



EXECUTIVE SUMMARY

Applicable Tree Bylaw: 2015, No. 2837

Existing and Proposed Conditions: The property at 958 Wallaston Street is currently a residential single-family lot with a two-storey home. A change in zoning to support a four-plex is proposed, including demolition of the existing structures and construction of a new multi-family building with above-ground parking in the rear yard.

On-site Bylaw-Protected Trees: Four bylaw-protected trees currently grow on the site. One of these—a wild cherry tree in poor condition—is recommended for removal to make way for new construction. On-site works, including several proposed parking stalls and landscape amenities are located within the protected root zone of the three bylaw-protected trees to be retained. Care has been taken to design these elements so that they do not impact the root system of the tree or the ecological processes of water infiltration and cellular respiration on which its health depends.

Municipal Trees: Two municipal trees are located on the Wallaston boulevard fronting the subject property and the neighbour to the east at 954 Wallaston. Both trees shall be retained and protected throughout the redevelopment process.

Tree Protection Measures: Detailed measures for the protection of the trees through all stages of the proposed redevelopment of the site are provided in this report and the attached Tree Protection Plan drawing.

Tree Status	Total	To be RETAINED	To be REMOVED	Minimum PLANTING required	Proposed PLANTING
On-site trees, bylaw protected	4	3	1	1	3 ornamental broadleaf + 5 espaliered fruit trees
On-site trees, not bylaw protected	4	2	2	0	0
Municipal trees	2	2	0	0	1
Neighbouring trees, bylaw protected	1	1	0	0	0
Neighbouring trees, not bylaw protected	0	0	0	0	0
Total	11	8	3	1	9

ASSIGNMENT

Gye and Associates (G&A) have been retained to prepare a tree protection plan drawing and report in support of the owner's demolition and building permit applications, as well as on-site services during the construction and landscape phases of the project. This report has been prepared in accordance with the City's published Terms of Reference for Tree Preservation Plans.



Figure 1. Contextual map

METHODOLOGY

- A site visit was made to identify, measure, and assess the condition of relevant trees.
- A topographic survey of existing conditions and a conceptual site plan with proposed building, landscape and storm-water management elements were reviewed to assess potential tree impacts associated with the project. ¹
- Biometric and assessment data were recorded and are presented in table format below (Table-1).

¹ An updated site plan was received on October 13, 2022 and is used as a base layer for the attached tree plan, along with a topographic survey plan drawing prepared by JE Anderson and Associates, dated July 8, 2022.



- Protected Root Zone (PRZ) radii were calculated for the subject trees. The PRZ was calculated using a method recommended by Nelda Matheny and James Clark, which considers the tree species' relative tolerance to disturbance, its biological age, and the diameter of tree at chest height.² Soil depth and texture, existing land use and the health and condition of the tree were also considered.
- The canopy and protected root zone (PRZ) of each tree was plotted to scale on the tree plan.
- The site plan was reviewed to identify site grading, servicing, building and landscape elements that may encroach within the PRZs of the trees.

OBSERVATIONS

SITE DESCRIPTION

The property at 958 Wollaston Street is currently a 560 m.² residential (RS-1) lot with an existing two-storey single family home. Vehicular access to the property is presently from a driveway located along the west side of the property. A 2.2 m.-wide easement in favour of the adjacent property to the rear is located down the east side of the lot. The property is located in a mature residential neighborhood. The topography slopes gently from Northwest to Southeast with a low point on the Site at the Southeast corner. The topography flows from an approximate geodetic elevation of 17.9m at the Northwest corner of the property to 14.5m at the Southeast corner of the property.³ An estimated 45% of the lot surface is covered in impervious surface (building or driveway). No recent soil disturbances were noticed during the site visit.

TREE RESOURCE

Eleven trees are associated with the proposed re-development, eight of which are located on the subject property, of which four are bylaw-protected.

- A purple-leaf plum in fair condition is situated on the boulevard fronting the lot. A second boulevard tree (a Crimson King maple) is located in front of the adjoining lot to the east. These trees can be readily protected with a combination of tree and site management and thoughtful placement of the underground services and utilities for the new development.
- A total of eight trees are located on the subject property, four of which are bylaw-protected.
- The root zone of an off-site tree located in the rear yard of the adjacent lot to the east extends into the subject lot.

Biophysical attributes for the above trees are presented in the following table:

² Nelda Matheny and James R. Clark, Tree and Development, A Technical Guide to Preservation of Trees During Land Development (International Society of Arboriculture, Champaign IL, USA. 1998 P. 74)

³ *Servicing Brief*, prepared by Gwaii Engineering Ltd, October 11, 2022. P.1



G&A Tree ID	Common Name	Bylaw Tree?	Location (Ownership)	DBH (cm)	PRZr (m)	Crown Spread (m)	Structural Condition	Health	Comments	Action
469	Purple leaf plum	BYLAW	ON-SITE	44	4	6	FAIR	GOOD	Possible to retain using measures in Tree Protection Plan.	RETAIN
470	Wild cherry	NON BYLAW	ON-SITE	25	4	5	POOR	POOR	Optional removal, not involved with construction. Low hazard. Tree is in poor condition, and has unsustainable growth habit	REMOVE
471	Tulip tree	BYLAW	ON-SITE	35	5	10	FAIR	FAIR	Significant deadwood over childrens' play area. Crown cleaning pruning recommended.	RETAIN
472	Wild cherry	BYLAW	ON-SITE	35	5	8	FAIR	FAIR		RETAIN
473	European birch	NON BYLAW	ON-SITE	11	2	4	FAIR	FAIR		RETAIN
474	Sweet chestnut	NON BYLAW	ON-SITE	19	3	8	GOOD	GOOD		RETAIN IF POSSIBLE
475	Wild cherry	BYLAW	ON-SITE	32	5	9	POOR	FAIR	Removal does not qualify for hazard tree exemption (Bylaw 2837 8 (2)).	REMOVE
476	Ficus	NON BYLAW	ON-SITE	28	5	7	FAIR	FAIR		REMOVE
MT-1	Purple leaf plum	MUNICIPAL TREE	MUNICIPAL TREE	28	5	6	FAIR	GOOD		RETAIN
MT-2	Crimson king maple	MUNICIPAL TREE	MUNICIPAL TREE	52	6	13	FAIR	GOOD	V pruned for hydro.	RETAIN
OS-3	Lawson cypress	BYLAW	OFF-SITE	45	7	8	FAIR	GOOD		RETAIN

Tree Inventory Table



Figure 2. Street frontage



PROPOSED DEVELOPMENT

Redevelopment of this property is proposed, including demolition of the existing structure and construction of a new four-unit multi-family building with above-ground parking in the rear yard. New underground services and utilities and frontage improvements that include a sidewalk and boulevard improvements are also proposed. Driveway access to the parking behind the new building will run along the east property boundary within the existing easement.

A Servicing Brief (October 11, 2022), prepared by Gwaii Engineering, is appended to this report that outlines the servicing requirements for the proposed project, which include water, sewer, drain and utilities (gas, hydro and comms); however, locations for the service connections and laterals are not provided. The author of the Brief has indicated that it will be possible to align the services so as not to encroach into the root zones of the protected trees. On-site storm-water management is indicated on the site plan in the form of a raingarden, which will capture, treat and infiltrate rainwater from mild-to-moderate rainfall events into the groundwater aquifer. Heavy rains of sustained duration will be diverted to the municipal system.

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

ANTICIPATED TREE IMPACTS AND REMEDIATION MEASURES

Demolition phase:

The existing house, shed and a concrete pad behind the shed are proposed for demolition. The existing paved driveway will be retained to provide site access during the demolition and construction phase, then removed at landscape phase. A site meeting with the demolition sub-contractor, general contractor and the project arborist is required prior to demolition work commencing on to review tree protection objectives, tree barrier fencing and best practices.

Site servicing phase:

Moderate servicing impacts are anticipated to bylaw-protected tree #469 (a 44 cm purple-leaf plum in fair condition) and to boulevard tree M-1 (a 28 cm purple-leaf plum in fair condition).

These impacts will be managed with the following procedures:

1. optimize the alignment of the service trench to limit encroachment within the root zones of the two protected trees;
2. active supervision of the project arborist during the service trenching;
3. hydro-excavation where needed;
4. careful root pruning.

A site meeting with the site servicing sub-contractor, general contractor and the project arborist is required prior to site servicing work commencing to review tree protection objectives, tree barrier fencing and best practices.

Construction phase:

Construction of the new four-plex building will result in the loss of one bylaw-protected tree (a 32 cm dbh wild cherry in poor condition). Construction access and egress is anticipated using the existing asphalt drive on the west side of the lot. Material storage areas will be worked out with the contractor at building permit phase.



A small non-protected sweet chestnut (Tree 474) in good condition located close to the anticipated excavation for the new building foundation and parking area will be retained if possible.

Trees 469, M-1 and M-2 will require care during the excavation and construction of the proposed building and driveway. Protective measures shall include the following:

- Well-constructed and maintained tree barrier fencing and signage;
- Soil armouring where needed;
- Active supervision by the project arborist as appropriate;
- Vertical shoring
- Root pruning
- Sensitive grading and base preparation to bridge over root zones as possible
- Regular site inspections by the project arborist to ensure ongoing compliance with required tree protection measures and to address any emergent conflicts between construction needs and trees.
- Temporary irrigation and mulching of tree root zones during the dry season.

Landscape phase:

The concept site plan indicates a range of landscape elements that extend into the root zones of trees proposed for retention. Transition into the landscape phase of the project provides a good opportunity to assess and adjust existing tree protection measures. A pre-construction meeting between the project arborist and landscape contractors to review the landscape work plan is essential, so that any areas of potential impact to the trees and their growing environment can be identified and overcome before they happen. Protective measures shall include the following:

- Pre-construction meeting
- Maintenance of tree barrier fencing in areas not subject to immediate activity
- On-site supervision by the project arborist when personnel and machinery are working within protected tree zones
- Careful routing and installation of irrigation and outdoor lighting to minimize root impacts

ADDITIONAL TREE PROTECTION MEASURES

Tree protection measures to limit impacts from the construction of the foundation, driveway, in-ground services and landscape include the following:

- **Pre-demolition and construction meetings:** Prior to the release of a demolition or building permit by the Township, the applicant and the applicant's general contractor are required to meet on site with the project arborist to review the Tree Preservation Plan in detail. The purpose of the meeting is to systematically review the objectives of the plan and the measures required to protect trees designated for retention during the demolition, site preparation, construction and landscape phases of the project. Areas for material storage, on-site trades parking (if any) shall be identified. The tree protection fencing shall be laid out and standards for fencing and signage confirmed. The meeting also provides an opportunity to address any logistical constraints and answer questions.



- **Tree Protection Fencing:** All tree protection areas (TPAs) shall be fenced to prevent soil compaction, rutting and other forms of disturbance within the PRZ. If more working room inside the TPAs is required, the project arborist shall be consulted. If the arborist authorizes fencing to be altered in order to facilitate more working room, the exposed portion of the root zone (now) outside the fencing must be protected to prevent soil disturbance. Acceptable soil-protection materials include steel plates or 200mm of compacted road base on top of geo-textile cloth or two-layers of ¾" plywood.
- **On-site Supervision:** All excavation, trenching or rock removal (including blasting) within or adjacent to TPAs shall be supervised by the project arborist, including trenching for both municipal service connections and extension of these underground services to the house. Where considered necessary by the arborist, hand-digging and pneumatic or hydraulic excavation techniques shall be used in place of mechanical excavation.
- **Tree Pruning:** The project arborist shall prune any tree roots or branches damaged during any phase of the project.
- **Pre-construction meeting for the landscape phase:** Landscaping activities, such as trenching for irrigation or lighting, grubbing of vegetation, distribution of soils and other landscape materials – are a significant potential source of damage to the sensitive soils and root systems of protected trees. Prior to any site preparation or construction activity for landscaping, the landscape and general contractor shall meet with the project arborist to review the tree protection plan and measures associated with landscaping.
- The arborist shall supervise all landscape activity within the tree protection areas.
- At completion of the redevelopment, the arborist shall ensure that any tree protection or restoration deficiencies are addressed by the owner and building contractor. Once all deficiencies have been repaired, the arborist shall prepare a letter to the Township of Esquimalt confirming successful completion of the project, including resolution of any deficiencies.

Additional detail is provided on the attached tree plan. If diligently implemented, the tree protection measures specified in the Tree Management Plan and this report will effectively preserve municipal and both on- and off-site trees for the long-term benefit of the homeowner and community.

ROLE OF THE PROJECT ARBORIST

In addition to assisting with tree preservation planning during the design and permit application phases of the project, the responsibilities of the arborist during the construction and landscape phases of the project are described below:

The main role of the project arborist is to assist the contractor to successfully preserve all trees, on- and off-site, designated for retention as a condition of the building permit. The following is a summary of the key interventions required by the arborist (G&A). **The owner's building contractor is responsible for coordinating with the arborist for all required on site work.**

1. Layout and inspection of Tree Barrier Fencing



2. Pre-construction meeting(s)
3. On-site supervision when working around TPAs.
4. Pre-blasting workplan meeting
5. Pre-landscape workplan meeting
6. Periodic site monitoring to ensure ongoing compliance with tree protection measures
7. Post-construction inspection and report to the Township of Esquimalt.

End report

Prepared and submitted on behalf of Gye and Associates, Urban Forestry Consultants Ltd.

Jeremy Gye – Senior Consultant

Gye and Associates, Urban Forestry Consultants Ltd.

Consulting Arborist (Diploma, American Society of Consulting Arborists, 1997)

ISA Certified Arborist (Certification No. PN-0144A)

ISA Certified Municipal Specialist (Certification No. PN-0144AM)

ISA Tree Risk Assessment Qualified (Current)

APPENDICES:

Assumptions and Limiting Conditions

Tree Management Plan

Servicing Brief



ASSUMPTIONS AND LIMITING AND CONDITIONS

1. This report and the opinions expressed within it have been prepared in good faith and to accepted arboricultural standards within the scope afforded by its terms of reference and the resources made available to the consultant. The report provides no undertakings regarding the future condition or behavior of the trees reviewed within it. Tree hazard and condition assessments are not an exact science. Both qualities can and do change over time and should be reappraised periodically.
2. Any legal description provided to the consultant/appraiser is assumed to be correct. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
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