Talbot Mackenzie & Associates
Consulting Arborists

1124 Vancouver Street, 953 View Street, 941 View Street, Victoria, BC

Construction Impact Assessment & Tree Preservation Plan

Prepared For: Ciccozzi Architecture Inc.
15th Floor – 1095 West Pender St.
Vancouver, BC V6E 2M6

Prepared By: Talbot, Mackenzie & Associates
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ISA Certified # PN-0428A
TRAQ – Qualified

Date of Issuance: May 12, 2020
Amended April 12, 2021
Amended August 18, 2021

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Jobsite Property: 1124 Vancouver Street, Victoria, BC

Date of Site Visits: April 17, May 1, May 7, 2020, August 16, 2021

Site Conditions: Existing business and parking area, no construction activity.

Summary: There are no bylaw protected trees located on the subject property. There are 3 municipal Horse chestnut trees located on the municipal boulevard on Vancouver Street, 1 Plum, 2 Persian Ironwood and 1 Japanese snowbell located on municipal property on View Street and 2 plum, 1 European birch and 1 Eucalyptus tree located on the neighbouring properties at 946/950 Fort Street, that have the potential to be impacted by the proposal. Given the plans reviewed, we anticipate that it will be necessary to remove the municipal trees locate on the View Street frontage with id numbers: 26136 – 26139. Plum tree Nt1 located on the neighbouring property at 946 Fort Street is located where we do not anticipate that the necessary root pruning will have a significant impact on the ability to retain the tree, but the majority of the trees canopy extends on to the subject property. Based on a site meeting on August 16, 2021 and discussions with both property owners and the construction contractor, it was decided that all reasonable efforts would be made to retain the tree, including using alternative shoring techniques in this area and limiting the canopy pruning to limbs 10 cm in diameter or less, while retaining as much canopy as possible. Should it be found that during the construction process, the tree must be removed, the property owners have agreed to a removal and replacement strategy. The remaining trees have a good opportunity for retention providing their critical root zones can be adequately protected during the construction process. Potential impacts to trees to be retained include: canopy pruning to accommodate the sheet piling needed to construct the underground parking area, root loss associated with the excavation for the underground parking and the proposed sidewalk and street light replacement within the trees critical root zones.

Scope of Assignment:

- Inventory the existing bylaw protected trees and any trees on municipal or neighbouring properties that could potentially be impacted by construction or that are within three metres of the property line
- Review the proposal to demolish the existing business and construct a six story residential building with underground parking. All services will also be upgraded.
- Comment on how construction activity may impact existing trees
- Prepare a tree retention and construction damage mitigation plan for those trees deemed suitable to retain given the proposed impacts

Methodology:

- We visually examined the trees on the property and prepared an inventory in the attached Tree Resource Spreadsheet.
- Each by-law protected tree was identified using a numeric metal tag attached to its lower trunk. Municipal trees and neighbours' trees were not tagged.
- Information such as tree species, DBH (1.4m), crown spread, critical root zone (CRZ), health, structure, and relative tolerance to construction impacts were included in the inventory.
- The conclusions reached were based on the information provided within the attached plans from Ciccozzi Architecture Inc.(August 11, 2021)
- The servicing plan review is based on the attached preliminary servicing plans provided by JE Anderson & Associates. (March 18, 2021)
- An existing tree site plan was created using the Landscape Plan provided by Durante Kreuk Ltd. Tree id numbers and critical root zones were added. (August 13, 2021)

Limitations:

- No exploratory excavations have been conducted for the proposed sidewalk replacement and new streetlights and thus the conclusions reached are based solely on critical root zone calculations and our best judgement using our experience and expertise. The location, size and density of roots are often difficult to predict without exploratory excavations and therefore the impacts to the trees may be more or less severe than we anticipate.

- The preliminary servicing drawings reviewed to not show the proposed hydro, communication, or gas services.

- The neighbours trees are not shown on the plans provided. Their approximate locations have been added to the plan and as we did not enter the property, our measurements are only approximate.

Exploratory excavations completed: Exploratory excavations were conducted along the Vancouver Street property line to better understand the potential impacts from the proposed underground parking area and associated excavation. Three trenches were dug with shovels along the property line adjacent to the three existing boulevard chestnut trees. In all trenches the excavations reached a concrete structure at approximately 60 cm in depth, so further excavation was not possible. At this depth, no Horse chestnut roots larger than 2 cm were encountered (see attached pictures).

Locations of exploratory excavations on Vancouver Street frontage. Depth of excavation limited by underground concrete structure.

Summary of Tree Resource: There are no bylaw protected trees located on the subject property. There are 3 municipal Horse chestnut trees located on the municipal boulevard on Vancouver Street; 1 Plum, 2 Persian Ironwood and 1 Japanese snowbell located on municipal property on View Street and 2 plum, 1 European birch and 1 Eucalyptus tree located on the neighbouring properties at 946/950 Fort Street that have the potential to be impacted by the proposal.

Trees to be Removed
The following trees will require removal due to construction related impacts:

Boulevard trees 26136, 26137, 26138, 26139: The road and frontage improvements proposed on View Street will require that all of these trees be removed.

Potential Impacts on Trees to be Retained and Mitigation Measures

Neighbours tree Nt1: Plum tree Nt1 located on the neighbouring property at 946 Fort Street is located where we do not anticipate that the necessary root pruning will have a significant impact on the ability to retain the tree, but the majority of the trees canopy extends on to the subject property. Based on a site meeting on August 16, 2021 and discussions with both property owners and the construction contractor, it was decided that all reasonable efforts would be made to retain the tree, including using alternative shoring techniques in this area and limiting the canopy pruning to limbs 10 cm in diameter or less, while retaining as much canopy as possible. Should it be found that during the construction process, the tree must be removed, the property owners have agreed to a removal and replacement strategy.

- **Barrier Fencing:** The areas surrounding the trees to be retained should be isolated from the construction activity by erecting protective barrier fencing. Where possible, the fencing should be erected at the perimeter of the critical root zones.

  The barrier fencing must be a minimum of 4 feet in height, of solid frame construction that is attached to wooden or metal posts. A solid board or rail must run between the posts at the top and the bottom of the fencing. This solid frame can then be covered with plywood, or flexible snow fencing. The fencing must be erected prior to the start of any construction activity on site (i.e. demolition, excavation, construction), and remain in place through completion of the project. Signs should be posted around the protection zone to declare it off limits to all construction related activity. The project arborist must be consulted before this fencing is removed or moved for any purpose.

- **Shoring:** It is our understanding that all sides of the proposed excavation will be shored using sheet piling methods to ensure that excavation for the underground portion of the project will not extend beyond the property lines. The trees located close to the property lines will require pruning back to the property line to facilitate the installation of the sheet piling. We anticipate that the necessary pruning on Horse chestnut trees 26133-26135 will include approximately 5-10% of their existing canopies to complete the construction activity (see attached pictures). While this pruning will impact the tree canopies esthetically and the proposed building location

will require ongoing maintenance to address building canopy conflicts, it is unlikely to have significant impact on the health of the trees.
Its our understanding that alternative shoring techniques such as shotcrete or similar methods are going to be implemented to try and minimize the amount of necessary pruning to the canopy of neighbours plum tree Nt1.

Location of tree canopies from trees 26133 and 26134 in relation to the property line.

Location of tree 26135 in relation to property line.

Canopy of Nt1 in relation to property line.

- **Underground services:** The underground services reviewed include: sanitary, storm drain and water on the View Street frontage and no impacts to trees to be retained are anticipated. At the time that this report was prepared, there was no electrical, communication or gas service information available.

- **Street lighting:** The proposed street lighting on Vancouver Street has the potential to impact the existing Horse chestnut trees on Vancouver Street. The proposed lamp standards appear to be in suitable locations between the existing trees, but the proposed location of the conduit and wire location will have to be reviewed prior to installation. The conduit will likely have to be installed using a combination of hydro excavation and hand digging to reduce the potential impacts or if possible incorporated into the sidewalk or curb replacement excavation.

- **Arborist Supervision**: All excavation occurring within the critical root zones of protected trees should be completed under supervision by the project arborist. This includes (but is not limited to) the following activities within CRZs:

    - Any installation of any underground services that cross the CRZ of municipal trees, such as proposed street lighting, gas, electrical.
    - Any proposed excavation within the critical root zones of trees to be retained.
    - Any excavation to cap existing services within the critical root zones of trees to be retained.

- **Pruning Roots:** Any severed roots must be pruned back to sound tissue to reduce wound surface area and encourage rapid compartmentalization of the wound. Backfilling the excavated area around the roots should be done as soon as possible to keep the roots moist and aid in root regeneration. Exposed roots should be kept moist until the area is backfilled, especially if excavation occurs during a period of drought. This can be accomplished in a number of ways, including wrapping the roots in burlap or installing a root curtain of wire mesh lined with burlap, and keeping the area moist throughout the construction process.

- **Minimizing Soil Compaction:** In areas where construction traffic must encroach into the critical root zones of trees to be retained, efforts must be made to reduce soil compaction where possible by displacing the weight of machinery and foot traffic. This can be achieved by one of the following methods:

    - Installing a layer of hog fuel or coarse wood chips at least 20 cm in depth and maintaining it in good condition until construction is complete.
    - Placing medium weight geotextile cloth over the area to be used and installing a layer of crushed rock to a depth of 15 cm over top.
    - Placing two layers of 19mm plywood.
    - Placing steel plates.

- **Demolition of the Existing Building:** The demolition of the existing house and any services that must be removed or abandoned, must take the critical root zone of the trees to be retained into account. If any excavation or machine access is required within the critical root zones of trees to be retained, it must be completed under the supervision and direction of the project arborist. If temporarily removed for demolition, barrier fencing must be erected immediately after the supervised demolition.

- **Paved Surfaces Above Tree Roots:**

  If the new paved surfaces including sidewalk and curb replacement within the CRZs of trees on Vancouver Street require excavation down to bearing soil and roots are encountered in this area, their health or stability could be impacted. If tree retention is desired, a raised and permeable paved surface should be constructed in the areas within the critical root zone of the trees. The “paved surfaces above root systems” diagram and specifications is attached.

  The objective is to avoid root loss and to instead raise the paved surface and its base layer above the roots. This may result in the grade of the paved surface being raised above the existing grade (the amount depending on how close roots are to the surface and the depth of the paving material and base layers). Final grading plans should take this potential change into account. This may also result in soils which are high in organic content being left intact below the paved area.

- **Mulching**: Mulching can be an important proactive step in maintaining the health of trees and mitigating construction related impacts and overall stress. Mulch should be made from a natural material such as wood chips or bark pieces and be 5-8cm deep. No mulch should be touching the trunk of the tree. See "methods to avoid soil compaction" if the area is to have heavy traffic.

- **Blasting:** Care must be taken to ensure that the area of blasting does not extend beyond the necessary footprints and into the critical root zones of surrounding trees. The use of small low-concussion charges and multiple small charges designed to pre-shear the rock face will reduce fracturing, ground vibration, and overall impact on the surrounding environment. Only explosives of low phytotoxicity and techniques that minimize tree damage should be used. Provisions must be made to ensure that blasted rock and debris are stored away from the critical root zones of trees.

- **Scaffolding:** This assessment has not included impacts from potential scaffolding including canopy clearance pruning requirements. If scaffolding is necessary and this will require clearance pruning of retained trees, the project arborist should be consulted. Depending on the extent of pruning required, the project arborist may recommend that alternatives to full scaffolding be considered such as hydraulic lifts, ladders or platforms. Methods to avoid soil compaction may also be recommended (see "Minimizing Soil Compaction" section).

- **Landscaping and Irrigation Systems:** The planting of new trees and shrubs should not damage the roots of retained trees. The installation of any in-ground irrigation system must take into account the critical root zones of the trees to be retained. Prior to installation, we recommend the irrigation technician consult with the project arborist about the most suitable locations for the irrigation lines and how best to mitigate the impacts on the trees to be retained. This may require the project arborist supervise the excavations associated with installing the irrigation system. Excessive frequent irrigation and irrigation which wets the trunks of trees can have a detrimental impact on tree health and can lead to root and trunk decay.

- **Arborist Role:** It is the responsibility of the client or his/her representative to contact the project arborist for the purpose of:

    - Locating the barrier fencing
    - Reviewing the report with the project foreman or site supervisor
    - Locating work zones, where required
    - Supervising any excavation within the critical root zones of trees to be retained
    - Reviewing and advising of any pruning requirements for machine clearances

- **Review and Site Meeting**: Once the project receives approval, it is important that the project arborist meet with the principals involved in the project to review the information contained herein. It is also important that the arborist meet with the site foreman or supervisor before any site clearing, tree removal, demolition, or other construction activity occurs and to confirm the locations of the tree protection barrier fencing.

Please do not hesitate to call us at (250) 479-8733 should you have any further questions.

Thank you,

Graham Mackenzie
ISA Certified # PN-0428
TRAQ – Qualified

Talbot Mackenzie & Associates
ISA Certified Consulting Arborists

Encl. 1-page tree resource spreadsheet, ,1-page civil drawings, 1-page Tree Management Plan, 1-page barrier fencing specifications, 1-page permeable surfaces over critical root zones,2-page tree resource spreadsheet methodology and definitions.

Disclosure Statement

The tree inventory attached to the Tree Preservation Plan can be characterized as a limited visual assessment from the ground and should not be interpreted as a "risk assessment" of the trees included.

Arborists are professionals who examine trees and use their training, knowledge and experience to recommend techniques and procedures that will improve their health and structure or to mitigate associated risks.

Trees are living organisms, whose health and structure change, and are influenced by age, continued growth, climate, weather conditions, and insect and disease pathogens. Indicators of structural weakness and disease are often hidden within the tree structure or beneath the ground. It is not possible for an Arborist to identify every flaw or condition that could result in failure or can he/she guarantee that the tree will remain healthy and free of risk.

Remedial care and mitigation measures recommended are based on the visible and detectable indicators present at the time of the examination and cannot be guaranteed to alleviate all symptoms or to mitigate all risk posed.

Tree Resource Spreadsheet
1124 Vancouver Street, 953 View Street, 941 View Street

Tree ID	Common Name	Latin Name	DBH (cm) ~ approximate	Crown Spread (diameter in metres)	CRZ (radius in metres)	Relative Tolerance	Health	Structure	Remarks and Recommendations	Retention Status
26133	Horse chestnut	*Aesculus hippocastanum*	75.0	12.0	7.5	Good	Good	Good	Boulevard tree	Retain
26134	Horse chestnut	*Aesculus hippocastanum*	85.0	15.0	8.5	Good	Good	Good	Boulevard tree	Retain
26135	Horse chestnut	*Aesculus hippocastanum*	91.0	15.0	9.0	Good	Good	Good	Boulevard tree	Retain
26136	Cherry plum	*Prunus cerasifera*	41.0	7.0	4.0	Good	Fair	Fair	Boulevard tree, multi stem at 2 meters, planted in tree grate.	X
26137	Persian Ironwood	*Parrotia persica*	15.0	5.0	2.0	Good	Good	Fair	Boulevard tree, trunk wound/tearout injury, planted in tree grate.	X
26138	Persian Ironwood	*Parrotia persica*	14.0	5.0	2.0	Good	Good	Good	Boulevard tree, suckers at base, planted in tree grate.	X
26139	Japanese snowbell	*Styrax japonica*	10.0	3.0	1.0	Good	Fair	Fair	Boulevard tree, mower damage, planted in tree grate.	X
Nt1	Plum	*Prunus species*	30.0	8.0	3.0	Good	Fair	Fair	Neighbours tree,approximately 2.5 meters from property line, majority of crown extends over the property line. Prune back limbs 10 cm or less to retain as much crown as possible and provide clearance for construction. Neighbour would like to retain, but if not possible, he has agreed to its removal.	Retain of possible
Nt2	European birch	*Betula pendula*	22.0	8.0	2.5	Moderate	Fair	Fair/Poor	Neighbours tree, approximately 3 meters from property line, split at base, small portion of canopy extends over property line.	Retain
Nt3	Eucalyptus	*Eucalyptus species*	20.0	5.0	2.0	Good	Fair	Fair	Neighbours tree, approximately 3 meters from property line, asymmetric crown.	Retain
Nt4	Plum	*Prunus species*	45.0	8.0	4.5	Good	Fair	Fair	Neighbours tree, approximately 4 meters from property line.	Retain

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Tree Resource Spreadsheet Methodology and Definitions

Tag: Tree identification number on a metal tag attached to tree with nail or wire, generally at eye level. Trees on municipal or neighboring properties are not tagged.

NT: No tag due to inaccessibility or ownership by municipality or neighbour.

DBH: Diameter at breast height – diameter of trunk, measured in centimetres at 1.4m above ground level. For trees on a slope, it is taken at the average point between the high and low side of the slope.
* Measured over ivy
~ Approximate due to inaccessibility or on neighbouring property

Crown Spread: Indicates the diameter of the crown spread measured in metres to the dripline of the longest limbs.

Relative Tolerance Rating: Relative tolerance of the tree species to construction related impacts such as root pruning, crown pruning, soil compaction, hydrology changes, grade changes, and other soil disturbance. This rating does not take into account individual tree characteristics, such as health and vigour. Three ratings are assigned based on our knowledge and experience with the tree species: Poor (P), Moderate (M) or Good (G).

Critical Root Zone: A calculated radial measurement in metres from the trunk of the tree. It is the optimal size of tree protection zone and is calculated by multiplying the DBH of the tree by 10, 12 or 15 depending on the tree's Relative Tolerance Rating. This methodology is based on the methodology used by Nelda Matheny and James R. Clark in their book "Trees and Development: A Technical Guide to Preservation of Trees During Land Development."

- 15 x DBH = Poor Tolerance of Construction
- 12 x DBH = Moderate
- 10 x DBH = Good

To calculate the critical root zone, the DBH of multiple stems is considered the sum of 100% of the diameter of the largest stem and 60% of the diameter of the next two largest stems. It should be noted that these measures are solely mathematical calculations that do not consider factors such as restricted root growth, limited soil volumes, age, crown spread, health, or structure (such as a lean).

Health Condition:

- Poor - significant signs of visible stress and/or decline that threaten the long-term survival of the specimen
- Fair - signs of stress
- Good - no visible signs of significant stress and/or only minor aesthetic issues

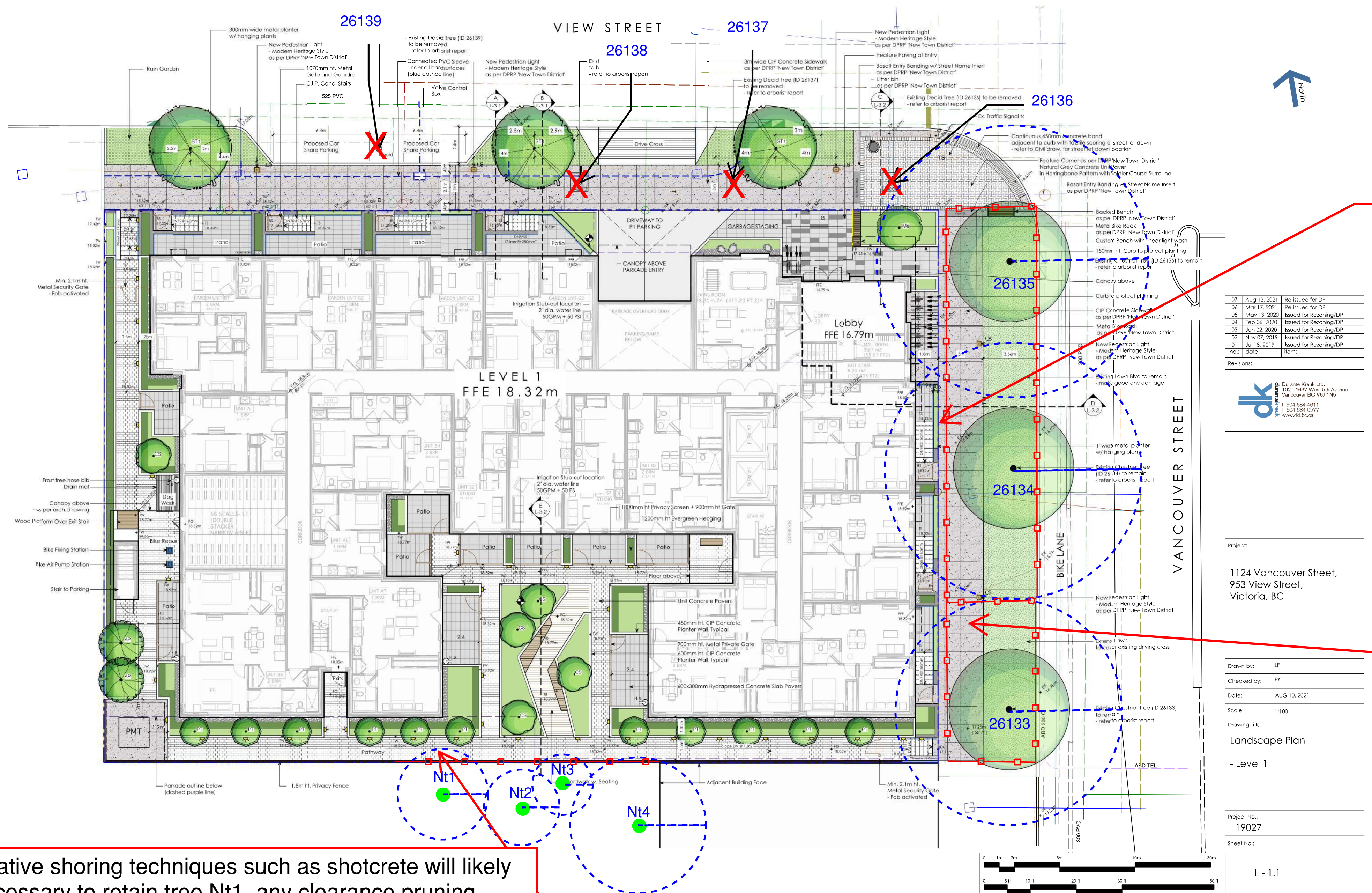
Structural Condition:

- Poor - Structural defects that have been in place for a long period of time to the point that mitigation measures are limited
- Fair - Structural concerns that are possible to mitigate through pruning
- Good - No visible or only minor structural flaws that require no to very little pruning

Retention Status:

- X - Not possible to retain given proposed construction plans
- Retain - It is possible to retain this tree in the long-term given the proposed plans and information available. This is assuming our **recommended mitigation measures are followed**
- Retain * - See report for more information regarding potential impacts
- TBD (To Be Determined) - The impacts on the tree could be significant. However, in the absence of exploratory excavations and in an effort to retain as many trees as possible, we recommend that the final determination be made by the supervising project arborist at the time of excavation. The tree might be possible to retain depending on the location of roots and the resulting impacts, but concerned parties should be aware that the tree may require removal.
- NS - Not suitable to retain due to health or structural concerns

1124 Vancouver Street, Tree Management Plan, 08.17.21



Arborist to supervise any excavation within the critical root zones of trees to be retained. All roots must be pruned to sound tissue to encourage rapid compartmentalization and new root growth. Any required clearance pruning must be completed by an ISA certified arborist.

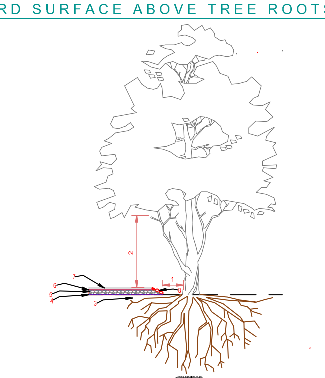
Any paved surfaces over existing critical root zones of trees to be retained must be installed using the "paved surfaces above tree roots detail."

Alternative shoring techniques such as shotcrete will likely be necessary to retain tree Nt1. any clearance pruning must be completed by an ISA certified arborist and must be limited to limbs under 10 cm in diameter unless approved by the City of Victoria.

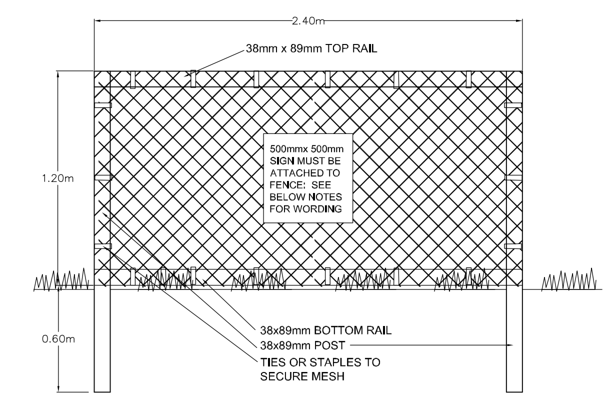
Legend

- bylaw protected tree CRZ radius (m)
- Proposed barrier fencing
- X Trees to be removed.
- Approximate location of tree, not surveyed.

HARD SURFACE ABOVE TREE ROOTS DETAIL



HARD SURFACE ABOVE TREE ROOTS NOTES



TREE PROTECTION NOTES

Tree protection barrier: The areas, surrounding the trees to be retained, should be isolated from the construction activity by erecting protective barrier fencing. Where possible, the fencing should be erected at the perimeter of the critical root zone. The barrier fencing to be erected must be a minimum of 1200mm in height, of solid frame construction that is attached to wooden or metal posts. A solid board or rail must run between the posts at the top and the bottom of the fencing. This solid frame can then be covered with flexible snow fencing. The fencing must be erected prior to the start of any construction activity on site (i.e. demolition, excavation, construction), and remain in place through completion of the project. Signs should be posted around the protection zone to declare it off limits to all construction related activity. The project arborist must be consulted before this fencing is removed or moved for any purpose.

Arborist supervision: All excavation occurring within the critical root zones of protected trees must be completed under the supervision of the project arborist. Any severed or severely damaged roots must be pruned back to sound tissue to reduce wound surface area and encourage rapid compartmentalization of the wound.

Demolition: The demolition of the existing houses, driveways, and any services that must be removed or abandoned must take the critical root zone of the trees to be retained into account. If any excavation or machine access is required within the critical root zones of trees to be retained, it must be completed under the supervision of the project arborist. If temporarily removed for demolition, barrier fencing must be erected immediately after the supervised demolition.

Methods to avoid soil compation: In areas where construction traffic must encroach into the critical root zones of trees to be retained, efforts must be made to reduce soil compaction where possible by displacing the weight of machinery and foot traffic. This can be achieved by one of the following methods:

- Installing a layer of hog fuel or coarse wood chips at least 20cm in depth and maintaining it in good condition until construction is complete.
- Placing medium weight geotextile cloth over the area to be used and installing a layer of crushed rock to a depth of 15cm over top.
- Placing two layers of 19mm plywood.
- Placing steel plates.

Mulching: Mulching can be an important proactive step in maintaining the health or trees and mitigating construction related impacts and overall stress. Mulch should be made from a natural material such as wood chips or bark pieces and be 5-8cm deep. No mulch should be touching the trunk of the tree. See "methods to avoid soil compaction" if the area is to have heavy traffic.

Pruning: We recommend that any pruning of bylaw-protected trees be performed to ANSI A300 standards and Best Management Practices.

Paved surfaces above tree roots: Where paved areas cannot avoid encroachment within critical root zones of trees to be retained, construction techniques, such as floating permeable paving, may be required. The "paved surfaces above tree roots" detail above offers a compromise to full depth excavation (which could impact the health or structural stability of the tree). The objective is to avoid root loss and to instead raise the paved surface above the existing grade (the amount depending on how close roots are to the surface and the depth of the paving material and base layers). Final grading plans should take this potential change into account. This may also result in soils which are high in organic content being left intact below the paved area. To allow water to drain into the root systems below, we also recommend that the surface be made of a permeable material (instead of conventional asphalt or concrete) such as permeable asphalt, paving stones, or other porous paving materials and designs such as those utilitzed by Grasspave, Gravelpave, Grasscrete and open-grid systems.

Blasting and rock removal: Care must be taken to ensure that the area of blasting does not extend beyond the necessary footprints and into the critical root zones of surrounding trees. The use of small low-concussion charges and multiple small charges designed to pre-shear the rock face will reduce fracturing, ground vibrations and overall impact to the surrounding environment. Only explosives of low phytotoxicity and techniques that minimize tree damage should be used. Provisions must be made to ensure that blasted rock and debris are stored away from the critical root zones of trees.

Scaffolding: This assessment has not included impacts from potential scaffolding including canopy clearance pruning requirements. If scaffolding is necessary and this will require clearance pruning of retained trees, the project arborist should be consulted. Depending on the extent of pruning required, the project arborist may recommend that alternatives to full scaffolding be considered such as hydraulic lifts, ladders or platforms. Methods to avoid soil compaction may also be recommended (see "Minimizing Soil Compaction" section).

Landscaping and irrigation systems: The planting of new trees and shrubs should not damage the roots of retained trees. The installation of any in-ground irrigation system must take into account the critical root zones of the trees to be retained. Prior to installation, we recommend the irrigation technical consult with the project arborist about the most suitable locations for the irrigation lines and how best to mitigate the impacts on the trees to be retained. This may require the project arborist supervise the excavations associated with installing the irrigation system. Excessive frequent irrigation and irrigation which wets the trunks of trees can have a detrimental impact on the tree health and can lead to root and trunk decay.

Arborists role: It is the responsibility of the client or his/her representative to contact the project arborist for the purpose of:

- Locating the barrier fencing.
- Reviewing the report with the project foreman or site supervisor.
- Locating work zones and machine access corridors where required.
- Supervising excavation for any areas within the critical root zones of trees to be retained including any proposed retaining wall footings and review any proposed fill areas near trees to be retained.

TREE PROTECTION FENCING

1. FENCE WILL BE CONSTRUCTED USING 38 mm X 89mm WOOD FRAME: TOP, BOTTOM AND POSTS * USE ORANGE SNOW-FENCING MESH AND SECURE THE WOOD FRAME WITH"ZIP" TIES OR GALVANIZED STAPLES.
2. ATTACH A 500mm X 500mm SIGN WITH THE FOLLOWING WORDING: WARNING- TREE PROTECTION AREA. THIS SIGN MUST BE AFFIXED ON EVERY FENCE OR AT LEAST EVERY 10 LINEAR METERS.

* IN ROCKY AREAS, METAL POSTS (T-BAR OR REBAR) DRILLED INTO ROCK WILL BE ACCEPTED

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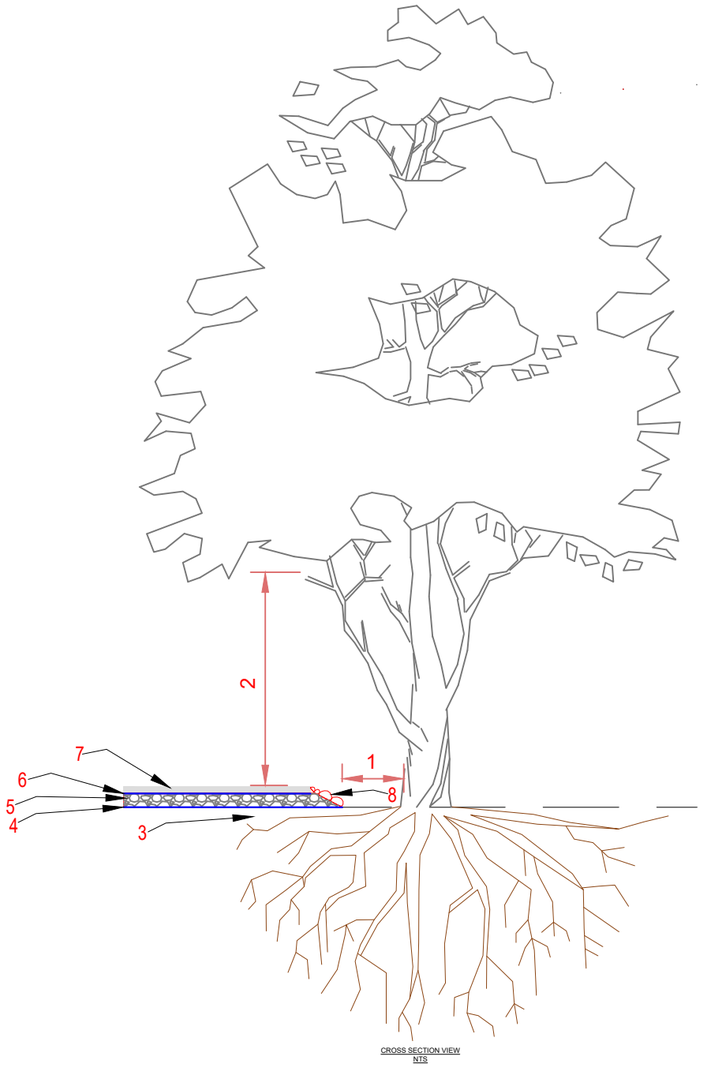
HARD SURFACE ABOVE TREE ROOTS DETAIL

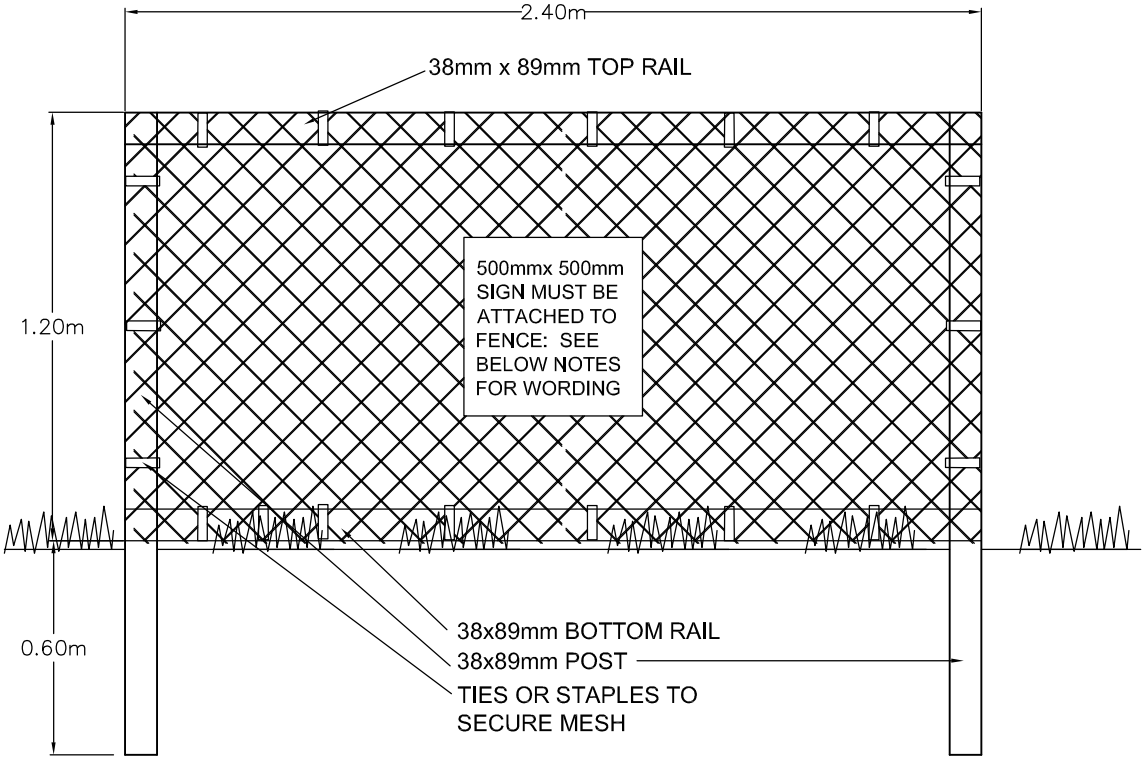


CROSS SECTION VIEW
NTS

HARD SURFACE ABOVE TREE ROOTS NOTES

1. Maintain as large a setback between the fill encroachment and the root collar of the tree as possible.
2. Review any canopy clearance pruning requirements to accommodate vehicle or pedestrian clearances (Pruning to be performed to ANSI A300 standards).
3. Excavate the new footprint of the driveway or sidewalk under the supervision of the project arborist. Excavation will be limited to the removal of the existing sod layer. Excavation around root structures must be performed by hand, airspade, or hydroexcavation.
4. Install a two-dimensional (such as Combigrid $\frac{30}{30}$) or Three-dimensional geogrid reinforcement.
5. Install a 150mm depth layer of clear crushed gravel (no fines) using 20mm and/or 75mm diameter material or approved equivalent. *Note - the depth may be less than 150mm in some situations (dependant on grading constraints).
6. Install meduim weight geotextile fabric (such as Nilex 4535 or similar) over the clear crushed gravel layer to prevent fine particles of sand from infiltrating this layer.
7. The bedding or base layer and new driveway or sidewalk surface can be installed directly on top of the felted filter fabric.
8. Fill slopes - where possible install loose stacked boulders to reduce the footprint of the fill slopes that encroach within the critical root zone. Fill slope materials must be permeable to air and water. Do not pile fill material directly against the trunk of a tree.


SHEET NOTES:
(A) CITY OF VICTORIA TO INSTALL NEW 150 SANITARY AND STORM SERVICES AT DEVELOPERS EXPENSE.
(B) CITY OF VICTORIA TO INSTALL NEW WATER SERVICES AND VAULT AT DEVELOPERS EXPENSE.
(C) CITY OF VICTORIA TO CAP EXISTING WATER SERVICES AT DEVELOPERS EXPENSE.
(D) CITY OF VICTORIA CREWS TO REMOVE EXISTING STREET LIGHTS PRIOR TO CONSTRUCTION AT DEVELOPERS EXPENSE.
(E) CONTRACTOR TO CAP EXISTING SEWER AND DRAIN SERVICES AT PROPERTY LINE DURING DEMO STAGE.
(F) CONTRACTOR TO REMOVE EXISTING DRIVEWAY DROP ON VANCOUVER STREET AND RESTORE BOULEVARD.
(G) CONTRACTOR TO REMOVE EXISTING TREES ON VIEW STREET WHERE NOTED.
(H) CONTRACTOR TO INSTALL NEW TREES ON VIEW STREET AS PER LANDSCAPE ARCHITECTS DESIGN.
(I) CONTRACTOR TO REMOVE EXISTING CURB AND SIDEWALK ON VIEW STREET AND INSTALL NEW CURB, SIDEWALK AND BOULEVARD. SEE SIDEWALK FINISH DETAILS ON LANDSCAPE ARCHITECT PLANS FOR DETAILS.
(J) CONTRACTOR TO REMOVE EXISTING SIDEWALK ON VANCOUVER STREET AND INSTALL NEW SIDEWALK. SEE SIDEWALK FINISH DETAILS ON LANDSCAPE ARCHITECT PLANS FOR DETAILS.
(K) CONTRACTOR TO INSTALL NEW PEDESTRIAN LIGHTS, BASES, CONDUITS AND JUNCTION BOXES AS PER CITY OF VICTORIA STANDARDS. ELECTRICAL ENGINEER TO PROVIDE STREET LIGHT DESIGN FOR BUILDING PERMIT APPLICATION.
(L) EXISTING CURB ON VANCOUVER STREET TO REMAIN IN ORDER TO PROTECT EXISTING BOULEVARD TREES. CONTRACTOR TO REPLACE EXISTING CURB ON VANCOUVER STREET IF DAMAGED BY CONSTRUCTION.
(M) CONTRACTOR TO REMOVE EXISTING CATCHBASINS ON VIEW STREET AND INSTALL NEW CATCHBASIN TO CITY OF VICTORIA STANDARDS.
(N) EXISTING TRAFFIC CONTROL LIGHTING TO REMAIN.
926–990
VIEW
937
930
938/40
942
944
946
950
990
930 R
932 R
938/40 R
942/44 R
946/50 R
990 R
947–959
975
1003/05
1119/1121
1006
FORT ST
1010
1012
VANCOUVER ST
VANCOUVER
ST
PROPOSED START OF NEW CURB
EXISTING WATER SERVICE TO BE RETAINED FOR IRRIGATION SUPPLY
EXISTING TREE TO BE REMOVED
CAP EXISTING WATER SERVICE
EXISTING TREE TO REMAIN
EXISTING CURB TO REMAIN
REMOVE DRIVEWAY AND INSTALL CURB AND BOULEVARD
LOT 1
AREA 2023m²
S 15.44
S 16.57
ISSUED FOR DEVELOPMENT PERMIT
1124 VANCOUVER STREET
PRELIMINARY SERVICING
Scale horiz. 1:250
Sheet 1 of 1
Eng. Project No. 32363
J E ANDERSON & ASSOCIATES
SURVEYORS - ENGINEERS
VICTORIA NANAIMO PARKSVILLE CAMPBELL RIVER
PHONE: 250-727-2214 info@jeanderson.com
V:_Projects\32363 – J Gordon Enterprises – 1124 Vancouver\07 – Engineering\02 – Drawings & Sketches (Eng)\32363 DP Base.dwg Plot Date: March 18, 2021



TREE PROTECTION FENCING

1. FENCE WILL BE CONSTRUCTED USING 38 mm X 89mm WOOD FRAME: TOP, BOTTOM AND POSTS * USE ORANGE SNOW-FENCING MESH AND SECURE THE WOOD FRAME WITH"ZIP" TIES OR GALVANIZED STAPLES.

2. ATTACH A 500mm X 500mm SIGN WITH THE FOLLOWING WORDING: WARNING- TREE PROTECTION AREA. THIS SIGN MUST BE AFFIXED ON EVERY FENCE OR AT LEAST EVERY 10 LINEAR METERS.

* IN ROCKY AREAS, METAL POSTS (T-BAR OR REBAR) DRILLED INTO ROCK WILL BE ACCEPTED