

SouthShore Forest Consultants

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May 23, 2023

Attention: Richard Gill - GMC Projects Inc. Project Manager

SouthShore Forest Consultants

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GST # 777095324 RC001
Work Safe BC # 968408
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Incorporation # BC1069996 Ltd.
Intermunicipal Business License #00016808
BC SEBASE Safe Certified #5200066

RE: Proposed Development – Tree Protection Plan (TPP)

Location – 900 Carlton Place – Town of Esquimalt

On Tuesday, May 23, 2023, Michael Butcher a Consulting Arborist with SouthShore Forest Consultants provided a Basic Visual Tree Risk Assessment Level “2” on twelve (12) trees positioned within and around the proposed development area located at 900 Carlton Terrace in the Township of Esquimalt.

The client has proposed to develop and construct a dual residential and commercial building with significant improvements to the site. The site will include a residential tower design with underground parking. Combined the developer has proposed to incorporate a park and updates to the frontage of the site along Esquimalt Road. The proposed project will significantly impact trees positioned within the interior and the Esquimalt and Head Street right-of ways.

Under the existing plan we anticipate the removal of six (6) trees.

Trees: NT1 – NT3, NT5 & NT11 & NT12 have been identified for removal due to anticipated impacts to each trees Protected Root Zone (PRZ).

A tree protection and monitoring plan will be required. In this case tree protection mitigation will focus on the protection of trees; NT6 – Garry Oak (*Quercus garryana*), NT7 Maple (*Acer sp.*) NT8 pine (*Pinus sp.*), NT9 & NT10 Deodar cedar (*Cedrus deodara*). Tree NT4 a municipal street tree in the public boulevard has been identified for transplanting at the Townships approval. Positioned in the sidewalk right-of-way, this tree is fairly new and can be transplanted to an alternate location.

Appendix "A"

Figure #1 - Tree Inventory – Proposed Impact Area

Tag #	Spec.	DBH (cm)	Ht (M)	PRZ (M)	CRZ (M)	Cond P/F/G	Impact L/M/H	Bylaw Prot.	Retain	Remove & Replace Ratio	Comments
NT1M	Linden	18	6	3	2	F/F	H	Yes		X (2)	Blvd tree - remove & replace
NT2M	Linden	38	7	5	3	F/P	H	Yes		X (2)	4 stems 16, 12 10 & 5cm - remove & replace
NT3M	C Apple	26	6	4	2	F/F	H	Yes		X (2)	2 x stems - remove & replace
NT4M	Ginkgo	2	2	1	1	F/F	H	Yes		X (0)	Transplant with Townships permission
NT5M	G oak	75	20	14	7	F/P	M/H	Yes		X (3)	Footprint - set back issues, remove & replace
NT6	G oak	60	22	12	6	F-F/P	L/M	Yes	X		Preserve & protected, basal damaged at grade - into upper root crown
NT7M	Maple	15	7	4	2	F/F	L	Yes	X		Blvd tree - Retain at 900 Carlton - P/L tree
NT8	Pine	26	5	5	3	F/P	L	No	X		Off-site tree
NT9	D cedar	56	21	10	5	F/P	L/M	Yes	X		2 x stem at 5m and 15m above grade, Off-site
NT10	D cedar	69	23	12	6	F/F	L/M	Yes	X		Potential Park development impacts- grade and compaction
NT11	D-fir	61	20	11	6	F-F/P	H	Yes		X (3)	Direct Impact
NT12	D-fir	35	14	5	3	F/P	H	Yes		X (3)	Direct Impact

Tree Biometrics - Terminology

DBH - Diameter Breast Height - Calculated at 1.41 m above grade on tree stem.

PRZ - Protected Root Zone, (calculated at a ratio of 1:18) 50cm DBH = 9m PRZ

CRZ - Critical Root Zone, (calculated at a ratio of 1:9) 60cm DBH = 5m CRZ

50cm DBH = 5m CRZ

Condition - P= Poor, F=Fair, G=Good

Footprint = Excavation edge along the outside of building envelope on grade. Over excavation is expected and can be up to a 1.5m distance from the outside of the proposed footprint edge.

Impact Zone = Constructive area, estimated at 0-1.5m outside the proposed building footprint.

Impact Levels - L (Low), M (Moderate), H (High)

Bylaw Protected - Trees identified which meet the District of Esquimalt Tree Bylaw Protection criteria.

Tree Replacement - Mitigation Requirement - Estimate fifteen (15) replacement trees.

General Notes

- The site was assessed to have easy access off the Carlton Terrace right-of-way and the Street. The Carlton Terrace access is ideal for the delivery and staging of materials.
- The proposed development has been estimated to provide low to moderate root related impacts to trees identified for retention. The use of a realistic tree protection and mitigation plan can be provided by the developer in this case.
- We recommend that the municipal trees, NT1-NT3 & NT5 be removed due to anticipated impacts and proposed improvements to the public right-of-way. Tree NT4, Gingko has been identified for transplanting.
- Trees NT11 & NT12 will be directly impacted and must be removed under the existing proposal.
- The Project Arborist shall confirm TPFing positioning and construction.
- The utility alignment/corridor will be directly connected into the existing structure on site. Utility alignment is still pending (Township of Esquimalt requirements) at this point.
- The Project Arborist shall provide excavation monitoring and assessment within Bylaw Protected Tree PRZ's. (NT6, NT7 & NT8 - NT10) Please confirm and schedule appropriately with the Project Arborist. NT7 maple appears to straddle the property line across from the site - limited impacts may occur.

- Project Arborist to provide “post memo” to the Township of Esquimalt Parks Staff upon completion of excavation activity.

Appendix “B”

Figure #1 – Ortho Photo – 900 Carlton Terrace & 900 Head Street



Figure #2 – Survey Map – 900 Carlton Terrace & 900 Head Street

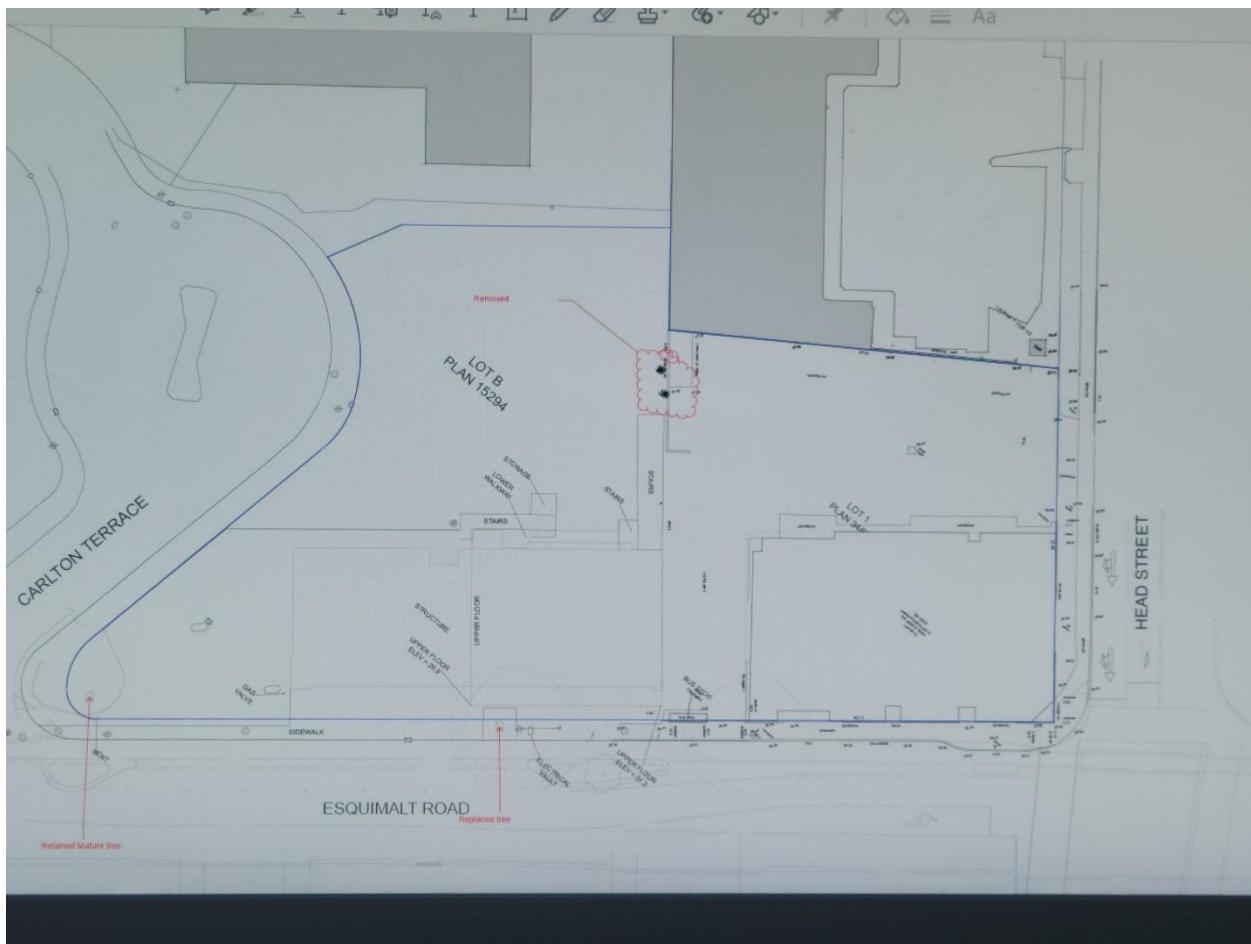
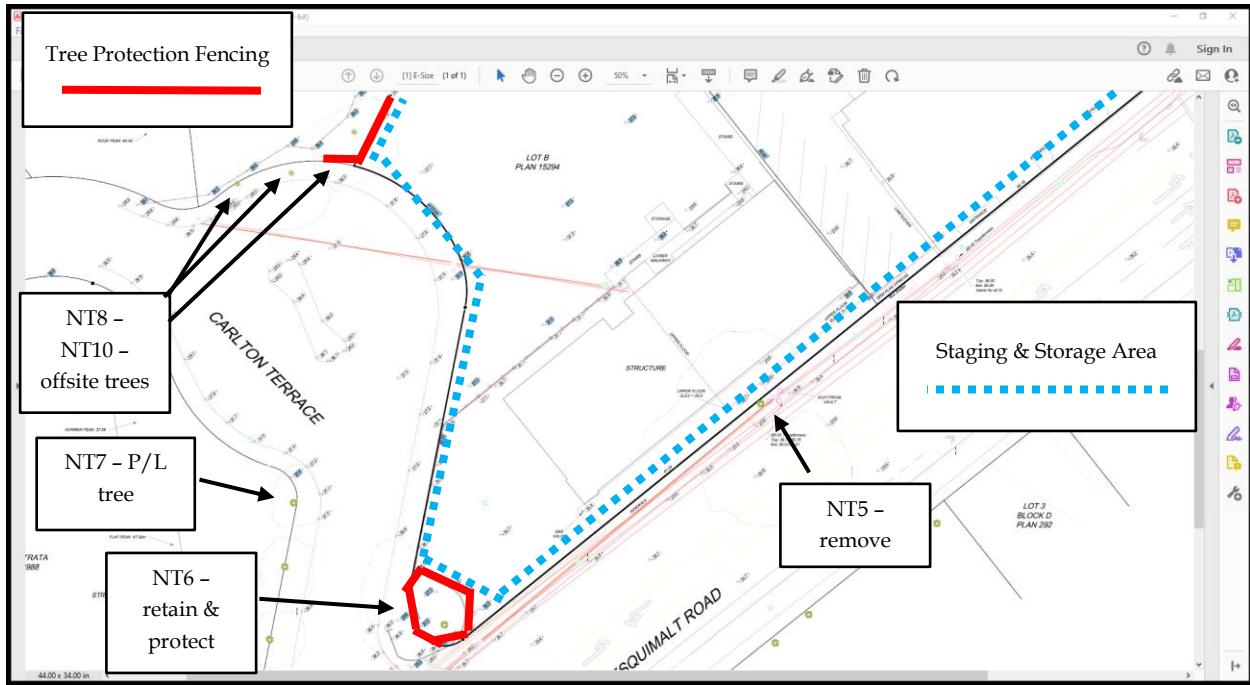


Figure #3 – Ground Level – Tree Protection Plan – West Side of Development Area



In this figure you can see the approximate positioning of the tree protection fencing and the identified staging area. In this case we expect that excavation and equipment staging may require the repositioning of the TPFing. Excavation requirements could affect grade specific root impacts and therefore the Project Arborist must provide site specific impacts in and around trees identified for retention.

Figure #4 – Ground Level – Tree Protection Plan – East Side of Development Area

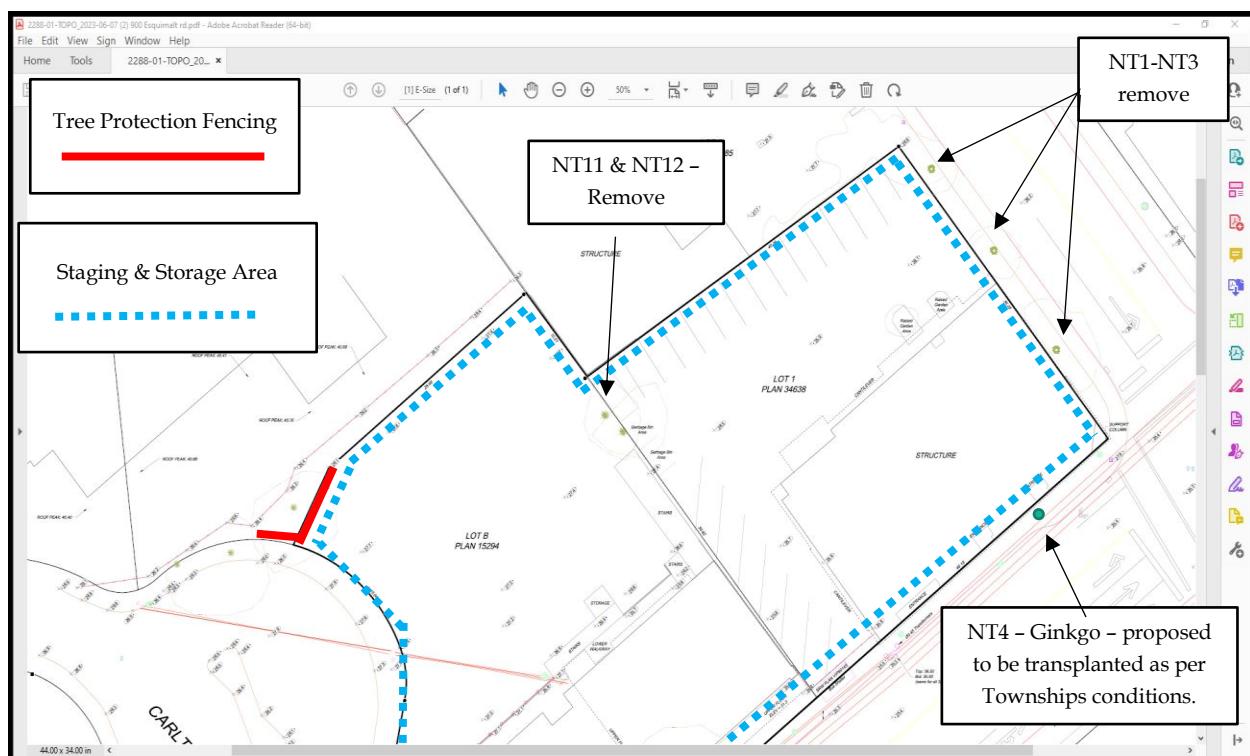


Figure #5 – Proposed Landscape & Tree Replacement Plan

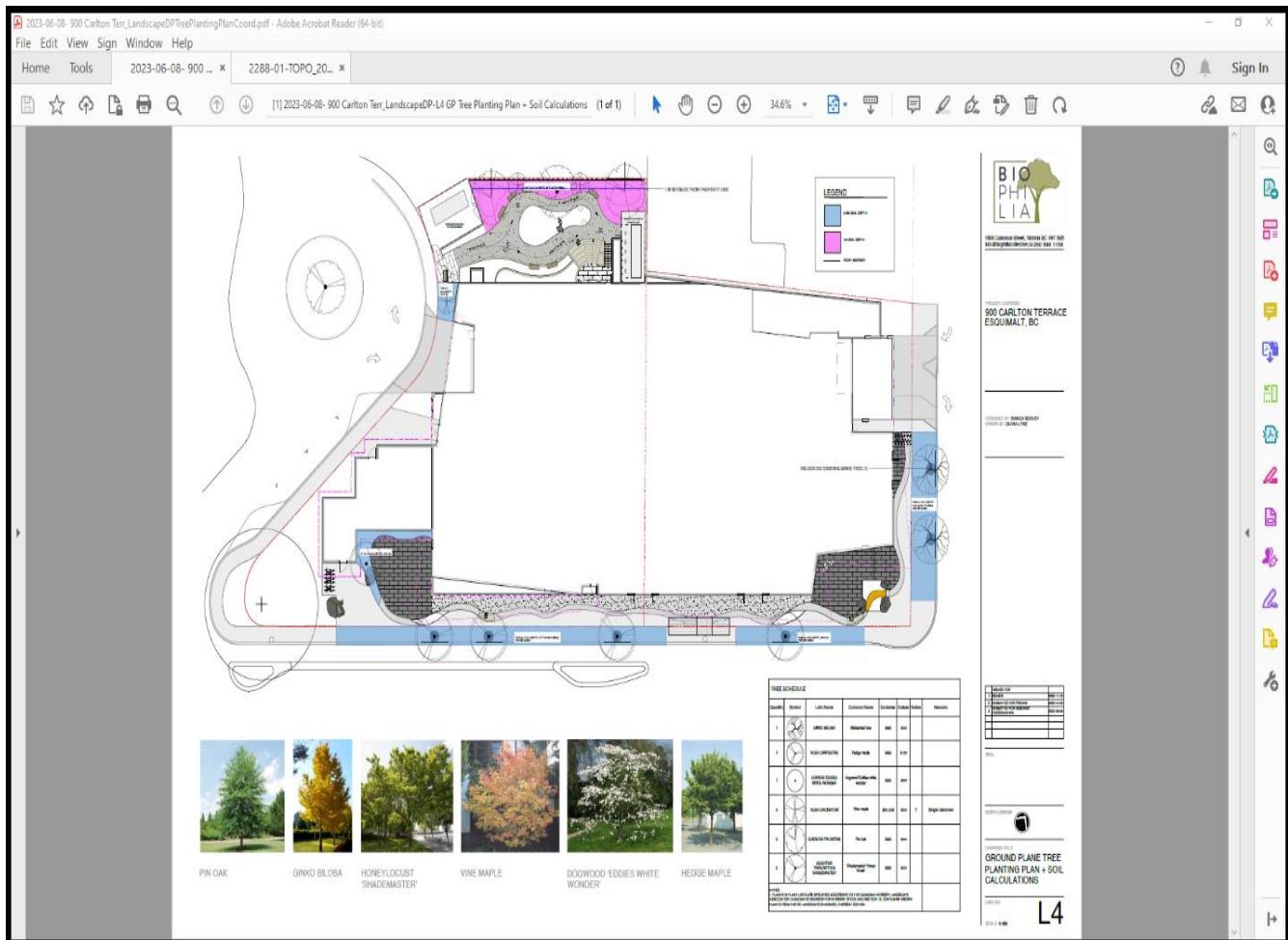


Photo #1 - NT1M - Linden Tree - Boulevard Tree



In this photo you can see NT1M linden tree positioned in the Municipal Boulevard. Under the existing proposal, this tree has been identified for removal due to landscape /hardscape improvements.

Photo #2 – NT3M – C Apple – Municipal Boulevard



In this photo you can see NT3M C apple tree positioned in the Municipal Boulevard. Under the existing proposal, this tree has been identified for removal due to landscape /hardscape improvements.

Photo #3 – NTM5 – Garry Oak – Boulevard Tree



In this photo you can see NT5M Garry oak tree positioned in the Municipal Boulevard. Under the existing proposal, this tree has been identified for removal due to its position and the proposed setback/step back. The tree's structure has been compromised due to the overhead utility lines. Proposed improvements to the sidewalk and right-of-way will affect the oaks Critical Root Zone (CRZ) further affecting the trees sustainability to the site. Removal of tree NT5M is highly recommended.

Photo #4 – NT6 – Garry Oak – Retain & Protect



Photo #5 – Carlton Terrance Access off Esquimalt Road

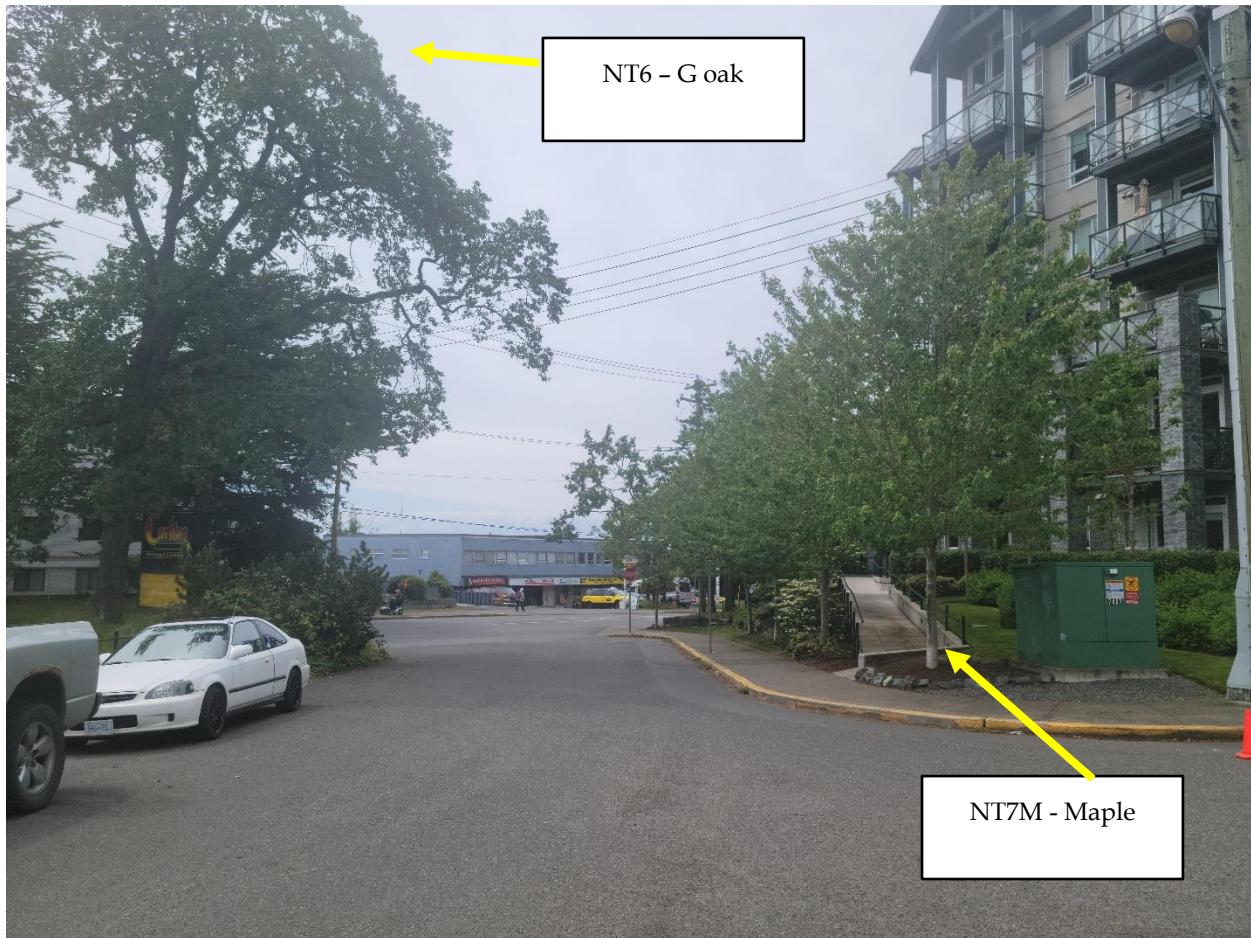


Photo #6 – NT8 – NT10

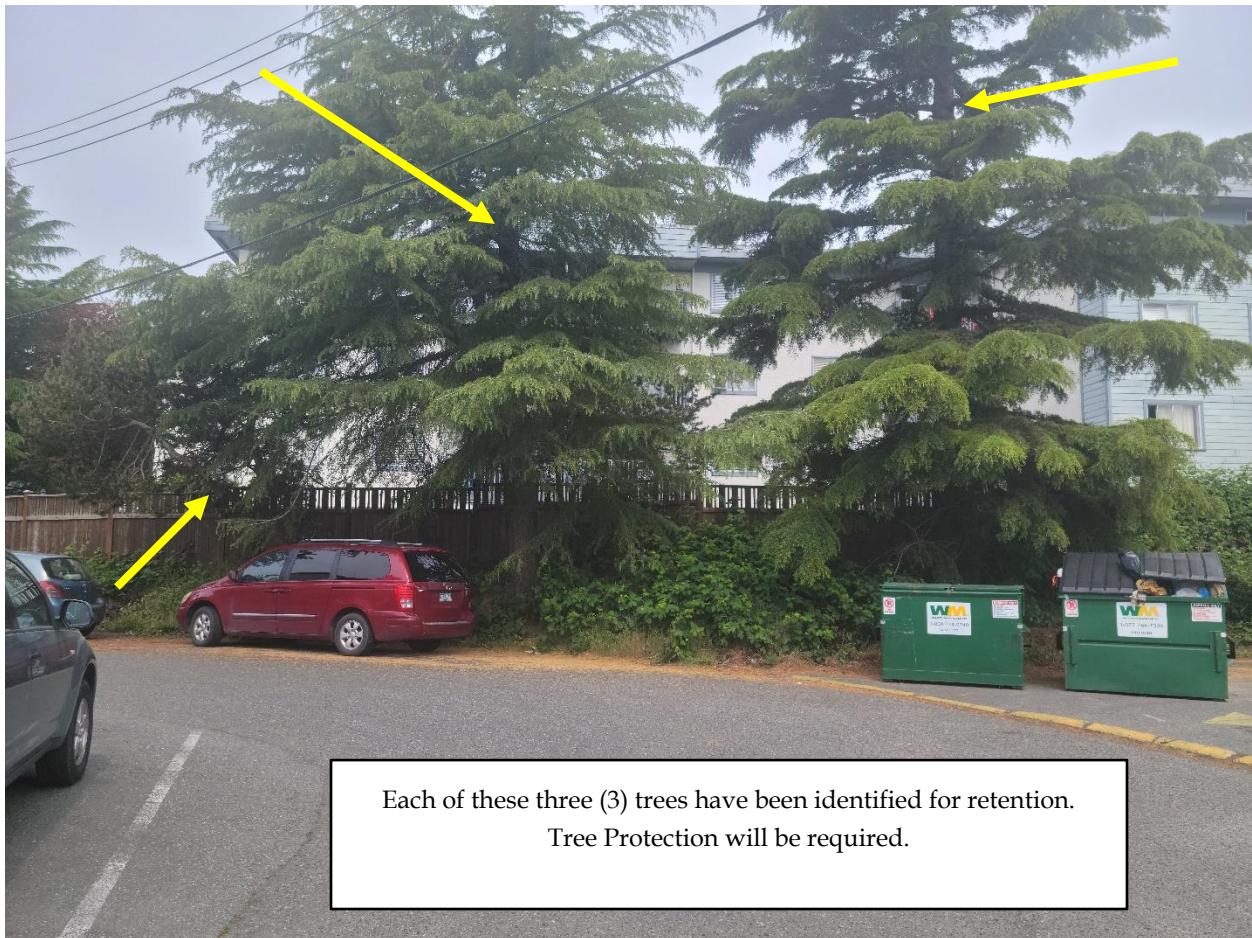


Photo #7 – NT11 & NT12 – Fir Trees



Tree Dynamics

Observed Potential Tree Impacts

- Six (6) trees have been identified for removal under the existing proposal. Impacts due to root and stem loss would be catastrophic to each tree; NT1- NT3, NT5, NT11 & NT12.
- Soils compaction will be limited to the development area and outlying boulevard areas of the site. Further assessment will be required and therefore the Project Arborist must be involved in all excavation, grading, and installation of materials within the PRZ of all Bylaw Protected Trees. NT4 Gingko proposed for transplanting.
- Tree NT6 oak is elevated in a small planting pit. Observed to have a rock retaining wall protecting grade, this tree was observed to have a wound at the base of the tree at grade. Further assessment of this tree will be required during the grading/ devilmnt phase of the site.
- Trees NT8 -NT10 may be impacted due to landscaping and proposed grade improvements.
- Tree NTM4 ginkgo has been identified for retention. Tree well to be “Boxed” in to provide stem protection due to its proximity to the sidewalk right-of-way.

Tree Protection Plan (TPP) – Site Specific

- Provide Tree Protection Fencing as per Project Arborist Recommendations.
- Utilize the Township of Esquimalt Tree Protection Fencing guidelines and ensure that the fence is posted with visible signage indicating “Tree Protection Zone” – “Do not Enter”.
- Provide Project Arborist to assess and supervise any excavation requirements which could impact trees identified for retention and/or protection.
- Project arborist to assess the movement and positioning of TPF if temporary movement is required. Township of Esquimalt staff to be notified when TPF is moved or repositioned.
- Staging Area has been identified in Appendix B - Figure #3 – Developer to ensure that all materials are staged and stored in Staging Area.
- Root Armouring will not be required in the primary impact zone - $\frac{3}{4}$ inch plywood sheeting may be utilized. Project Arborist to determine upon completion of TPFing installation.
- Project Arborist to provide Post Excavation and Impact Assessment Memo to Township of Esquimalt staff within a reasonable timeline.

Tree Protection Plan – General Notes

- i. Provide a detailed sign specifying that tree protection measures are in place and will be followed during the project. Fines will be posted for malicious acts and can be placed on individuals who disregard the tree protection plan and its guidelines. Signs will be placed at each entrance of the project detailing what is expected when working in potentially high impact tree protection zones.
- ii. Provide tree protection fencing for all trees identified with protection requirements in this report. This fencing shall be four (4ft) feet in height and made of orange plastic. If required, header and footer boards will be used to secure the protective fencing. Use the Township of Esquimalt tree protection specifications.
- iii. Tree protection and root protection signs will be placed on the fencing. No entry will be allowed, unless specified by the project arborist and in their presents while on site.
- iv. Restrict vehicle traffic to designated access routes and travel lanes to avoid soil compaction and vegetation disturbances.
- v. Make all necessary precautions to prevent the storage of material, equipment, stockpiling of aggregate or excavated soils within tree protection areas. No dumping of fuels, oils or washing of concrete fluids will be allowed in tree protection zones.
- vi. Provide an onsite arborist when a risk of root damage, root cutting or limb removal is required within the tree protection zone.
- vii. Avoid alterations to existing hydrological patterns to minimize vegetation impacts to the site.
- viii. The use of a project arborist is required to provide layout of tree protection zones. The project arborist(s) will provide pre-construction information to all parties involved with the project. The arborist must be notified 72hrs prior to construction activities in sensitive areas. The project arborist should be used to provide root and branch pruning when diameters are greater than 6cm.
- ix. At no time will tree protection zones be removed from the project unless approved by the project arborist.

Each tree protection zone must be absent & clear of all construction materials and/or equipment. At no time can the fence be taken down unless the Project Arborist is contacted, and approval is given. The Project Arborist must assess and assist fence removal and combined impacts which are required for construction completion.
Michael Butcher 250.893.9056 – 72 hours' notice required.

Landing/Storage Area

- Materials storage will be confined to the interior of the site. See Appendix B - Figure #3

Compaction Reduction

- Project Arborist to make recommendations once TPFing is erected. Root armour may not be required in this case.

Root Assessment and Observation

- Provide Project Arborist for all excavation operations/requirements within this site.
- Project Arborist to monitor and make further recommendations if roots greater than 5cm in diameter are exposed.

Utility Corridor

- Pending further information - all utilities will tie into existing alignments.

Tree Pruning - Elevation

- Ensure that any pruning is required for working distances to provide a 4-6m clearance over the development zone. This will reduce the probability of branch tear or pulling from the egress of construction equipment. Provide pruning to ANSI A300 Tree Care Industry Standards. Provide a Certified Arborist to perform tree pruning activities. (Minor pruning may be required)

Arborist Disclosure Statement:

Arborists are tree specialists who use their education, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risks. Arborists cannot detect every condition that could possibly lead to structural failure of a tree.

Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below the ground.

Arborists cannot guarantee that the tree will be healthy and safe under all circumstances, or for a specific period of time. Trees are dynamic specimens, not static. Changes in conditions, including the environment are unknown.

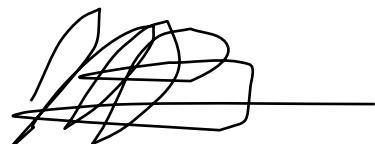
Remedial treatments cannot be guaranteed.

Trees can be managed, but they cannot be controlled. The only way to eliminate all risk is to eliminate all trees.

Tree Assessment Condition Rating

Good -	A tree specimen which is exempt defects, branch dieback, moderate insect and fungal identification. This tree has evenly distributed branching, trunk development and flare. The root zone is undisturbed, leaf, bud and flower production and elongation are normal for its distribution.
Fair -	A tree specimen which has minor defects, branch dieback, previous limb failure, identification of cavities and insect, or fungal identification. This tree has multiple (2-3) primary stem attachments; previous utility pruning, callus growth and poor wound wood development. Minor root girdling, soil heave and identifiable mechanical damage to the root flare or root zone.
Poor-	A tree specimen where 30-40% of the canopy is identifiably dead, large dead primary branching, limited leaf production, bud development and stem elongation. Limb loss or failure, and heavy storm damage leading to uneven weight distribution. Large pockets of decay, multiple cavities, heavy insect and fungal infection. Root crown damage or mechanical severing of roots. Root plate shifting, heavy lean and movement of soil.
Dead-	Tree has been observed to be dead with no leaf, foliar and bud development. No stump sprouts and root suckers are present.

Michael Butcher - Consulting Arborist



Michael Butcher- President
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BC SEBASE Safe Certified #5200066

ATTACHMENTS

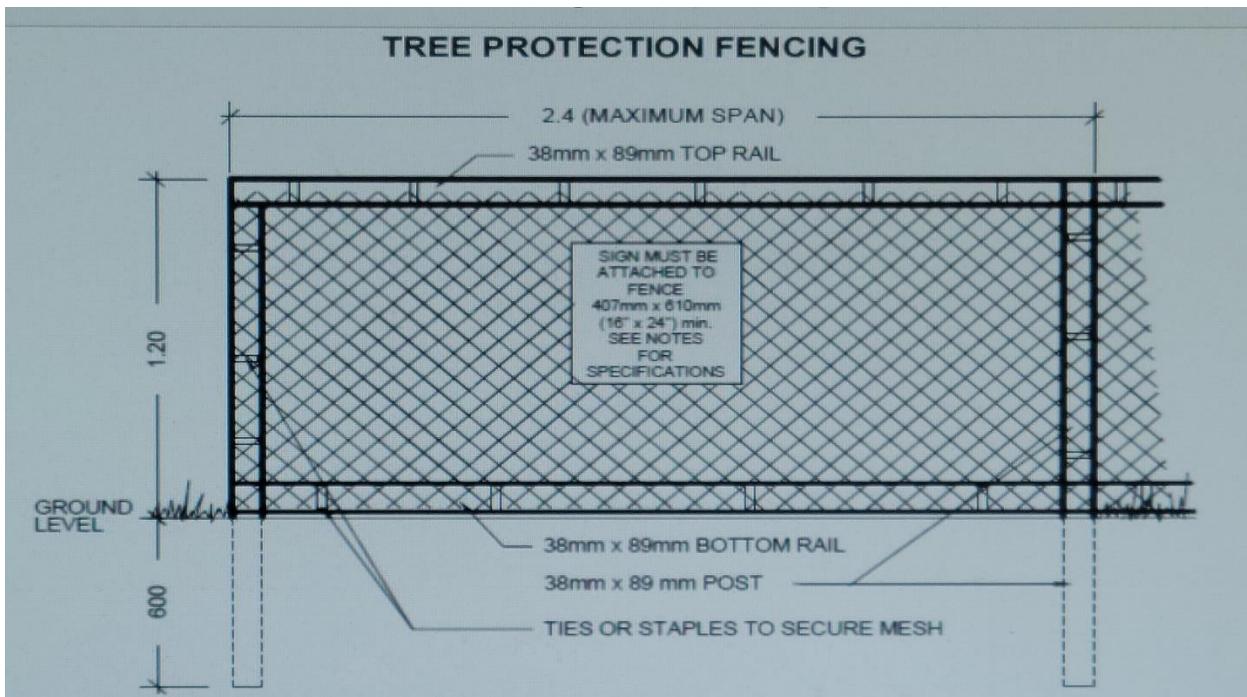
- Appendix A - Tree Inventory

- Appendix B – Site Photos

Photo #8 – Tree Protection Signage



Figure #4 – Tree Protection Signage



Tree Protection Fencing Specifications:

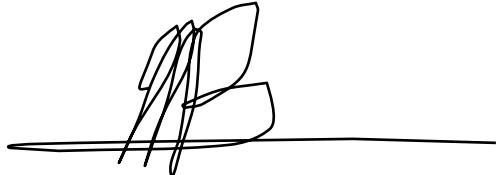
1. The fence will be constructed using 38 x 89 mm (2" x 4") wood frame:
 - Top, Bottom and Posts.*
 - Use orange snow fencing mesh and secure to the wood frame with "zip" ties or galvanized staples.
2. Attach a sign with minimum size of 407 mm x 610 mm (16" X 24') with the following wording:
 - a) **DO NOT ENTER**- Tree Protection Zone (For retained trees) or;
 - b) **DO NOT ENTER**- Future Tree Planting Zone (For tree planting sites)

This sign must be affixed on every fence face or at least every 10 linear metres.

*In rocky areas, metal posts (t-bar or rebar) drilled into rock will be accepted.

DATE: November
SCALE: N.T.S

Although the site has been assessed, trees in the landscape are dynamic and changes could occur. This report is a static representation of the site during our assessment - Performed May 23, 2023

A handwritten signature in black ink, appearing to read "John B." or a similar name, is written over a horizontal line.