



Talbot Mackenzie & Associates

Consulting Arborists

2003 Shakespeare St, Victoria, BC

Construction Impact Assessment &

Tree Preservation Plan

Prepared For: Mike and Barb Richman
2003 Shakespeare St,
Victoria, BC
V8R 4E9

Prepared By: Talbot, Mackenzie & Associates
Michael Marcucci
ISA Certified # ON-1943A
TRAQ – Qualified

Date of Issuance: October 18, 2019 (TPP#1)
January 30, 2020
(TPP#2: changes indicated with a red asterisk *)

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Jobsite Property: 2003 Shakespeare St, Victoria, BC

Date of Site Visit(s): September 10, 2019

Site Conditions: No ongoing construction activity.

***Summary:**

- It is our understanding that this application was received prior to October 24, 2019 and therefore the previous tree protection bylaw applies (pre-2019 amendment).
- A row of Sawara Cypress trees along the north property boundary will require removal due to being located less than 1.5m from the proposed new house's foundation. #896 Sawara Cypress is the only bylaw protected tree (as of October 18, 2019) within this row of trees and may possibly cross the property line and be under shared ownership with the neighbours.
- We do not anticipate the municipal Flowering Ash NT#1 will be significantly impacted by the construction of the driveway or the installation of services.

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 subdivide the property, retain the existing house and construct a new house on the north lot. This will involve constructing a new driveway and the installation of new services on the Shakespeare flank.
- 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 Java Designs (dated January 28, 2020)

- *A Tree Protection Site Plan was created using the Landscape Plan provided.

Limitations:

- No exploratory excavations have been conducted and thus the conclusions reached are based solely on critical root zone calculations, observations of site conditions, 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 location of hydro and telecommunications service connections are not known at this time.
- Some of the trees have not been surveyed (including #181, 6, and 8-10) and their locations shown on the plans are approximate.

Trees to be Removed

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

#895 Sawara Cypress (65, 31, 29cm DBH) – This tree is the only bylaw protected tree within this row of trees (as of October 18, 2019). All will require removal due to being located less than 1.5m from the proposed building foundation (they will be within or directly beside the excavation). If the tree is shared with the neighbour(s), we recommend they be notified of its proposed removal.

Potential Impacts on Trees to be Retained

***NT#1 Flowering Ash** (37cm) – The proposed driveway edge will be 5m from the centre of this tree. We do not anticipate the health or stability of the tree will be impacted by the excavation for the driveway or services. We recommend the excavation be completed under the direction of the project arborist.

***Rear Fence** – The concrete fence pilings within the CRZs of trees #7, 8 and 9 should be hand-dug under the project arborist's direction to avoid damaging significant roots.

Mitigation Measures

- ***Arborist Supervision:** All excavation occurring within the critical root zones of protected trees should be completed under the direction or supervision of the project arborist. This includes (but is not limited to) the following activities within CRZs:
 - Excavation of the new driveway adjacent to NT #1 Ash
 - Excavation for the fence post pilings within the CRZs of #7-9

- **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. Ideally, the area surrounding exposed roots should be watered; this is particularly important if excavation occurs or the roots are exposed 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 watering the area periodically throughout the construction process.
- **Barrier fencing:** The areas surrounding the trees to be retained should be isolated from the construction activity by erecting protective barrier fencing. If construction activity is limited to the north lot, then in our opinion, no fencing is required around trees #3-6 and partial fencing is only required around Ash NT #2 (pending municipal approval).

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.

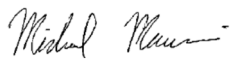
- **Minimizing Soil Compaction:** In areas where construction traffic must encroach into the critical root zones of trees to be retained, efforts must be made to reduce soil compaction where possible by displacing the weight of machinery and foot traffic. This can be achieved by one of the following methods (depending on the size of machinery and the frequency of use):
 - Placing a layer of geogrid (such as Combigrid 30/30) over the area to be used and installing a layer of crushed rock to a depth of 15 cm over top or a layer of hog fuel or coarse wood chips at least 30 cm in depth and maintaining it in good condition until construction is complete.
 - 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 two layers of 19mm plywood.
 - Placing steel plates
- **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.

- **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,



Michael Marcucci
ISA Certified # ON-1943A
TRAQ – Qualified

Talbot Mackenzie & Associates
ISA Certified Consulting Arborists

Encl. 1-page tree resource spreadsheet, 1-page tree protection site plan, 3-page site and building plans (bubbled with changes), 1-page barrier fencing specifications, 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.

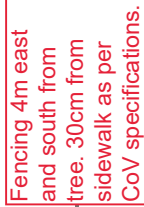
Arborists are professionals who examine trees and use their training, knowledge and experience to recommend techniques and procedures that will improve their health and structure or to mitigate associated risks.

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 ID	Common Name	Latin Name	DBH (cm) ~ approximate	Crown Spread (diameter in metres)	CRZ (radius in metres)	Relative Tolerance	Health	Structure	Remarks and Recommendations	Bylaw Protected (as of Oct 18, 2019, prior to bylaw amendment)	Retention Status	Impacts
1	Flowering Ash	<i>Fraxinus ornus</i>	37.0	9.0	4.5	M	Fair	Fair	Municipal. Included bark within main unions.	No	Retain	Driveway 5m from centre
2	Flowering Ash	<i>Fraxinus ornus</i>	28.0	6.0	3.5	M	Fair	Fair	Municipal. Included bark within main unions. Trunk wounds on lower trunk. Flush cut near main unions.	No	Retain	
3	Red Horse Chestnut	<i>Aesculus x carnea</i>	54.0	17.0	5.5	G	Fair	Fair/poor	Municipal, ID #23802. Asymmetric canopy due to historical removal of large scaffold limbs; two cuts 30cm in diameter each; likely due to hydro lines above.	No	Retain	
4	Red Horse Chestnut	<i>Aesculus x carnea</i>	58.0	17.0	6.0	G	Fair	Fair/poor	Municipal ID #23803. Asymmetric canopy due to historical hydro clearance pruning	No	Retain	
5	Chamaecyparis	<i>Chamaecyparis</i> species	56*, ~60	9.0	11.5	M	Fair	N/A	*Measured over ivy. Trunks covered and obscured by ivy. Likely bylaw protected size if one tree (may connect close to ground level).	Likely Protected	Retain	
6	Fig tree	<i>Ficus carica</i>	Multistem	7.0	~3	M	Good	N/A	Neighbour's. Growing next to retaining wall at property line.	No	Retain	
7	Douglas-fir	<i>Pseudotsuga menziesii</i>	45.0	14.0	7.0	P	Good	Good	Not bylaw protected size. Ivy covering lower trunk. Branch stubs on lower trunk.	No	Retain	
8	Douglas-fir	<i>Pseudotsuga menziesii</i>	~60	14.0	9.0	P	Good	Good	Neighbour's, less than 1m from fence.	Potentially Protected	Retain	
9	European Birch	<i>Betula papyrifera</i>	~35	9.0	5.5	P	Good	Good	Neighbour's. ~3m from fence line.	No	Retain	
10	Leyland Cypress hedge	<i>Cupressus x leylandii</i>	~10-15cm	3	~2	G	Good	N/A	Neighbour's hedge. Topped at 3m	No	Retain	
181	Dogwood	<i>Cornus</i> species	23, 20	8.0	5.5	P	Fair	Fair	CoV Parks staff have confirmed this is not the bylaw protected Pacific Dogwood (<i>Cornus nuttallii</i>). Some twig dieback in upper canopy.	No	Removal	Foundation excavation
895	Sawara Cypress	<i>Chamaecyparis pisifera</i>	65, 31, 29	9	12.0	M	Fair	Fair	Majority of trunk on subject property but north stem may cross property line at base and therefore Potentially shared with neighbours; growing close to property boundary at end of row of trees, beside garage. Codominant unions with included bark	Protected	Removal	Foundation excavation
896	Sawara Cypress	<i>Chamaecyparis pisifera</i>	33, 27	8	6.0	M	Fair	Fair	Codominant unions with included bark. Vines in canopy	No	Removal	Foundation excavation
897	Sawara Cypress	<i>Chamaecyparis pisifera</i>	52, 36	8	9.0	M	Fair	Fair	Codominant unions with included bark. Vines in canopy	No	Removal	Foundation excavation
898	Sawara Cypress	<i>Chamaecyparis pisifera</i>	28, 27, 17, 12	8	6.5	M	Fair	Fair	Codominant unions with included bark. Vines in canopy and ivy at base. Metal pipe embedded in branch union.	No	Removal	Foundation excavation
899	Sawara Cypress	<i>Chamaecyparis pisifera</i>	33, 28	8	6.0	M	Fair	Fair	Codominant unions with included bark. Ivy on trunk	No	Removal	Foundation excavation

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	Bylaw Protected (as of Oct 18, 2019, prior to bylaw amendment)	Retention Status	Impacts
1650	Sawara Cypress	<i>Chamaecyparis pisifera</i>	64	8	7.5	M	Fair	Fair/poor	Codominant union at DBH; stems measure 42 and 38cm above union (just above DBH). Codominant unions with included bark. Ivy covering most of one trunk.	No	Removal	Foundation excavation

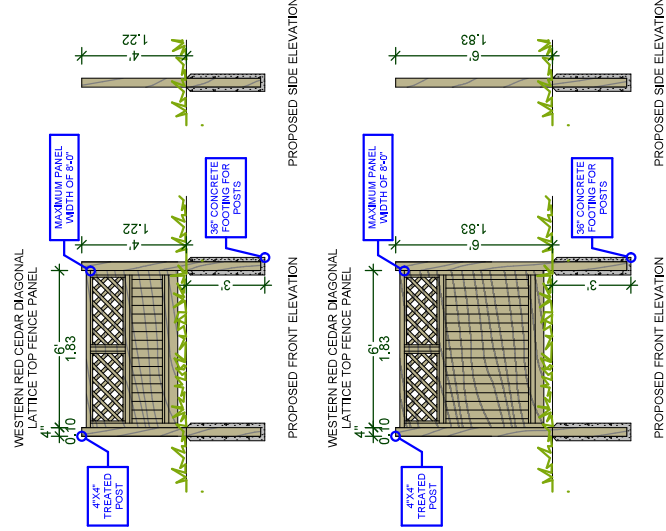


Fencing 6m west of Douglas-fir #7

Tree Protection Site Plan
Talbot Mackenzie &
Associates
January 30, 2020
TPP#2

Mark-up of Landscape Plan
by Java Designs (dated
January 28, 2020








Fencing may be necessary for trees #3-6 if construction activity is in this area or if this driveway is used for construction purposes.

$$= 1 : 250$$


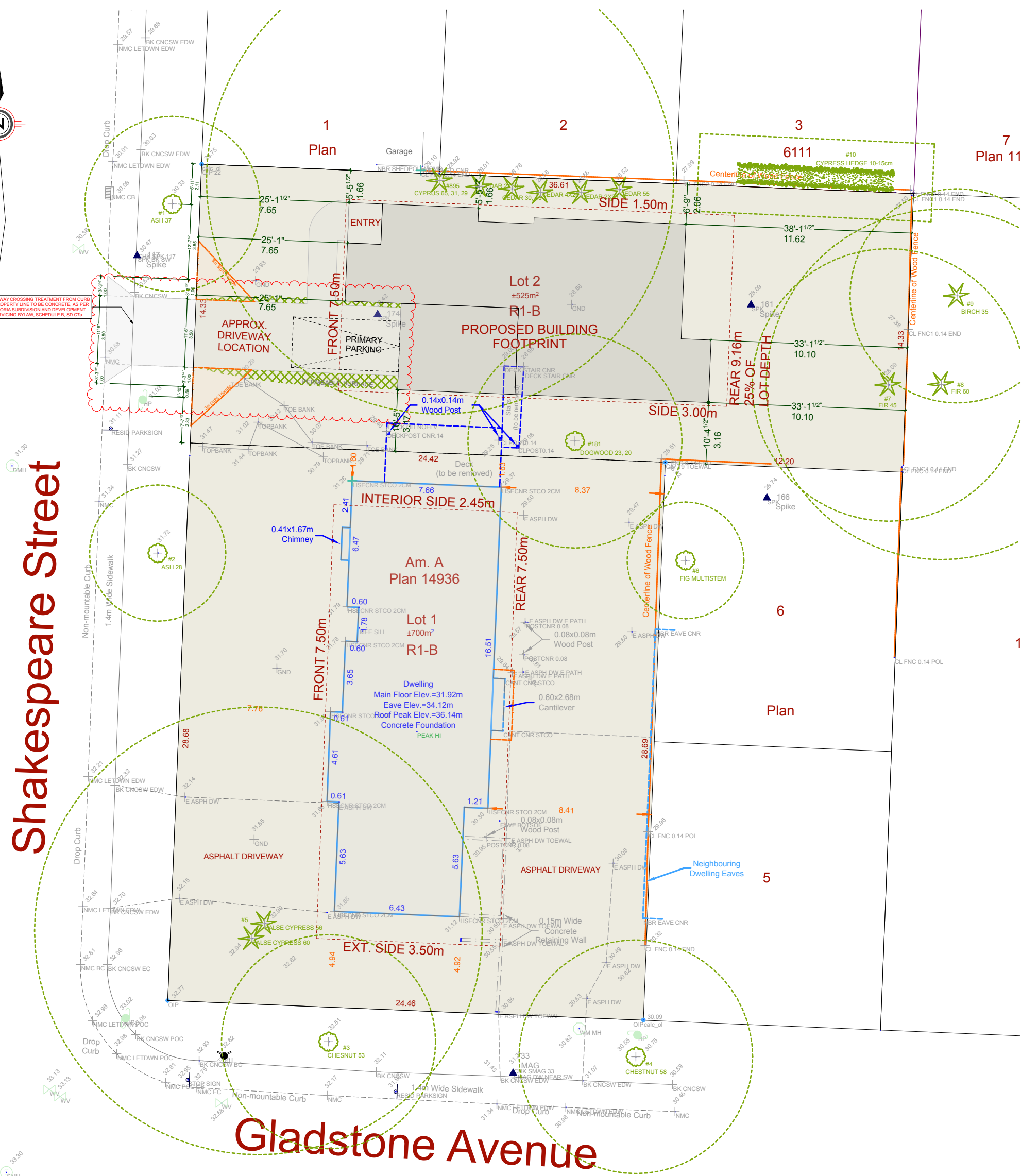
PROPOSED FENCE DETAILS

SCALE: 1/4" = 1' - 0"

NOTE: PROPOSED FENCE DESIGN
TO MATCH EXISTING FENCING

LANDSCAPE PLAN LEGEND	
<p>HARD LANDSCAPING</p> <p>PAVED SIDEWALKS AND DRIVEWAYS</p>  <p>GRASS/ LAWN</p>  <p>GARDEN BED/ DIRT</p>  <p>FENCE</p> 	<p>PLANTS/ TREES/ SHRUBS</p> <p>EXISTING PLANTS/SHRUBS TO BE RETAINED</p>  <p>EXISTING TREES TO BE RETAINED</p>  <p>EXISTING TREES TO BE REMOVED</p> 

Gladstone Avenue



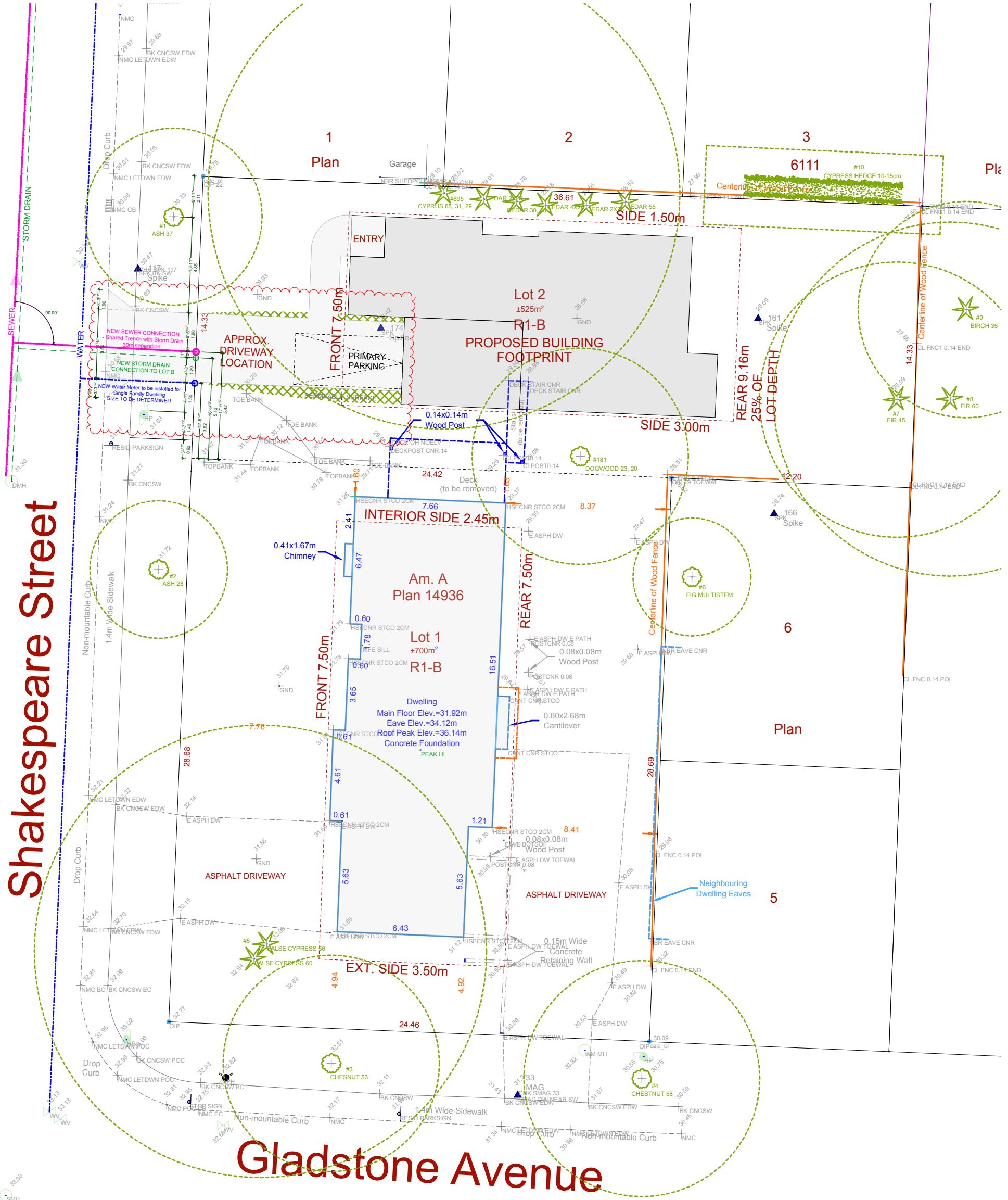
PROPOSED SITE PLAN
SCALE = 1 : 200

PROJECT DATATABLE - SINGLE FAMILY DWELLING		
Address	Proposed LOT 1 2003 Shakespeare Rd.	
Lot Size	700.897m ² (7,544.39 ft ²)	
Zoning	R1-B	
	Proposed	Allowed
Floor Area of the Principal Building		
2nd Storey Floor Area	121.14m ² (1,303.96 ft ²)	
1st Storey Floor Area	118.34m ² (1,273.78 ft ²)	
Basement Floor Area	N/A	
Garage Area	33.66m ² (362.34 ft ²)	
Garage exemption	37m ² (398.27 ft ²)	
Floor area, for the first and second storeys combined (maximum)	239.48 m ² (2,577.74 ft ²)	280 m ² (3,013.89 ft ²)
Floor area, of all floor levels combined (maximum) (lot area < 669m ²)	239.48 m ² (2,577.74 ft ²)	420 m ² (4,520.84 ft ²)
Height, Storeys		
Average grade		
Residential building (maximum)	7.60 m (24.93 ft)	
Storeys	2	2
Setbacks, Projections		
Front yard setback (minimum) (West)	7.76 m (25.46 ft)	7.50 m (24.61 ft)
Maximum projections into front setback • steps less than 1.7m in height	N/A	2.50m (8.20 ft)
Maximum projections into front setback: • porch	N/A	1.60m (5.25 ft)
Rear yard setback (minimum) (East)	7.80 m (25.59 ft)	7.50m (24.61 ft)
Interior side yard setback (minimum) (North)*	1.60 m (5.25 ft)	2.45m (8.04 ft) (10% of the lot width)
Exterior side yard setback (minimum) (South)	4.92 m (16.14 ft)	3.50m (11.48 ft)
Combined side yard setbacks (minimum)	6.53 m (21.42 ft)	4.50m (14.76 ft)
Eave projections into setback (maximum)	0.16m (1.53 ft)	0.75m (2.46 ft)
Site Coverage, Parking		
Site coverage (maximum)	23.79% (1,704.17 ft ²)	40.00% (280.38 m ² (3,017.77 ft ²))
Parking	1	1
Secondary suite floor area (incl. above)	N/A	N/A

Variances required *

PROJECT DATATABLE - SINGLE FAMILY DWELLING		
Address	Proposed LOT 2 2003 Shakespeare Rd.	
Lot Size	524.628m ² (5,647.05 ft ²)	
Zoning	R1-B	
	Proposed	Allowed
Site Area		
Lot Area (Minimum)	524.63m ² (5,647.07 ft ²)	460m ² (4,951.40 ft ²)
Lot Width		
Lot Width (Minimum Average)	14.33m (47.01 ft)	15.00 m (49.21 ft)
Setbacks		
Front yard setback (minimum) (West)	7.65m (25.10 ft)	7.50 m (24.61 ft)
Rear yard setback (minimum) (East)	10.10m (33.14 ft)	9.16m (30.05 ft)
Interior side yard setback (minimum) (North)	1.66m (5.45 ft)	1.50m (4.92 ft)
Interior side yard setback (minimum) (South)	3.16m (10.37 ft)	3.00m (9.84 ft)
Combined side yard setbacks (minimum)	4.82m (15.81 ft)	4.50m (14.76 ft)
Site Coverage, Parking		
Site coverage (maximum)	31.56% (165.57m ² (1,782.16 ft ²))	40.00% (209.85 m ² (2,258.70 ft ²))
Parking	1	1
Secondary suite floor area (incl. above)	-	90m ² (968.75 ft ²)

Variances required *



PROPOSED SITE SERVICE PLAN
SCALE = 1 : 200

CUSTOMER:
MIKE AND BARB RICHMAN

ADDRESS:
2003 SHAKESPEARE ST., VICTORIA

DRAWING NAME:
SITE PLAN AND SITE SERVICE PLAN

DRAWING SCALE:
AS NOTED

ISSUE DATE:
JAN 28, 2020

DRAWN BY:
KYLE LEGGETT

JAVA DESIGNS
WHERE LINES ON PAPER BECOME WALLS ON SITE
PH 250.590.2468 FX 250.590.4577 www.javadesigns.ca

NAFS REQUIREMENTS:
Performance Grade of 40
Water Test Pressure of 290 Pa

GENERAL NOTES
ALL MATERIALS AND CONSTRUCTION METHODS TO CONFORM TO THE CURRENT EDITION OF THE BRITISH COLUMBIA BUILDING CODE AS WELL AS ANY LOCAL BUILDING CODES OR BYLAWS WHICH MAY TAKE PRECEDENCE.
ALL MEASUREMENTS MUST BE VERIFIED ON SITE BY BUILDER PRIOR TO CONSTRUCTION, AND ANY DISCREPANCIES REPORTED TO THE DESIGNER.
DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE
-SMOKE DETECTORS SHALL BE PROVIDED ON EVERY FLOOR

SITE PLAN
ALL LAYOUTS SHOULD BE CONFIRMED BY A REGISTERED B.C. LAND SURVEYOR.
ALL SETBACKS SHALL BE CONFIRMED BY THE OWNER/BUILDER.
ALL GRADE ELEVATIONS ARE THE RESPONSIBILITY OF THE OWNER/BUILDER AND ANY MODIFICATIONS ARE TO BE MADE ON SITE.
CONFORMITY OF THESE PLANS TO THE ACTUAL SITE IS THE RESPONSIBILITY OF THE OWNER/BUILDER.
CONCRETE AND FOUNDATIONS
ALL CONCRETE FOOTINGS TO HAVE SOLID BEARING ON COMPACTED, UNDISTURBED INORGANIC SOIL TO A SUITABLE DEPTH BELOW FROST PENETRATION.

IF SOFTER CONDITIONS APPLY, THE SOLID BEARING CAPACITY AND SIZE OF FOOTINGS ARE TO BE DESIGNED BY A QUALIFIED ENGINEER.
GARAGE & CARPORT FLOORS AND EXTERIOR STEPS SHALL NOT BE LESS THAN 32 MPa
FOUNDATION CONCRETE SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 2900 psi (20MPa) AT 28 DAYS, MIXED, PLACED AND TESTED IN ACCORDANCE WITH CAN3-A438.
ALL WALLS ARE 8" CONCRETE UNLESS OTHERWISE NOTED.
ALL GRADES ARE ESTIMATED ONLY AND SHALL BE ADJUSTED ON SITE.
ALL WOOD IN CONTACT WITH CONCRETE SHALL BE TREATED OR SEPARATED BY A MOISTURE RESISTANT GASKET MATERIAL.

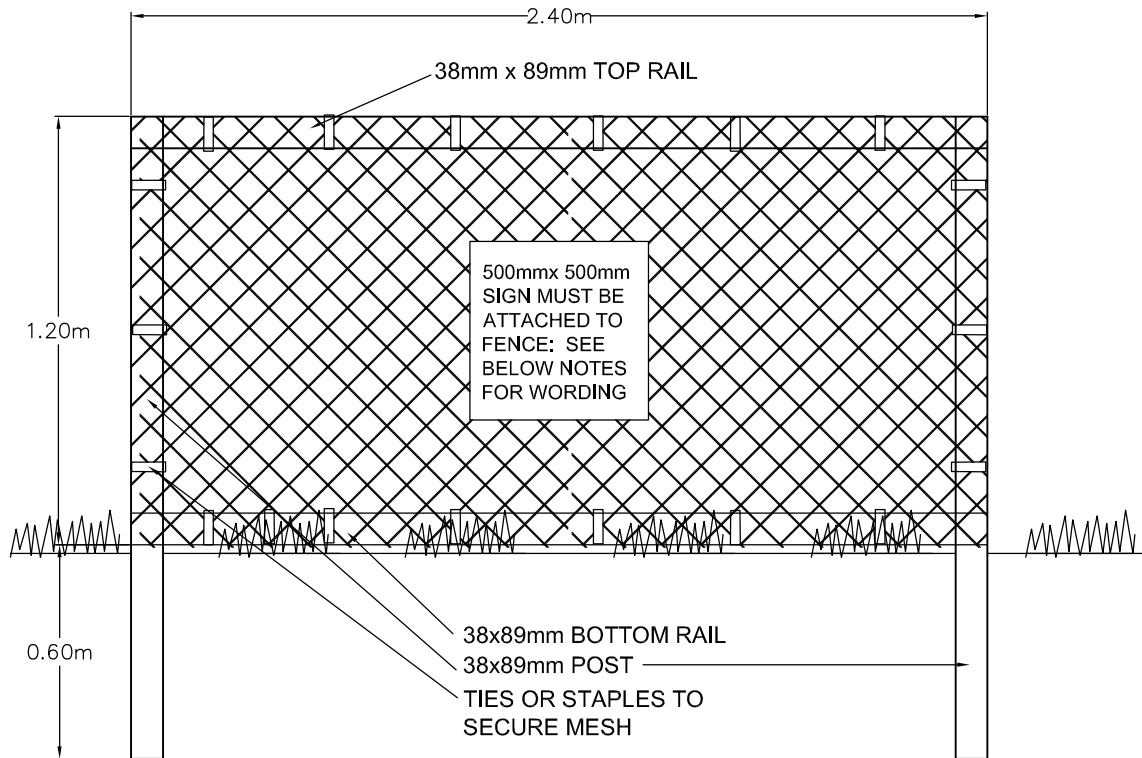
LUMBER, FRAMING AND BEAMS
BUILDING FRAMES TO BE ANCHORED TO FOUNDATION BY FASTENING SILL PLATE TO FOUNDATION WITH NOT LESS THAN 12.7mm DIAM ANCHOR BOLTS AT NOT MORE THAN 2.4M O.C.
ALL ENGINEERED BEAMS TO BE SIZED BY SUPPLIER.
ALL SPANS SHALL CONFORM TO THE TABLES SET OUT IN "THE SPAN BOOK" AND THE NATIONAL BUILDING CODE OF CANADA AND VERIFICATIONS OF ALL SPANS IS THE RESPONSIBILITY OF THE OWNER/BUILDER.

TRUSSES
TRUSSES AND LAYOUT ARE TO BE ENGINEERED AND INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS, INCLUDING ALL BRACING.
ROOFING
ALL ROOFING SHALL BE APPLIED TO MANUFACTURER'S SPECIFICATION AND SHALL INCLUDE EAVE PROTECTION FROM ICE DAMS AND SNOW BUILD UP.
PLUMBING & ELECTRICAL
ANY ELECTRICAL SHOWN ON PLANS IS TO SERVE AS A GUIDE ONLY AND MUST BE INSTALLED BY A QUALIFIED PERSONNEL.

FLASHING
ALL EXPOSED OPENINGS SHALL BE PROVIDED WITH ADEQUATE FLASHING.
ALL ROOFING SHALL INCORPORATE STEP FLASHING.
ALL PENETRATIONS THROUGH ROOF SHALL INCLUDE APPROPRIATE FLASHING.
DOORS - ROUGH OPENING SIZES
FRAME OPENING 1 1/4" WIDER THAN DOOR
FRAME HEIGHT 83" FOR EXTERIOR DOORS AND 82.5" FOR INTERIOR DOORS. FRAME OPENING 1 1/4" WIDER THAN BIFOLD DOORS AND FRAME HEIGHT 81.5".
MISC.
CARBON MONOXIDE ALARMS TO BE HARDWIRED AND WITHIN 5M OF EACH BEDROOM IN EVERY SUITE AND INTERCONNECTED TO ALL FLOORS. CARBON MONOXIDE ALARMS TO CONFORM TO CSA 6.19

NEITHER JAVADESIGNS INC. NOR THE DESIGNER ACCEPT RESPONSIBILITY FOR THE FOLLOWING:
-INFORMATION PROVIDED ON EXISTING BUILDINGS OR SITE.
-CONFORMITY OF PLANS TO SITE.
-ERRORS AND OMISSIONS
-ANY HOUSE BUILT FROM THESE PLANS

SHEET
NUMBER
A1



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



Talbot Mackenzie & Associates

Consulting Arborists

Box 48153 RPO - Uptown Victoria, BC V8Z 7H6

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Tree Resource Spreadsheet Methodology and Definitions

Revised July 24, 2019

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 generally not tagged (“NT #”).

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.

~ 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

This method is solely a mathematical calculation that does not consider factors such as restricted root growth, limited soil volumes, age, crown spread, health, or structure (such as a lean). To calculate the critical root zone of trees with multiple stems below 1.4m, the diameter is considered the sum of 100% of the diameter of the largest stem and 60% of the diameter of the next two largest stems. This however can result in multi-stem trees having exaggerated CRZs. Where noted, sometimes the CRZ for trees with multiple stems will be calculated using the diameter of the trunk below the unions.

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:

- Removal (or “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