



Staff Report

Operations

Report To: Committee of the Whole Meeting
Meeting Date: March 1, 2022
Report Number: CSOPS.22.010
Title: Thornbury West Reconstruction Phase 1 – 90 Percent Design PIC Follow-up
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A. Recommendations

THAT Council receive Staff Report CSOPS 22.010, entitled “Thornbury West Reconstruction Phase 1 – 90 Percent Design PIC Follow-up”;

AND THAT Council direct staff to proceed with final design as outlined in the 90% design as presented;

AND THAT Council direct Staff to hold a Public Information Center on the proposed parkettes to receive comments from the public.

B. Overview

This Staff Report provides Council with a summary of the comments and responses prior to, during, and following the Public Information Centre held on December 1, 2021, where the 90% Design of the Thornbury West Phase 1 Reconstruction Project was presented. A summary of the comments and responses related to the PIC are included as Attachment 1.

C. Background

The Town is replacing some of the oldest municipal infrastructure in The Blue Mountains within the Thornbury area as part of ongoing asset management. Some of the underground infrastructure was installed as far back as 1926. The Town combined the final design and project management of the Victoria & Louisa Streets Area Reconstruction with the Elma & Alice Streets Area Reconstruction to create Thornbury West Phase 1. The result is a larger project that when planned estimated significant savings in engineering costs and to salvage the project schedule. The project will be quite challenging, it's success will be partially due to effective and efficient engagement and cooperation of the residents as the Town rebuilds the municipal infrastructure. Much of the project includes the replacement of infrastructure that is located under the ground and is the critical infrastructure that most of the local residents use every day.

Town staff acknowledge the frustration presented from some residents and also acknowledge that when dealing with infrastructure that is almost 100 years old, in many cases it will be found that a range of unknown, unrecorded, undocumented and unauthorized connections to municipal infrastructure is found and must be corrected. In previous reports to Council, staff had identified that these concerns had been suspected and some previously found.

D. Analysis

Prior to, during, and following the PIC residents raised several concerns with the 90% design. The concerns fell into broad and specific categories as follows:

1. Arborist Reports
2. Urban Canopy, Loss of Trees and Options to Retain Trees
3. Private Plumbing
4. Parkettes
5. Traffic Pattern Changes on Louisa Street
6. Changes to Beaver Street and the entrance to Foodland/LCBO
7. Mountable Curbs
8. Construction Vibration

1. Arborist Reports

WSP Canada's Owen Sound (WSP) office completed the preliminary engineering assignment for the Elma and Alice Streets project. One of the tasks in this assignment was an Arborist Report to catalogue the trees and report on their condition.

Tatham Engineering was successful with their proposal for the final engineering for Elma and Alice Streets as well as the preliminary engineering for Victoria and Louisa Streets. The preliminary engineering assignment for Victoria and Louisa Streets included an Arborist Report. The final design assignment for Elma and Alice Streets required an update to the Arborist Report produced by WSP. To overcome project delays caused by the pandemic the Town awarded the final design for Victoria and Louisa Streets to Tatham's assignments. By combining the 2 final engineering projects and rolling the preliminary engineering into the final engineering assignment the Town realized a significant savings compared to the capital project budget. By combining the projects, a comprehensive Arborist Report was completed for Thornbury West Phase 1 by Tatham's sub-consultant Envision-Tatham (ET).

Concerns were raised regarding discrepancies between the number of trees suggested for removal by the WSP arborist report compared to the ET arborist report. The WSP report listed 96 trees and suggested 13 trees would be removed. The ET report listed 260 trees and suggested 141 trees would be removed.

One specific concern was that the WSP report suggested 13 trees would be removed and the ET report suggested 141. Part of the explanation is that the ET report includes a larger area and more trees, but a closer review of the WSP report reveals some other issues. The WSP report was done at a preliminary stage of the project and since then some of the design elements have

changed and the understanding of the servicing issues have advanced. For example, a second sidewalk on Elma between Alice Street and Arthur Street was added which caused the loss of several trees. The report also has issues with trees that are shown in the boulevard but not included in the tree inventory, trees that are shown on the drawings and in the tree inventory that do not exist, and tree assessments that possibly overstate the condition. A closer review of the WSP report suggests there were approximately 105 trees in the Elma and Alice reconstruction area with approximately 43 trees to be removed.

The ET report may be a bit conservative in its suggestion of the number of trees to be removed. Their report was based on potential disruption of roots within the critical tree protection zone (TPZ), which is where the roots that are most important to tree stability. At the time of the report the tree clearing would take place prior to construction. The option to retain trees and assess them during construction and the complications that would pose for the contractor was not considered. To reduce risk to the Town, the removal recommendation by ET seemed appropriate.

The 2 reports are not that different in the number of trees that would be removed if the reports are examined closely. The ET report had the benefit of a more advanced design including the Council direction to alter Louisa Street between Bruce Street and Elma Street.

2. Urban Canopy, Loss of Trees and Options to Retain Trees

There was significant concern expressed by residents regarding the loss of trees and the effect this would have on the esthetic of the Town and the loss of benefits associated with well treed streets. Council directed Staff to consider the presentation by the Tree Trust to explore options for tree preservation.

As mentioned above, ET is recommending some trees be removed due to the proximity of the construction to the Tree Protection Zone (TPZ). The TPZ that is critical for the structural stability and health of the tree is generally 3 to 5 times the diameter of the tree. The tree's drip line, the area around the tree under the crown is also an area that is typically protected as shown in current Ontario Provincial Standard Drawings. However, feedback from Arboreal Inc. suggests this is rudimentary and outdated, calculations using species tolerance, age and size is the preferred method. Construction of a sidewalk against the base of the tree, for example, inside the TPZ can have a detrimental impact on the health of the tree.

Where trees will be undermined by the excavations there is nothing that can be done to save the tree except where significant engineering design changes are to be implemented (discussed in further detail below). There were a few suggestions that trenchless technology should be employed but this is not possible for this project. The trees that will be lost to the servicing are typically along the edge of the right-of-way. Trenchless technology could be employed to get past or through tree roots, but a significant hole needs to be excavated at the edge of the right-of-way, where the tree is located in order to place the new lateral and connect it to the existing plumbing at the property line

Some of the 141 trees suggested for removal by ET are due to the proximity of construction. Where construction such as placement of sidewalks is within the critical TPZ (i.e. 3 times the diameter of the tree at breast height), ET suggests the tree be removed as they believe the tree will be compromised and will die following the construction. On previous reconstruction projects where sidewalks must be squeezed between trees and other street furniture it is not uncommon to place the sidewalk against the base of the tree, well within the TPZ. The Town has previously installed sidewalks against the base of trees within the TPZ. A tree-by-tree analysis of the scope of the construction that will take place near, against, under or through each tree has not been undertaken. Staff believe that as many as 60 trees could be retained of the 141 suggested for removal.

Potential Options for Tree Retention

Since the PIC the Town, Tatham and ET have met with the Tree Trust and their arborist Arboreal Inc. (AI). The meeting was a preliminary step towards AI providing a third-party review of the ET Arborist Report. During the meeting, construction alternatives to retain trees were discussed.

Ideally, the trees that need to be removed should come in late winter. The Migratory Bird and Species at Risk Act legislation have windows within which trees must not be removed. If a tree must be removed within these windows the tree must be inspected by a biologist to check for nesting birds and bats. The inspections are done during the day for birds and in the evening for bats. Trees that are retained to see if the construction can work around them, but if it turns out the tree must be removed, then it might not be able to be removed until after the window closes, typically late fall. These efforts to retain trees will have budget implications and can add significant costs to the project.

Optional Recommendation that would require reconsideration

AND THAT Council provide direction to consider relocating services to avoid trees;

AND THAT Council direct Staff to include additional construction techniques when working around trees and increase the construction budget by \$250,000 from the Infrastructure and Public Works Asset Replacement Reserve Fund;

1. Service Connection Conflicts

The sanitary sewers on sections of Louisa Street, Alice Street, and Elma Street are approaching 100 years old. There are mature trees growing over some of the service connections (laterals). Typical construction practice is to remove the tree if it will be undermined by the installation of the new lateral and the connection to the existing building drain.

Each lot will have 3 laterals extended to the property line (i.e. water, sanitary, and storm specifically for sump discharge). Each lateral will have an excavation at the property line of 2 to 6 meters wide. There will be significant disruption of the ground along the property line.

There were some suggestions that directional drilling techniques could be used to avoid tree removal. Directional drilling requires a launch pit and a receiving pit and an insertion point. The insertion point would have to be on private property which can disturb an area of the lawn or landscaping. There would have to be a pit excavated at the property line and another pit at the sanitary main. The area undisturbed using directional drilling might be a few meters between the 2 pits. The other issue with directional drilling is grade control. Shallow grades which are typical of lateral installations are difficult to achieve with directional drilling. Directional drilling is not feasible on this project to retain trees.

One option to avoid removing a tree due to a service conflict is to relocate the service. This would require the private plumbing between the building and the new service location be replaced. This brings up the question of who would pay for this work. A brief discussion with a servicing contractor suggested work on private property can vary significantly due to what will be disturbed and what distance must be covered. Simple plumbing realignment can be a few thousand dollars per service and can rise significantly due to the complexity of the work. The Town might cover the cost of the work on private property and residents would have to provide permission of course. The additional cost of connecting services beyond the property line would be partially recovered by avoiding the cost to remove (and possibly replace) the tree. Tree removal could be between \$1,000 and \$3,000 as the trees range in size from shrubs to mature trees up to 60' tall.

With some laterals approaching 100 years of age the Town intends to replace the water and sanitary lateral and install the storm (sump) laterals to the right-of-way limit. This will assure the Town owned infrastructure on Town land is renewed and ready for the next 100 years. Council may consider alternatives where a lateral is under a tree at property line and there is no feasible alternative service location (typically due to other conflicts or the proximity of the house to the property line). The service locations are not fully understood as service records on the older sanitary system are not complete. This makes the scope of the issue difficult to quantify.

In the case of sanitary laterals, the project will use Closed Caption TV (CCTV) equipment to inspect the building drain (the sanitary service consists of the lateral, the pipe between the main and the property line and the building drain, the pipe between the property line and the building) to identify improper connections. If a tree prevents replacement of the lateral to the property line and the lateral is deemed acceptable, the contractor could be directed to connect to the existing service outside of the tree protection area (instead of installing the new service all the way to the property line). This is less ideal as it can leave old pipes but can avoid tree removals and typically does not cost extra. If no alternative alignment is available and the existing service is in poor condition, then typically the tree would be removed.

In the case of water services, the curb stops (the control valve for the service) should be placed at the property line. Some of the existing services could be unsuitable material and there could be existing curb stops at the property line. To stop short of the

property line to avoid a tree and leave old pipe and curb stops in the Town owned system is not recommended.

The new storm laterals will have to be extended to the property line. These are new infrastructure for the area. Property owners have been asked where that would like them installed with few confirming where they are needed. Presumably they can be placed to avoid trees.

Staff ask Council to provide direction on considering relocating services to a new location to avoid trees and have the cost of relocating the existing private plumbing included in this work. This approach will require some additional engineering work and therefore this is not a simple scope of work to estimate costs. Before expending engineering resources, Staff would like to know if Council wants to explore the option.

2. 2nd Sidewalk on Elma Street

The number of sidewalks on the streets in this project has been the subject of much discussion. In late 2019, Staff Report CSOPS.19.088 "Sidewalk Locations for Elma & Alice Street Area Reconstruction Project" and the associated Council resolution provided direction to staff to include 2 sidewalks along Elma Street from Alice Street to Alfred Street. This direction represents a slight increase in level of service. The Town's Engineering Standards has only 1 approved road cross-section that includes 1 sidewalk. Elma Street had a discontinuous second sidewalk between Alice Street and Louisa Street. Council provided clear direction on enhancing the level of service and extending the discontinuous sidewalk from Alice Street through to Arthur Street. This question will come up in future Thornbury West Phases where other local streets have 2 sidewalks. A couple of comments on the 2 sidewalks on Elma were that 2 sidewalks on local streets are redundant and not necessary in a small town and that sidewalks on both sides of the street is "ludicrous".

Council directed Staff to review the Arborist Report with the Tree Trust. The Tree Trust and staff reviewed options to retain trees. One option discussed was the elimination of the second sidewalk on Elma Street. Any hard surface in the right-of-way means less room for trees. The second sidewalk on Elma Street between Alice Street and Arthur Street along with the retaining wall that is required through the hill will compromise 13 large trees. The comments regarding the loss of the treed nature of Thornbury will be evident when these trees are lost.

Staff ask Council if they wish to reconsider the second sidewalk on Elma to save trees and costs?

Optional Recommendation that would require reconsideration

AND THAT Council provide direction regarding the reconsideration of the second sidewalk on Elma Street to retain trees;

3. Tree Retention When Working Inside the TPZ

As mentioned above, some of the tree removal recommendations by ET were due to construction inside the TPZ. An example of this is the installation of sidewalks next to trees. Sidewalks are 150mm thick and placed on compacted granular material that is up to 300mm deep. Placing sidewalks next to a tree means an excavation of approximately 0.5m. It is expected that tree roots will be found in this excavation.

Arboreal Inc. suggested there are techniques for working around tree roots that might be used in these situations where warranted (e.g. trees that are in good condition). The tree roots need to be exposed without damaging them. This can be done with either Air Spading or Hydrovac Excavation. Air Spading is blowing the soil away from the roots with high pressure air jet. Hydrovac Excavation uses a water jet to loosen the soil and a vacuum to remove the soil. Next, the roots need to be examined and assessed by an arborist to determine if roots can be cut without significant damage to the tree or causing the tree to be made unstable. The roots then need to be cut by an arborist with sterilized tools. Pruning of the canopy may also be required to provide clearance for equipment and/or reduce the sail effect on a tree that has had root pruning. Roots may be cut if they do not compromise the health or stability of the tree or structural soil could be used rather than the typical granular. Structural soil is a mixture of gap graded crushed gravel, a hydrogen stabilizing agent and clay loam.

ATC suggested some unit prices for the kind of work described above. While every tree will be different, based on the unit prices and speculation on the time it would take to complete the work it would be reasonable to expect a cost of \$3,000 to \$3500 per tree. Staff are suggesting 60 trees might be retained by using these measures when working in the TPZ which would suggest an estimate of \$180,000 to \$210,000. The contractors bidding on the project may place some premium on the work if they are unfamiliar with the process. The work would also add time to the overall project schedule. Tatham will have to develop special provisions to include the work in the construction.

4. Use of Unit Pavers for Sidewalks

The Tree Trust has suggested using unit pavers rather than poured concrete sidewalks to reduce the impact on trees. Staff reviewed this option with Tatham Engineering. Unit pavers are 2.5 to 3 times as expensive as poured concrete. Where pavers are used for pedestrian routes significant maintenance issues have been experienced. The pavers tend to settle differentially or be displaced by tree roots. When these routes are plowed in the winter the plows can dislodge them. Displaced or settled pavers can also become trip hazards. Staff would not recommend using unit pavers rather than poured concrete.

Staff ask Council to confirm that they expect staff to set a priority for tree preservation and to employ all reasonable efforts, as described above, to retain trees within the project study area. Due to unknown issues that might arise, Staff recommend increasing the construction budget by \$250,000 for additional efforts to retain trees.

Alice Street Curb-Faced Sidewalk

In an effort to explore all options for tree retention, the design team considered curb-faced sidewalks on Alice Street. The existing sidewalk on Alice Street between Bruce Street and Victoria Street needs to be widened to the current standard 1.5m width. The issue is the available space between the utility poles and the existing trees, some of which will be lost to services and to their condition.

One option would be to move the sidewalk next to the road and use a barrier curb rather than the mountable curb. This is known as a curb face sidewalk. This option is not being recommended by Staff. There are a few considerations with this option. Council has already provided direction to install the sidewalk towards the outside of the right of way to produce the greatest separation of pedestrians from vehicles. Snow storage will be a problem with the road plows pushing snow onto the sidewalks. While the sidewalks are not all at the same location within the ROW, the curb face sidewalk would likely look odd on this road. An additional consideration is that curb faced sidewalks can be more difficult to navigate for those with mobility challenges as the sidewalks undulate where they intersect with both sides of the driveway.

The underlying issue with the trees in this section of the road is that the utility poles and sidewalk are on the same side. Where utility poles are located the best options for the trees is to move them outside the ROW, on private property, where a sidewalk is also present this becomes even more important.

Throughout the project area, where overhead utilities are present, Staff will look for opportunities to plant street trees to reduce conflicts with the utilities. This will include planting on private property.

General Tree Concerns

There were a few concerns about the size, type, location, and availability of the replacement trees.

The street trees will be 50mm caliper trees which is the industry standard nursery tree. These trees will be utilized due to their historic performance. The root ball of a nursery tree has a typical volume, smaller trees have greater root ball to tree size ratio than oversize trees. The smaller trees historically root out better and suffer less from transplant shock than oversize trees, and by 5 years are equal to or larger than an oversize tree. The new Town trees will be placed on both sides of the road to achieve an average spacing of 16m where possible. Typically, the trees will be placed in the Town right-of-way. Where overhead wires are present the trees may be placed on private property with the property owner's permission.

Concerns were expressed that the loss of trees will change the character of Thornbury and contribute to the climate crisis.

The construction will inevitably cause the loss of trees. Staff will be proposing some design changes in this report. As mentioned above, trees that are not in direct conflict with trenching that will undermine, or cause instability will be retained and monitored post construction.

There will be significant tree loss on Louisa Street between Bruce Street and Elma Street due to reconstruction of the road and rebuilding/widening for the parking stalls and to accommodate the trench for the installation of the new sanitary sewer. The slope will be regraded to reduce the retaining walls that would otherwise be required. Staff are proposing to plant the entire slope with hundreds of seedlings to create an urban forest. The Slope will create a carbon sink to replace lost trees. This slope along with the planting in the proposed Beaver Street Parkette and the new trees on the reconstructed street will, in time, replace the carbon capture of the trees lost to construction.

The project will retain as many trees as possible and hopefully not remove any trees on private property.

Council has provided direction on removal of landscaping in the right-of-way other than specimen street trees. There are several cedar hedges that have been planted in the right-of-way. Some of these hedges are 3 to 4 metres into the right-of-way. In some cases, the hedges reduce sight lines at intersections. The project will only remove landscaping on Town land where necessary.

Advancing Phase 1A in 2022 to Accommodate Tree Retention Options

The construction work will be broken into 2 stages to afford more time to review options for tree retention on the heavily treed areas and not lose the 2022 construction season. Thornbury West Phase 1A will see the reconstruction of Victoria Street, Louisa Street from Elma Street to Beaver Street, Beaver Street and 100m of Alice Street east of Victoria Street. Attachment 2 shows the project limits for Phase 1A and Phase 1B. There are less tree conflicts in Phase 1A and this approach will enable staff and the project team to utilize, where applicable, some of the potential options for tree retention discussed earlier on a smaller scale. This will assist staff in understanding how well these options worked and where improvement may be required prior to Phase 1B where great tree conflict exists.

In this construction area there 96 trees in the ET Tree Inventory. ET recommends removal of 35 of these trees. By using the options for working around the trees Staff believe as many as 24 of these trees could be retained. That leaves 11 of the 96 trees that would need to be removed as follows:

- 1 lost to sidewalk installation
- 3 lost to service installation
- 9 lost to physical condition

When working within the Tree Protection Zones the roots will be examined and may need to cut. If the result, in the opinion of the Arborist, is that the tree will not survive or be made unstable the tree will be removed.

3. Private Plumbing

There have been some concerns with the private plumbing work that will be required due to unusual servicing arrangements. These concerns have been raised at the PIC, earlier in discussions with residents, and in a recent letter. There are approximately 35 properties that have problems with their municipal servicing. While each property has a unique situation, the problems stem from where and when municipal sewers or watermains were installed. Water and sanitary servicing were piecemeal in the past, the servicing was not present on all road sections. Properties were serviced as best they could at the time. Connections to the mains were achieved by various means. In some cases, multiple buildings are connected to one lateral. In the case of sewer services, a failure or blockage in the lateral could cause sewage from one building to flow into another building. In the case of water services, combined services risk cross contamination between buildings. Regardless of the risks associated with combined services, the Town does not know whether the property owners have permission to cross other properties. The Town has contacted each property owner to inform them of plumbing issues.

The Town will be installing water, sanitary, and storm services on all road sections. This will allow laterals from each main installed to the frontage of each property. This will allow property owners to connect their buildings to the Town services without having to cross private properties. It is expected that property owners that have trespassing services will require the trespass to be terminated. There will be work required on all the properties, some will have to connect their building to the new lateral, and some will have to repair their building drains to disconnect other drains. In the case of water services, new pipes may be required from the laterals to the building. Individual plans will be put together for each property.

It will be critical that when the lateral is installed the connection to the building is completed promptly to assure service is not disrupted. Some people have expressed concerns that due to the availability of contractors, the work on their property could be difficult to schedule.

There has also been some resistance by property owners to the costs they are facing. There have been suggestions that the connection must have been approved or accepted by the Town when the connections were originally made, and they have been paying their water and sewer charges all these years. It is difficult to suggest a cost for the connection buildings to new lateral locations as every case is unique. A discussion with a contractor that is familiar with this work suggests it could be \$5,000 to \$40,000.

Direction from Council has been clear, work on private property will be the responsibility of the property owner. With the critical timing of the work and the costs that will be borne by the property owners there are a few scenarios Council may want to reconsider:

1. The Town could leave the private work and associated cost to the property owners;
2. The Town's contractor could complete the work on private property possibly with a specialist sub-contractor. The work would be time and material and completely itemized for billing the property owners. This would assure services

are not disrupted. It does however preclude the property owners some control over costs;

3. The Town works with a group of private contractors, selected by property owners, to explain the project on behalf of the property owners. Town Staff may be able to explain the issues to the contractors better than the property owners. The property owners could then engage a contractor of their choice; or,
4. The Town could subsidize all or a portion of the work on private property.

Optional Recommendation that would require reconsideration

AND THAT Council select an option for the plumbing work on private property that will be required to correct multiple connection to single laterals or correct trespass of private plumbing on neighbouring land.

4. Parkettes

As the project design evolved Staff saw an opportunity to bring some additional benefits to the Town through this project.

Since the Beaver Street intersection at Alice Street is going to be abandoned and there were only 2 homes on Beaver Street south of Louisa Street staff have suggested converting a section of this road to a local parkette. The reconstruction of Beaver Street will be funded by Development Charges Fund. The reconstruction including municipal water, sanitary and storm services, road work, sidewalk, etc. is included in the Development Charges Background Study. The parkette could be funded from the funds collected by Development Charges for parks development.

On Louisa Street the parkette has 2 components. Due to the reconstruction of the road with improvements to the parking facility the slope which takes up close to half of the right-of-way is proposed to be regraded with most of the failing retaining walls at the top of the slope being removed or filled in. The road and parking will be wider than the existing platform and the regrading of the slope will be completed to reduce the amount of retaining wall that would be required. The slope will be part of the parkette and heavily planted with trees to create an urban forest. I was involved with a project in Burlington at Lassalle Park in the 1980s with a similar slope, today the fully grown trees are 20 to 30 feet tall.

The second component of the parkette is a seating area at the Bruce Street intersection. With parking along the south side of the street facing away from Bruce Street and traffic turning onto Louisa Street from Bruce Street, Staff felt the first few potential parking spaces should not be used for parking to avoid conflicts with parking access egress and vehicles turning onto Louisa Street. This presented an opportunity to utilize the space and Staff suggested a spot to sit and gather and asked Envision Tatham to come up with a concept.

Some concerns were raised that a parkette next to the road is inherently unsafe. With the local speed limit set at 40kph and vehicles typically hugging the right side of the road, Staff feel vehicular conflicts with people sitting in the parkette is unlikely.

The idea of the parkettes came up late in the design process as the opportunities were revealed through the process. If Council is interested in moving forward with the parkettes, the Town will seek input from residents at a public meeting. That will allow the parkette design completed. The cost estimates for the design process and parkette construction can be matured so that approval of the expenditure can be considered by Council.

5. Traffic Pattern Changes on Louisa Street

Council has considered changes to the traffic pattern on Louisa Street between Bruce Street and Elma Street along with retention of the dedicated parking along the base of the hill. The one change that is being proposed by the design team is a parkette at Bruce Street.

Comments received suggest other options for this section of Louisa Street. There are concerns that the change in the traffic pattern will require people to change their driving routes. Some question the concept of the one-way traffic flow and suggest no left turns off Louisa Street or stop signs on Bruce Street could address the turning movements from Louisa Street onto Bruce Street. Some suggest eliminating the parking on the south side of Louisa Street.

Staff and the design team have considered many options for this section of Louisa Street. The current design with the dedicated parking and the parkette is the best option for Thornbury.

6. Changes to Beaver Street and the Entrance to Foodland/LCBO

Council has considered the redesign of Beaver Street and the modified entrance to the Foodland/LCBO.

One comment regarding the entrance was supportive of the modified entrance design noting the current intersection of Beaver Street and Victoria Street is a problem. There was a concern that a wall next to the LCBO would be an issue.

Staff have reviewed the entrance location with the Foodland operator as well as the manager of the LCBO. Both were supportive of the concept. The revised entrance design will consider traffic flow patterns in the parking lot and recommend traffic control signage if appropriate.

Staff and the design team have considered different options for Beaver Street and based on staff's professional opinion recommend the current design is the best option for Thornbury.

7. Mountable Curbs

Council has considered the type of curbs to be used on this project. For most of the streets mountable curbs will be used. In a few locations, where sidewalks are closer to the curb or where needed for storm water control barrier curbs will be installed.

A comment was raised about why barrier curbs are not being used as in his experience urban areas usually use them for the following reasons:

- Discourages cars from parking on boulevards
- Better definition of road to prevent plows damaging the boulevard
- Defines entrances and pedestrian crossings
- Provides safety to pedestrians, keeps cars on the road
- Curb faced CB inlets reduce pavement maintenance issues

Council's direction to utilize mountable curbs was due to a safety concern raised in a deputation to Council. Council considered the choice between mountable curbs and barrier curbs and directed mountable curbs used in the design.

8. Construction Vibration

An inevitable part of road construction is vibration trench backfill and the road's granular base compacted to assure differential settlement does not occur. Several concerns were raised by residents that this vibration causes damage to buildings.

The Town requires a pre-condition survey be completed by a specialized sub-contractor as part of the construction contract. The survey is an interior and exterior inspection of the structure to document its condition. During the construction, seismographs are utilized to monitor the vibration reaching the structure to assure safe levels are maintained. Ultimately the contractor is responsible for damage to homes. Property owners will need to cooperate with specialist sub-contractor to allow the inspection of the structure.

The occupants of the building may be concerned with vibrations in their homes even if it is below the threshold where damage may occur. The Town will communicate and recommend that homeowners take down wall mounted items that might be damaged if dislodged.

Conclusion

The bulk of comments and concerns raised during the PIC process were related to the trees. Council provided clear direction previously that allowed staff to move forward with completing the design to its 90% completion. As a result of the 90% design PIC, some of the concerns and ideas that were previously considered by Council were again identified by some residents. This report being the following up to the most recent PIC ensures that Council is made aware of comments received through the PIC. Council has provided staff clear direction previously and are well positioned to move forward in a timely fashion.

Staff are requesting clear direction on options to retain as many trees as possible.

As suggested and previously anticipated, the project has discovered servicing issues that occurred many years ago. Council has provided clear direction with the benefit of good discussion at Council in the past that private plumbing is the responsibility of the property owners. Through a reconsideration process, Council could consider some options for this work,

however direction is needed to be able to proceed in a timely fashion so not to lose any additional construction seasons.

There were some concerns with a few aspects of the project that are described above. Staff have provided additional information on these issues in this report. Council may provide direction on any of these issues, again direction is needed to be able to proceed in a timely fashion so not to lose any additional construction seasons.

Due to the review of the trees in the heavily treed section of the project, the process that will be followed to seek input, design, and fund the parkettes, staff is suggesting that the project will be split into 2 contracts. This will also address the issue of contractors providing a price for work in 2023 in a tender submitted in 2022.

E. Strategic Priorities

1. Communication and Engagement

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

2. Organizational Excellence

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

3. Community

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

4. Quality of Life

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

F. Environmental Impacts

The infrastructure renewal will provide environmental benefits through improvements to existing drainage and stormwater works, and replacement of aging wastewater and water mains. Short-term construction impacts are anticipated and will be addressed through standard mitigation measures (e.g. replanting program, sediment control, temporary servicing provisions, etc.).

It is anticipated that a significant improvement to the Town Municipal Water Loss and Inflow and Infiltration concerns will be realized through the replacement of this aging and modified by unauthorized connections to municipal infrastructure that will be enforced through existing municipal by laws.

G. Financial Impacts

The Victoria and Louisa Street Reconstruction project was originally approved in 2019 with a budget of \$6,559,700. This budget was combined with the Elma and Alice Street Reconstruction project for an overall project budget of \$12,189,400. The requested budget increase of \$250,000 will come from the Infrastructure and Public Works Asset Replacement Reserve Fund.

H. In Consultation With

Shawn Carey, Director of Operations
Allison Kershaw, Manager of Water and Wastewater Services
Jim McCannell, Manager of Roads and Drainage
Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets

I. Public Engagement

The topic of this Staff Report has been the subject of a Public Information Centre which took place on December 1, 2021. A recording of the Public Information Centre has been made available on the project website, and can also be found here:

<https://www.thebluemountains.ca/building-business-development/current-projects/municipal-infrastructure-projects/thornbury-west-0#meetings>

Those who provided comments during the Public Information Centre, including anyone who has asked to receive notice regarding this matter, has been provided notice of this Staff Report. They have also been registered for the Project Email Subscription List. Anyone else interested in receiving emails related to this project can register at:

<https://www.thebluemountains.ca/building-business-development/current-projects/municipal-infrastructure-projects/thornbury-west-0#subscribe>

Any comments regarding this report should be submitted to Michael Campbell, Construction Coordinator at cc@thebluemountains.ca.

J. Attached

1. Attachment 1 Public Information Centre Follow-up Memorandum
2. Attachment 2 Project Area Phase 1A and Phase 1B

Respectfully submitted,

Jason Petznick, Communications Coordinator

Michael Campbell, Construction Coordinator

Shawn Carey, Director of Operations

For more information, please contact:

Michael Campbell, Construction Coordinator

cc@thebluemountains.ca

519-599-3131 extension 275

Report Approval Details

| | |
|----------------------|--|
| Document Title: | CSOPS.22.010 Thornbury West Reconstruction Phase 1 - 90 Percent Design PIC Follow-up.docx |
| Attachments: | - Attachment 1 Public Information Centre Follow-up Memorandum.pdf - Attachment 2 Project Area Phase 1A and Phase 1B.pdf |
| Final Approval Date: | Feb 23, 2022 |

This report and all of its attachments were approved and signed as outlined below:

Shawn Carey - Feb 23, 2022 - 1:06 PM

No Signature found

Shawn Everitt - Feb 23, 2022 - 3:24 PM



Town of The Blue Mountains

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Date: January 20, 2022

Re: Thornbury West Phase 1 Reconstruction – Public Information Centre (PIC) #2

This memo is intended to provide a summary of the questions, comments and answers that were received prior to, or asked during, the PIC held on December 1, 2021. The PIC was held virtually on Microsoft Teams from 5:00 p.m. to 7:00 p.m. A total of 66 individuals attended the meeting.

Included below is a summary of the primary concerns heard through the comment period, as well as a detailed breakdown of the specific questions and comments.

1) Tree preservation

There are many residents concerned about the impacts that will result from removing the number of trees that are identified for removal through the most recent Arborist report. Residents also expressed concerns about the discrepancies between the 2019 and 2021 Arborist reports. Residents asked if the design and routing of services could be altered to allow more trees to be preserved.

ACTION ITEM: The Town will be completing a supplemental, third-party review of the 2021 Arborist Report to understand the work required to retain select mature trees in good condition.

2) Louisa Street One-Way and Parkette

There were questions asked about the reasoning for the addition of the Louisa Street Parkette, as well as concerns expressed about placing a parkette so close to a corner with reduced sight lines.

ACTION ITEM: The Town will be holding Public Meetings to solicit resident feedback on the Parkette designs before they are finalized.

3) Vibrations/damages from construction

There were multiple residents expressing concerns about vibrations during construction, and about who would be responsible for repairing any damage.

ACTION ITEM: The contractor will complete pre-condition surveys of each property with a specialist sub-contractor. The contractor will be responsible for damage.



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Tree Preservation

Will the new street trees be of a reasonable height and age? What species are being considered?

Street trees will be to plant 50mm caliper at breast height, standard nursery trees. Trees of this size are more likely to handle the transplant shock of being relocated from the nursery when compared to oversized trees. In terms of species, the arborist is exploring options that provide the urban forest with greater genetic diversity and are more tolerant of urban conditions including red oak, Kentucky coffee tree, honey locust, hackberry, elm hybrids, and linden.

Can services be re-routed to preserve trees?

There is a possibility that existing sewer and water laterals located under trees could be relocated to preserve the tree, but the cost of any work on private property related to that relocation would be the responsibility of the homeowner.

Has there been any consideration given to hydro excavating the drip line, pre-pruning roots, and using horizontal boring techniques to limit impacts to mature trees?

The Town will work with the consulting engineer and contractor to explore alternative construction techniques that could limit the damage to some of the mature trees.

Which trees will remain in place on the south side of Louisa Street between Bruce Street and Elma Street?

All trees within the slope are intended to be removed as the slope will be regraded. Trees beyond the top of the slope on private property will likely remain in place.

Is there a conflict of interest related to the most recent Arborist Report being completed by a subsidiary of the Consulting Engineering firm? Is there an opportunity for the report to be peer-reviewed?

It is not seen as a conflict of interest to have an Arborist Report be completed by someone affiliated with an engineering firm as they are part of the design team. An Arborist who also has a strong knowledge of construction practices is seen as a great asset in these projects. Based on resident feedback, the Town will be exploring opportunities to reduce the impacts to trees and will undertake a supplemental third-party review to understand the required work to retain select mature trees in good condition.

Are there any delays to tree replanting anticipated due to supply chain issues?

The contractor will be responsible for securing the tree and plant material called for in the design, and reinstating the project area within a one year period of the end of construction. As this is a two-year construction project, there aren't any delays anticipated to replanting.



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Couldn't the Town achieve the same goal of increasing safety by enforcing "No Left Turns" from Louisa Street on Bruce Street? Could more trees be saved if Louisa Street was left as a two-way road?

Even if Louisa Street was left as a two-way road without the addition of parking spaces, the slope on the south side of the street would still need to be regraded to achieve the required lane widths.

Given the climate crisis that we're experiencing, why isn't tree retention being treated as more of a priority?

The Town appreciates and recognizes the fact that we're experiencing a climate crisis. There are a lot of competing interests within this project including underground infrastructure that must be replaced, sidewalks that need to be brought up to current accessibility standards, discontinuous sidewalks, the Town's active transportation plan, mature trees and more. Town staff and the consulting engineers will continue evaluating the design to see what can be done to increase tree retention through this project.

Are trees on private property at risk?

There are some trees on private property that will need to be removed as they're too close to the proposed construction. The design has made an attempt to preserve trees on the boundary of the road allowance wherever possible.

What would the project look like if tree preservation was made a higher priority?

This project has been in the queue since around 2012 and a number of design options, public meetings, workshops and public information centres have been considered to get the design to its current point. The Town will be initiating a third-party review of the most recent Arborist Report to see if there are any additional areas where trees could be preserved.

Will residents have any input on the trees that will be replanted on their private property?

Yes, the Town will have a group of species for residents to choose from and staff will be able to advise residents about trees that will suit their property the best.

Is there a map available of the trees that are currently planned to be removed?

The Arborist Report completed in February of 2021 includes detailed drawings of the entire project area with more information about which trees are to be retained and which trees are to be removed.

Why are there so many discrepancies between the Arborist Report completed in 2019 compared to the report completed in 2021?



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Conditions have changed over time in the project area, and the engineering design of the project has evolved as well. Tree Protection Zones laid out in the original Arborist report could not be achieved given the updated design of the project. The Town will be initiating a third-party review of the most recent Arborist Report to evaluate its findings.

Will the cedar hedge and the four mature maple trees on the southwest corner of Elma Street and Louisa Street be retained?

Current plans call for the cedar hedge to be removed, and for the four trees (#157, #83, #82 and #81 in the 2021 Arborist Report) to be retained provided that no large roots are damaged by construction works.

Will all the trees on Alice Street and Elma Street need to come down to accommodate the new sidewalks on those streets?

Maps identifying all trees designated for removal are included in the Arborist Report completed in February 2021. The Town will be initiating a third-party review of this report and will be looking at opportunities to retain more trees where possible.

Does the Town have an annual tree replacement program to replace any new trees that die following the construction warranty period?

New trees will be subject to a warranty period. The Town does not have a formal program to review or replace trees currently.

Peter Butler (via email) - Objects to proposed removal of tree on private property, and questions the discrepancy between recommendations for tree removals in the 2017 WSP Arborist Report and the February 12, 2021 Envision Tatham Arborist Report.

The final decision on tree removals has not been reached. The Town will be completing a supplemental, third-party review of the 2021 Arborist Report to understand the work required to retain select mature trees in good condition.

Bill Abbotts (via email) – Suggests the notion of "clear cutting" 150 trees is a bit dramatic but not the reality. Included pictures of trees with his e-mail showing specimens at end of life that are dangerous trees. He suggests leaving some trees where slated for removal due to construction proximity and see if the trees survive.

Louisa Street One-Way and Parkette

Why is Louisa being converted into a one-way street?



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The primary reason for Louisa to be converted into a one-way westbound street between Bruce Street and Elma Street is to eliminate the turning movements on to Bruce Street. Furthermore, due to the large slope in the Town's road allowance and the lack of parking near the downtown core, a one-way street was determined to be the most efficient method of providing parking while limiting the overall road width.

Why was the Louisa Street Parkette incorporated into the design when it will reduce parking on Louisa?
Is it safe to have a parkette so close to the intersection and on a corner with limited sight lines?

Access and egress to parking spaces near Bruce Street could be a problem. Staff saw an opportunity to use this space for a parkette to introduce more seating in the downtown area. Seating areas will be around 3 metres back from the road surface, a barrier curb will be installed for the length of the parkette, and other design elements will be incorporated to act as a barrier between traffic and pedestrians. Public Meetings will be held to solicit resident feedback on the parkette designs before they are finalized.

Does the design call for a retaining wall added at the base of the slope on Louisa Street, or will the grade be brought down to match the edge of the asphalt?

The slope will be regraded to reduce the amount of retaining wall required. New plantings will be made on the regraded slope to create a new urban forest. A retaining wall is proposed for a section near Elma Street to replace some existing retaining walls at the top of the slope in poor condition.

Instead of converting Louisa to a one-way street, couldn't the Town install a stop sign on Bruce Street to slow traffic coming northbound towards Louisa?

Stop signs on Bruce Street have been considered. The differential in traffic flow between the 2 streets would not warrant the stop signs. Bruce Street is a major collector road without stop signs through its length. In winter driving conditions stop signs at the base of a hill is a problem for stopping coming down the hill and getting moving going up the hill.

Vibrations/damages from construction

What is going to be done to limit vibrations and damage caused by construction?

Pre-condition surveys will be completed by a specialist sub-contractor and vibration monitoring will occur. The general contractor will be responsible for damage caused by the construction process.

Who is responsible for any damage caused by construction?



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Pre-condition surveys will be completed by a specialist sub-contractor and vibration monitoring will occur. The general contractor will be responsible for damage caused by the construction process.

Uncategorized

Could the entrance to the LCBO/Foodland Plaza be relocated from where it's currently planned?

The current design is the best design option, it splits the distance between Arthur Street and Louisa Street. Staff have met with the owners of the LCBO and the Foodland, and they both approve of the proposed location.

Will overhead hydro and communication service lines be relocated underground?

The additional cost of burying the overhead hydro and communication service lines has been considered and was found to be unaffordable.

Will Victoria Street have sidewalks on both sides?

Yes, Victoria Street will have sidewalks on both sides.

Will street parking be adding on Victoria Street at Moreau Park?

Street parking has not been considered on Victoria Street at Moreau Park. The existing parking lots at Moreau Park and the Beaver Valley Community Centre have been deemed sufficient given the area.

Are there detailed drawings of each street within the project area that show the impact of the proposed project work?

The drawings are nearing the 90% stage of completion. Once they reach the 90% stage, hard copies will be available to view at Town Hall, and digital copies will be available upon request.

What will happen to the sidewalk layout on Elma Street?

Sidewalks will be extended along both sides of Elma Street between Alice Street and Arthur Street. To accommodate the full 8.5m wide road cross-section and the widening required to meet Accessibility for Ontarians with Disabilities Act (AODA) standards, the sidewalks will have to be shifted from their current locations.

Is there an opportunity to upgrade watermain connections?



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New watermains will be installed in the right-of-way along with new laterals each property. Residents may want to consider having a plumber inspect the water lines on their private property to assess the current condition and quality of these pipes.

When will the Stage 2 Archaeological Assessment be completed? Can construction continue without this report in place?

The Stage 2 Archaeological Assessment will be completed in the spring of 2022. The firm completing the assessment do not anticipate any delays to the start of construction based on the timeline available. Any residents who receive a letter asking for access to their property to complete the assessment are asked to sign and return the notice as soon as possible.

When in the construction schedule will residents need to complete any work on private property?

A timeline for the order in which construction will proceed has not yet been established. Residents who need to complete work on their private property will be able to proceed with that work as soon as the laterals are installed in the right-of-way.

Why is there a need for sidewalks on both sides of Elma Street and why do those sidewalks have to be widened?

The decision to put sidewalks on both sides of Elma Street was made by Town Council to promote active transportation within the town. The Accessibility for Ontarians with Disabilities Act defines the minimum required width for sidewalks when they're reconstructed.

Nancy Lekx (via email) - On behalf of her mother, who owns property on Louisa Street. Her sanitary building drain connects to two other houses and runs out to Elma. The Town has been promising new sewers for five years. The delay means her mother will have to dig up the building drain to make repairs then dig up the drain again to connect to new lateral. This is a financial burden for an elderly woman on a fixed income.

The comment about digging up the building drain to make repairs then dig up the drain to make a connection was not understood by Staff. In a phone call, Ms. Lekx explained that the building drain has been failing for years. Just before Christmas, the building drain between 27 Louisa and the connection with 25/27 Elma Street has failed and sewage has backed up into the basement. Ms. Lekx and her mother have had to move out of the house. Repairs to the building drain will have to be completed now and the connection to the new lateral completed in the future.

Rick Tipping (via email) – Questions why the design cross-section shows mountable curbs? Urban areas usually have full-face curbs for the following reasons:

- Discourages vehicles from parking on grass boulevards
- Better definition of edge of pavement to reduce likelihood of plows mounting the curbs and damaging the boulevard



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- More efficient spring clean up
- Defines entrances and pedestrian crossings
- May provide increased safety (prevention of cars from mounting curbs?)
- Curb-faced CB inlets reduce pavement maintenance issues
- Mountable curbs are generally restricted to bus-bays and separate on-street widening for parking

Staff have followed up with Mr. Tipping to provide him with the streetscape staff report and Council resolution. The staff report included a recommendation for barrier curbs and the Council resolution directed staff to proceed with barrier curbs.

TOWN OF THE BLUE MOUNTAINS

THORNBURY WEST RECONSTRUCTION PROJECT

PHASE 1A

