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Staff Report

Operations – Engineering and Capital Projects

Report To:	**COW - Operations, Planning and Building Services**
Meeting Date:	January 13, 2026
Report Number:	OPS.26.003
Title:	Thornbury Phase 1B Follow-up Report Addressing Tree Protection Strategies
Prepared by:	Pruthvi Desai, Manager of Capital Projects

A. Recommendations

THAT Council receive Staff Report OPS.26.003, entitled "Thornbury Phase 1B Follow-up Report Addressing Tree Protection Strategies";

AND THAT Council direct staff to prepare a Tree Protection & Construction Near Trees Standard for all Town reconstruction and infrastructure projects, with an upset limit of $10,000 for external technical support.

B. Overview

This report provides a response to the Council resolution passed on December 1, 2025, which stated:

"THAT Council receive the deputation of Betty Muise, TBM Tree Trust, Re: Request for Accountability regarding Preventable Tree Removals in the Thornbury West Rehabilitation Project;
AND THAT Council direct staff to provide a full explanation including lessons learned in response to tree removal in the Thornbury West Reconstruction project, and any implications for any other project currently underway, to the January 13, 2026 Committee of the Whole meeting;
AND THAT Council direct staff to provide a detailed and robust set of procedures and best practices for tree preservation associated with Town reconstruction and infrastructure projects."

This report responds to Council's direction following the deputation from Ms. Betty Muise, Tree Trust TBM, regarding preventable tree removals within the Thornbury West Reconstruction (TWR) Phase 1B project area, with particular focus on the mature trees along Elma Street South and the Elma/Louisa interface.

In accordance with Council's resolution, this report provides:

- Factual explanation of tree protection measures incorporated into both the engineering design and construction execution of Phase 1B;
- Technical assessment of why four trees initially reserved for retention were ultimately removed based on site conditions, tree health, resident concerns, and conflicts with grading issue and sidewalk placement;
- Clarification regarding provisional contract tree-care items and the apparent under-utilization of the $250,000 tree-protection allowance.
- A recommended path forward to develop a comprehensive Town "Construction near Trees Specification".

Staff also acknowledge and appreciate the sustained advocacy, technical input and volunteer oversight provided by Tree Trust TBM throughout the multi-year planning and construction of TWR. Their engagement significantly improved community awareness and supported several revisions to the design intended to reduce impacts on mature trees.

At the same time, based on the combined professional judgment of Town Staff, the Town's Urban Forestry Coordinator, and the Project Consultant (Tatham Engineering), each of whom attended the site and reviewed the condition and context of the affected trees, Staff remain satisfied that no unnecessary tree removals were undertaken. The Town acted consistently and in good faith to balance tree preservation with public safety, municipal obligations, infrastructure requirements, constructability constraints, and the expectations and concerns of adjacent residents.

C. Background

From the outset of the Thornbury West Reconstruction Project, Council and Staff identified tree preservation as a key community priority. Council motions from Staff Report CSOPS.22.010, entitled "Thornbury West Reconstruction Phase 1 – 90 Percent Design PIC Follow-up" in March, 2022 directed Staff to:

- Incorporate opportunities for tree preservation in follow-up reporting;
- Confirm that all reasonable efforts be employed to retain trees; and
- Segregate $250,000 from the construction contingency budget for additional construction techniques and measures when working around trees.

In response, the project design and tender incorporated a detailed arborist report, tree inventory and condition assessment, and a comprehensive tree-planting and restoration plan. Numerous trees originally proposed for removal were retained through design changes, including sidewalk realignments, boulevard grading adjustments, and the introduction of structural soil in select location. The overall project also delivers significant new planting, including approximately 750 trees on the Louisa Street slope, and additional boulevard trees within suitable locations, to enhance long-term canopy cover and species diversity.

Tree Trust TBM has been an important partner throughout this period, providing deputations, email recommendations, and on-site observations. Their contributions helped support design modifications and informed the Town's approach to preservation measures, particularly along

Elma Street South and Louisa Street West where several trees were initially targeted for removal but were reevaluated for potential retention. Despite these efforts, a small number of mature trees in the Phase 1B area were ultimately removed during construction. This report addresses those concerns and outlines next steps.

D. Analysis

Tree Preservation Measures during Engineering Design Stage

Tree preservation for the TWR Phase 1B project was approached through a combination of design-stage considerations, pre-construction planning, and active monitoring during construction. From the outset of detailed design, the Town, its consultant Tatham Engineering, and the Town's Senior Infrastructure Capital Project Coordinator worked collaboratively to identify opportunities to preserve mature trees where possible, recognizing the limited boulevard widths, the age and condition of many existing trees, the presence of shallow utilities, and the functional requirements of roadway and sidewalk geometry. Several alignment modifications were made during the design process, including adjustments to the retaining wall on Louisa Street West, sidewalk placement and boulevard grading, with the intention of retaining as many viable trees as possible. A significant planting program was also incorporated into the construction tender, including the reforestation of the Louisa Street slope with approximately 750 new trees, to strengthen long-term canopy replacement.

Tree Preservation Efforts During Construction

During construction, tree preservation remained an active priority; however, the actual field conditions determined which preservation measures were warranted and technically appropriate. Although the contract included provisional items for selective trimming, root pruning, and hydrovac excavation of roots, these measures were ultimately required only in limited locations, as most of the project area did not present root conflicts where such techniques would have been beneficial or necessary. Where suitable, the Consultant and the Contractor applied preservation practices such as targeted root pruning, minor crown trimming, Tree Protection Fencing, and the use of structural soils to avoid deep excavation within critical root zones. A notable example occurred at the Beaver Valley Community Centre frontage, where structural soil allowed the sidewalk to be raised to avoid impacting the mature root systems on both sides of the walkway. Throughout the project, Town Staff responded to concerns raised by Tree Trust TBM and residents, arranged joint site meeting with the TBM Tree Trust and the Town's Urban Forestry Coordinator, following Town issued direction to the contractor to correct root-cutting techniques and avoid intrusive excavation near trees flagged for preservation. These efforts confirm that tree protection was implemented wherever technically justified by field conditions, even though the majority of advanced tendered preservation items were not triggered by on-site requirements.

Technical Rationale for Removal of the Four Trees Targeted for Retention

Despite extensive efforts during construction to retain mature trees where feasible, four trees were ultimately removed: the two Sugar Maples at 45 and 47 Elma Street (Tree IDs 172 and 174) and two trees along the Elma Street frontage of 41 Louisa Street (Tree IDs 83 and 154). It is

important to note that, based on the original Arborist Report prepared for the project, Trees 172 and 174 were explicitly identified for removal due to their documented poor and fair structural condition, evidence of decay and structural defects, and unavoidable conflicts with proposed sidewalk alignment and underground servicing. These trees were initially retained beyond the original clearing phase as a good-faith effort by Staff to determine whether construction impacts could be minimized once final service locations and excavation limits were confirmed. However, subsequent sidewalk excavation and road lowering revealed extensive and unavoidable damage to large structural roots directly beneath the sidewalk alignment. Following site reviews involving the Town's Urban Forestry Coordinator, the project Consultant, and TBM Tree Trust, it was collectively concluded that advanced measures such as air excavation or root exposure would not reasonably ensure long-term stability or survivability. In addition, resident concerns regarding branch failure and the perceived risk of tree failure toward adjacent homes further elevated the Town's exposure to future liability. In this context, removal was determined to be the most responsible and defensible outcome from both an arboricultural and public safety perspective.

A similar rationale applied to the two trees along the Elma Street frontage of 41 Louisa Street. Tree 154 was identified in the Arborist Report as being in poor condition, with significant trunk decay and compromised stabilizing roots, and was recommended for removal. While initially believed to be a private tree, field verification confirmed it to be a boundary tree, and the property owner supported its removal. Tree 83, a mature Sugar Maple, was identified in the Arborist Report for retention only if final grading or retaining wall construction did not result in significant root loss. Although the retaining wall was ultimately eliminated from the design, the final sidewalk installation and boulevard regrading exposed several large structural roots, triggering the Arborist Report's conditional removal criteria. Based on these findings, Staff and the Consultant concluded that continued retention was no longer viable or prudent. Overall, these removals reflect the outcome of careful reassessment during construction, rather than a failure to consider preservation opportunities, and were consistent with the recommendations and contingencies outlined in the approved Arborist Report.

Use and Apparent Under-Utilization of Contract Tree Care Items and the $250,000 Preservation Allowance

Questions have arisen regarding the under-utilization of the $250,000 contingency allocation identified in Staff Report CSOPS.22.010 for tree-protection measures such as air spading, root pruning, and structural soil. While these items were included in the contract, their use depended on field suitability and the professional assessment of whether they would materially improve tree survivability. Air spading and root pruning are mitigation tools intended to reduce incidental damage when trees are otherwise viable for long-term retention; they do not eliminate the underlying impacts where construction requires the removal of large structural roots to accommodate sidewalks or buried services. In the cases at 45 and 47 Elma Street, these trees were originally identified for removal in the Arborist Report due to poor condition and sidewalk conflicts but were temporarily retained during initial clearing in an effort to confirm whether construction impacts, could be minimized once excavation commenced. As excavation progressed, it became evident that widening of the sidewalk necessitated in part by conflicts with hydro infrastructure would require cutting through major roots immediately adjacent to

the existing sidewalk alignment. Even with air excavation, those roots would still need to be severed, resulting in significant and unavoidable impact to tree stability. In addition, both trees were assessed as being in “Poor” and “Fair” condition respectively, and escalating concerns were expressed by adjacent homeowners regarding branch failure and the potential risk to nearby dwellings, increasing the Town’s exposure to future liability.

A similar assessment applied to the trees at 41 Louisa Street, where final service locations and slope regrading revealed root impacts consistent with the Arborist Report’s criteria for removal. The Arborist Report anticipated removal where significant root loss occurred due to grading or sidewalk construction, and once those conditions were encountered, additional mitigation measures were not expected to meaningfully alter long-term outcomes. It is important to emphasize that the contingency allowance was not intended as a requirement to fully expend the allocated amount, but rather as a resource to enable enhanced preservation where technically feasible and beneficial. In these instances, the Town, project Consultant, and Urban Forestry Coordinator collectively determined that deploying air spading or root pruning would not have changed the ultimate need for removal and therefore would not have represented an effective or responsible use of public funds.

Tree Preservation and Net Planting Outcomes

Significant efforts were undertaken throughout the Thornbury West Reconstruction project to preserve mature, healthy trees wherever feasible and to enhance the Town’s urban forest through substantial new planting. During the engineering design phase, opportunities to avoid tree removal were actively explored and incorporated into the final design. A notable example occurred along Victoria Street South, opposite the Water Operations building, where a mature Sugar Maple originally identified for removal due to sidewalk conflicts was successfully preserved by shifting the sidewalk alignment. This adjustment enabled retention of the tree while still meeting accessibility and infrastructure requirements.

Additional preservation successes were achieved along Elma Street South adjacent to the BVCC, where multiple mature Sugar Maples were located in close proximity to the sidewalk. Rather than defaulting to removal, the project team pursued retention through grading refinements, reduced excavation depths, and the targeted use of structural soil to bridge root zones and avoid deeper excavation within critical root areas. These measures enabled several trees with constrained protection zones and/or pre-existing condition challenges to be retained, demonstrating an intentional and case-by-case approach to preservation during construction.

From a net outcomes perspective, the project has delivered a substantial net gain to the Town’s urban forest. During Phase 1A, the contractor planted 31 large-caliper trees (50 mm) within the project limits. During Phase 1B, a total of 1,872 trees and woody plants are being planted, including 80 large-caliper trees (50 mm), with the remaining plantings comprised of smaller trees and shrubs selected to establish a resilient urban forest and stabilize roadside conditions, particularly along the Louisa Street West roadside slope. This planting program includes a combination of new plantings and relocations from the Town’s nursery, maximizing the use of Town-owned resources and supporting long-term survivability.

Across both phases, approximately 110 trees were removed where retention was not viable due to servicing conflicts, construction impacts, or safety considerations. Staff note that approximately 75% of removed trees were in poor condition based on arborist assessment, and approximately 30% involved private/boundary trees associated with service extensions and/or property-specific circumstances. At the same time, approximately 120 existing trees were retained within and adjacent to the project area through design modifications and construction-stage preservation measures. Taken together, these outcomes demonstrate that the Thornbury West Reconstruction project achieved both meaningful preservation of mature trees in key locations and a significant net increase in planting, strengthening long-term canopy potential, species diversity, and overall green infrastructure in the project area.

Tree Preservation Efforts in Ongoing Town Projects

In other active capital project like Bay Street and Grey Street Reconstruction, Town Staff have continued to apply a structured and proactive approach to tree preservation during construction. In coordination with the project consultant and contractor, tree removals were intentionally sequenced and executed in phases, with the initial phase limited to removals required to facilitate forcemain installation, followed by subsequent removals only where necessary to accommodate hydro relocations and later-stage servicing extensions. This phased approach was adopted to minimize disturbance, allow for ongoing reassessment of field conditions, and preserve trees wherever feasible as construction advanced.

Multiple site inspections and reviews were conducted by the consultant in collaboration with qualified arborists during the engineering design phase, pre-construction, and throughout the execution of Phase 1 tree removals. Tree Protection Zones and fencing were installed at the outset of construction and maintained throughout the project to clearly define construction limits and safeguard trees located outside the active work areas. Ongoing monitoring and direction were provided to ensure accountability with approved protection measures.

Proactive communication has been maintained throughout construction through the contractor’s project liaison, the Town’s consultant, and the Town’s Communications Coordinator, including regular updates posted on the Town’s website to keep residents informed of construction sequencing and tree-related activities. In addition to preservation efforts within the project limits, the Town undertook the relocation of nine mature trees from the Mill Street Sewage Pumping Station site to the Cottage Avenue road allowance, demonstrating a commitment to tree retention beyond minimum project requirements.

Looking ahead, Staff and the project consultant will continue to explore opportunities for additional tree planting as part of ongoing works, including potential enhancements within Bayview Park, and will work collaboratively with individual property owners who may wish to voluntarily plant trees on the private side of the road allowance. Collectively, these measures reflect the Town’s continued commitment to preserving existing trees, expanding canopy cover, and strengthening urban forest resilience across active and future capital projects.

Need for a Robust Construction Phase Tree Protection Specification

The experience from Phase 1B highlights the need for a clearer, more consistent, and enforceable construction-phase tree protection framework tailored to the Town of The Blue Mountains. Going forward, Staff propose that an arborist report be formally incorporated at the preliminary engineering stage of all road reconstruction projects to identify existing trees, assess condition, and flag candidate trees for potential retention. During the detailed engineering phase, trees identified for retention would be further evaluated to determine which require enhanced protection measures such as air excavation, root pruning, grade adjustments, or structural soil and these requirements would be explicitly detailed on contract drawings and in project specifications. During construction, contractors would be required to strictly adhere to the approved Tree Protection Plan, with defined Tree Protection Zones, fencing requirements, permitted root-exposure methods, and mandatory arborist oversight when executing any of these works. To strengthen compliance, the specification would also include clear enforcement mechanisms, including contractual provisions and liquidated damages related to unauthorized damage or removal of protected trees. Adopting this structured, phased approach would improve consistency across projects, provide clarity and accountability for contractors, and better balance tree preservation objectives with public safety, constructability, and the practical realities of municipal infrastructure delivery.

Staff Recommendation

Based on the above analysis, Staff recommend receiving this staff report for information. Staff advise that work is already underway to strengthen the Town's approach to construction-phase tree protection, including the development of a practical, right-sized Construction Near Trees Specification for capital reconstruction projects. This specification will formalize achievable and enforceable preservation measures such as defined Tree Protection Zones, standard TPZ fencing, restrictions on construction activities within critical root areas, and controlled root-exposure and pruning procedures using air excavation or low-pressure hydrovac methods under arborist oversight and will be integrated into the Town's Engineering Standards, construction contracts, and pre-construction coordination processes to improve clarity, consistency, and accountability in future projects.

E. Strategic Priorities

This report and the recommended next steps support several of Council's 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 development of a standardized Construction Near Trees Specification is expected to have a positive environmental impact by improving the protection of mature tree canopy during capital reconstruction projects, reducing avoidable root damage, and supporting long-term urban forest health. More consistent preservation practices including defined protection zones, controlled root-exposure methods, and arborist-supervised pruning will help minimize construction-related stress on retained trees and reduce the likelihood of premature decline or removal. Enhanced tree protection also contributes to broader environmental objectives such as carbon sequestration, stormwater management, shading, and biodiversity. No adverse environmental impacts are anticipated from implementing the recommended specification.

G. Financial Impacts

N/A

H. In Consultation With

Michael Campbell, Senior Infrastructure Capital Project Coordinator

John McMullen, Manager of Parks and Trails / Interim Urban Forestry Coordinator

Aaron Roeper, Engineer, Project Manager, Tatham Engineering

Alan Pacheco, Director of Operations.

I. Public Engagement

The topic of this Staff Report has not been the subject of a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. However, any comments regarding this report should be submitted to Pruthvi Desai, Manager of Capital Projects pdesai@thebluemountains.ca .

J. Attached

N/A

Respectfully submitted,

Pruthvi Desai
Manager of Capital Projects

Alan Pacheco
Director of Operations

For more information, please contact:
Pruthvi Desai, Manager of Capital Projects
pdesai@thebluemountains.ca
519-599-3131 extension 310

Report Approval Details

Document Title:	OPS.26.003 Thornbury Phase 1B Follow-up Report Addressing Tree Protection Strategies.docx
Attachments:	
Final Approval Date:	Dec 23, 2025

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

Pruthvi Desai - Dec 23, 2025 - 1:41 PM

Alan Pacheco - Dec 23, 2025 - 2:16 PM