17.00 | 8.90 | | Rehab | IAG | NOW | 78,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 2,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 87,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | CRE | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 7,000 |
| | | | | | | | | | | | | | | Total Cost | | | 94,000 |
| | | | | | | | | | | | | | | Municipal % | | | 100 |
| MunicipalCost | | | 94,000 | | | | | | | | | | | | | | |
| 12038 | 50.00 | 7TH LINE, LOT 5, CONC VI/VII | 7TH LINE | 0.50 km W of TOTTENHAM ROAD | 1965 1965 | 0 | 0 | 0 | O-WAT, Over | 1 | 7.20 | 7.40 | ENV 20,000 | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | CDS | 1-5 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 1-5 | 40,000 |
| | | | | | | | | | | | | | | Rehab | RIR | 1-5 | 30,000 |
| | | | | | | | | | | | | | | Rehab | WSO | 1-5 | 104,000 |
| | | | | | | | | | | | | | | Rehab Extra | brDET | 1-5 | 20,000 |
| Rehab Extra | brMB | 1-5 | 13,000 | | | | | | | | | | | | | | |
| Total Cost 1-5 | | | 214,000 | | | | | | | | | | | | | | |
| Total Cost | | | 316,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 316,000 | | | | | | | | | | | | | | |

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------------------|----------|--------------------------------------|---------------------------|----------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|--------|------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 12011 | 53.00 | 20TH SIDEROAD, LOT 20/21, CONC XIII | 20TH SIDEROAD | 0.40 km S of 14TH LINE | 1960 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 10.20 | 7.40 | | Rehab | IAG | NOW | 91,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | NOW | 4,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | NOW | 7,000 |
| | | | | | | | | | | | | | | Total Cost NOW | | | 102,000 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | EIR | 6-10 | 20,000 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab | RSB | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab | RSP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab Extra | brWPTF | 6-10 | 7,000 |
| Total Cost 6-10 | | | 51,000 | | | | | | | | | | | | | | |
| Total Cost | | | 153,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 153,000 | | | | | | | | | | | | | | |
| 12057 | 55.00 | ADJALA-TECUMSETH T/L, LOT 1, CONC IX | ADJALA-TECUMSETH TOWNLINE | 0.30 km N of 9TH LINE | 1950 2013 | 0 | 0 | 0 | O-WAT, Over | 1 | 24.00 | 11.00 | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | RIR | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 6,000 |
| Total Cost | | | 6,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 6,000 | | | | | | | | | | | | | | |
| 12031 | 57.00 | 10TH LINE, LOT 13, CONC IX/X | 10TH LINE | 1.40 km E of 10TH SIDEROAD | 2008 2008 | 0 | 0 | 0 | O-WAT, Over | 1 | 22.80 | 10.10 | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 5,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 12,000 |
| Total Cost | | | 12,000 | | | | | | | | | | | | | | |
| Municipal % | | | 100 | | | | | | | | | | | | | | |
| MunicipalCost | | | 12,000 | | | | | | | | | | | | | | |

Notes:

1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | |
|------------|----------|------------------------------|-------------------------------------|-----------------------------------|-----------------------|------------------|-----|-----|---------------|--------------|-----------------|----------------|------------------------------|-----------------------------|-------------|------------------|-----------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) |
| 11003 | 58.00 | SIR FREDRICK BANTING ROAD | SIR FREDRICK BANTING ROAD, ALLISTON | 0.20 km N of VICTORIA STREET EAST | 2010 2010 | 0 | 0 | 0 | O-WAT, Over | 1 | 30.30 | 13.10 | | Maintenance | OTH | 1-5 | 0 |
| | | | | | | | | | | | | | | Total Cost | 1-5 | 0 | |
| | | | | | | | | | | | | | | Rehab | RCS | 6-10 | 78,000 |
| | | | | | | | | | | | | | | Rehab Extra | brMB | 6-10 | 1,000 |
| | | | | | | | | | | | | | | Rehab Extra | brTCP | 6-10 | 7,000 |
| | | | | | | | | | | | | | | Total Cost | 6-10 | 86,000 | |
| | | | | | | | | | | | | | | Total Cost | | 86,000 | |
| | | | | | | | | | | | | | | Municipal % | | 100 | |
| | | | | | | | | | | | | | | MunicipalCost | | 86,000 | |
| 11000 | 59.00 | VICTORIA STREET | VICTORIA STREET WEST (HWY #89) | 0.05 km W of DUFFERIN STREET | | 0 | 0 | 0 | U-RWY, Under | 3 | 999.90 | 99.90 | ENV 60,000 | Const | NEW | NOW | 5,980,000 |
| | | | | | | | | | | | | | | Const Extra | bcApp | NOW | 77,000 |
| | | | | | | | | | | | | | | Const Extra | bcDET | NOW | 650,000 |
| | | | | | | | | | | | | | | Total Cost | NOW | 6,707,000 | |
| | | | | | | | | | | | | | | Total Cost | | 6,707,000 | |
| | | | | | | | | | | | | | | Municipal % | | 85 | |
| | | | | | | | | | | | | | | MunicipalCost | | 5,700,950 | |
| 12027 | - | 11TH LINE, LOT 15, CONC X/XI | 11TH LINE | 0.35 km W of 15TH SIDEROAD | 2001 2001 | 0 | 0 | 0 | O-WAT, Over | 1 | 18.80 | 6.10 | | Maintenance | OTH | NOW | 0 |
| | | | | | | | | | | | | | | Total Cost | NOW | 0 | |
| | | | | | | | | | | | | | | Total Cost | | 0 | |
| | | | | | | | | | | | | | | Municipal % | | 100 | |
| | | | | | | | | | | | | | | MunicipalCost | | 0 | |
| 12045 | - | 4TH LINE, LOT 7, CONC III/IV | 4TH LINE | 1.10 km E of TOTTENHAM ROAD | 1950 1950 | 0 | 0 | 0 | O-WAT, Over | 1 | 6.00 | 12.20 | | | | | |
| 12046 | - | 4TH LINE, LOT 9, CONC III/IV | 4TH LINE | 0.85 km W of 10TH SIDEROAD | 1955 1955 | 0 | 0 | 0 | O-WAT, Over | 1 | 5.80 | 8.90 | | | | | |
| 12056 | - | 2ND LINE, LOT 22, CONC I/II | 2ND LINE | 0.80 km E of 20TH SIDEROAD | 1980 1980 | 0 | 0 | 0 | O-WAT, Over | 1 | 5.60 | 12.20 | | | | | |

Notes:

1. Cost includes engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Bridge No. | Priority | Bridge Name | Road Name | Location | Const . Yr Sub/ Super | Ex. Load Posting | | | Crossing Type | No. of Spans | Deck Length (m) | Deck Width (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | |
|------------|----------|--|------------------------------|------------------------|-----------------------------|------------------|-----|-----|----------------|--------------|-----------------|----------------|---------------------------------|-----------------------------|------|-----|---------|--|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | |
| 12058 | - | ADJALA-TECUMSETH T/L, LOT 1, CONC X | ADJALA-TECUMSETH TOWNLINE | 1.15 km N of 10TH LINE | 1950 2013 | 0 | 0 | 0 | O-WAT, Over | 1 | 15.80 | 11.00 | | | | | | |

Total Cost of Recommended Improvements

(2)

- Notes:**
1. Cost includes engineering and contingency allowances.
 2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.



BRIDGE IMPROVEMENT NEEDS

The bridges of span 3.0 m and greater under the jurisdiction of the Town of New Tecumseth which were inventoried and appraised are listed in the following table. The bridge inventory section table is arranged numerically by bridge number and provides the following information:

- Local bridge number
- Priority Ranking
- The bridge name
- The bridge locations
- The year of substructure and superstructure construction
- Existing Load Limit Postings
- The crossing type
- The number of spans
- The deck length and deck width
- The requirement for any engineering investigation, year and cost
- The recommended type and time of improvement
- The construction cost of the recommended improvement and the total project cost including engineering and contingency allowances

The following abbreviations are used in Table B1:

bc - Bridge Construction
br - Bridge Rehabilitation

Crossing Type

O-WAT - Over Water
U-RWY - Under Railway
O-RWY - Over Railway

Engineering Investigations

| | |
|------|--------------------------------------|
| SEI | Seismic Investigation |
| UI | Underwater Investigation |
| RDI | Routine Detailed Inspection |
| STI | Structure Investigation |
| RRA | Rehabilitate/Replace Analysis |
| LCE | Load Capacity Evaluation |
| C/S | Condition Survey of Other Components |
| CN/I | Condition Inspection |
| DART | DART Survey |
| DCCS | Detail Coating Condition Survey |
| DCS | Deck Condition Survey |
| FI | Fatigue Investigation |



Type of Improvements

- **Capital Improvements / Construction Extra**

| | |
|-------|--------------------------------|
| NEW | New bridge |
| RBC | Replace Bridge with Culvert |
| REB | Remove Existing Bridge |
| RNL | Replace Bridge - New location |
| RSL | Replace Bridge - Same location |
| TEB | Twin Existing Bridge |
| bcApp | Approaches |
| bcTCP | Traffic Control/Protection |
| bcUTI | Utility Relocation |
| bcROW | Right of Way costs |
| bcENV | Environmental Study Costs |
| bcDET | Detours |

- **Bridge Rehabilitation Improvements / Rehabilitation Extra**

| | |
|-------|--------------------------------------|
| RSP - | Rehabilitate Superstructure |
| RSB - | Rehabilitate Substructure |
| RRW - | Rehabilitate/Replace Retaining Walls |
| RIR - | Railing Improvement/Replacement |

- **Deck Rehabilitation Improvements**

| | |
|-------|---|
| WSR - | Wearing Surface Rehabilitation |
| CDR - | Complete Deck Replacement |
| OWP - | Overlay, Waterproof and Pave |
| PWP - | Patch, Waterproof and Asphalt Paving |
| CDS - | Concrete Deck Soffit Repairs |
| CR - | Concrete Repairs |
| PDR - | Partial Deck Replacement |
| RCS - | Rehabilitation/Replacement of Safety Curbs/Sidewalk |
| TJM - | Transverse Exp Joint Modification |
| TJR - | Transverse Expansion Joint Replacement |
| TJS - | Transverse Expansion Joint Seal Replacement |
| LMC - | Latex Modified Concrete Overlay |
| LJM - | Longitudinal Exp Joint Modification |
| LJR - | Longitudinal Exp Joint Replacement |
| LJS - | Longitudinal Exp Joint Seal Replacement |

- **Bridge Coating Improvements**

| | |
|-------|--------------------------|
| CSR - | Coating Steel Railings |
| CSS - | Coating Structural Steel |



- **Stream/Waterway Improvements**

- SPI - Scour Protection Improvements
- C/I - Channel Improvements
- C/R - Channel Realignment
- EIR - Embankment Improvement/Rehab

- **Safety Improvements**

- IAG - Installation of Approach Guide rail
- IAB - Install Approach Safety Shape Barrier

- **Non Standard Improvements**

- OTHm - Maintenance Improvements
- OTHR - Rehabilitation Improvements

- **Costing Category**

- PC - Preliminary Cost Estimate



Appendix C

Culvert Improvement Needs

Town of New Tecumseth Culvert Improvement Needs

Data Last Refreshed October 28, 2016
11:28:27AM

| Culvert No. | Priority | Culvert Name | Road Name | Location | Const Yr | Ex. Load Posting | | | Crossing Type | No. of Cells | Total Span (m) | Culvert Length (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | |
|-----------------------|----------|----------------------------------|-----------------------------|-----------------------------|----------|------------------|-----|-----|---------------|--------------|----------------|--------------------|------------------------------|-----------------------------|-------|------|-------------|----------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | |
| 12051 | 1.00 | 17TH SIDEROAD, LOT 17/18, CONC I | 17TH SIDEROAD | 0.07 km S of 2ND LINE | 1950 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.30 | 25.90 | | Maintenance | cOTH | 1-5 | 0 | |
| | | | | | | | | | | | | | | Total Cost | | | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | cRSB | 6-10 | 13,000 | |
| | | | | | | | | | | | | | | Rehab | cRSP | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | |
| | | | | | | | | | | | | | | Total Cost | | | 6-10 | 21,000 |
| Total Cost | | | | 21,000 | | | | | | | | | | | | | | |
| Municipal % | | | | 100 | | | | | | | | | | | | | | |
| Municipal Cost | | | | 21,000 | | | | | | | | | | | | | | |
| 12042 | 2.00 | 3RD LINE, LOT 4, CONC II/III | 3RD LINE | 0.75 km W of TOTTENHAM ROAD | 1950 | 0 | 0 | 0 | O-WAT, Over | 1 | 6.10 | 16.70 | | Rehab | cRSB | 6-10 | 26,000 | |
| | | | | | | | | | | | | | | Rehab | cRSP | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | |
| | | | | | | | | | | | | | | Total Cost | | | 6-10 | 34,000 |
| | | | | | | | | | | | | | | Total Cost | | | | 34,000 |
| | | | | | | | | | | | | | | Municipal % | | | | 100 |
| Municipal Cost | | | | 34,000 | | | | | | | | | | | | | | |
| 12041 | 3.00 | MILL STREET WEST | MILL STREET WEST, TOTTENHAM | 0.35 km W of QUEEN STREET | 1955 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.30 | 16.20 | | Maintenance | cOTH | 1-5 | 0 | |
| | | | | | | | | | | | | | | Total Cost | | | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | cRSB | 6-10 | 13,000 | |
| | | | | | | | | | | | | | | Rehab | cRSP | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | |
| | | | | | | | | | | | | | | Total Cost | | | 6-10 | 21,000 |
| Total Cost | | | | 21,000 | | | | | | | | | | | | | | |
| Municipal % | | | | 100 | | | | | | | | | | | | | | |
| Municipal Cost | | | | 21,000 | | | | | | | | | | | | | | |
| 12017 | 4.00 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE | 1.20 km E of 20TH SIDEROAD | 1970 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.00 | 20.30 | | Rehab | ciAG | NOW | 91,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | NOW | 4,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crTCP | NOW | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | | | NOW | 102,000 |
| | | | | | | | | | | | | | | Total Cost | | | | 102,000 |
| | | | | | | | | | | | | | | Municipal % | | | | 100 |
| Municipal Cost | | | | 102,000 | | | | | | | | | | | | | | |

- Notes:**
1. Individual item costs include engineering and contingency allowances.
2. Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Culvert No. | Priority | Culvert Name | Road Name | Location | Const Yr | Ex. Load Posting | | | Crossing Type | No. of Cells | Total Span (m) | Culvert Length (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | |
|-----------------------|----------|--------------------------|-----------------------------|-------------------------------|----------|------------------|-----|-----|----------------|--------------|----------------|--------------------|------------------------------|-----------------------------|-------|------|-------------|---------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | |
| 12040 | 5.00 | TECUMSETH HEIGHTS DRIVE | TECUMSETH HEIGHTS DRIVE | 0.12 km S of 6TH LINE | 1988 | 0 | 0 | 0 | O-WAT, Over | 3 | 12.00 | 17.80 | | Maintenance | cOTH | 1-5 | 0 | |
| | | | | | | | | | | | | | | Total Cost | | | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | cRSB | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab | cRSP | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | |
| Rehab Extra | crWPTF | 6-10 | 7,000 | | | | | | | | | | | | | | | |
| Total Cost | | | 6-10 | 22,000 | | | | | | | | | | | | | | |
| Total Cost | | | | 22,000 | | | | | | | | | | | | | | |
| Municipal % | | | | 100 | | | | | | | | | | | | | | |
| Municipal Cost | | | | 22,000 | | | | | | | | | | | | | | |
| 12052-1-2 | 7.00 | LILLY STREET EAST | LILLY STREET EAST, BEETON | 0.09 km E of CENTRE STREET | 1970 | 0 | 0 | 0 | O-WAT, Over | 1 | 12.00 | 13.40 | | Rehab | clAG | NOW | 65,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | NOW | 2,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crTCP | NOW | 7,000 | |
| | | | | | | | | | | | | | | Total Cost | | | NOW | 74,000 |
| | | | | | | | | | | | | | | Total Cost | | | | 74,000 |
| Municipal % | | | | 100 | | | | | | | | | | | | | | |
| Municipal Cost | | | | 74,000 | | | | | | | | | | | | | | |
| 11012 | 8.00 | CPR PEDESTRIAN UNDERPASS | WELLINGTON STREET, ALLISTON | 0.10 km E of CENTRE STREET | 1909 | 0 | 0 | 0 | T-RWY, Through | 1 | 1.80 | 8.70 | | Rehab | cRSB | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | |
| | | | | | | | | | | | | | | Total Cost | | | 6-10 | 8,000 |
| | | | | | | | | | | | | | | Total Cost | | | | 8,000 |
| | | | | | | | | | | | | | | Municipal % | | | | 100 |
| Municipal Cost | | | | 8,000 | | | | | | | | | | | | | | |
| 11005 | 9.00 | BEATTIE AVENUE | BEATTIE AVENUE, ALLISTON | 0.10 km S of CUNNINGHAM DRIVE | 1980 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.10 | 36.00 | | Maintenance | cOTH | 1-5 | 0 | |
| | | | | | | | | | | | | | | Total Cost | | | 1-5 | 0 |
| | | | | | | | | | | | | | | Rehab | cEIR | 6-10 | 7,000 | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | |
| | | | | | | | | | | | | | | Total Cost | | | 6-10 | 8,000 |
| Total Cost | | | | 8,000 | | | | | | | | | | | | | | |
| Municipal % | | | | 100 | | | | | | | | | | | | | | |
| Municipal Cost | | | | 8,000 | | | | | | | | | | | | | | |

Notes:

- Individual item costs include engineering and contingency allowances.
- Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Culvert No. | Priority | Culvert Name | Road Name | Location | Const Yr | Ex. Load Posting | | | Crossing Type | No. of Cells | Total Span (m) | Culvert Length (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | | | | | | | | | | | |
|------------------------|----------|-------------------------------|------------------------------|-------------------------------|----------|------------------|-----|-----|---------------|--------------|----------------|--------------------|------------------------------|-----------------------------|-------|------|---------------|--|--|--|--|--|--|--|--|--|-------------------|---------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | | | | | | | | | | | |
| 12062 | 12.00 | 7TH LINE, LOT 22, CONC VI/VII | 7TH LINE | 0.54 km E of 20TH SIDEROAD | 2007 | 0 | 0 | 0 | O-PED, Over | 1 | 3.70 | 30.00 | | Rehab | clAG | NOW | 65,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | NOW | 2,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Rehab Extra | crTCP | NOW | 7,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Total Cost NOW | | | 74,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Maintenance | cOTH | 1-5 | 0 | | | | | | | | | | | |
| Total Cost 1-5 | | | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Total Cost | 74,000 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal % | 100 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal Cost | 74,000 | | | | | | | | | | | | | | |
| 12048 | 13.00 | 4TH LINE, LOT 14, CONC III/IV | 4TH LINE | 1.90 km E of 10TH SIDEROAD | 2002 | 0 | 0 | 0 | O-WAT, Over | 1 | 5.10 | 16.00 | | Rehab | clAG | NOW | 13,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Rehab Extra | crTCP | NOW | 7,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Total Cost NOW | | | 20,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Rehab | cCR | 6-10 | 7,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | | | | | | | | | | | |
| Total Cost 6-10 | | | 8,000 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Total Cost | 28,000 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal % | 100 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal Cost | 28,000 | | | | | | | | | | | | | | |
| 11009 | 14.00 | INDUSTRIAL PARKWAY/SPRING | INDUSTRIAL PARKWAY, ALLISTON | 0.51 km S of YOUNG STREET | 1998 | 0 | 0 | 0 | O-WAT, Over | 5 | 10.80 | 23.20 | | Maintenance | cOTH | 1-5 | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Total Cost 1-5 | | | 0 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Rehab | cCR | 6-10 | 7,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 8,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | Total Cost | 8,000 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal % | 100 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal Cost | 8,000 | | | | | | | | | | | | | | |
| 11007 | 15.00 | EIGHTH AVENUE | EIGHTH AVENUE, ALLISTON | 0.03 km S of TUPPER BOULEVARD | 1996 | 0 | 0 | 0 | O-WAT, Over | 5 | 10.80 | 24.00 | | Rehab | cRSB | 6-10 | 13,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Rehab Extra | crMB | 6-10 | 1,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | Total Cost 6-10 | | | 14,000 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Cost | 14,000 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Municipal % | 100 |
| | | | | | | | | | | | | | Municipal Cost | 14,000 | | | | | | | | | | | | | | |

Notes:

- Individual item costs include engineering and contingency allowances.
- Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Culvert No. | Priority | Culvert Name | Road Name | Location | Const Yr | Ex. Load Posting | | | Crossing Type | No. of Cells | Total Span (m) | Culvert Length (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | | | | | | | | | | | |
|-------------|----------|---------------------------------------|---------------------------------|----------------------------------|----------|------------------|-----|-----|---------------|--------------|----------------|--------------------|------------------------------|-----------------------------|---------------|------|---------|-------------------|------------|----------|-------|-------------------|-------------|--------------|-------|-------------------|------------|---------------|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | | | | | | | | | | | |
| 12069 | 18.00 | Boyne Street High Flow Relief Culvert | Boyne Street, Alliston | 0.07 km N of Shephard Avenue | 2011 | 0 | 0 | 0 | O-WAT, Over | 1 | 3.00 | 17.00 | | Rehab | cRSP | 6-10 | 7,000 | Rehab Extra | crMB | 6-10 | 1,000 | Total Cost | 6-10 | 8,000 | | | | |
| | | | | | | | | | | | | | Total Cost | | 8,000 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal % | | 100 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal Cost | | 8,000 | | | | | | | | | | | | | |
| 12061 | 19.00 | 20TH SIDEROAD, LOT 20/21, CONC IV | 20TH SIDEROAD | 0.60 km N of 4TH LINE | 1970 | 0 | 0 | 0 | O-WAT, Over | 1 | 3.40 | 14.50 | | Rehab | cSPI | 6-10 | 5,000 | Rehab Extra | crMB | 6-10 | 1,000 | Total Cost | 6-10 | 6,000 | | | | |
| | | | | | | | | | | | | | Total Cost | | 6,000 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal % | | 100 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal Cost | | 6,000 | | | | | | | | | | | | | |
| 12053 | 21.00 | ENGLISH DRIVE | ENGLISH DRIVE, BEETON | 0.09 km E of CENTRE STREET NORTH | 1993 | 0 | 0 | 0 | O-WAT, Over | 4 | 12.20 | 18.30 | | Rehab | clAG | NOW | 65,000 | Rehab Extra | crMB | NOW | 2,000 | Rehab Extra | crTCP | NOW | 7,000 | Total Cost | NOW | 74,000 |
| | | | | | | | | | | | | | Maintenance | | cOTH | 1-5 | 0 | Total Cost | 1-5 | 0 | | | | | | | | |
| | | | | | | | | | | | | | Total Cost | | 74,000 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal % | | 100 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal Cost | | 74,000 | | | | | | | | | | | | | |
| 11008 | 22.00 | CHURCH STREET SOUTH | CHURCH STREET SOUTH, ALLISTON | 0.27 km N of ALDERSON COURT | 1994 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.50 | 25.00 | | Rehab | clAG | NOW | 65,000 | Rehab Extra | crMB | NOW | 2,000 | Rehab Extra | crTCP | NOW | 7,000 | Total Cost | NOW | 74,000 |
| | | | | | | | | | | | | | Total Cost | | 74,000 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal % | | 100 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal Cost | | 74,000 | | | | | | | | | | | | | |
| 11004 | - | DUFFERIN STREET SOUTH | DUFFERIN STREET SOUTH, ALLISTON | 0.01 km N of PARSONS ROAD | 2015 | 0 | 0 | 0 | O-WAT, Over | 2 | 6.00 | 26.00 | | Maintenance | cOTH | 1-5 | 0 | Total Cost | 1-5 | 0 | | | | | | | | |
| | | | | | | | | | | | | | Total Cost | | 0 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal % | | 100 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Municipal Cost | | 0 | | | | | | | | | | | | | |

Notes:

- Individual item costs include engineering and contingency allowances.
- Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.

| Culvert No. | Priority | Culvert Name | Road Name | Location | Const Yr | Ex. Load Posting | | | Crossing Type | No. of Cells | Total Span (m) | Culvert Length (m) | Eng. Invest. Type/ Cost (\$) | Improvement Recommendations | | | | |
|-------------|----------|----------------------------------|-----------------------------|------------------------------|----------|------------------|-----|-----|---------------|--------------|----------------|--------------------|------------------------------|-----------------------------|------------|----------|---------|--|
| | | | | | | L3t | L2t | L1t | | | | | | Category | Type | TON | Cost(1) | |
| 11006 | - | KING STREET SOUTH | KING STREET SOUTH, ALLISTON | 0.05 km N of BEATTIE AVENUE | 1980 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.10 | 22.20 | | | | | | |
| 12052-2-2 | - | LILLY STREET EAST | LILLY STREET EAST, BEETON | 0.09 km E of CENTRE STREET | 1993 | 0 | 0 | 0 | O-WAT, Over | 3 | 12.00 | 18.60 | | | | | | |
| 12055 | - | 15TH SIDEROAD, LOT 15/16, CONC V | 15TH SIDEROAD | 0.50 km N of 5TH LINE | 1960 | 0 | 0 | 0 | O-WAT, Over | 1 | 3.40 | 15.90 | | Maintenance | cOTH | 1-5 | 0 | |
| | | | | | | | | | | | | | Total Cost | | 1-5 | 0 | | |
| | | | | | | | | | | | | | Total Cost | | | 0 | | |
| | | | | | | | | | | | | | Municipal % | | | 100 | | |
| | | | | | | | | | | | | | Municipal Cost | | | 0 | | |
| 12060 | - | 15TH SIDEROAD, LOT 15/16, CONC I | 15TH SIDEROAD | 0.30 km N of HIGHWAY 9 | 1970 | 0 | 0 | 0 | O-WAT, Over | 1 | 3.30 | 22.70 | | | | | | |
| 12066 | - | Parsons Road Culvert | Parsons Road, Alliston | 0.1 km S of Albert Street | 1990 | 0 | 0 | 0 | O-WAT, Over | 1 | 3.10 | 15.30 | | Maintenance | cOTH | 1-5 | 0 | |
| | | | | | | | | | | | | | Total Cost | | 1-5 | 0 | | |
| | | | | | | | | | | | | | Total Cost | | | 0 | | |
| | | | | | | | | | | | | | Municipal % | | | 100 | | |
| | | | | | | | | | | | | | Municipal Cost | | | 0 | | |
| 12067 | - | 10th Sideroad Culvert | 10th Sideroad | 0.27 km N of 14th Line | 2013 | 0 | 0 | 0 | O-WAT, Over | 1 | 3.00 | 55.00 | | | | | | |
| 12068 | - | Boyne Street Arch Culvert | Boyne Street, Alliston | 0.06 km N of Shephard Avenue | 2011 | 0 | 0 | 0 | O-WAT, Over | 1 | 4.90 | 17.00 | | | | | | |

Total Cost of Recommended Improvements

576,000.00⁽²⁾

Notes:

- Individual item costs include engineering and contingency allowances.
- Total cost includes cost of engineering investigations. Total cost is not adjusted for owner share.



CULVERT IMPROVEMENT NEEDS

The culverts of span 2.3 m and greater under the jurisdiction of the Town of New Tecumseth which were inventoried and appraised are listed in the following table. The culvert inventory section table is arranged numerically by culvert number and provides the following information:

- Local culvert number
- Priority Ranking
- The culvert name
- The culvert road name
- The culvert location
- The year of construction
- The year extended
- Load Limit Postings
- The crossing type
- The number of cells
- The total span in metres
- The culvert length
- The requirement for any engineering investigation, year and cost
- The recommended type and time of improvement
- The construction cost of the recommended improvement and the total project cost including engineering and contingency allowances

The following abbreviations are used in Table C1:

- c - Culvert
- cc - Culvert Construction
- cr - Culvert Rehabilitation

Crossing Type

- O-WAT - Over Water
- O-PED - Over Pedestrian Walkway

Culvert Type

- CPS-PA/ - Corrugated Plate Steel Pipe Arch
- CPS-PR/ - Corrugated Plate Steel Pipe Round
- CPS-PAS - Corrugated Plate Steel Pipe Arch with Stiffener and/or Buttress
- CPS-PHS - Corrugated Plate Steel Pipe Horizontal Ellipse with Stiffener and/or Buttress
- CPS-PHE - Corrugated Plate Steel Pipe Horizontal Ellipse
- CPR-OTH - Cast-in-Place Reinforced Concrete Other
- CPR-BOX - Cast-in-Place Reinforced Concrete Box
- CPR-FRA - Cast-in-Place Replacement Concrete Frame
- PCC-PR/ - Precast Concrete Pipe Round
- CST-PA/ - Corrugated Steel Pipe Arch
- CST-PR/ - Corrugated Steel Pipe Round



Type of Improvements

- **Capital Improvements / Construction Extra**

| | |
|---------|--------------------------------|
| cREC - | Remove Existing Culvert |
| cRSL - | Replace Culvert, Same Location |
| ccAPP - | Approaches |
| ccDET - | Detours |
| ccTCP - | Traffic Control / Protection |
| ccUTI - | Utility Relocation |
| ccROW - | ROW Costs |
| ccENV - | Environmental Study |

- **Rehabilitation Improvements / Rehabilitation Extra**

| | |
|---------|--|
| cRRW - | Rehabilitate/Replace Retaining Walls/Wingwalls |
| cRSP - | Rehabilitate Superstructure |
| cRSB - | Rehabilitate Substructure |
| cRIO - | Rehabilitate Inlet/Outlet Treatment |
| cRCF - | Rehabilitate Culvert Floor/Invert |
| crAPP - | Approaches |
| crDET - | Detours |
| crTCP - | Traffic Control / Protection |
| crUTI - | Utility Relocation |
| crROW - | ROW Costs |
| crENV - | Environmental Study |

- **Stream/Waterway Improvements**

| | |
|---------|--|
| cEIR - | Embankment Improvements/Rehabilitation |
| cSPI - | Scour Protection Improvements |
| cC/R - | Channel Realignment |
| cCH/I - | Channel Improvements |

- **Safety Improvements**

| | |
|--------|-------------------------------------|
| clAG - | Installation of Approach Guide Rail |
|--------|-------------------------------------|

- **Costing Category**

| | |
|-------|---------------------------|
| cPC - | Preliminary Cost Estimate |
|-------|---------------------------|



Appendix D

Bridge and Culvert Management Plan



BRIDGE AND CULVERT MANAGEMENT SYSTEM

In order to provide the Town of New Tecumseth with a means to evaluate future maintenance, repair and replacement needs based on updated inspection information, a Bridge & Culvert Management System was developed. The results produced by the program were determined from the following input data for each structure:

- Bridge (or Culvert) Needs ratings (MCR and PCR) identified in Section G of the Municipal Bridge (or Culvert) Appraisal Sheets.
- Functional needs identified in Section H of the Municipal Bridge (or Culvert) Appraisal Sheets.
- Load posting.
- Vehicular traffic at the structure site (AADT).

The following discusses the methodology used in the Bridge & Culvert Management System to determine various condition and appraisal ratings:

1. Material Condition and Performance Condition Ratings (MCR & PCR) in Section G of the Appraisal sheets for bridges and culverts have been input for each structure. The Ontario Structure Inspection Manual (published by the Ministry of Transportation, Ontario), requires that inspectors assign condition ratings from 1 to 6 with 6 representing the best condition. Additional ratings of 9, 0 and Y may also be used. The following table presents the rating values assumed by the program when these ratings are assigned:

| MCR OR PCR RATING | ASSUMED RATING VALUE |
|---|----------------------|
| 9 - Component cannot be inspected | 6 |
| 0 - Component does not exist; Need does not exist | 6 |
| Y - Component does not exist; Need exists | 1.5 |

2. The Functional Needs information is included in Section H of the Municipal Bridge and Culvert Appraisal sheets. In cases where data is missing, the program assumes values. Rating values are determined by comparing the Existing Condition information with the Minimum Tolerable requirement. Table 1 presents the ratings assigned by the program for bridges, when the Existing Condition is worse than the Minimum Tolerable. Table 2 presents the assigned rating values for culverts.

Table 18 Functional Needs Ratings for Bridges

| Functional Needs | Ratings | |
|---------------------|-------------|-----------------|
| | If Adequate | If Not Adequate |
| Road Over | | |
| Travel Deck Width | 6 | 2 |
| Level of Service | 6 | 2 |
| Min.Vert. Clearance | 6 | 1 |
| Sidewalks | 6 | 2 |
| Road Under | | |
| Surface Width | 6 | 2 |
| Level of Service | 6 | 2 |
| Min.Vert. Clearance | 6 | 1 |
| Sidewalks | 6 | 2 |



Table 19 Functional Needs Ratings for Culverts

| Functional Needs | Ratings | |
|------------------------|-------------|-----------------|
| | If Adequate | If Not Adequate |
| Road Over | | |
| Platform Width | 6 | 2 |
| Level of Service | 6 | 2 |
| Roadside Safety | 6 | 1 |
| Road Through | | |
| Surface Width | 6 | 2 |
| Level of Service | 6 | 2 |
| Min Vertical Clearance | 6 | 1 |
| Sidewalks | 6 | 2 |

3. For each rated structural component, an Overall Component Condition Rating is calculated by the program, using the following weight factors for the input MCR and PCR.

| Overall Component Condition Rating Weights | |
|--|-----|
| MCR | 0.4 |
| PCR | 0.6 |

4. Load Posting Ratings are assigned using the following comparisons:

| Condition | Assigned Load Posting Rating |
|--|------------------------------|
| If Load Posting is greater than 20 tonnes | 6 |
| If Load Posting >18 tonnes and # 20 tonnes | 5 |
| If Load Posting >16 tonnes and # 18 tonnes | 4.5 |
| If Load Posting >14 tonnes and # 16 tonnes | 4 |
| If Load Posting >12 tonnes and # 14 tonnes | 3 |
| If Load Posting >10 tonnes and # 12 tonnes | 2 |
| If Load Posting # 10 tonnes | 1 |



Appendix E

Structure Appraisal Sheets