



Talbot Mackenzie & Associates

Consulting Arborists

September 15, 2016

661523 BC Ltd.
3471 Short Street
Victoria, BC V8X2V6
Attn: Nicole Roberts

Re: Tree Impact Mitigation Report – 1303 Fairfield Road

Assignment: Review the plans provided of the mixed use building that is proposed on the 1303 Fairfield Road property and provide recommendations to mitigate impacts to trees located on adjacent properties and trees located on the municipal boulevard.

Methodology: Each tree that is plotted on the attached site survey is identified numerically in the attached tree resource spreadsheet. Information such as tree species, size(d.b.h.), critical root zone(c.r.z.), crown spread, health and structural condition, relative tolerance to construction impacts and general remarks and recommendations was recorded in the attached tree resource spreadsheet.

Observations:

- A 40/55cm d.b.h. Big leaf maple and a 45cm d.b.h. laburnum grow on the 1311 Fairfield Road property, in close proximity to the property line.
- A 50cm d.b.h. Rhobinia, a 10cm d.b.h. Western Red cedar and a 10cm d.b.h. Mountain ash grow on the neighbouring property at 339 Moss Street, in close proximity to the property line.
- A 56cm d.b.h., Flowering cherry, a 69cm d.b.h. Flowering cherry, a 34cm d.b.h. Flowering cherry, a 4cm d.b.h. magnolia and a 3cm d.b.h. magnolia are growing on municipal property, directly fronting the subject property.

Potential impacts:

Underground parking footprint:

- According to the plans provided the footprint of the underground parking area encroaches within the critical root zone of the 40/55cm d.b.h. Big Leaf maple located on the neighboring property at 1311 Fairfield Road. The existing building on the subject property is located where it may be obstructing root growth toward the footprint of the proposed underground parking area. While it may be possible to retain this tree if impacts can be mitigated, this tree has outgrown its growing location, has existing structural defects, and in our opinion, it would be most prudent to offer a replacement tree, planted in a more suitable growing location, rather than attempting to this tree. If this tree is to be retained, we recommend the following course of action:
 - Excavation to remove the portion of the foundation of the existing building that encroaches within the critical root zone of this tree be removed under arborist supervision.

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- Depending on the soil conditions encountered, shoring may be required to stabilize the embankment, within the critical root zone of this tree, as opposed to cutslope excavation.
 - Space will likely be limited to form the walls of the underground parking area and install perimeter drains and waterproofing, and if it is found that there isn't sufficient working room, between the tree and the building foundation, this tree will likely require removal.
- According to the plans provided, the footprint of the proposed entrance/exit ramp to the underground parking area encroaches within the critical root zones of the 45cm d.b.h. laburnum located on the neighbouring property at 1311 Fairfield Road, and the 50cm d.b.h. Rhobinia located on the neighbouring property at 339 Moss Street. If these trees are to be retained, we recommend the following course of action:
 - The project arborist supervise excavation for the portion of the footprint of the proposed underground entrance/exit ramp that encroaches within the critical root zones of these trees. If significant structural roots are encountered during excavation that cannot be retained, we may recommend that trees be removed.
 - Depending on the soil conditions encountered, shoring may be required to stabilize the embankment, within the critical root zone of this tree, as opposed to cut slope excavation.
 - Exploratory excavation could be performed to determine the extent of root structures within the area of proposed excavation, once the footprint is laid out onsite.

Offsite work:

- According to the plans provided, the location of the proposed entrance/exit ramp will necessitate the removal of the 56cm d.b.h. flowering cherry(no tag 7) located on the municipal boulevard.
- According to the plans provided, excavation will be required for the building foundation/underground parking walls, within the critical root zone of the 69cm d.b.h. flowering cherry(no tag 8) located on the municipal boulevard. This tree is in declining health, is infected with the *Ganoderma* wood decay pathogen. In our opinion, it would be most prudent to replace this tree with a young, healthy specimen.
- According to the plans provided, excavation for a retaining wall will be required within the critical root zone of the 34cm d.b.h. Flowering cherry(No tag 9) located on the municipal boulevard. At this time we have not seen plans that show grade requirements or construction details of this retaining wall; however, we anticipate that root pruning will be required. Once we see more detailed plans of this retaining wall we can provide recommendations to be used to mitigate impacts during construction, if this tree is to be retained.

Underground Servicing: At this time we have not seen plans showing locations of proposed underground service corridors. We recommend that underground service corridors be located outside of critical root zones of trees to be retained.

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Pruning: We do not anticipate pruning requirements to trees surrounding the proposed mixed use structure that cannot be resolved through standard pruning practices. We recommend that any required pruning be performed to ANSI A300 standards.

Demolition: We recommend that the portions of the foundation of the existing building that encroaches within the critical root zone of the 40/55cm d.b.h. Big Leaf maple(No tag 1) be removed under the supervision of the project arborist.

Mitigation of impacts:

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. If the 40/55 cm d.b.h. Big Leaf maple is to be retained, we recommend that solid hording be used to protect its trunk from mechanical injury. The barrier fencing to be erected 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 (see attached diagram). 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.

Blasting and rock removal: If it is necessary to blast areas of bedrock near critical root zones of trees to be retained, the blasting to level these rock areas should be sensitive to the root zones located at the edge of the rock. Care must be taken to assure that the area of blasting does not extend into the critical root zones beyond the building and road footprints. The use of small low-concussion charges, and multiple small charges designed to pre-shear the rock face, will reduce fracturing, ground vibration, and reduce the impact on the surrounding environment. Only explosives of low phytotoxicity, and techniques that minimize tree damage, are to be used. Provisions must be made to store blast rock, and other construction materials and debris, away from critical tree root zones.

Arborist supervision during excavation: If excavation is required and permitted within critical root zones, this excavation must be supervised by an ISA certified arborist. The arborist will determine which roots can be pruned and which roots must be retained. If during excavation, roots are encountered that are critical to tree stability or survival, and cannot be retained, we will likely recommend removal to eliminate any associated risk with the trees.

Work Area and Material Storage: It is important that the issue of storage of excavated soil, construction material, and site parking be reviewed prior to the start of construction; where possible, these activities should be kept outside of the critical root zones of trees that are to be retained. If there is insufficient room for onsite storage and working room, the arborist must determine if there is a suitable working area within the critical root zone, and outline methods of mitigating the associated impacts (i.e. mulch layer, bridging etc).

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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 excavation for the building driveway and service footprints
- Reviewing and advising of any pruning requirements for building 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 demolition, site clearing or other construction activity occurs.

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

Yours truly,
Talbot Mackenzie & Associates

Tom Talbot & Graham Mackenzie
ISA Certified, & Consulting Arborists

Encl. – Tree Resource Spreadsheet, Site survey showing tree locations, Site plans showing underground parking footprint, Barrier fencing specifications

Disclosure Statement

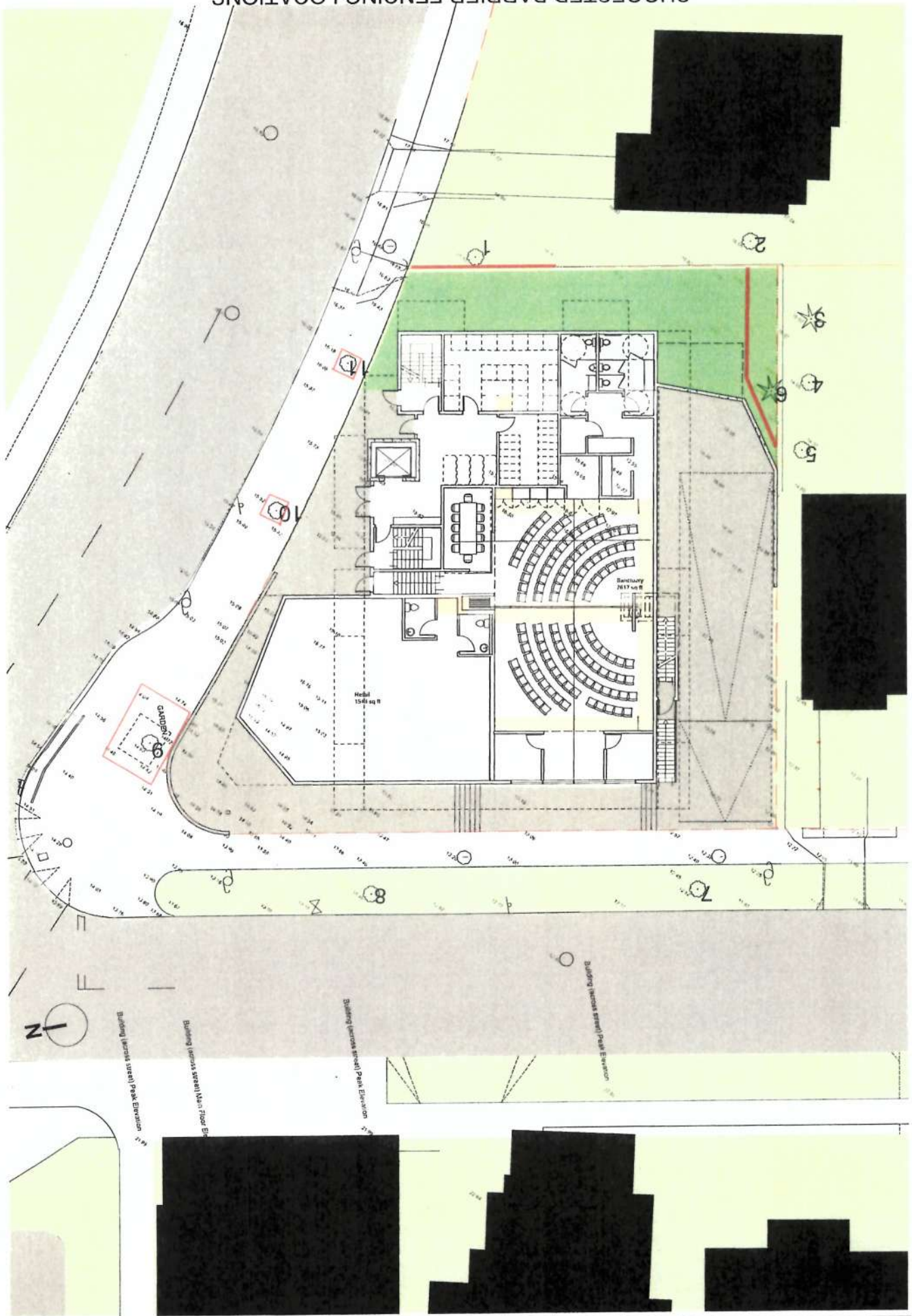
Arborists are professionals who examine trees and use their training, knowledge and experience to recommend techniques and procedures that will improve their health and structure or to mitigate associated risks.

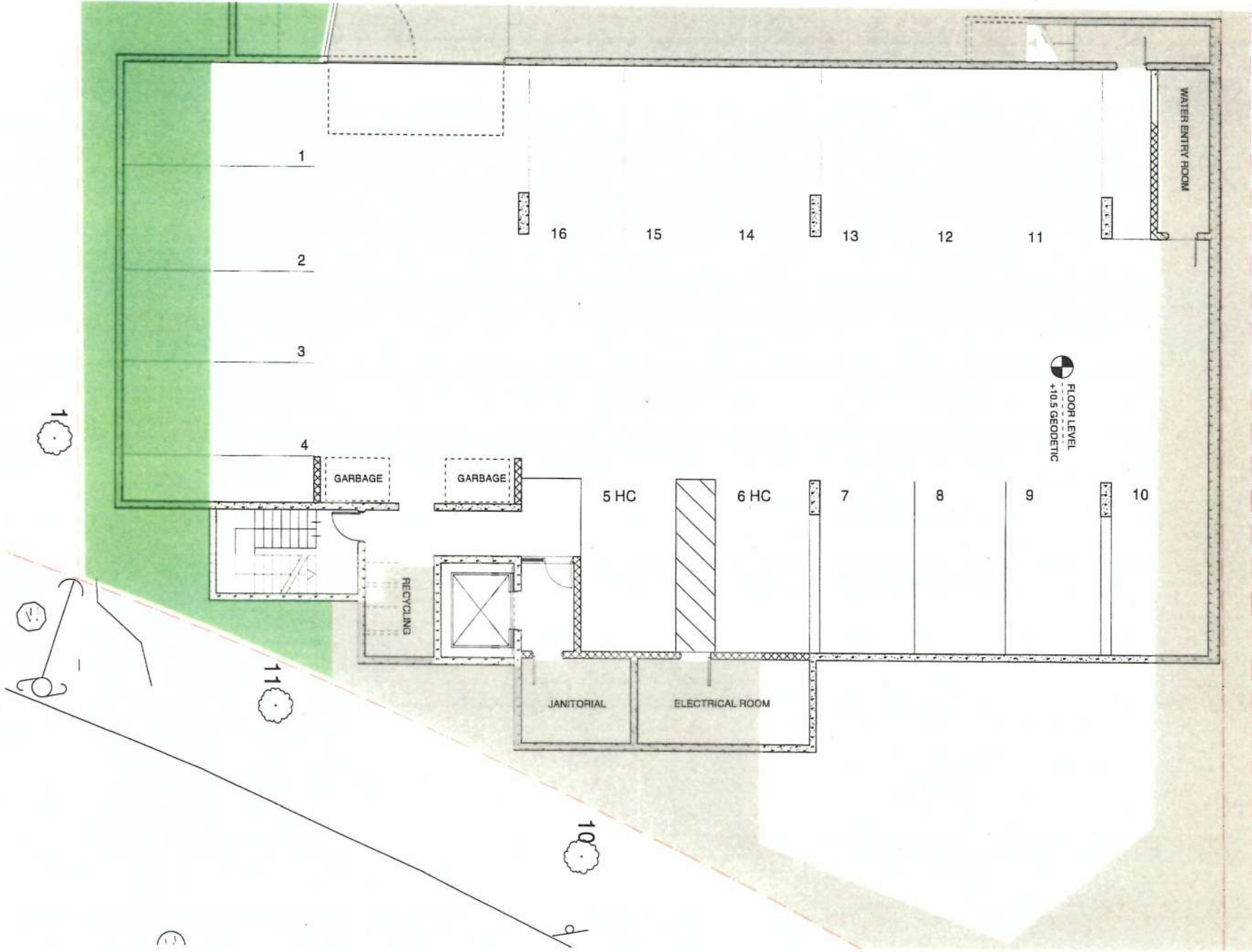
Trees are living organisms, whose health and structure change, and are influenced by age, continued growth, climate, weather conditions, and insect and disease pathogens. Indicators of structural weakness and disease are often hidden within the tree structure or beneath the ground. It is not possible for an Arborist to identify every flaw or condition that could result in failure nor 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.

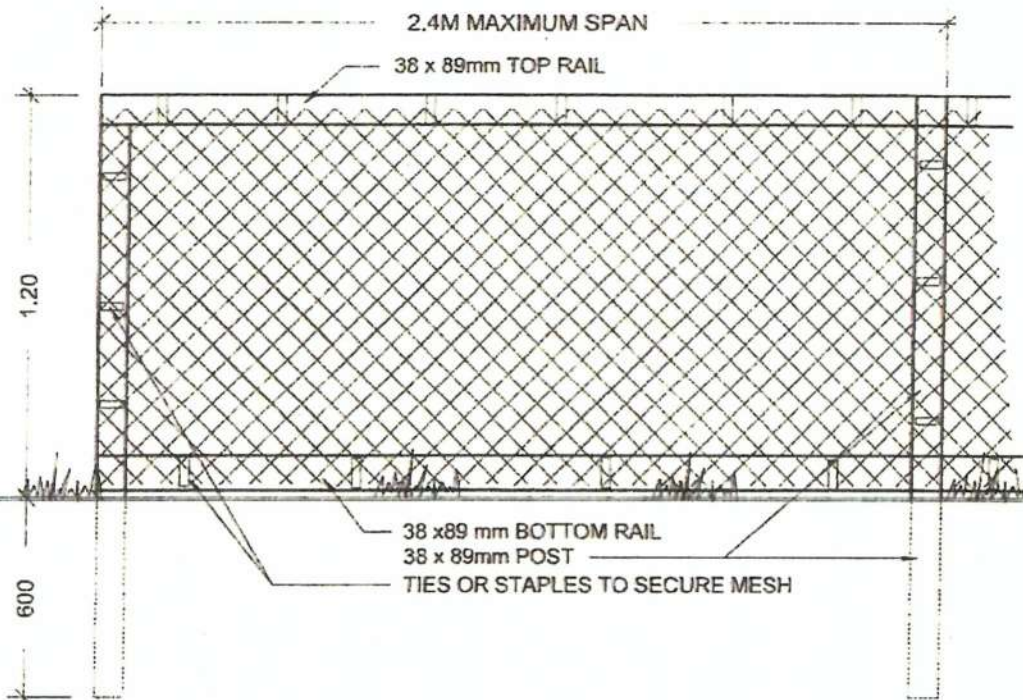
TREE RESOURCE
for
1303 Fairfield Road

Tree #	d.b.h. (cm)	CRZ	Species	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
1	40, 55	6	Big Leaf maple	Fair	Fair/poor	Moderate	Located on the neighbouring property at 1311 Fairfield Road. Growing in close proximity to existing building on West side. Canopy heavily pruned on North side for overhead utilities clearances. Large stem previously removed - stump at base. Suckering from base of co-dominant stems. 40cm stem previously topped - decay and woodpecker activity at topping location. 55cm stem has a weak union with included bark. Canopy has been heavily pruned and is conflicting with the residential overhead utilities connection.
2	45	5	laburnum	Fair/poor	Poor	Poor	Located on the neighbouring property at 1311 Fairfield Road. Ivy covered, decay and weakness at stem unions, internal decay is highly likely, over-mature specimen. Not recommended for retention if the target area increases.
3	10	1	Western Red cedar	Fair/poor	Fair	Moderate	Located on neighbouring property, severely drought stressed.
4	50	5	Robinia	Fair	Fair	Good	Located on neighbouring property, surface rooted. Approximately 1/2 meter from property line.
5	10	1	Mountain ash	Fair	Fair	Moderate	Located on neighbouring property. Approximately 1/2 meter from property line.
6	5	1	Western Red cedar	Good	Good	Moderate	Suppressed by larger surrounding trees.
7	56	6	Flowering cherry	Fair	Fair	Moderate	Municipal tree, mature specimen, conflicting with overhead utility lines.
8	69	7	Flowering cherry	Poor	Poor	Moderate	Municipal tree. <i>Ganoderma</i> fruiting body attached to root collar, suckering at base, existing decay in 2 or 3 scaffold limbs, declining health, conflicting with overhead utility lines, over-mature specimen.
9	34	3.5	Flowering cherry	Fair	Fair	Moderate	Municipal tree, twig dieback.
10	4	1	Magnolia	Good	Fair	Good	Municipal tree. Small tearout wound, growing in city planting grate.
11	3	1	Magnolia	Fair	Fair	Good	Municipal tree. growing in city planting grate.





No. _____ Date _____	Issue Name _____	LOW HAMMOND ROWE ARCHITECTS 300 - 1260 CEDAR HILL CROSS ROAD VICTORIA BC V8P 2P5 250 472 8013 WWW.LHRA.CA	Project No. 160720 Drawing No. 1524 Scale 1:100 Project Name 1303 Fairfield Mixed-use Drawing Title Plan: Parking Garage Revision A5.0
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TREE PROTECTION FENCING
 FENCE WILL BE CONTRUCTED USING
 38 X 89 mm (2"X4") WOOD FRAME:
 TOP, BOTTOM AND POSTS. *
 USE ORANGE SNOW-FENCING MESH AND
 SECURE TO THE WOOD FRAME WITH
 "ZIP" TIES OR GALVANZIED STAPLES

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

DETAIL NAME:

TREE PROTECTION FENCING

DATE: Oct 30/07
 DRAWN: DM
 APP'D: RR
 SCALE: N.T.S.

E105
 DRAWING