

Completed checklists form part of the application package reviewed by staff and ultimately, Council. New buildings and developments have impacts that last well beyond the construction period. Reducing the consumption of natural resources and increasing resilience to a changing climate are part of the challenge of building more sustainably. This checklist will help you identify and present how your project will help the Township meet its goals of becoming carbon neutral by 2050.

Applicant's Name

Kim Colpman

Site Address

485 Joffe

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APR 30 2021

CORP. OF TOWNSHIP
OF ESQUIMALT

DEVELOPMENT SERVICES

1.0 Certification		Please check
1.1	Step Code (Please indicate level) <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
1.2	EnerGuide rating	TBD
1.3	LEED	
1.4	Passive House	
1.6	Living building	
1.7	Other (Built Green BC, R-2000, Green Shores etc.)	
2.0 Siting		
2.1	New buildings > 10 m ² are located > 20 m from the high water mark (HWM) of the Gorge Waterway.	Required
2.2	New buildings > 10 m ² are located at least 10 m from the HWM from the outer coastline.	Required
2.3	Flood Construction Level has been established using sea level rise projections for the life of the building.	✓
2.4	Habitats of threatened and endangered species have been protected from impacts of development.	NA
2.5	Buildings are located within disturbed or developed areas.	✓
3.0 Shoreline Protection Measures		
3.1	Landscaping within 10 m of the high water mark consists primarily of native plant and tree species.	Required
3.2	A conservation covenant has been signed to protect sensitive ecosystems within 10 m of the shoreline.	NA
3.3	At least one native tree capable of (now or in the future) supporting the nest of a Bald Eagle, Osprey etc. has been retained or is planted within 30 m of the high water mark (HWM).	NA
3.4	Removal of at least 30% of hardened shoreline and replacement with erosion control measures designed to improve the habitat of the shoreline.	NA
3.5	Light from building and landscaping does not cast over water.	NA
3.6	Wildlife habitat has been incorporated into seawall design.	NA

4.0 Stormwater Absorption and Treatment		Please Check
4.1	An on-site stormwater retention system has been designed to retain at least the first 3 cm of rainfall from each rain event.	—
4.2	Stormwater will be treated for pollutants prior to release to the stormdrain system or to a surface water source.	—
4.3	The project features a green roof.	—
4.4	The total amount of impervious surface is not greater than 20%.	—
5.0 Water Conservation		
5.1	The irrigation system has been designed to reduce potable water use by 50% compared to conventional systems.	—
5.2	Waterless urinals will be used.	NA
5.3	Water features use re-circulating water systems.	NA
5.4	Rainwater will be collected for irrigation purposes.	—
5.5	Toilet and kitchen sink drains are separate from other drains to the point of exit.	—
5.6	An approved greywater reuse system will be installed.	—
6.0 Trees/Landscaping		
6.1	The project is designed to protect as many native and significant trees as possible.	✓
6.2	There will be no net loss of trees.	✓
6.3	Trees will be planted in soil volumes calculated to support the full grown size of the tree.	✓
6.4	At least 25% of replacement trees are large canopy trees.	✓
6.5	Topsoil will be protected from compaction, or stockpiled and reused.	✓
6.6	Erosion control measures have been designed and installed to prevent erosion of topsoil.	✓
7.0 Biodiversity		
7.1	New landscaping is predominantly native plant and tree species.	✓
7.2	Invasive species will be removed from landscaped areas.	✓
7.3	At least two biodiversity features have been incorporated into the new or existing landscaping (see section 18.5.3 of the OCP for ideas).	✓
8.0 Energy Conservation		
8.1	The building is pre-plumbed for solar hot water.	Required
8.2	Install a greywater heat recovery unit.	—
8.3	Passive cooling is supported through flow-through ventilation design, low E windows, solar shades, shade trees etc.	✓
8.4	Passive heating is supported via building orientation, window design and thermal mass.	✓
8.5	The building will have necessary structural support and conduit for Solar PV.	—
8.6	Obtain minimum of 20% of building energy consumption through community based or on-site renewables, such as district energy, waste heat recovery, geothermal, solar PV, solar hot water.	—
8.7	Heating uses a low carbon heating source, such as air source heat pump.	✓

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DEVELOPMENT SERVICES

9.0 Transportation		Please Check
9.1	Building will have a car share or bus pass program for residents.	—
9.2	Enhanced facilities for bicyclists such as showers, lockers, storage etc.	—
9.3	Charging infrastructure for E-bikes will be provided.	—
9.4	EV charging conduit supplied to 100% of residential parking units. <i>NOT VISITORS</i>	✓
9.5	30% of residential parking spaces include an electrical outlet or EV charging equipment.	✓
9.6	Adequate space in the electrical system to provide EV charging for 100% of parking stalls.	✓
9.7	For commercial buildings, Level 2 or Level 3 EV charging provided for employees and/or visitors.	NA
10.0 Materials/Waste		
10.1	Employs at least 3 advanced framing techniques described in the CHBA builder's manual to reduce unnecessary lumber and sheathing.	✓
10.2	Uses at least two materials which are certified for recycled content.	✓
10.3	Uses engineered structural material for two major applications (>10% of floor area).	✓
10.4	5 major building elements made from >50% recycled content.	—
10.5	Use foundation, floor and >50% of walls from existing building.	—
10.6	Deconstruct at least 50% of existing building for material salvage.	—
10.7	Use at least five major materials or systems produced in BC.	✓
10.8	Use certified sustainably harvested wood for one major structural or finishing application (eg framing, plywood, floors)	—
10.9	Eliminate use of wood from threatened trees.	✓
10.10	Recycling area provided within residential suites.	—
10.11	Recycling collection area for multi-family buildings.	✓
10.12	Pickup of compostables provided in multi-family units.	✓
10.13	Construction waste management practices used to reduce and separate waste and divert at least 50% from the landfill.	✓

Please include a brief description of how this project contributes to a reduction in greenhouse gas emissions and moves the municipality closer to its ultimate target of becoming carbon neutral by 2050 (use next page if needed).





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TRAQ Certified
ISA Tree Risk Assessor CTRA 459

**Arborist Report for Development Purposes
Re: Proposed Demolition and New Home Construction**

**Site Location: 485 Joffre St. South, Esquimalt, BC
Ryan Senechal
ISA Certified Arborist ON 1272AT, ISA TRAQ
August 31, 2021**

August 31, 2021

For Large and Co. Developers/Kim Colpman

485 Joffre St. South. Esquimalt, BC

Re. Proposed Demolition and New Home Construction

Scope of Work

D. Clark Arboriculture has been retained by Large and Co. Developers/Kim Colpman to provide comments on trees impacted by a potential house demolition and construction, as well as a Tree Protection Plan for the property of 485 Joffre St. South as per the requirements of the Township of Esquimalt.

Summary

A potential house demolition and construction will impact the Protected Root Zone of (5) Bylaw Protected trees on the property. These trees require tree protection measures including tree protection fencing, and Arborist supervision of activities in the Protected Root Zone of the trees. One (1) undersized Norway maple tree requires removal as it is within the proposed building envelope.

Introduction and Methodology

I visited the site on August 23rd, 2021 and completed an assessment of trees on-property and off-property that have potential to be impacted by proposed development. Site conditions surrounding affected trees include past and present construction disturbance and new structures/impervious surfaces that have altered growing conditions for existing trees, although it's difficult to stay to what extent at this time. Designs were provided by our client for new 2½ floor townhomes (6 ground-oriented units), a new driveway and parking area as well as landscaping on the lot. This report was completed on August 25th, 2021.

Tasks performed include:

- An aerial site map was generated locating the existing residence and accessory building.
- A visual inspection of (5) off-property protected trees was performed, and notes were collected on health and structural condition.
- Tree height was estimated to the nearest metre.
- Arborist markups on provided scale designs identify protected tree locations, tree protection fencing extents, and location of (1) unprotected tree to be removed.
- Diameter at Breast Height measurements were estimated for off-property trees
- Photos gathered of the site and trees.

Tree Inventory

485 Joffre St. S Inventory of Trees									
#	Species	cm/DBH	Height/m	Spread	PRZ/m	Structure	Health	Bylaw protected	Retain/Remove
1	<i>Acer platanoides</i>	23	10	7		FAIR	FAIR	no	Remove
Off Property Trees									
NT1	<i>Ailanthus altissima</i>	72	13	12	9	FAIR	GOOD	Yes	Retain
NT2	<i>Cornus nuttallii</i>	12	4	6	1	GOOD	GOOD	Yes	Retain
NT3	<i>Pyrus communis</i>	30	6	6	4	FAIR	FAIR	Yes	Retain
NT4	<i>Juglans regia</i>	40	11	11	5	FAIR	FAIR	Yes	Retain
NT5	<i>Acer platanoides</i> 'Crimson King'	60	13	9	7	FAIR	GOOD	Yes	Retain

DBH-Diameter at Breast Height. Measured at 1.4m from the point of germination. Where the tree is multi-stemmed at 1.4m, the DBH shall be considered 100% of the 3 largest stems rounded to the nearest cm.

PRZ-Protected Root Zone. The PRZ shall be considered 12x the DBH, rounded to the nearest whole meter.

Tree Assessment Summary

- #NT1 requires branch clearance pruning to enable construction vehicle access along driveway.
- #NT4 has had several primary branches removed up to ~20 cm Ø over the property of 485 Joffre St. South, likely as part of the accessory building project. Decay is visible at past pruning wounds beginning at 4 m height.
- #NT5 has had substandard pruning to provide clearance from a structure being built at the 481 Joffre St. South. A large remaining stub was observed at ~4 m height.





Site Description

485 Joffre St. South is a residential property on a level lot with a recent addition of an accessory building at the east end of the lot. A gravel driveway runs from the entrance (northwest side) to the garage (southeast side). Recent development has taken place at 1109 Lyall St. (northeast side of property) and is ongoing at 481 Joffre St. South. Turf areas in the front and back yards were dry and compacted.

Impacts of Excavation and Construction

Equipment traffic in and out of the site will utilize the existing driveway for construction, which is the proposed location for the finished driveway. Entry access will be from the west side of the lot at Joffre St. South. Machinery and materials staging should utilize the east side of the lot on the existing gravel driveway to minimize impacts to off property Protected trees at the west side of the lot.

The existing water service lateral is approximately 8 m from the trunk of #NT1 (VicMap GIS) which can be considered within the protected root zone (PRZ). It is anticipated that storm and sewer servicing could conflict with the PRZ of #NT1, or limit future planting opportunities on the frontage.

Low branches on one tree (NT1) at the driveway entrance require pruning to improve clearance for vehicles accessing the site and from overhead communications utilities. Pruning of branches will be limited to those overhanging 485 Joffre St. South and may be raised to a height of 4.5 m using reduction and removal cuts under 10 cm Ø at attachments.

Impacts to specific trees are as follows:

- #NT1 may be impacted by overhead or underground site servicing, and will be impacted by heavy vehicle travel, staging of materials and excavation for foundation, landscaping, and driveway base depth.
- #NT2 may be impacted by overhead or underground site servicing, although these impacts are anticipated to be low.
- #NT3 will be impacted by excavation for driveway base depth.
- #NT4 will be impacted by excavation for driveway base depth, and landscaping.
- #NT5 will be impacted by demolition of the accessory building and excavation for driveway/parking.
- #1 is unprotected, within the proposed building envelope, and will be removed.

Tree Protection Plan

The Protected Root Zone (PRZ) of all protected trees recognized in this report shall be 12 times the diameter of the tree.¹

Tree protection fencing will be installed prior to work commencing and maintained through the duration of the project. The construction and location of which will be approved by the project Arborist.

Tree protection fencing must be anchored in the ground and made of 2x4 or similar material frame, paneled with securely affixed orange snow fence or plywood and clearly marked as TREE PROTECTION AREA- NO ENTRY (See appendix A for an example). Fencing should be a minimum of 30 cm from sidewalks, 1.5 m from driveway letdowns, and 60 cm from roadsides.

The area inside the fence will be free of all construction materials and debris. Areas outside the tree protection fence but still within the protected root zone (PRZ) may be left open for access, as work areas and for storage of materials. These areas will be protected by vehicle traffic with either 3/4" plywood or a minimum 20cm of coarse wood chips (see Site Plan for suggested locations of each).

Tree protection measures will not be amended in any way without approval from the project Arborist.

Any additional tree protection measures will be documented in a memo to the Town of Esquimalt and the developer. Existing property fences at the north and south sides of the lot are required to be kept in place during construction, and at minimum must be in place as designated on the Tree Protection Plan. Tree protection fence will be installed at the northeast side of property (#NT4) and at the south side of the property (#NT5) in accordance with specification provided on the Tree Protection Plan.

Excavation inside the Protected Root Zone of any tree identified in this plan for any reason will take place under the supervision of the project Arborist or their designate. Working radially inward toward

¹Best Management Practices (BMP) - Managing Trees During Construction, Second Edition by Kelby Fite and E. Thomas Smiley

the tree, the excavator will remove the soil incrementally with a non-toothed shovel allowing any exposed roots to be pruned to acceptable standard by the project Arborist.

Roots that have been pruned are to be covered with a layer of burlap and kept damp for the duration of the project. Any excavation of the stump of a tree inside a PRZ must be supervised by the project Arborist. As well, any excavation for underground services inside a PRZ will be supervised by the project Arborist. Where applicable, a hydro-vac or Airspade® may be employed to expose critical roots and services.

Demolition of the accessory building, and excavation for the new driveway base depth will require Arborist site supervision. Arborist supervision may be required for underground site servicing, which will be determined at which time site servicing plans are provided. Amendments or revisions to this plan due to unanticipated changes will be documented in a memo to the developer and the Town of Esquimalt for approval before excavation begins.

Overhead services (temporary or permanent) may impact a large tree (#NT1) at the west side of the lot. A memo to the developer and the Town of Esquimalt will be provided when utility connection locations are determined.

Any pruning of Protected trees will be performed by an ISA (International Society of Arboriculture) Certified arborist, in accordance with most current ANSI A300 Part 1: Standard Practices (Pruning).

The extent of hard surfaces for driveways and parking may impact the PRZs of Protected trees by increasing stormwater runoff, reducing rainwater percolation and increasing runoff contaminants that are deposited in soils and taken up by root systems. Efforts should be taken to maximize pervious surface area in the design phase to improve outcomes for on property and off property trees.

Role of the Project Arborist

No aspect of this Tree Protection Plan will be amended in whole or in part without the permission of the project arborist. Any amendments to the plan must be documented in memorandums to the municipality and the developer.

The Project Arborist must approve all tree protection measures before demolition and/or construction is to begin.

A site meeting including the project Arborist, Developer, project Supervisor and any other related parties to review the tree protection plan will be held at the beginning of the project.

The developer may keep a copy of the Tree Protection Plan on site to be reviewed and/or initialed by everyone working inside or around the PRZ of trees.

The project Arborist is responsible for ensuring that all aspects of this plan, including violations, are documented in memorandums to the municipality and the developer.

Recommended Actions Summary

- Site fencing will be constructed prior to any work on the property (for any reason including demolition or staging of materials), will be approved by the project Arborist, and will remain for the duration of all construction activities with removal or amendment only being approved by the Project Arborist.
- The Project Manager and the project Arborist will be in contact prior to the beginning of every site servicing to review expectations and navigate any changes.
- The project Arborist will be notified at least five (5) business days prior to any expected site supervision on the project.
- The project Arborist will supervise excavation for accessory building demolition, excavation for site servicing, and excavation for driveway base depth as those works impact PRZs
- Wherever required, memos from the project Arborist will be provided regarding the impacts to trees from construction.

Thank you for the opportunity to comment on these trees. Should any issues arise from this report, I am available to discuss them by phone, email or in person.

Regards,



Ryan Senechal
ISA Certified Arborist ON1272AT, ISA TRAQ
TCIA Certified Treecare Safety Professional #931

Disclosure Statement

An arborist uses their education, training and experience to assess trees and provide prescriptions that promote the health and wellbeing, and reduce the risk of trees.

The prescriptions set forth in this report are based on the documented indicators of risk and health noted at the time of the assessment and are not a guarantee against all potential symptoms and risks.

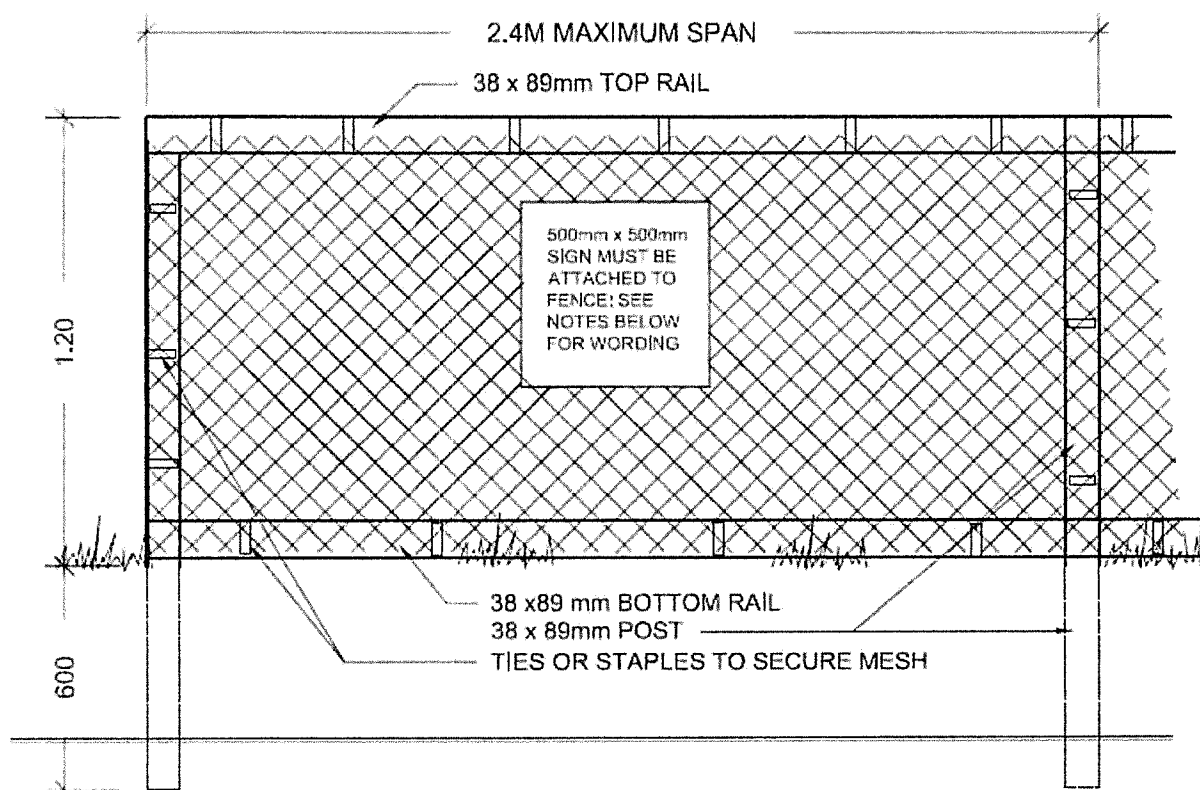
Trees are living organisms and subject to continual change from a variety of factors including but not limited to disease, weather and climate, and age. Disease and structural defects may be concealed in the tree or underground. It is impossible for an arborist to detect every flaw or condition that may result in failure, and an arborist cannot guarantee that a tree will remain healthy and free of risk.

To live near trees is to accept some degree of risk. The only way to eliminate the risks associated with trees is to eliminate all trees.

Assumptions and Limiting Conditions

- Altering this report in any way invalidates the entire report.
- The use of this report is intended solely for the addressed client and may not be used or reproduced for any reason without the consent of the author.
- The information in this report is limited to only the items that were examined and reported on and reflect only the visual conditions at the time of the assessment.
- The inspection is limited to a visual examination of the accessible components without dissection, excavation or probing, unless otherwise reported. There is no guarantee that problems or deficiencies may not arise in the future, or that they may have been present at the time of the assessment.
- Sketches, notes, diagrams, etc. included in this report are intended as visual aids, are not considered to scale except where noted and should not be considered surveys or architectural drawings.
- All information provided by owners and or managers of the property in question, or by agents acting on behalf of the aforementioned is assumed to be correct and submitted in good faith. The consultant cannot be responsible or guarantee the accuracy of information provided by others.
- It is assumed that the property is not in violation of any codes, covenants, ordinances or any other governmental regulations.
- The consultant shall not be required to attend court or give testimony unless subsequent contractual arrangements are made.
- The report and any values within are the opinion of the consultant, and fees collected are in no way contingent on the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, or any finding to be reported.

Appendix A



TREE PROTECTION FENCING

Tree Protection Fencing Specifications:

1. The fence will be constructed using 38 x 89 mm (2" x 4") wood frame:
 - Top, Bottom and Posts. In rocky areas, metal posts (t-bar or rebar) drilled into rock will be accepted
 - Use orange snow fencing mesh and secure to the wood frame with "zip" ties or galvanized staples. Painted plywood or galvanized fencing may be used in place of snow fence mesh

Attach a roughly 500 mm x 500 mm sign with the following wording: **TREE PROTECTION AREA- NO ENTRY**. This sign must be affixed on every fence face or at least every 10 linear metres.



485 Joffre St. South
August 25th, 2021
#NT4 (East facing)



485 Joffre St. South
August 25th, 2021
#NT5 (Southeast facing)



485 Joffre St. South
August 25th, 2021
#1 (South facing)

