A. Recommendations

THAT Council receive Staff Report CSOPS.19.064, entitled “Elma and Alice Area Streetscape Report”;

AND THAT Council receive the Elma and Alice Area Streetscape Report by Tatham Engineering as presented;

AND THAT Council directs Staff to advance the Final Design with the level of service and design elements to be incorporated into Elma and Alice Street Area Reconstruction as per the completed checklist attached as Attachment #2.

B. Overview

The purpose of this report is to present the Elma and Alice Street Area Reconstruction Preliminary Streetscape Report and receive direction from Council on the level of service to be provided by this project.

C. Background

During the preliminary engineering assignment, undertaken by WSP Canada in 2017 and 2018, 3 workshops with Council were undertaken to establish design criteria related to the level of service that would be provided by reconstruction projects in Thornbury.

As part of the final design assignment Tatham Engineering conducted a Public Information Centre (PIC) to present their interpretation of the conclusions from the Level of Service Workshops.

The focus of the level of service discussions have been with the surface elements of the municipal infrastructure. These are the elements that the residents come in contact with daily.

The bulk of the municipal infrastructure are the water, wastewater and storm systems that are almost exclusively underground. These systems, while vital, were not part of the level of
service considerations. These systems are expected to function adequately to service the existing and future demands of the residents.

The level of service discussion has presented several options, but decisions on the final design criteria have not been reached. Staff are seeking clarification of the design elements that will be incorporated into the Thornbury Road Infrastructure Projects.

D. Analysis

The municipal infrastructure is generally deficient and considered beyond its useful life in the project area. In order to clarify the scope of the work, each system will be discussed. The systems within the project area were not all constructed at the same time or to the same specification or by the same owner and many of the design considerations and construction details have been lost to time.

Water System

The water system is comprised of cast iron pipes and plastic pipes that do not meet current Town standards. The Water Department have reported increased failure rates with these pipes. In addition, there are service connections that cross private properties that will need to be corrected. The new water system will be designed and constructed in accordance with Town Standards, MECP Design Guidelines and the Town’s potable water model to ensure the system is suitable for existing and future demands.

Wastewater System

The wastewater system is generally comprised of clay tile and asbestos cement pipe as well as several brick maintenance holes. CCTV inspections revealed significant leaks in the clay tile pipes and some indication of ground water being discharged from sanitary services. There are service connections that cross private property without easements that will need to be corrected. The new wastewater system will be designed and constructed in accordance with Town Standards, MECP Design Guidelines and the Town’s sanitary sewer model to ensure the system is suitable for existing and future demands.

Correction of Water and Wastewater Services on Private Property

A number of buildings are serviced by unusual service connections that connect buildings to water or wastewater mains by crossing private property without easements. Buildings must be connected directly to mains by a service pipe that crosses the property on which the building is located to the Town land in which the main is located. Correcting these unusual service connections may mean that the new municipal service from the main to the property is in a different location than the private service. The new municipal service connection location may require work on private property to route the private service to the new municipal service connection.

In order to explain this issue an example may help. Three houses at the corner of Elma and Louisa are serviced by 1 municipal wastewater connection. One of the houses fronts on Louisa
and 2 front on Elma. The project will extend individual services to the 3 houses, 1 from Louisa and 2 from Elma. The private service pipes will have to be extended from the house drains to their new individual municipal service connection locations. Work, plumbing, on private land will be required to make these connections.

Staff suggest correction of plumbing on private lands to reach a proper service connection should be the responsibility of the landowner.

Staff is looking for direction from Council on whether the work on private lands will be the responsibility of the landowner or the Town.

Storm Water System

The storm water system level of service varies within the project area. The discussion of service level for this project is to bring the area to a consistent service level which would see the roads constructed to the Town’s standard cross-section, an urban cross-section with storm sewers with storm service laterals to each lot. The storm laterals will provide the lot owners a location to discharge ground water that may currently be discharged to the sanitary system illegally. The new storm water system will be designed and constructed in accordance with Town Standards, MECP Design Guidelines and the Thornbury West Drainage Master Plan to ensure the system is suitable for existing and future demands.

Staff recommend that the project level of service include storm sewers with storm water laterals.

Staff is looking for confirmation from Council that a storm sewer system will be constructed throughout the project limits along with storm service laterals extended to each lot.

Road Width

The road width was discussed at some length during the level of service workshops. When the final workshop concluded the road width was suggested as 7.5m. Following the workshops, Staff reviewed common urban road widths and concluded the existing Town standard of 8.5m should be retained to provide the flexibility of short-term street parking with the retention of a 6m clear path for emergency vehicles.

Staff recommend that an 8.5m road width be confirmed as the level of service through the project consistent with the existing Town standard cross-section.

Staff is looking for direction from Council to determine the road width as either 8.5m or 7.5m.

Sidewalk Width

Along with the road width discussion during the level service workshops the sidewalk width was discussed. When the final workshop concluded, the sidewalk width was suggested as 1.8m. The widths were suggested to move focus off cars and onto active transportation. Following the
workshops, Staff reviewed common sidewalk widths and concluded the existing Town standard of 1.5m should be retained.

Staff recommend a 1.5m sidewalk width which is consistent with provincial standards

Staff is looking for direction from Council as to the sidewalk width for local roads.

Multiple or Single Sidewalks

The Town has received feedback from some residents suggesting sidewalks be installed on both sides of the streets for all or a portion of Elma and Alice Streets. Elma and Alice Street have sidewalk on one side of the street through the construction limits. Elma also has a second sidewalk on a portion of the road section on its west side between Louisa and Alice. In addition, Elma has portions of the boulevard paved intermittently from the top of the hill towards Arthur Street on both its east and west sides. The paved boulevard sections seem to be an attempt to provide street parking, it does not seem that these paved sections were meant as sidewalks or paths due to their intermittent nature.

The preliminary engineering and early work on the final design have been advanced with the understanding that a single sidewalk would be reconstructed on Alice and Elma. The continuous sidewalk on Alice would be constructed in its present location to avoid significant tree disruption. The sidewalk on Elma would be best located on the west side of the road making it consistent with its current location between Alfred and Alice but changes from its current location between Alice and Arthur as a compromise best fit.

Staff recommend a single sidewalk for both Elma and Alice Streets.

Staff is looking for direction from Council on how to proceed with the sidewalk locations on Elma and Alice.

Parking and Sidewalks on Alice Street at Bruce Street

Another section of the project with sidewalks on both sides of the street is on Alice Street at Bruce Street. The church at the corner of Alice and Bruce has no onsite parking. The church uses the Alice Street boulevard for their parking, one of the parking spaces is labeled as an accessible parking space presumably for the church. The parking spaces and sidewalk do not currently fit properly in the boulevard, vehicles often overhang the sidewalk and the street.

The construction of these parking spaces should go ahead under an encroachment agreement or an MLU Occupancy agreement with the Town. The parking spaces and walkways should be designed to maximize the number of spaces and walkway route in the space available.

Staff recommend the parking and sidewalk/pathway be reconstructed under an encroachment or municipal land use occupancy agreement.

Staff is looking for direction from Council on how to proceed with the parking and walkways in the Alice and Bruce Street Area.
Curb Type

The curb type has been discussed at some length. When the last version of the engineering standards that were approved by Council in 2009 the curb type on the “Standard Road Cross-Section” was OPSD 600.100 mountable curb with narrow gutter. The engineering standards also state “The Town, at its sole discretion, may require barrier, mountable or semi-mountable curbs. Since 2009 the Town has adopted barrier curbs as the norm. Barrier curbs offer protection to pedestrians in the boulevard and reduce boulevard damage caused by winter control operations. Mountable curbs possibly offer better drainage of the boulevards and it has been suggested that they are safer for cyclists, however Operations is not aware of any studies that would support this last assertion.

Staff recommend barrier curbs for this project.

Staff is looking for direction on from Council as to which curb type will be incorporated into the works.

Streetlights

The electrical utility in the project area is overhead. The existing streetlights are attached to existing hydro poles. Generally, the streetlights are every other hydro pole and are wired directly off the hydro conductors. The lighting levels at street level are inconsistent due the spacing of lights as well as being less that the Town’s engineering standards dictate. The suggested lighting improvement is to place cobra head light on all the existing hydro poles and accept the lighting levels achieved. It should be noted that some of the existing poles may not accept a cobra head light due to the wiring present on the pole.

There were comments expressed regarding the existing lighting being problematic with light pollution into homes. A solution voiced was to install decorative lighting on the streets that is thought to have less light pollution.

Council should be aware that the cobra heads on existing poles is a relatively inexpensive solution. Installation of a decorative lighting system on these streets would be significantly more expensive due to the underground wiring required along with the poles and luminaires.

Staff recommend cobra head lights on existing hydro poles.

Staff is looking for direction from Council as to the streetlight option they wish to advance on this project.

Street Trees

The discussion on street trees is typically in reference to the larger specimen trees that form the urban canopy. In addition to these trees Staff will need to understand what to do with the rest of the private landscaping that has crept onto the Town land over the years. In more than one case individuals have planted cedar hedges in the right of way that presumably need to be removed. Other landscaping such as planting beds, fences and landscape elements would
presumably also be scheduled for removal. However, this would wait for direction from Council.

The Arborist’s Report from the preliminary engineering task suggested 13 existing trees would be removed based on conflicts with the 30% design concept. The report did not suggest the trees that are warranted for removal based on their condition. It is expected that a larger number of trees will be lost either to their condition or conflicts with infrastructure replacement.

When trees are lost the appropriate replacement becomes the question. Staff have suggested replacement trees at 16m on center. Suggestions from residents have promoted closer planting in the 8m on center range. The tree species that the Town has been planting on projects include Valley Forge Elm, Red Oak and Autumn Blaze Maple. The crowns of these trees can be as wide as 18m, notes on the Red Oak suggest they need room to grow and do not do well hemmed in by other trees. It would seem that planting replacement trees at 16m on center, which would be about 1 tree per lot, is about right.

Staff recommend clearing private landscaping in boulevards and replant specimen trees to achieve 16m spacing of these trees to enhance the urban canopy.

Staff is looking for direction from Council on clearing private landscaping on Town lands and tree replanting protocol to follow.

E. The Blue Mountains Strategic Plan

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<td>Promote a Culture of Organizational &amp; Operational Excellence</td>
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<td>Constantly Identify Opportunities to Improve Efficiencies and Effectiveness</td>
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<tr>
<td>#5</td>
<td>Ensure Our Infrastructure is Sustainable</td>
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<tr>
<td>#3</td>
<td>Implement Best Practices in Sustainable Infrastructure</td>
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F. Environmental Impacts

The replacement of failing infrastructure will reduce sewer flows and treatment costs and reduce non-recorded water loss.

G. Financial Impact

The Elma and Alice Street Reconstruction budget was approved in 2018 at a cost of $5,692,700, with funding coming from multiple sources, including reserve funds, provincial grants, and long-term debt. The items discussed in the body of the report will be funded through this budget.

It is the Town’s historical practice to not fund or do work on the private lands associated with servicing. Typically, the service is extended to the property line and then it is the responsibility
of the property owner to connect to the new lateral. If Council wishes to change this practice it could have significant impacts on this and future projects.

H. In Consultation With

Shawn Everitt, CAO  
Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets  
Jim Mc Cannell, Manager of Roads and Drainage  
Allison Kershaw, Manager of Water and Wastewater

I. Public Engagement

The topic of this Staff Report has been the subject of a Public Information Centre (PIC) which took place on July 10 & 13, 2019. Those who provided comments following the PIC, including anyone who has asked to receive notice regarding this matter, have been provided notice of this Staff Report.

J. Attached

1. Elma and Alice Street Area Reconstruction Preliminary Streetscape Report  
2. Elma and Alice Street Area Reconstruction Level of Service and Design Element Checklist

Respectfully submitted,

_________________________  ____________________
Michael Campbell, C.E.T.  
Construction Coordinator

_________________________
Shawn Everitt  
Chief Administrator Officer

For more information, please contact:  
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Elma and Alice Street Area Reconstruction
PRELIMINARY STREETSCAPE REPORT
Town of The Blue Mountains
# Document Control

**File:** 119105  
**Prepared by:** Tatham Engineering Limited  
**Prepared for:** Town of The Blue Mountains

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| Town of The Blue Mountains | 32 Mill Street  
Thornbury, Ontario  N0H 2P0 |

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## Issue

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<td>September 9, 2019</td>
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Appendix A: Public Comments
1 Introduction

Tatham Engineering Limited has been retained by the Town of The Blue Mountains to provide engineering services for the final design, tendering, construction inspection and contract administration of the Elma and Alice Street Area Reconstruction project. This is the first project in the Thornbury Road Infrastructure Program (TRIP); a program aimed at correcting deficiencies within the older sections of Thornbury through completing background studies and incorporating recommendations into a series of projects over the next 10-20 years. The project area is illustrated in Figure 1 and includes sections of Elma Street, Alice Street, Louisa Street, Lorne Street and Park Lane.

Improvements are warranted to adjust the vertical alignment and grading of the streets, apply current design standards equally throughout the project limits, replace aged and deteriorated infrastructure with properly sized systems, develop proper major storm conveyance and enhance safety and continuity through a consistent level of service for streetlights, sidewalks and passive traffic calming. Private utility companies will also have opportunity to incorporate system upgrades or adjustments as part of this project. Elma Street and Alice Street will include a complete reconstruction of the existing roadway and buried municipal infrastructure, along with replacement of all services to the edge of the Town owned right-of-way. Lorne Street and Park Lane will be reconstructed, including all existing services along the length of municipally owned laneway. Work along Louisa Street will be limited to correction of existing underground infrastructure servicing issues near Elma Street. A future TRIP project will incorporate adjustments to the road cross-section and grading.

The purpose of this report is to summarize the existing conditions and public consultation to date, present the design standards employed and the resulting preliminary design for the improvements. This report is intended to be read alongside the Preliminary Design Report, Elma St. S. and Alice St. W. Reconstruction\(^1\) and will frequently refer to conclusions found within the WSP report.

\(^1\) Preliminary Design Report, Elma St. S and Alice St. W Reconstruction. WSP, (December 2018).
2 Existing Conditions

This chapter will summarize the existing conditions within the project area, as determined from site investigations coupled with a review of the topographic survey and the Preliminary Design Report, Elma St. S. and Alice St. W. Reconstruction.2

2.1 RIGHT-OF-WAY & HORIZONTAL ALIGNMENT

The existing rights-of-way on Elma Street, Alice Street and Louisa Street are 20.12 metres (66 feet) wide. Both Elma Street and Alice Street, where urbanized, are centred within the right-of-way. The Louisa Street centreline is offset by approximately 3.0 metres to the north, likely due to the presence of a large slope along the south boulevard. This slope has many large trees and retaining walls extend along the top of bank to create a 1.5 metre landing.

Lorne Street has an existing right-of-way of 6.10 metres (20 feet) and provides access to five properties with frontage on Louisa Street at the top of the large slope where driveways are not practical. Park Lane has a right-of-way width of 9.14 metres (30 feet) and provides access to three properties with driveways connected to this lane.

2.2 VERTICAL ALIGNMENT

The vertical alignment of the project area can be described in relation to the Elma Street hill, located near the Louisa Street intersection. This ridge runs parallel to Louisa Street in an east to west direction and is traversed by Elma Street with a vertical profile slope of approximately 8.3%. This steep slope continues through the Elma Street and Louisa Street intersection, limiting sight lines at the vehicular crossing.

Lorne Street connects to Elma Street near the top of this hill and similarly climbs to the top of the slope between two properties with a slope of approximately 9.1%.

Alice Street and Park Lane are located at the top of the ridge, characterized by relatively flat road and boulevard grades.

2.3 CROSS SECTION

Elma Street and Alice Street are mostly urbanized at the top of the hill, with sidewalk on at least one side of the road. The existing sidewalks vary in width between 1.2 metres (4 feet) and 1.5 metres (5 feet) and are typically set back close to the property line; the 1.2 metre sidewalks do not meet current accessibility requirements. Close to the hill, the Elma Street sidewalk shifts to curb faced sidewalk (i.e. located immediately behind the curb) to accommodate the large slopes.

on the east side of the road and the sidewalk on the west side of the road terminates at the paved asphalt boulevard.

The road width on Alice Street varies between the urbanized section (8.5 metres) and the rural section (6.7+ metres), transitioning at Elma Street. Elma Street is fully urbanized at the top of the hill with an 8.5 metre width and transitions to a narrower width (6.5 metres) with asphalt gutters and/or asphalt boulevards on both sides at the bottom of the hill. Louisa Street is urbanized with barrier curb on one side and asphalt gutter and boulevard on the other, providing a road width of approximately 7.0 metres and a total paved width of up to 9.0 metres. Lorne Street is partly paved with an average width of 3.5 metres. Park Lane is fully paved and has an average width of 4.5 metres.

Utility poles are located on both sides of Elma Street and Alice Street, with the main lines located within the east boulevard for Elma Street and within the north boulevard for Alice Street. Utility poles are located along the north boulevard on Louisa Street. Utility poles are located along the south property line on Lorne Street and poles are near the east property line on Park Lane.

2.4 STORMWATER MANAGEMENT

Stormwater drainage is collected by a combination of roadside and boulevard catch basins. Boulevards near the Elma Street hill are lower than the road on both sides and are drained by structures located between the back of curb and sidewalk.

The existing project area has an overland flow deficiency near the intersection of Elma Street and Alice Street due to insufficient storm sewer capacity for flows above a standard storm intensity and a depressed existing grade around this intersection. In a major storm event, significant ponding (>0.3 metres depth) is expected until the water spills though private property towards Victoria/Louisa Street.

2.5 STREETLIGHTS

Lighting along Elma, Alice and Louisa Streets is provided by streetlights mounted on utility poles at irregular spacing, which creates inconsistent lighting along the roads. The Preliminary Design Report, Elma St. S. and Alice St. W. Reconstruction indicates the streetlight placement barely meets Town minimum standards for uniformity, and does not meet the recommendations for uniformity in industry standards.

2.6 STREET TREES

The project area is a well established, mature neighbourhood characterized by large trees within the right-of-way and also on private property. Many trees have grown to straddle the property
line creating shared ownership. The *Arborist Report and Tree Protection Plan*\(^3\) provides a
detailed description and rating of all trees within the project area. The report recommends
removal of 13 trees based on conflict with the 30% Design Concept (as opposed to tree
condition). Additional trees may require removal based on the final proposed cross section,
conflict with services and mains, grading adjustments, tree health and/or structural deterioration
since the field investigation was completed. Design decisions will be made, as much as possible,
to limit impacts to existing trees.

2.7 RETAINING WALLS

Numerous retaining walls of varying material, height, length and condition exist along the
properties bordering the south edge of Louisa Street. It appears some sections of retaining wall
were constructed on private property, but have shifted to straddle the property line. Other
sections were built by homeowners within the municipal right-of-way along the top of the slope.
All of the retaining walls are not likely to be in conflict with any underground infrastructure.
However, they may be impacted if and when services are replaced (as services are located below
the walls).

2.8 SEWERS & WATERMAINS

WSP identified numerous issues with the existing infrastructure. While it was concluded that the
sanitary sewer collection system and water distribution systems were performing adequately,
replacement was recommended due to age and noted deterioration. Improvements to the
sanitary sewer system will also be required to provide proper service to all properties within the
project area. The storm sewer was noted to be performing poorly and requires replacement and
upgrading to convey the 5-year storm.

Properties along Park Lane and Lorne Street are serviced by makeshift systems with connections
branching to multiple properties, or combining within private property. The installation of proper
infrastructure is required on both roads to provide adequate services to all properties in
accordance with current Town Standards.

2.9 UTILITIES & SERVICES

There is overhead hydro and telephone/cable service along Elma Street, Alice Street and Louisa
Street. Lorne Street and Park Lane are also used for some utility distribution. The overhead
utilities are located along one side of the street with service poles on the opposite side
throughout the project limits. Gas service is provided by mains along one or both sides
throughout the project area.

\(^3\) *Arborist Report and Tree Protection Plan*. WSP, (January 10, 2019).
3 Preliminary Design

Preliminary design for this project was completed by WSP under a separate assignment with the Town, the key findings and recommendations of which are highlighted below.

3.1 PUBLIC CONSULTATION

Extensive public consultation has been completed throughout this project. WSP completed three workshops with Council and the public to establish design criteria related to a minimum level of service. The recommendations from those workshops are summarized in the Level of Service Workshop Summary Report. The recommendations and conclusions provided within this report are assumed to be an accurate representation of the discussions and decisions that occurred during those workshops. Note: the results of the level of service workshops were not presented to Council for approval and have been utilized for comparison purposes only.

3.2 PRELIMINARY DESIGN RECOMMENDATIONS

WSP concluded their work plan with a Preliminary Design Report summarizing their discussions with the Town and residents, and providing recommended solutions to address comments received with direction for the implementation of the Level of Service workshops. Using the Town’s Standard Cross-Section 8.5m Road – 20m R.O.W. as the starting point, the following cross section was recommended:

- 1.8 metre wide sidewalk (as opposed to 1.5 metre);
- narrower road (7.5 metres was provided as an example width);
- concrete barrier curb and gutter (as opposed to mountable curb);
- varying boulevard widths (0.5 metre to 1.5 metre); and
- storm laterals for private storm sewer connections (for sump discharge only, per Town standard practice).

3.3 RECOMMENDATIONS CARRIED FORWARD

As noted, the results from the level of service workshops were not presented to council for approval. Because the Preliminary Design Report utilized the level of service conclusions in preparing recommendations, Tatham Engineering reviewed the recommendations from the WSP

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4 Level of Service Workshop Summary Report. WSP, (December 2017).
reports with Town Staff at the onset of the project and the following have been carried forward for this project:

- concrete barrier curb and gutter; and
- storm laterals for private storm sewer connections.

Concrete barrier curb and gutter was selected as it improves protection for pedestrians, limits boulevard damage from snow removal operations, discourages boulevard parking and matches existing conditions closely. Storm laterals were incorporated within this project to match current Engineering Design Standards.

With respect to the sidewalk and road widths, Town staff did not feel the recommendations were appropriate; rather direction was provided to incorporate 1.5 metre sidewalk on one side and an 8.5 metre wide road, matching both Town and Provincial standards for functionality, safety and accessibility. The location of the sidewalk was chosen to limit impacts to trees, match existing conditions more closely, reduce utility relocations, provide a connection between popular pedestrian destinations and to suit existing topography.
4  Public Consultation

Further to the previous public engagement undertaken as part of the preliminary design, Tatham Engineering completed a Public Information Centre (PIC) on July 10 and 13, 2019 to re-engage the public in the project and present an interpretation of the conclusions from the *Level of Service Workshop Summary Report* and discussions with Town staff. Thirty residents attended the two PIC meetings and engaged staff from Tatham and the Town in discussions about the proposed designs, construction impacts, existing servicing issues, development of level of service and communication throughout the project.

Eight formal comment sheets were submitted at the PIC as well as 2 received via email (all comments are included in Appendix A). A summary of the key issues raised by the public relates to:

- number, width and location of sidewalks;
- storm drainage issues currently impacting private and public lands;
- streetlighting levels, spacing and cost;
- tree health, errant locations, tree preservation, tree replacement, boundary trees and trimming;
- sanitary and water service historical issues;
- traffic calming, line painting and pedestrian safety; and
- replacement of existing infrastructure/ground cover disturbed by construction.

Further discussion with respect to each of the above follow, with associated recommendations provided in Chapter 6 and a discussion of the implications and possible alternatives to be considered provided in Chapter 7.

4.1  SIDEWALKS

Sidewalks were discussed in great detail with members of the public throughout both PIC meetings. Several residents expressed the need for sidewalks on both sides of Elma Street, while others supported a sidewalk on one side only. Key factors supporting sidewalks on both sides include lack of winter access to sidewalks on the opposite side of the street (part time residents may not clear driveways regularly) and the high volume of pedestrian traffic. During two site visits by Tatham Engineering staff, excessive numbers of pedestrians were not evident, however, many anecdotal reports of high volumes were received from residents both at the PIC meetings and during site visits.
4.2 STEM DRAINAGE CONCERNS

Several residents noted drainage issues in and around their properties (i.e. within the right-of-way and on private property). Based on a site investigation and review of the topographic survey, Tatham Engineering has confirmed several locations requiring improvements to ensure appropriate drainage. The proposed design will address issues within the existing right-of-way by lowering the road and improving overland drainage routes. Rectification of grading deficiencies on private property will be further reviewed and addressed with Town staff.

4.3 STREETLIGHTS

Discussion around streetlights focused on the light colour, intensity and spacing. Several comments were made indicating the existing light levels are sufficient and that increased lighting will result in more speeding along the streets and/or additional cost to taxpayers. Comments were also received expressing a desire to install decorative light poles, similar to the ones utilized throughout the downtown core and along Bridge Street East/King Street East. One comment expressed a desire to bury the overhead utilities and the resident offered to contribute to the additional cost.

4.4 TREE PRESERVATION

Several comments were received questioning the recommendations within the arborist report and suggesting tree health has been misidentified. Comments were also received requesting tree replacements be made with more mature trees (as opposed to the standard 60 mm caliper tree), and requesting multiple trees be installed for every tree removed, with opportunity to choose the location (potentially within private property). Several comments requested clarification with regard to trees straddling the property line and the approach taken by the Town to address trimming or removals.

4.5 SERVICING ISSUES

Several residents expressed concerns with existing municipal services and requested the Town work on private property to correct interconnected services. A separate comment requested deepening of sanitary service at the property line to improve plumbing within the house.

4.6 TRAFFIC CALMING

Several residents expressed concerns with increased traffic volumes and travel speeds and requested traffic calming measures be implemented to reduce both. Specific requests included painting lane lines at a 6.0 metre width (i.e. road narrowing) to provide passive traffic calming, and/or painting the centreline to better define the lanes. A comment further requested painted cross walks at the Elma Street and Alice Street intersection.
4.7 EXISTING GROUND COVER

Several comments were received regarding existing driveway materials, walkways, gardens and private landscaping features located within the right-of-way and the means of protection, relocation and/or replacement. The Town approach historically has been to replace driveways to a minimum standard (i.e. paving gravel driveways to property line) and replace with existing materials where practical. Current Town policy is to restrict installation of private landscape features within the right-of-way. Accordingly, all homeowners will be notified prior to construction and directed to remove all private landscaping from within the right-of-way.
5 Design Criteria

5.1 CROSS SECTION

The following basic design standards have been employed for the design of Elma Street and Alice Street:

- urban cross section to include 0.5 metre barrier curb and gutter, and storm sewers;
- 8.5 metre road width to accommodate 1 travel lane per direction plus allow for on-street parking (matching the Town’s Standard Cross-Section 8.5m Road – 20m R.O.W.);
- 5.25 metre boulevards to accommodate utilities, trees and sidewalk; and
- 1.5 metre wide concrete sidewalk (1 side only) located to avoid existing trees, utility poles and other surface features.

It is noted this cross section is similar to the current urbanized sections of Elma Street and Alice Street which will ensure minimal conflicts between existing and proposed infrastructure and provide continuity and uniformity to road users.

Lorne Street and Park Lane are to be reinstated as a 4.0 metre minimum asphalt width complete with 0.5 metre wide granular shoulders to match existing conditions to the extent possible while providing a minimum level of service.

As this project is strictly focused on solving servicing issues along Louisa Street, no modifications to the existing cross section are proposed at this time. The next TRIP project will address the Louisa Street cross section along its entire length.

Throughout the project area, all proposed cross sections will be readily accommodated within the existing right-of-way. The existing right-of-way is to be maintained; no widenings of the right-of-way, or additional property takings, are proposed.

5.2 STORM & SANITARY SEWER

Storm and sanitary sewer will be designed according to Town Standards and MECP Design Guidelines to ensure services are suitable for existing and future demands.

5.3 WATERMAIN

Watermain will be replaced throughout the project limits according to the recommendations of the WSP report developed from the Town’s minimum standards for velocity and flow rate.
6 **Recommended Improvements**

Typical road sections are provided in Figure 2. with elements described below.

6.1 **LOCATION WITHIN THE RIGHT-OF-WAY**

As the urbanized sections of Elma Street and Alice Street are both currently centred within the right-of-way, no changes to the road location are proposed. All other sections of Elma Street and Alice Street will be upgraded to match the existing urbanized cross section.

Minor corrections to deviations along Park Lane and Lorne Street will be made to centre the proposed road within the narrow right-of-way.

Louisa Street will remain in its current location recognizing that the scope of work is to address municipal underground sewers only (the reconstruction of Louisa Street will be addressed through a separate future Town project).

6.2 **HORIZONTAL & VERTICAL ALIGNMENT**

Given the straight horizontal alignments, no changes to the horizontal alignment are proposed throughout the project area.

Vertical alignment adjustments will be made along Elma Street at the large hill to improve sight lines at the Louisa Street intersection.

Alice Street will also be lowered to provide a proper overland flow route, eliminating the overland flows through private property. Additional adjustments to the vertical profile will be made throughout the project area to improve boulevard drainage and convey overland flows to a suitable outlet.

6.3 **ROAD WIDTH**

Consistent with direction received from Town staff, and the Town Standard Cross-Section 8.5m Road – 20 m R.O.W., an 8.5 metre road width of asphalt (4.25 metre lanes) will be provided throughout the project area for Elma Street and Alice Street. Lorne Street and Park Lane will have a 4.0 metre road width. Louisa Street will maintain its existing width of asphalt as no cross section changes are proposed as part of this project.

6.4 **SIDEWALK**

A continuous 1.5 metre concrete sidewalk is to be provided throughout the project limits on one side of the street for both Elma Street and Alice Street in accordance with the Town Standard Cross-Section 8.5m Road – 20 m R.O.W. Residents without a sidewalk along the frontage of their property will be required to cross to the other side of the street to access the sidewalk, as is
typical in most neighbourhoods. The connection between Alfred Street and Arthur Street (Highway 26) will be made along the west boulevard of Elma Street, matching the existing conditions very closely. New sidewalk will be installed between Louisa Street and Arthur Street within the west boulevard of Elma Street replacing the sidewalk within the east boulevard. The existing sidewalk on the north side of Alice Street will be reconstructed to a consistent 1.5 metre width along the existing sidewalk location.

Reconstructing the sidewalk in its existing location avoids the need for significant utility relocations, changes to retaining wall installations and impacts to existing driveways. Utilizing the west side of Elma Street for sidewalk provides a connection between the Beaver Valley Community Centre and commercial properties along Arthur Street. While inconsistency between the sidewalks on Elma Street north and south of Arthur Street is noted, no significant reduction in level of service is anticipated as the crossings along Arthur Street are uncontrolled and pedestrians looking to cross Arthur Street are encouraged to use the Bruce Street signalized intersection instead of the uncontrolled crossing at Elma Street.

### 6.5 ON-STREET PARKING

On-street parking will be permitted throughout the project limits on Elma Street and Alice Street, given the 8.5 metre road width. Existing boulevard parking spaces will be removed and reinstated with sod. The existing boulevard parking for First Baptist Church is proposed to be reinstated along the frontage of the property as no alternative accessible parking area is available along the frontage of the church building.

Consideration should be given to prohibiting parking between Lorne Street and Louisa Street along Elma Street (through the hill section) to improve sight lines for drivers on Louisa Street.

### 6.6 STORMWATER MANAGEMENT

Given the urban cross section, curb and gutter will be constructed along both sides of the road in its entirety for Elma Street and Alice Street.

Although the design has not been completed yet, storm sewers will be provided throughout the project limits to convey the 5-year storm complete with storm services to each property to allow all properties to connect to a storm sewer service, according to The Blue Mountains Engineering Standards. Note: storm services are to be used for sump discharge only, preventing connection of down spouts, private catch basins and other infrastructure having the potential to reduce system performance.

Road grades will be lowered to provide positive drainage to the roadway throughout the project limits (to the extent possible). An overland flow route will be developed using road and boulevard grade adjustments, providing a suitable route for stormwater to flow when sewers are surcharged, limiting ponding to a suitable depth and preventing property damage. This overland
flow route will replace the existing overland flow route traversing private properties between Victoria Street and Elma Street.

Adjustments to the large storm sewer entering Rankin’s Landing are not possible with this project. The next project in the TRIP will install a trunk sewer along Victoria Street to address this deficiency. The preliminary design task for this work will be awarded in 2019 with construction scheduled for 2021.

6.7 **SANITARY SEWER COLLECTION**

Sanitary sewers will be replaced throughout the project limits and all active sanitary services will be replaced to property line. Opportunities to lower sewers and provide better service will be evaluated. Known servicing issues along Louisa Street and Park Lane are proposed to be corrected within this project. The boulevard sanitary sewer at the west end of Alice Street will be collected by the proposed sanitary sewer instead of outletting through Rankin’s Landing. The depth of all sanitary services will be increased where substandard conditions exist to improve flow rates and frost protection. All services will be replaced to property line and deficiencies will be corrected on an as-encountered basis, working with homeowners as required to protect the Town and Contractor from potential extra costs.

6.8 **WATER DISTRIBUTION**

The existing watermain system will be replaced with a new 150 mm diameter watermain throughout the project limits, including individual services to all properties. Where multiple services are provided to a single property, they will be replaced with a single service. Conversely, shared services will be separated, and a single service will be installed to each property. Additional hydrants will be installed as required to improve hydrant coverage to meet Town standards.

6.9 **RETAINING WALLS**

No adjustments are proposed to existing retaining walls throughout the project limits. Connections to existing services will be made in front of the retaining walls to the extent possible. Sections removed for service installations will be reinstated to existing conditions or replaced with a stable slope. New retaining walls may be utilized along the Elma Street hill to limit boulevard slopes and improve maintenance operations.

6.10 **STREETLIGHTING**

All streetlights within the project limits will be replaced with new streetlights, and all existing hydro poles will have a streetlight added. Replacing all lights within the project limits allows for more control over light trespass beyond the roadway and sidewalk through photometric design. Modern pole mounted streetlights allow for the distribution of light to be improved, resulting in
a decreased light intensity. The use of LED light fixtures will significantly reduce ‘up-light’ compared to common light fixtures that are currently employed.

6.11 SERVICES & UTILITIES

Existing gas, hydro, telephone and cable services will be maintained within the proposed design. Adjustments to road profile and sidewalk location may require relocation within certain sections of the project area, however, no large scale changes are proposed.

6.12 STREET TREES

As many trees as possible will be retained through the use of tree protection zones, relocating infrastructure away from trees and tree root systems, minimizing adjustments to grade around trees and providing construction details for tree preservation when conflicts are unavoidable. All trees removed will be replaced with a single replacement tree, suitable for planting within an urban environment at a location similar to the removed tree. These will be reviewed with the public at a future PIC meeting and boundary trees will be further highlighted to each affected property owner on a case-by-case basis to review the implications and approach.

6.13 TRAFFIC CALMING

Tatham Engineering has been directed to paint a 6.0 metre driving width centred within the 8.5 metre road width (maintaining 1.25 metre shoulder on either side) as a means of passive traffic calming. In our opinion, traffic calming measures are not required for these streets without additional justification. We recommend the Town prepare a traffic calming policy to consistently apply traffic control measures and specify minimum warrants.

6.14 REPLACEMENT OF EXISTING INFRASTRUCTURE

All standard materials will be replaced like-for-like and property owners will be consulted where products are unavailable or unaffordable. Note: private features (i.e. gardens, fences, landscaping, etc.) are to be removed by the property owner prior to construction and will not be reinstated as part of the Town project.

6.15 SUMMARY

The proposed design presented herein meets all Town minimum standards, maintains or improves existing conditions and adequately incorporates feedback from homeowners and residents. Applying a slightly modified version of the Town Standard Cross-Section assists in developing a uniform streetscape appearance throughout the Town and closely matches the majority of the project area. Deviations or enhancements from the standard should only be considered to mitigate a site-specific constraint. In our opinion, the design concept detailed in
this report strikes a balance between construction cost and functionality, providing the best value to the Town.
7 Next Steps

7.1 COMMITTEE OF THE WHOLE APPROVAL

Tatham Engineering will present this report to the Committee of the Whole for approval and confirmation of direction with respect to the overall recommended design as presented herein. In addition, the presentation to the Committee will allow for further discussion and consideration as necessary relating to the following public requests:

- the provision of sidewalks on both sides of the street, and/or wider (1.8 metre) sidewalks;
- the provision of storm services for homeowners to connect to private catch basins and/or down spouts;
- the provision of decorative light standards and/or reduced light levels (lower level of service);
- the burying of overhead utilities to eliminate utility poles;
- an increase in the number of trees planted to replace trees removed and/or plant additional trees along the street at a similar spacing to a new subdivision (10-15 metres);
- the inclusion of sanitary and water service modifications on private property (to occur with appropriate authorization from the property owner); and
- the investigation of additional traffic calming measures and/or preparation of a Town policy to address minimum warrants and preferred approaches.

7.2 PUBLIC CONSULTATION

Following acceptance by the Committee of the Whole, detailed design will be advanced to a 95% complete stage. A second PIC meeting will be scheduled to provide the public an opportunity to review the final design and potential impacts to their properties. The PIC meeting will include a formal presentation complete with a discussion on how comments received to date have been addressed to the extent possible and justification for the design.
I would like one side with sidewalks. I don't see the need for 2. So the way the sidewalks are at this time is perfect.

I would prefer one sidewalk on the same side of the street it is currently on. I would also like the trees to be replanted after the road work is done.

Please let me know to which street my sewer goes. (Bruce or Alice St via Park Lane). Will you make my sewer go to Park Lane and Alice? Park Lane requires storm water drainage, including proper grading and catch basins tied into Alices St. Currently storm water floods all private properties surrounding Park Lane and is not able to enter storm catch basins. Storm catch basins should not be located on private properties. Asphalt paving is required, not tar and chip or gravel. The gravel on Park Lane was fully tarred and chipped. Nonetheless, it eventually broke down. Therefore, since Lane sweeping is no longer done, our vehicles are always dirty. Sufficient alternative parking for personal vehicles, including trailers, boat, travel and utility vehicles, is required. Alice St will not be available during construction. There is not enough street parking to hold our vehicles when we have to compete with the public visiting institutional and commercial properties on Bruce St South. Alternative waste and recyclable collection will be required. Access for emergency vehicles, police, fire and ambulance will be required. Which utility poles, if any, will be moved. What exact measurements will be used to alter Park lane. Which bylaws measurements will be used, the older ones, the newer ones, the grandfathered ones. What will these measurements include and represent, width of sidewalks, location of sewer line, etc. What is the difference between a "Lane" and a "Street" in terms of regulations and services. Will the current/future zoning specifications, whether commercial or residential, affect the work to be done on Alice Street and Park Lane. Could someone meet us in situ to explain what we can expect, removal/addition of vegetation, utilities intakes, future sewer lines locations, etc. Communication from the municipality and contractor(s) when work is to be done and requesting permission to enter private property and repairs to private property to the satisfaction of the property owner will be required. This construction will likely take a minimum of three months to complete. That is a long time to be inconvenienced, even if it is intermittent. Communication is key.

One sidewalk is more than sufficient for the street. Drainage a concern fo 21 Alice St.

Please paint middle lines on the road. This will increase safety for myself and my children. Please make mountable curbs for the same reason. Please replace trees that are removed with more mature trees than proposed. This will help with maintaining shade levels and reducing heat on the sidewalks. AODA standards are good. FYI Pizza Pizza/Gas station at Arthur/Elma (Northwest) corner may impact transportation flow on Elma St within scope of this project.

We request consideration for the following points. 1) Sidewalk both sides on Elma from Alice to Hwy 26. 2) Mountable curbs for safety of cyclists, moms with baby carriages, older folks with walkers. Mountable curbs will also allow parking partially off travelled pavement. 3) Painted lines on road-centre and 1m fog lines. 4) Painted crosswalks especially at Elma and Louisa. 5) 3&4 are for traffic calming. More traffic calming is required.

Tree A23- not in good health and is marked to be kept- which is not what the other report stated. Please relook at this tree. It is a town tree.

Our concerns are that any changes to the height of the road, curb, or the addition of a sidewalk will cause an increase in flooding of our land and will cause flooding into our house. Our property is a catch basin for the water runoff from the large lot behind our property. In the spring and during heavy precipitation this runoff causes large pools of water at the side and back of our property. The present height of the street and the curb act as a dam so the water can not flow through our property. I hope that you will appreciate our concerns and take them into consideration during the planning of this project.
Public Comment Summary - PIC 2 - July 13, 2019

Hi Allan, We have at least 4 home owners on the west side of Elma St. that wish to consider removal of the Hydro poles. We realize that there may be additional costs involved but wish to pursue this possibility. Also, personally, I believe that the arborist’s report is overly optimistic. Obviously, the report does not consider the reality of construction and specifically lowering of the roadway. We need a more realistic appraisal of the condition of the trees and a realistic prognosis of the future health and wellbeing of the trees after the disruption of the construction. While many people wish to retain as many trees as possible it may be more advisable to remove some trees and plant as many trees as possible as replacements. The statement of replanting one tree for each removed tree is a terribly minimalist approach. The sooner it is determined which trees will be removed and the sooner each tree is posted (as per town bylaw) for removal well ahead of construction; for the better for the residents to accept the reality of removal and prepare for replacement. Homeowners should also have the option of having trees planted on their own property as well as the boulevard. Thanks for your consideration.

Good afternoon Aaron and Allan,
First, thank you for sharing your views at the open session last Saturday. My family very much appreciated it. I would like to make a few comments for the record so they are considered in the design. And then ask a few questions.

1. Trees - Trees A5, A6 are attached to our Property. We believe we also share A7 with our neighbor and the Town. We want all three of them to stay and not be cut down. As discussed, we both share the understanding that under Ontario Law, trees that are Boarder Trees must be maintained if the parties don’t agree that they should be removed. The Town does not have the unilateral authority to cut them down. I am not providing agreement to do so at this time.

2. Sewer Line - As mentioned to you and Michael (? - in charge of Construction oversight) our sewer line and our neighbors sewer line run parallel between our houses to a point where they then merge to a single line before entering the main sewer trunk. This line has been blocked off after they join (in the single portion) and has thus backed up several times before into my house with sewage from my neighbor’s house. Most recently 4 years ago. In an emergency I had Clarksburg Contractors clean it out with a power auger. The previous owners Mr. Brian Potts (neighbor) and Ms. Donna Kilmer had asked the town to fix this issue as the Town created it when this happened before to them. The Town should be well aware of this problem. We are asking for two things. One, that we get a direct connection as indicated verbally by the Town during the session Saturday. Two, the Town pay for it. They created the problem. They should fix it while they are doing it. This double system was not used everywhere, in fact it was rarely done, and only done to save the Town money. All others done at the time were put in as singles. Ours should have been a single at that time. The town should make them singles today and complete the full hookup. At the time it was all done before no property owners paid individual fees for the infrastructure installed. In essence the town invested less in support of this property and has cost me as a homeowner more than those it gave independent service. This should not be a financial issue for the town as there are only 2 of these situations to my knowledge.

3. Lighting - The Town is full of great character and a major part of this is the nature of the existing street lighting. Please don’t increase the level of lighting by putting lights on polls that don’t have them today. Everyone at the Saturday session shared this one view together. To add lighting is to change the character of the Town. If we wanted fully lit streets we would move south and who wants to do that? In fact, everyone wants to move here. Why? Because of the character of our Town. Economically, twice the lights is simply twice the cost to own them and use them. With so many other ways to spend our money this isn’t the place as we all discussed in the session. No one at the meeting wanted more light. From the Town we heard that the reason for lighting was safety for people and drivers. Our Town is very safe if you look at the facts. And for drivers, I would offer this. If we light it up, they will drive even faster as we enable them with brighter roads. Proof is just outside town where we put a 2 lane highway in for the benefit of those that just want to go faster. Why are we reducing the amount of sidewalks in some areas when our town is growing and becoming more inundated with tourists and visitors?

4. Curb Cut - We understand that driveways are being reinstalled to match what is existing. For us that is concrete so we are looking for that replacement as indicated. I would like to point out we have an extended Curb Cut to service our west side. We would like to see that maintained please. On behalf of my family, we very much appreciate your including our comments in the record and for considering them as you help us build a sustainable, comfortable environment. Sincerely,
Elma and Alice Street Area Reconstruction

Level of Service and Design Elements

1. Correction of private water and sewer services

Unusual service connections likely occurred to extend water and sanitary service from available municipal infrastructure. It is unclear if these connections were completed with the approval of the Town.

| Correction/extension of private plumbing responsibility of landowner. |
| Correction/extension of private plumbing responsibility of Town. |

2. Storm sewer extended through project limits with storm laterals to each lot

The level of service for storm sewers may include a storm sewer system with laterals to each lot which is consistent with the Town engineering standards. The level of service could include storm sewers without storm laterals. The level of service with respect to storm sewers could remain unchanged. Any increase in the level of service will affect costs. An improved level of service with storm sewers through the project will increase capital costs. However, while increasing the level of service to include storm sewers with storm laterals and eliminating storm/ground water discharge to the sanitary system can effectively reduce sanitary sewage flows, treatment costs and capital capacity costs.

| Level of service includes storm sewers and storm laterals |
| Level of service includes storm sewers without storm laterals |
| Level of service with respect to storm sewers remains unchanged |
3. **Road width**

Through the project limits for right of ways with 20m width could be 8.5m or 7.5m. The narrower road would be less flexible in providing an effective road width under varying street parking scenarios, however it would be less expensive from both a capital and maintenance perspective.

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<thead>
<tr>
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<th>8.5m road width</th>
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<td>7.5m road width</td>
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4. **Sidewalk width**

The sidewalk width could be the provincial standard 1.5m wide or a more generous 1.8m width. A wider sidewalk will be more expensive due to material costs.

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<th>1.5m wide sidewalk</th>
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<td>1.8m wide sidewalk</td>
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5. **Single or multiple sidewalks**

The active transportation level of service in Town would obviously benefit by more route options. From that perspective sidewalks on both sides of the street could be considered beneficial. However, sidewalks on both sides of the street would be twice as expensive and would mean greater tree loss.

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<thead>
<tr>
<th></th>
<th>Sidewalk on one side of the street</th>
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<td>Sidewalk on both sides of the street</td>
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6. **Sidewalk and parking on Alice at Bruce associated with a church**

The Town has public parking on their roads at may locations. The parking on Alice Street at Bruce Street is focused on the church’s needs. Street parking in this area could be reconstructed properly to fit in the road allowance which would lose several parking spaces. A custom parking arrangement could be developed to maximize parking spaces and walkways on the Town land and church property under an encroachment agreement or municipal land use occupancy permit.

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<thead>
<tr>
<th></th>
<th>Re-build parking spaces to parallel parking standard</th>
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<tbody>
<tr>
<td></td>
<td>Re-design parking on Town land and church property by agreement</td>
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7. Curb type

Curb type could be either barrier or mountable curb. Mountable might be slightly less expensive due to reduced material costs. However, the Town experiences greater maintenance costs with mountable curbs.

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<tbody>
<tr>
<td></td>
<td>Barrier curb</td>
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<tr>
<td></td>
<td>Mountable curb</td>
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8. Streetlights

The inconsistent street lighting levels could be improved by mounting more standard cobra head lights on existing hydro poles. On past projects these lights have been quoted at very reasonable costs.

To upgrade the street lighting to a decorative style with a buried conductor system would be extremely expensive.

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<tr>
<td></td>
<td>Mount standard cobra head fixtures on existing hydro poles</td>
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<td>Upgrade street lighting system to decorative poles and fixtures</td>
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9. Street trees

The Town boulevards are occupied by municipal infrastructure as well as the infrastructure of private utilities. Staff recommend private landscaping be removed from Town land and municipally owned street trees and grass boulevards be the norm.

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<tr>
<td></td>
<td>Replace street trees to achieve 16m boulevard spacing of specimen trees and remove miscellaneous private landscaping</td>
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<tr>
<td></td>
<td>Replace street trees to achieve 8m boulevard spacing</td>
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