



Arboricultural Assessment Report

Date of Review: April 30, 2019

Project File No.: 19-032

Date of Report: **November 16, 2023**

Project Name: Ladner Willows
5625 Ladner Trunk Road
Delta, BC.

Weather: Sunny, clear

Arborist: Xudong Bao
ISA Certified Arborist PN-8671A, TRAQ

We completed a review of the site conditions on the date of review and note the following:

Re: Arboricultural Assessment Services at 5625 Ladner Trunk Road, Surrey, BC.

For: Jeff Marin, VanMar Constructors 1090 Inc.; email: jeffm@vanmarconstructors.com

Revision: **November 16, 2023: Tree #5109 is removed due to its hazardous condition caused by storm.**

June 1, 2022: Arborist report is revised to add more tree photos and correct the species name of #5150.

April 22, 2022: Arborist report is revised based on city's comments.

September 9, 2021: Tree #5138 is requested to be removed by neighbour.

June 17, 2021: Report is revised based on new site assessment, city comments and new site plan.

April 27, 2020, updated as per new site plan.

1.0 Introduction:

A site visit was requested by the client to review the quality of existing significant and bylaw protected trees at the site associated with the proposed development of a multi-family residence. We were provided with a copy of the topographical survey plan as well as a plan showing the proposed form of development. Only the trees detailed in this report were assessed. The purpose of this review was to outline the existing conditions of the subject trees, including health and structure, and to determine suitability for tree retention based on the proposed form of development. This report will be submitted to meet municipal permitting requirements.

A standardized visual assessment method was used for the on-site tree inventory and analysis. Tree species, size, and condition were noted for each, as well as any outward signs of structural defects, health deficiencies, and/or environmental conditions potentially impacting the health or structural integrity of the trees. Trees have been tagged with a number for inventory and reference purposes. Digital photos were taken for file reference and report writing purposes. A detailed inspection including aerial inspection, decay mapping, excavation explorations and root mapping was not performed.

2.0 Scope of Work:

Our scope of work is defined by the owner as follows:

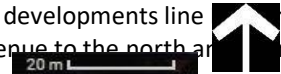
- a) Assess bylaw size trees within the site and 5m of property line and of neighbouring properties.
- b) Assess the feasibility of retaining trees on the site, on neighboring properties and on city property in association with the form of development proposed.
- c) Provide mitigation/protection comments.

3.0 Observation:



The image above is taken from Google Maps and the subject site is outlined in red.

The property is currently a townhouse development. Similar multi-family townhouse developments line Ladner Trunk Road and 55B Street within proximity to the site. Single-family lots line 48B Avenue to the north and the Ladner Baptist Church is located adjacent to the site, to the south-east.



Street Trees

There are 5 City trees along Ladner Trunk Road and 9 City trees along 55B Street: #CITY1, English oak; #CITY2, Red maple; and #CITY3, Hawthorn tree, #5106, Weeping willow; #5107 Weeping willow; #5104, Norway maple; #5748, Norway maple (not on survey); #5113, Birch; #5118, Norway maple; #5119, Norway maple; #5757, Cherry (not on survey); #5120, Norway maple; #5121, Norway maple; #5124, Norway maple and #5125, Norway maple.

Environmental, Drainage and Wildlife Comments

There were no observed bird nests and no significant wildlife values noted on the site. The subject site appeared relatively flat and well-drained, with a slight slope down towards Ladner Trunk Road, except at the south property line where the City trees were located. The elevation of the base of each City tree was approximately 1m lower than the grade of the road/sidewalk to the south. Each tree was planted in a 'well', with a corrugated metal retaining wall on the south side (to accommodate the grade difference).

Existing Trees / Vegetation

The existing on-site trees include Norway maple, Flowering cherry, Weeping willow, Tulip trees, Paper birch, Douglas-fir, Colorado blue spruce, Lawson's Cypress and Scots pine. There were also 11 Smaragd cedar hedges, ranging in height and condition.

Refer to Arborist Tree Table, attached.

Attached Photos:

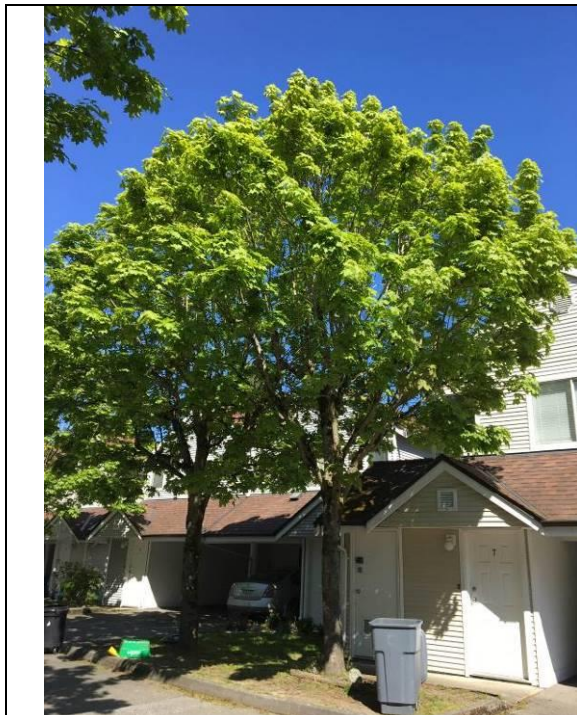


Photo 1: Tree #5152/5156 (Remove), Norway maples; typ. growing condition for all on-site Norway maples (on top of curb, in turf with compacted soil, within restricted growing area).



Photo 2: Tree #5155 (Remove), Norway maple; Canopy reduced, some stubs remaining, some dead wood; typ. of all on-site Norway maples.



Photo 3: Tree #5153 (Remove), Scots pine; topped at 7m and clearance pruned at west side for Hydro.



Photo 4: Tree #5136 (Remove), Scots pine; base within small perennial garden with wooden edge.



Photo 5: Tree #5136 (Remove), Scots pine; in back yards, in good condition.



Photo 6: Tree #5151 (Remove), Lawson's cypress; stripped bark on south-side to 4m; previously topped at 5m; very poor condition.



Photo 7: Tree #353 (Remove), Douglas-fir; trunk flair buried.

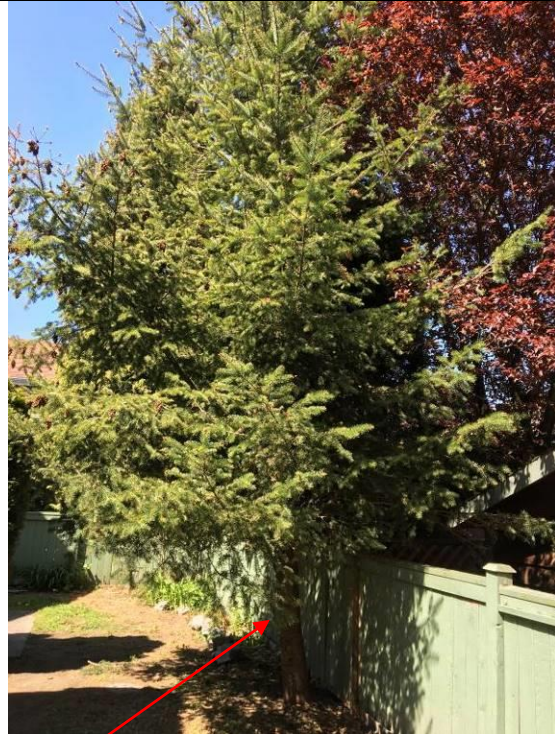


Photo 8: Tree #353 (Remove), Douglas-fir; poor-moderate branch structure.



Photo 9: Tree #5138 (Remove); Scots pine; moderate-good condition



Photo 10: Tree #5138 (Remove), Scots pine; codominant stem attachment at 3m.



Photo 11: Tree #5138 (Remove), Scots pine; round form.



Photo 12: Tree #5126 (Remove), and Tree #CITY1 (Remove), English oak.



Photo 13: Tree #CITY1 (Remove), English oak; poor structure and condition; trunk flair buried, grade is 1m lower than road/sidewalk to south; growing beside a corrugated metal retaining wall, and within a fenced area.



Photo 14: Tree #CITY2 (Remove), Red maple; poor to moderate condition; prolific dead wood, in decline.



Photo 15: Tree #CITY3 (Remove), Hawthorn; growing in depression (1m lower than road) with sumac shrub at right. Hawthorn leaning to east with poor structure.



Photo 16: Tree CITY6 5107 (Remove), Weeping willow; trunk flair not visible – covered in ivy; growing within depression surrounded by corrugated metal retaining wall.



Photo 17: Tree CITY6 5107 (Remove), Weeping willow; covered in old ivy; clearance pruned on south side, for Hydro; canopy biased to north; some dead wood present; pruning to remove dead wood and stubs (due to poor pruning and torn branch) is required.



Photo 18: Tree CITY5 5106 (Remove), Weeping willow; large structural root visible above grade; branch attachment good at west side (90 degrees);



Photo 19: Tree CITY5 5106 (Remove), Weeping willow; pruning to remove dead wood and stubs is required.



Photo 20: Tree #5105 (Remove), #5108 (Remove), Tulip tree; good condition and form;



Photo 21: Tree CITY5 5106 (Remove) and CITY6 5107 (Remove), Weeping willows; view from west, looking east along Ladner Trunk Road. Both trees have been clearance pruned at south side for Hydro.



Photo 22: Tree #5105 (Remove), Tulip tree; structural roots pushing up concrete walkway.



Photo 23: Tree CITY7 5118 (Retain), CITY8 5119 (Remove), CITY13 5748 (Retain) and #5113 (Remove), CITY4 5104 (Retain); Norway maples along 55B Street; canopies reduced at 5-6m to be kept at small size; growth suppressed.



Photo 24: Tree #5113 (Remove), Paper birch; epicormics growth on trunk; stressed; poor structure in canopy; concrete pad and fence directly at east side.



Photo 25: Tree #5115 (Remove), #5116 (Remove), #5117 (Remove), Flowering cherry trees; poor pruning in past; root collars exposed above grade; decay noted at old pruning wounds.



Photo 26: Tree CITY14 5757 (Remove), CITY9 5120 (Remove), CITY10 5124 (Remove) and CITY11 5124 (Retain); Norway maples along 55B Street; canopies reduced at 5-6m to be kept at small size; growth suppressed.



Photo 27: Tree CITY12 5125 (Remove), Norway maples along 55B Street; canopies reduced at 5-6m to be kept at small size; growth suppressed.



Photo 28: Tree #5133 (Remove), #5129 (Remove), #5132 (Remove), Norway maple; typ. growing condition for all on-site Norway maples (on top of curb, in turf with compacted soil, within restricted growing area).



Photo 29: Tree #5135 (Remove), #5130 (Remove), #5156 (Remove), #5152 (Remove), Norway maple; typ. growing condition for all on-site Norway maples (on top of curb, in turf with compacted soil, within restricted growing area).



Photo 30: Tree #5150 (Remove), Western redcedar, moderate condition, recovering from previous drought stress, retaining wall observed on north side of trunk, also, grade on north is much lower than the subject site, limited roots on northern property, proposed new road will significantly impact the tree stability and health.



Photo 31: Retaining wall on north side of trunk, limited roots on neighbour's property.



Photo 32: Tree #5114 (Remove), Norway maple; typ. growing condition for all on-site Norway maples (on top of curb, in turf with compacted soil, within restricted growing area).



Photo 33: Tree #5111 (Remove), #5122 (Remove), #5123 (Remove); Norway maple; typ. growing condition for all on-site Norway maples (on top of curb, in turf with compacted soil, within restricted growing area).



Photo 34: Tree #5134 (Remove), Blue spruce; Moderate to good condition; moderate structure; leader intact; sparse on north side; slight curve to south.



Photo 35: Tree #5112 (Remove), Norway maple; typ. growing condition for all on-site Norway maples (on top of curb, in turf with compacted soil, within restricted growing area).



Photo 36: Tree #5140 (Remove), #5139 (Remove), #5137 (Remove), #5131 (Remove), #5149 (Remove), Cherry; Poor to moderate health condition, poorly pruned, roots on the east limited by wood retaining wall.



Photo 37: Tree #5714 (Remove), cherry; Flowering cherry tree; poor pruning in past; decay noted at old pruning wounds.



Photo 38: Tree #354 (Remove), Cherry; Flowering cherry tree; poor pruning in past; root collars exposed above grade; decay noted at old pruning wounds.



Photo 39: Tree #5109 (Removed), Tulip tree; Phototropic leaning north, suppressed by neighbouring trees, no obvious leader.



Photo 40: Tree #5127 (Remove), Tulip tree; self-corrected leaning west, trunk damage with CODT, young.

4.0 Recommendation

The mandate from the client to the Arborist was to review the existing trees on site and 5m from the property line, for their overall health/ quality and to provide comments in regards to their ongoing suitability for retention.

Our recommendation is to retain and protect: #5104, Norway maple; #5748, Norway maple; #5118, Norway maple; and #5124 Norway maple. All other on-site trees, as well as the City trees are recommended for removal due to the proposed form of development, poor condition and/or re-grading requirements.

On September 7, 2021, neighbour of this project site requested to remove tree #5138 because it is hanging over the roof and causing maintenance issue. Please see attached email request from neighbour.

According to the latest site plan received on June 17, 2021, tree #5106 and #5107 conflict with proposed sidewalk and access walkway. Both two trees are recommended to be removed.

Tree #5104, 5748, 5118 and 5124 have been changed to be retained. Any construction work including existing sidewalk removal, new sidewalk installation, tree removal and new walkway installation within 3m of TPZ need to be supervised by project arborist. M2 requires 48-hours notice of work to be done within 2m of any tree protection area, and shall be present on site to monitor the work. Refer to M2 *General Guidelines for Mitigating Construction Impacts in Proximity to Trees*, attached. **The following maintenance recommendations also apply:**

Prior to construction

1. TPZ (Tree protection zone) fences installed
2. CRZ (critical root zone) 2-3" composted mulch (3/8" minus decomposed bark) installed
3. Canopy clearance pruning for construction to mitigate conflict.
4. Preconstruction meeting for responsible individual on site (site manager) for responsibilities
5. Watering schedule
6. Monitoring of tree fencing (no removal, no encroachment); check for integrity of fencing 1x a week (schedule required; logbook)
7. Contacting arborist for RFI or if encroachment occurs
8. Ensure no construction vehicles exhaust rests against foliage (no burned foliage)

During construction

1. TPZ (Tree protection zone) fences installed
2. Maintain watering schedule (schedule required; logbook)
3. Spring (March to June and weather dependent only with enough rain to saturate the soils) watering 2x week (duration until soil saturation – to 18" depth)
4. Summer watering (June – September end) 3-5x a week (weather dependant) (duration until soil saturation – to 18" depth)
5. Soil moisture content should not go below -50 to -70 centibar (Management Allowable Depletion, MAD), see Soil Moisture Chart in Schedule A.
6. Fall watering (September to October – weather dependant) 2x week (duration until soil saturation – to 18" depth)
7. Winter – dormancy and winterization of irrigation
8. Early spring (March) fertilization for root growth.
9. Log book monitoring of maintenance
10. Post TPZ protection policy in work trailers and all contractors to comply. No work permitted within 2m of TPZ areas without arborist approval and presence, no tool cleaning within TPZ areas and ensure tool and equipment cleaning, washout areas, drainage does not drain into TPZ areas.
11. Review landscape plans to ensure no trenching within tree protection areas.
12. All servicing plans to be reviewed by site manager to ensure no work within TPZ areas.
13. Site manager to organize Meeting with any contractor working close (within 2m of tree protection areas. Meet with landscaper and irrigation installer to review tree protection areas.

After construction

1. Review of tree condition; tree health monitoring preferred for 2-5 growing seasons

2. Fertilization (spring) for root and foliage growth
3. Pruning of damaged or dead limbs to ISA standard (arboricultural best practices)
4. Tree protection fencing removed after landscape installed
5. Installation of 2" composted mulch in CRZ and on top of walkable surfaces; 3" coarse woody chip mulch (recycled from removed trees on site); ensure minimum 3' well at trunk flare of trees of existing soil.

On November 16, 2023, project Arborist was notified of the removal of tree #5109. It was found uprooted due to recent storm.

4.1 Tree removal and replacement trees summary:

4.1.1 Tree removal summary table:

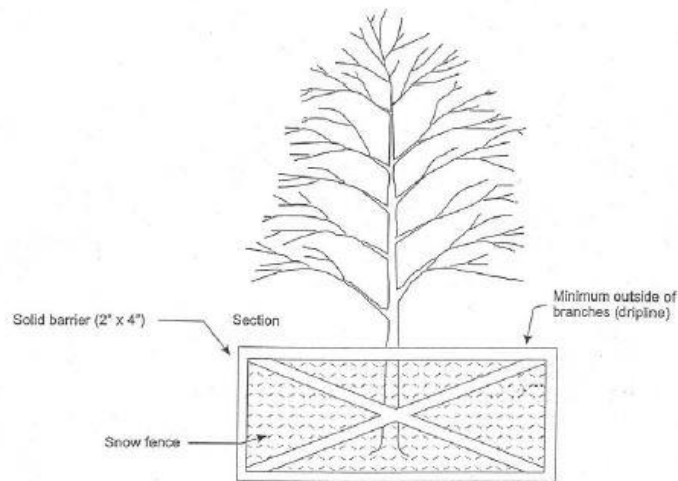
Location	Existing	Remove	Retain
Onsite	35 + 11 undersized hedges	35 + 11 undersized hedges	0
Offsite	0	0	0
City	14	10	4
Total	49 + 11 undersized hedges	45 + 11 undersized hedges	4

4.1.2 Replacement tree summary:

46 bylaw protected trees are recommended to be removed. According to "Delta Tree Bylaw No. 7969", 97 replacement trees are required:

DBH or Hedge Length	Number of trees to be removed	Required replacement tree number
20-59cm DBH and city trees	40	80
60+cm DBH	5	15
Total	45	95

SCHEDULE B
Specification for Tree Protection Barriers



Notes:

1. A protective barrier must be installed around every **tree** to be retained prior to the work commencing onsite, and that barrier must remain intact until the **Director** has authorized its removal.
2. The protective barrier must be constructed of snow fence fastened securely to a sturdy wooden frame or plywood.
3. Any excavation adjacent to the protective barrier must be done by hand.
4. Maintenance of **trees** that are to remain must include watering but will not include any **cutting** or pruning of branches or roots unless approved by the **Director**.
5. The dimensions of the protective barrier must be equal to the extent of the **drip line**, or 30 cm per every 2.5 cm of tree caliper, whichever is greater.
6. Measurements in relation to **tree** caliper must be taken at the **base** of the **tree**.

ABOVE: Specifications for Tree Protection Barrier, Bylaw No. 6336, Schedule B

5.0 Limitations

We attach the following clauses to this document to ensure you are fully aware of what is technically and professionally realistic in the assessment and preservation of trees.

This Arboricultural field review report is based on site observations on the date noted, only. We ensure that the opinions expressed are a reasonable and accurate representation of the condition of all trees reviewed. The assessment was completed based on a visual review only and none of the trees were dissected, cored, probed or climbed. All trees or groups of trees have the potential to fail. No guarantees are offered or implied by M2 Landscape Architecture or their employees that the trees are safe given all conditions. Trees can be managed, but they cannot be controlled. To live, work or play near trees is to accept some degree of risk.

The assessment provided was based on preliminary information only.

The opinions expressed in this report are valid for a period of one year only. Any trees retained should be reviewed on a regular (yearly) basis and tree work required should be done as soon as possible to mitigate any risk.

The information provided in this report is for the exclusive use of our client and may not be reproduced or distributed without permission of M2 Landscape Architecture.

Please contact the undersigned if you have any questions or concerns regarding this matter.

Yours Truly,
(On behalf of M2 Landscape Architecture and Arboriculture Ltd.)



Xudong Bao
ISA Certified Arborist PN-8671A, TRAQ
M2 Landscape Architecture

ARBORIST TREE TABLE

Tree ID #	Botanical Name	Common Name	On Survey Y/N	Location: On, off, Shared, City	DBH (cm)	LCR (%)	Canopy (dia.)	Condition (Structure, Health, TRAQ rating)	Comments	Retention Suitability	Retain/ Remove	Tree Protection Zone (TPZ)
353	<i>Pseudotsuga menziesii</i>	Douglas-fir	N	On	24	90	8m	Moderate condition; poor-moderate structure; interior pruning required; slight lean to south (away from fence); trunk flair buried; suppressed	Conflicts with new road	p	Remove	
354	<i>Prunus</i> spp.	Flowering cherry	N	On	26	35	8m	Poor condition; slight curve to west, self-correcting at 1m; exposed structural roots; bulging root collar; poor canopy structure; poor condition; poor pruning in past (stubs remaining); decay noted; long stub remaining at 3m		p	Remove	
CITY 4 5104	<i>Acer platanoides</i>	Norway maple	Y	City	34	50	8m	Poor to moderate condition; slight lean to north; historically topped at 6m; included bark; poor pruning in past; poor structure; girdled roots; canopy under hydro wires		p	Retain	
5105	<i>Liriodendron tulipifera</i>	Tulip tree	Y	On	55	90	10m	Moderate condition and structure; codominant at 5m; included bark; possible girdling roots (twisting); growing in area surrounded by concrete slabs; roots pushing up concrete	Conflicts with development	p	Remove	
CITY 5 5106	<i>Salix babylonica</i>	Weeping willow	Y	City	68	80	22m	Moderate condition; biased to south; trunk curves / leans to south-west; dead scaffold branches; good attachment (90 degrees) on large 45cm dia. lower limb (2.5m above ground); structural roots exposed and damaged by maintenance equipment (lawn mowers); clearance pruned for Hydro, at south side	Conflict with proposed walkway	g	Remove	3.9m
CITY 6 5107	<i>Salix babylonica</i>	Weeping willow	Y	City	81	65	20m	Moderate condition; large/mature; canopy biased to north; clearance pruned (stubbed) on south side for Hydro; torn branch (historical event) on north-east side at 0.5m - decay noted; broken branches; base not visible/covered in ivy; growing in grate (depression with corrugated steel metal retaining wall); grade is lower than road	Conflict with proposed sidewalk	g	Remove	5.4m
5108	<i>Liriodendron tulipifera</i>	Tulip tree	Y	On	31	90	10m	Moderate condition; slight lean to east; codominant at 7m; included bark; growing in small area surrounded by concrete slabs	Conflicts with development	p	Remove	
5109	<i>Liriodendron tulipifera</i>	Tulip tree	Y	On	31	65	6m	Poor to moderate condition; lean to north, curve to north; no leader visible; thin canopy; decayed stub present at 7m on north side; decayed branch (on lower limb) on east side; surrounded by ivy	Removed due to hazardous condition	p	Removed	
5111	<i>Acer platanoides</i>	Norway maple	Y	On	23	50	6m	Poor to moderate condition; included bark; poor pruning in past (stubs remaining); slight curve to east, not self-correcting; damaged due to torn limb, not healed over; decay noted; leaders removed/canopy reduced; raised up on curb; in turf; curb at 1.0m to south; moss on trunk/ in canopy	Conflicts with development	p	Remove	
5112	<i>Acer platanoides</i>	Norway maple	Y	On	28	55	8m	Poor to moderate condition and structure; codominant at 3.5m (4 stems); structural roots exposed above grade; growing in turf median; curb located at 0.5m to west and east; compacted soil conditions		p	Remove	
5113	<i>Betulus papyrifera</i>	Paper birch	Y	On	25	45	5m	Poor condition; poor structure; epicormic growth; stubbed/dead branches; top curves to east; stressed; concrete pad and fence immediately at base, on east side of trunk	Will be critically impacted by underground parking excavation. Arborist to supervise the removal of tree #5113, stump to be removed by stump grinder only.	p	Remove	
5114	<i>Acer platanoides</i>	Norway maple	Y	On	29	60	12m	Moderate condition; round shape; structural roots exposed above grade; located in median with utility box; compacted soil (foot traffic); soil dry; otherwise surrounded by asphalt	Conflicts with development	p	Remove	
5115	<i>Prunus</i> spp.	Flowering cherry	Y	On	25	40	8m	Poor pruning in past; historically topped at 5m; included bark; trunk flair / root collar raised above grade; exposed roots; decay noted (at old pruning wounds); girdled roots		p	Remove	
5116	<i>Prunus</i> spp.	Flowering cherry	Y	On	26	40	8m	Poor pruning in past; poor canopy structure; historically topped at 5m; included bark; trunk flair / root collar raised above grade; decay noted (at old pruning wounds); girdled roots		p	Remove	
5117	<i>Prunus</i> spp.	Flowering cherry	Y	On	24	40	8m	Slight lean to south; bulging root collar; poor canopy structure; poor condition; poor pruning in past (stubs remaining); decay noted		p	Remove	
CITY 7 5118	<i>Acer platanoides</i>	Norway maple	Y	City	25	40	10m	Poor condition; poor structure; historically topped at 5m; minimal growth in centre of canopy; slight lean to north; slight curve to west, not self-correcting; trunk flair partially buried; Hydro lines under canopy at west side		p	Retain	

ARBORIST TREE TABLE

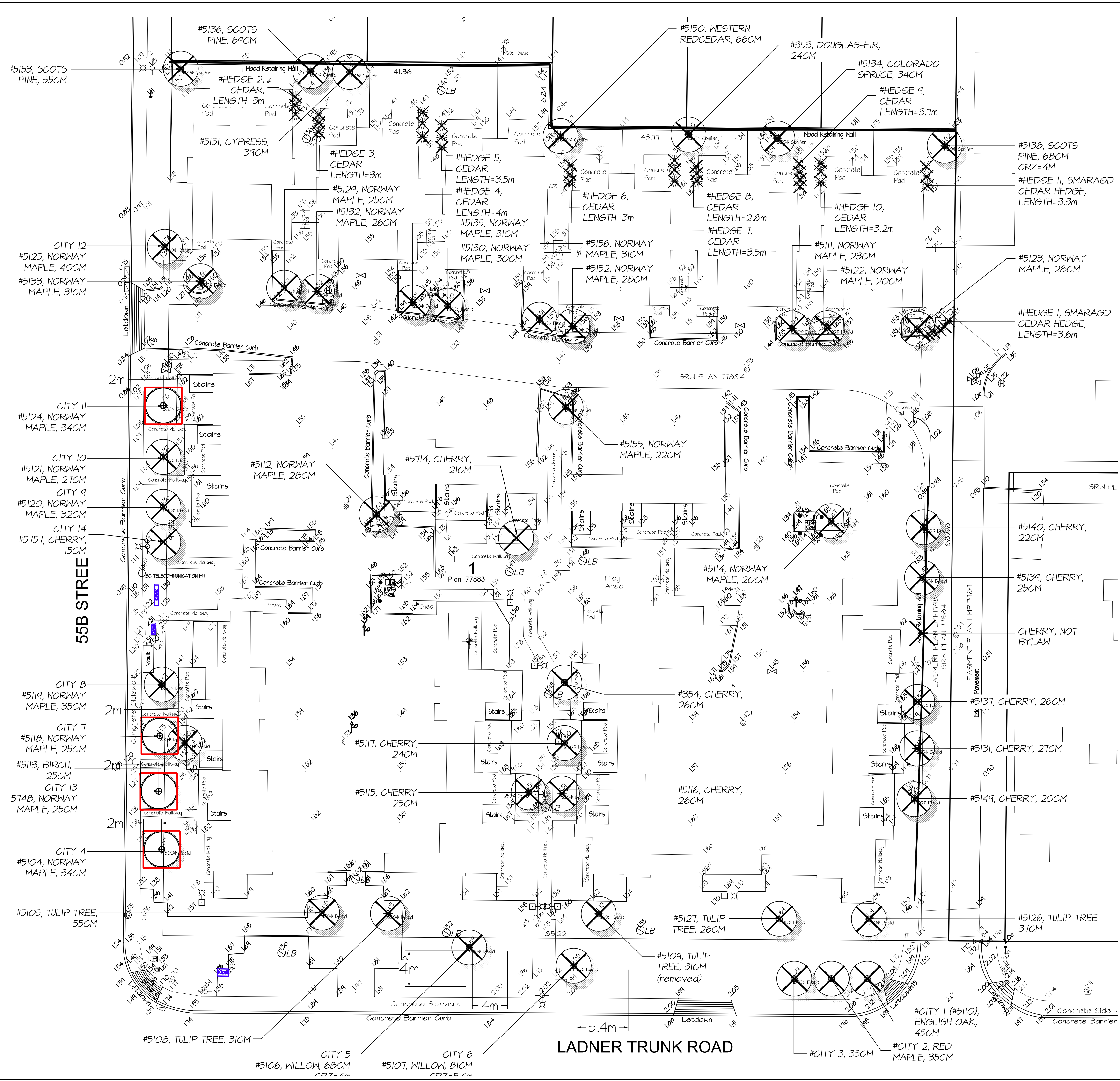
Tree ID #	Botanical Name	Common Name	On Survey Y/N	Location: On, off, Shared, City	DBH (cm)	LCR (%)	Canopy (dia.)	Condition (Structure, Health, TRAQ rating)	Comments	Retention Suitability	Retain/ Remove	Tree Protection Zone (TPZ)
CITY 8 5119	<i>Acer platanoides</i>	Norway maple	Y	City	35	45	10m	Poor condition; poor structure; historically topped at 6m and 7m; poor structure; slight lean / curve to north; canopy is mishapen; trunk flair partially buried; Hydro lines under canopy at west side	Will be critically impacted by proposed walkway installation.	p	Remove	
CITY 9 5120	<i>Acer platanoides</i>	Norway maple	Y	City	32	45	10m	Poor to moderate condition; poor structure; slight lean to south; historically topped at 6m; some dead stubs in canopy; decay suspected; included bark; bricks placed around base; some structural roots visible in turf; old pruning wounds not healed over	Conflict with development	p	Remove	
CITY 10 5121	<i>Acer platanoides</i>	Norway maple	Y	City	27	40	10m	Poor structure; codominant at 3m; included bark; poor pruning in past (stubs remaining); previously topped at 6m; slight curve to south, self-correcting at 2m	Will be critically impacted by proposed walkway installation	p	Remove	
5122	<i>Acer platanoides</i>	Norway maple	Y	On	20	45	6m	Moderate condition; included bark; poor pruning in past (stubs remaining); leaders removed/canopy reduced; some dead wood in canopy; bulging root collar/base of trunk flair - may indicate girdling roots; moss; raised up on curb; in turf; curb at 1.0m to south	Conflicts with development	p	Remove	
5123	<i>Acer platanoides</i>	Norway maple	Y	On	28	55	6m	Moderate condition; slight lean to east; codominant (4 stems at 3.5m); included bark; poor pruning in past (stubs remaining); leaders removed/canopy reduced; raised up on curb; in turf; curb at 1.0m to south	Conflicts with development	p	Remove	
CITY 11 5124	<i>Acer platanoides</i>	Norway maple	Y	City	34	55	10m	Poor branching structure; codominant at 3m; included bark; poor pruning in past (stubs remaining, with dead wood); previously topped at 6m; slight lean to west and south, self-correcting at 2m; structural roots exposed; slight grade slope down to sidewalk		p	Retain	
CITY 12 5125	<i>Acer platanoides</i>	Norway maple	Y	City	40	45	9m	Poor condition; included bark; previously topped at approx. 4m; poor pruning in past (and stubs remaining); leaders removed/canopy reduced; decay noted where three main stems removed at 3.5m; raised up on curb; in turf; curb at 1.0m to south	Will be critically impacted by proposed walkway installation	p	Remove	
5126	<i>Liriodendron tulipifera</i>	Tulip tree	Y	On	37	75	15m	Moderate condition; slight curve in trunk, self-correcting; leader in tact; suppressed; good form; trunk flair visible; in turf; epicormic growth / weak branch at 4m; canopy at 7m above ground	Conflicts with development	p	Remove	
5127	<i>Liriodendron tulipifera</i>	Tulip tree	Y	On	26	70	10m	Good condition; self-corrected leaning west; in compacted soil; damage on east side; CODT	Conflicts with development	p	Remove	
5129	<i>Acer platanoides</i>	Norway maple	Y	On	25	35	8m	Moderate condition; codominant at 2.5m; included bark; thin; dead scaffold branches; girdled roots visible; compacted soil due to foot traffic; main structural root runs above ground to walkway at house; poor pruning in past (stubs remaining); leaders removed/canopy reduced; raised up on curb; in turf; curb at 1.5m to south	Conflicts with development	p	Remove	
5130	<i>Acer platanoides</i>	Norway maple	Y	On	30	40	8m	Moderate condition; moderate structure; codominant at 3m (4 stems); thin canopy; included bark; poor pruning in past (stubs remaining); leaders removed/canopy reduced; structural roots exposed; compacted soil; raised up on curb; in turf; curb at 1.0m to south; electrical box at 2m to north-west	Conflicts with development	p	Remove	
5131	<i>Prunus</i> spp.	Flowering cherry	Y	On	27	40	6m	Poor to moderate condition; slight curve to north, not self-correcting; included bark; dead wood in canopy; poor pruning in the past (stubs remaining); girdled roots; epicormic growth; suckers at base; retaining wall at east (0.6m high)	Conflicts with development	p	Remove	
5132	<i>Acer platanoides</i>	Norway maple	Y	On	26	40	8m	Moderate condition; codominant at 3m; included bark; poor pruning in past (stubs remaining); leaders removed/canopy reduced; dead scaffold branches; exposed structural roots; compacted soil due to foot traffic; raised up on curb; in turf; curb at 1.0m to south; fire hydrant at 1.5m to east	Conflicts with development	p	Remove	
5133	<i>Acer platanoides</i>	Norway maple	Y	On	31	50	12m	Poor to moderate condition; thin; canopy biased to east, slight lean to east; included bark; structural root exposed at north-west; poor pruning in past (stubs remaining); leaders removed/canopy reduced; raised up on curb; in turf; curb at 1.0m to south, east and west; <i>Prunus</i> spp. hedge at north-west	Conflicts with development	p	Remove	
5134	<i>Picea pungens</i> 'Glauca'	Blue Colorado spruce	Y	On	34	70	8m	Moderate to good condition; moderate structure; leader in tact; sparse on north side; slight curve to south, self-correcting at 3m; fence at 1.0m to north; canopy at 4m; lower limbs dead	Conflicts with new road	p	Remove	

ARBORIST TREE TABLE

Tree ID #	Botanical Name	Common Name	On Survey Y/N	Location: On, off, Shared, City	DBH (cm)	LCR (%)	Canopy (dia.)	Condition (Structure, Health, TRAQ rating)	Comments	Retention Suitability	Retain/ Remove	Tree Protection Zone (TPZ)
5135	<i>Acer platanoides</i>	Norway maple	Y	On	28	45	8m	Poor condition; thin canopy/sparse; included bark; slight lean to west, not self-correcting; poor pruning in past (stubs remaining); leaders removed/canopy reduced; stressed; compacted soil; structural roots exposed; yellowing leaves; raised up on curb; in turf area; curb at 1.0m to south; electrical box at 2.5m to north-east	Conflicts with development	p	Remove	
5136	<i>Pseudotsuga menziesii</i>	Douglas-fir	Y	On	69	80	20m	Moderate condition; codominant at 3m; included bark; inside wooden makeshift retaining wall (planter bed) with perennials; lopped branches; no access	Conflicts with new road	p	Remove	
5137	<i>Prunus</i> spp.	Flowering cherry	Y	On	26	40	8m	Poor to moderate condition; slight lean to south and west, not self-correcting; poor pruning in past (stubs remaining); decay noted on stubs and decay in cavity on branch at south side	Conflicts with development	p	Remove	
5138	<i>Pinus sylvestris</i>	Scots pine	Y	On	68	70	10m	Moderate condition; codominant at 3m (3 large stems 40+ cm diameter); included bark; trunk flair partially buried; canopy at 6m; canopy biased to south; lopped (and dead) lower branches on east side	Causing maintenance issue on neighbour's property.	m-g	Remove	4m
5139	<i>Prunus</i> spp.	Flowering cherry	Y	On	25	40	7m	Poor to moderate condition; curving trunk, self-correcting at 3m; epicormic growth; suckers at base; some dead wood; decay noted at old pruning wounds; trunk flair partially buried; stubs remaining from poor pruning in past; girdling roots noted; wooden retaining wall (0.25m to east) at 0.5m high	Conflicts with development	p	Remove	
5140	<i>Prunus</i> spp.	Flowering cherry	Y	On	22	40	6m	Poor to moderate condition; slight curve to north-east; some dead wood; girdled roots; on top of wooden retaining wall (0.25m to east) at 0.3m high	Conflicts with development	p	Remove	
5149	<i>Prunus</i> spp.	Flowering cherry	Y	On	20	40	9m	Poor to moderate condition; light curve to east; included bark; poor pruning in past (stubs remaining); torn branch; girdled roots; suckers at base; retaining wall at 0.25m to east (0.3m high)	Conflicts with development	p	Remove	
5150	<i>Thuja plicata</i>	Western redcedar	Y	On	66	80	10m	Moderate condition, recovering from previous drought stress, good structure; trunk flair partially buried; lower branches lopped; retaining wall found on north side of trunk, limited roots on neighbouring property, will be significantly impacted by proposed new road.	Conflicts with new road	p	Remove	
5151	<i>Chamaecyparis lawsoniana</i>	Lawson's cypress	Y	On	39	50	8m	Poor condition and structure; stripped bark on south-east side to 4m; previously topped at 5m; decay/ dead wood on trunk; large lateral branch contains foliage; canopy biased to north	Poor condition and structure / conflicts with new road	p	Remove	
5152	<i>Acer platanoides</i>	Norway maple	Y	On	28	50	8m	Moderate condition; included bark; poor pruning in past (stubs remaining); leaders removed/canopy reduced; dead centre stem; decay noted (dead stub in centre on canopy); raised up on curb; girdled root - in retained area, with 2 rocks; curb at 1.0m to south	Conflicts with development	p	Remove	
5153	<i>Pinus sylvestris</i>	Scots pine	Y	On	55	80	18m	Moderate condition; historically topped at 7m; poor structure; dead lower scaffold branches; curve in trunk to south, self-correcting at 4m; canopy biased to south; clearance pruned at west side for Hydro	Conflicts with new road	p	Remove	
5155	<i>Acer platanoides</i>	Norway maple	Y	On	29	40	8m	Trunk curves to west, self-correcting at 4m; included bark; poor pruning in past (some stubs remaining); possible girdling roots; concrete sidewalk located at less than 0.25m to south and west		p	Remove	
5156	<i>Acer platanoides</i>	Norway maple	Y	On	31	50	8m	Moderate condition; poor to moderate structure; included bark; poor pruning in past (stubs remaining); dead stubs in canopy; leaders removed/canopy reduced; root collar wrapped with black fabric cloth (visible); compacted soil; raised up on curb; in turf; curb at 1.0m to south	Conflicts with development	p	Remove	
5714	<i>Prunus</i> spp.	Flowering cherry	N	On	21	35	9m	Poor to moderate condition, natural crown form but sparse, poor pruning in past (stubs remaining), moderate decay on trunk, next to concrete walkway.	Conflict with development	p	Remove	
CITY 13 5748	<i>Acer platanoides</i>	Norway maple	N	City	19	55	7m	Single stem, under hydro line, frequently topped for hydro line clearance, moderate condition, next to concrete walkway.		m	Retain	
CITY 14 5757	<i>Prunus</i> spp.	Flowering cherry	N	City	15	40	8m	Single stem, previously topped for hydro clearance, poor structure, moderate decay, young.	Conflict with proposed access road	p	Remove	

ARBORIST TREE TABLE

Tree ID #	Botanical Name	Common Name	On Survey Y/N	Location: On, off, Shared, City	DBH (cm)	LCR (%)	Canopy (dia.)	Condition (Structure, Health, TRAQ rating)	Comments	Retention Suitability	Retain/ Remove	Tree Protection Zone (TPZ)
CITY 1 5110	<i>Quercus robur</i>	English oak	N	City	45	35	6m	Poor condition and structure; on large limb that makes up main canopy is biased to north-east; historically topped at 5m; under Hydro wires; clearance pruned on south side; prolific dead wood; dead scaffold branches; suckering Norway maple at base; growing in a 'well' with corrugated metal retaining wall on south side (where grade is higher at road); grade at base of tree is 1.0m lower than sidewalk; surrounded by fencing	Regrading requirements	p	Remove	
CITY 2	<i>Acer rubrum</i>	Red maple	N	City	35	60	15m	Poor to moderate condition; canopy biased to north; clearance pruned; growing in a 'well' with corrugated metal retaining wall on south side (where grade is higher at road); grade at base of tree is 1.0m lower than sidewalk; surrounded by fencing	Regrading requirements	p	Remove	
CITY 3	<i>Crataegus</i> spp.	Hawthorn	Y	City	25	40	6m	Poor structure; lean to east; large sumac growing at west side; clearance pruned; growing in a 'well' with corrugated metal retaining wall on south side (where grade is higher at road); grade at base of tree is 1.0m lower than sidewalk; surrounded by fencing	Regrading requirements	p	Remove	
HEDGE 1	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On		80	1m	Not bylaw size; 4m tall; 6m long; moderate condition; pruned sides and top; brown foliage at sheared areas	3.6M long	p	Remove	
HEDGE 2	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On		70	2m	Not bylaw size; suppressed; thin (sgrowing in shaded yard)	3M long	p	Remove	
HEDGE 3	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On		70	3m	Not bylaw size; suppressed; thin (sgrowing in shaded yard)	3m long	p	Remove	
HEDGE 4	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On		70	3m	Not bylaw size; 5m tall	4m long	p	Remove	
HEDGE 5	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On		70	3m	Not bylaw size; 5m tall	3.5M long	p	Remove	
HEDGE 6	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On		70	2m	Not bylaw size; 2.5m tall; poor to moderate condition	3M long	p	Remove	
HEDGE 7	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On			3m	Not bylaw size; 7m tall; sheared on sides, loose on top	3.7M long	p	Remove	
HEDGE 8	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On			3m	Not bylaw size; 6m tall; sheared on sides, loose on top	2.8M long	p	Remove	
HEDGE 9	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On			3m	Not bylaw size; poor to moderate condition; sheared on south side; brown foliage at south end; one dead stem	3.7M long	p	Remove	
HEDGE 10	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On			2m	Not bylaw size; moderate condition; sheared on south side (brown foliage); sheared sides and loose on top	3.2M long	p	Remove	
HEDGE 11	<i>Thuja occidentalis</i> 'Smaragd'	Smaragd cedar hedge	Y	On			2m	Not bylaw size; 2m tall; neatly pruned on top and sides loose	3.3M long	p	Remove	



KEY PLAN

TREE TO RETAIN

TREE TO REMOVE

CRITICAL ROOT ZONE

TREE PROTECTION FENCE

ARBORIST NOTES:

TREE PROTECTION BARRIERS SHALL BE INSTALLED PRIOR TO SITE CLEARING OR ANY SITE WORK. TREE PROTECTION BARRIERS SHALL BE MAINTAINED DURING SITE CLEARING AND CONSTRUCTION. KEEP AREA WITHIN OR AGAINST PROTECTION BARRIER CLEAR OF DEBRIS AND MATERIALS. DO NOT DISTURB EXISTING GRADES WITHIN TREE PROTECTION AREA FOR RETAINED TREES. THE DEVELOPER IS RESPONSIBLE FOR MAINTENANCE WITHIN TREE PROTECTION BARRIERS.

RETAINED TREES TO BE WATERED AND MITIGATION REQUIREMENTS OBSERVED AT THE DIRECTION OF THE PROJECT ARBORIST.

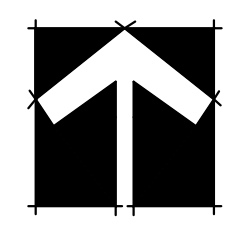
ARBORIST SHALL BE CONTACTED WITH 48-HRS NOTICE TO SUPERVISE ANY WORK WITHIN 2.0M OF TREE PROTECTION ZONES. NO EXCAVATION OR TRENCHING WITHIN TPZ AREA IS PERMITTED. ANY DISRUPTION OR PLANTING WITHIN TREE PROTECTION AREA IS TO BE SUPERVISED BY THE PROJECT ARBORIST.

PROJECT ARBORIST SHALL DIRECT AND SUPERVISE ALL WORK WITHIN 2.0M OF TPZ'S.

©Copyright reserved. This drawing and design is the property of M2 Landscape Architects and may not be reproduced or used for other projects without their permission.



#220 - 26 Lorne Mews
New Westminster, British Columbia
V3M 3L7
Tel: 604.553.0044
Fax: 604.553.0045
Email: office@m2la.com



NO.	DATE	REVISION DESCRIPTION	DR.
5	16 NOV 23	TREE SIGN UPDATED TO BE REMOVED	XB
4	22 APR 22	REVISION PER CITY COMMENTS	XB
3	04 SEP 21	REVISION PER NEIGHBOUR'S REQUEST	XB
2	17 JUNE 21	REVISION AS PER NEW SITE PLAN	XB
1		CITY COMMENTS	
1	21 APR 20	REVISION AS PER NEW SITE PLAN	XB

SEAL:

PROJECT:

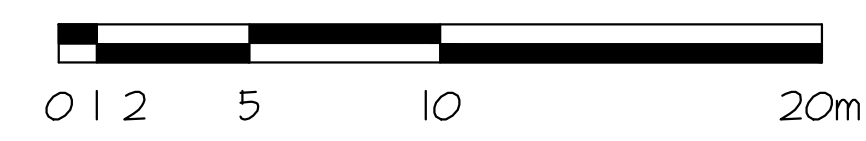
LADNER WILLOWS
5625 LADNER TRUNK RD.
DELTA, BC.

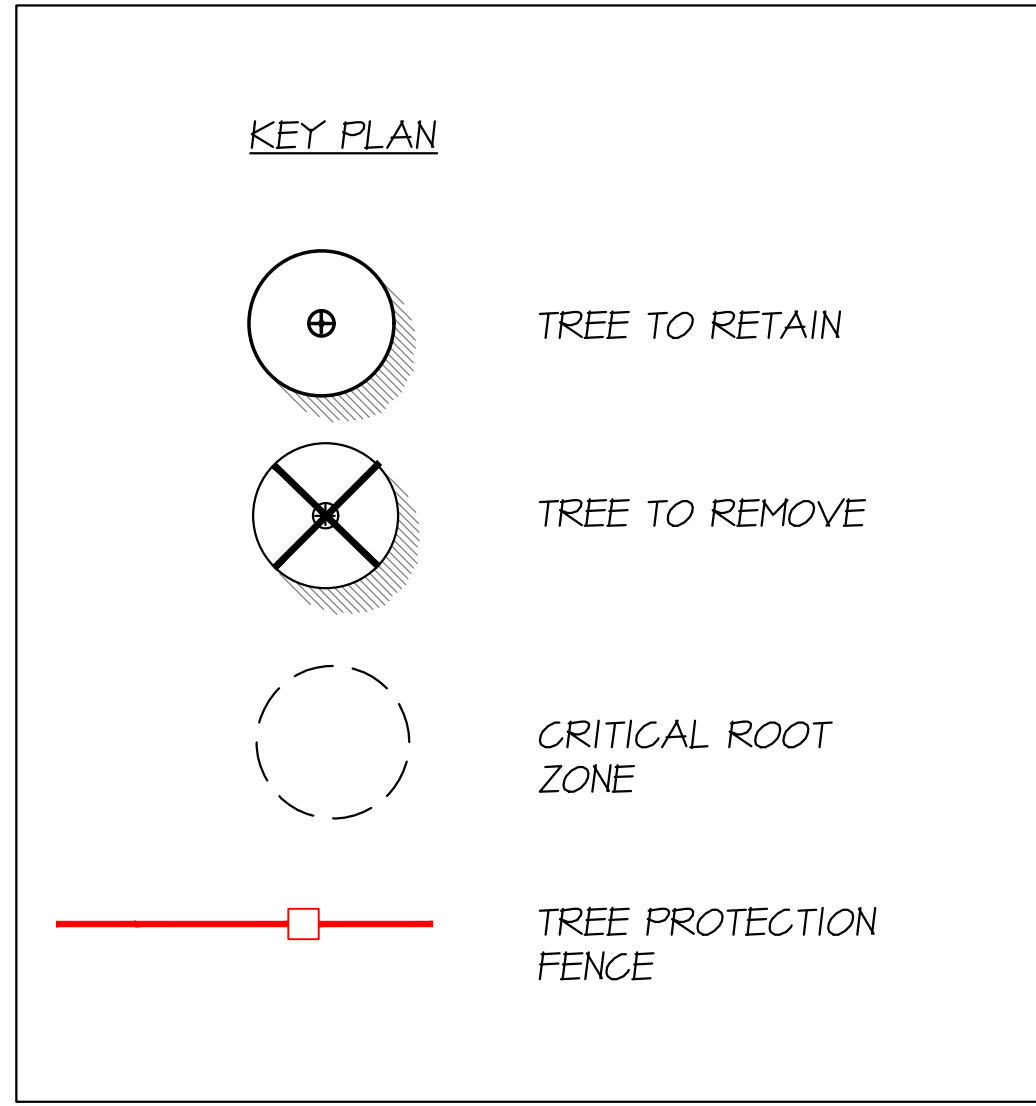
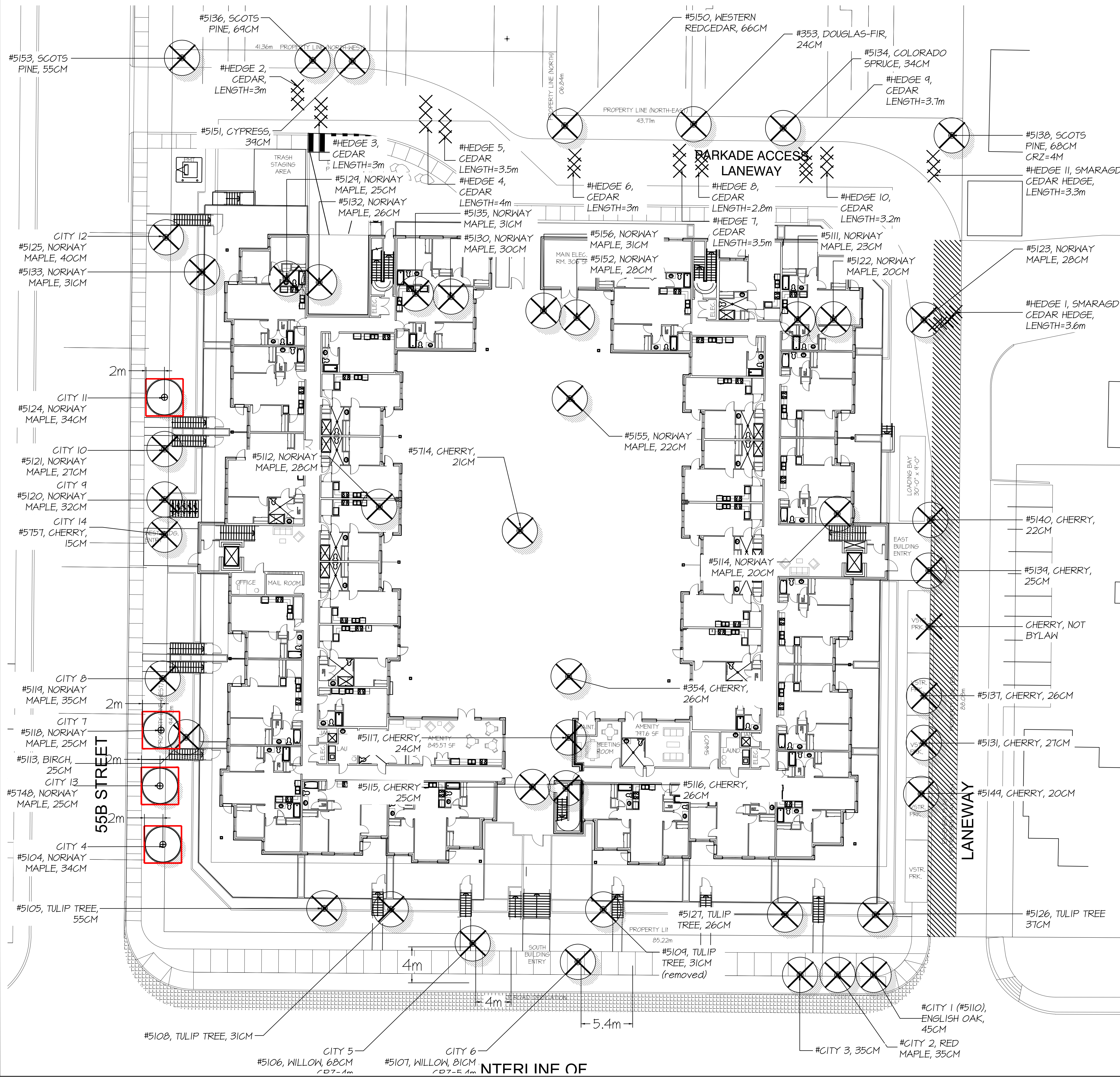
DRAWING TITLE:

**ARBORIST
PLAN**

DATE: 10 MAY 19
SCALE: 1:200
DRAWN: EB
DESIGN: -
CHK'D: MM

DRAWING NUMBER:
L1arb
OF 2





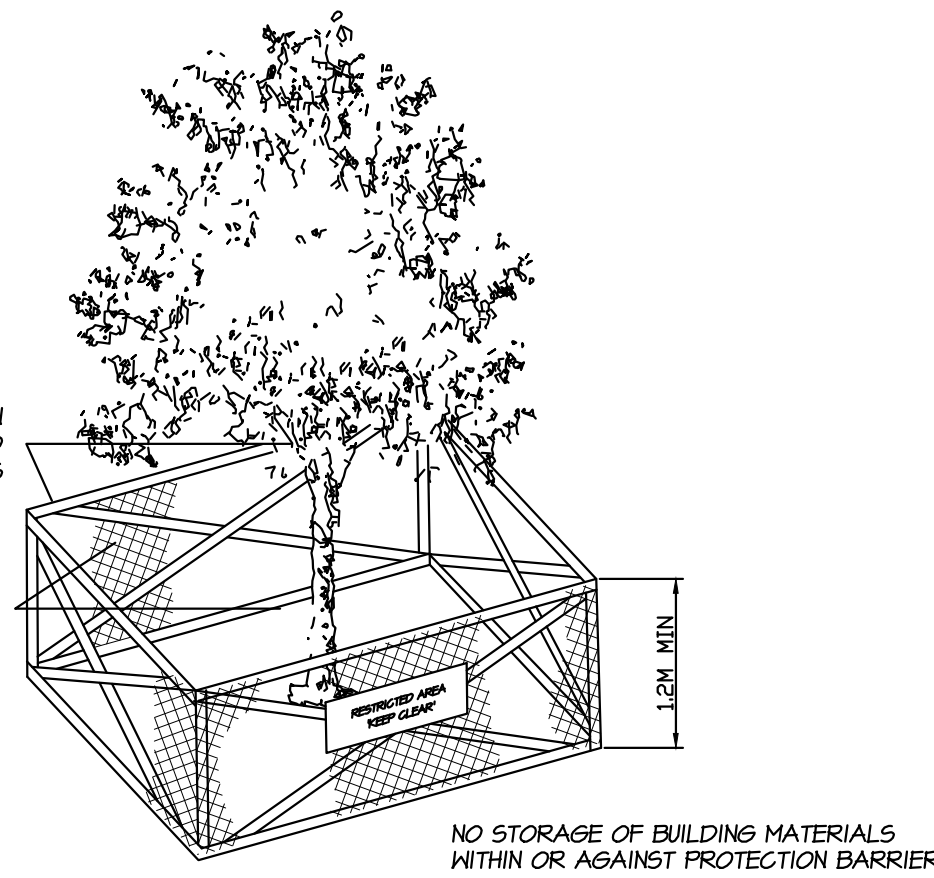
ARBORIST NOTES:

TREE PROTECTION BARRIERS SHALL BE INSTALLED PRIOR TO SITE CLEARING OR ANY SITE WORK. TREE PROTECTION BARRIERS SHALL BE MAINTAINED DURING SITE CLEARING AND CONSTRUCTION. KEEP AREA WITHIN OR AGAINST PROTECTION BARRIER CLEAR OF DEBRIS AND MATERIALS. DO NOT DISTURB EXISTING GRADES WITHIN TREE PROTECTION AREA FOR RETAINED TREES. THE DEVELOPER IS RESPONSIBLE FOR MAINTENANCE WITHIN TREE PROTECTION BARRIERS.

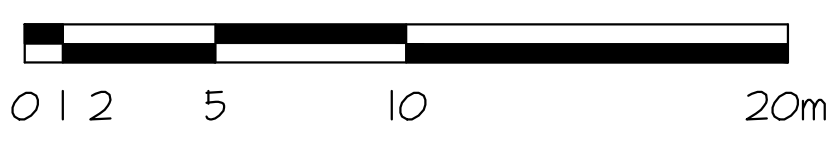
RETAINED TREES TO BE WATERED AND MITIGATION REQUIREMENTS OBSERVED AT THE DIRECTION OF THE PROJECT ARBORIST.

ARBORIST SHALL BE CONTACTED WITH 48-HRS NOTICE TO SUPERVISE ANY WORK WITHIN 3.0M OF TREE PROTECTION ZONES. NO EXCAVATION OR TRENCHING WITHIN TPZ AREA IS PERMITTED. ANY DISRUPTION OR PLANTING WITHIN TREE PROTECTION AREA IS TO BE SUPERVISED BY THE PROJECT ARBORIST.

PROJECT ARBORIST SHALL DIRECT AND SUPERVISE ALL WORK WITHIN 3.0M OF TPZ'S.



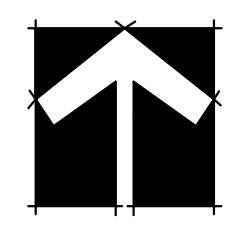
1 TREE PROTECTION BARRIER
N.T.S.



©Copyright reserved. This drawing and design is the property of M2 Landscape Architects and may not be reproduced or used for other projects without their permission.



#220 - 26 Lorne Mews
New Westminster, British Columbia
V3M 3L7
Tel: 604.553.0044
Fax: 604.553.0045
Email: office@m2la.com



NO.	DATE	REVISION DESCRIPTION	DR.
5	16 NOV 23	TREE SIGN UPDATED TO BE REMOVED	XB
4	22 APR 22	REVISION PER CITY COMMENTS	XB
3	04 SEP 21	REVISION PER NEIGHBOUR'S REQUEST	XB
2	17 JUN 21	REVISION AS PER NEW SITE PLAN	XB
1		CITY COMMENTS	
1	21 APR 20	REVISION AS PER NEW SITE PLAN	XB

SEAL:

PROJECT:

LADNER WILLOWS
5625 LADNER TRUNK RD.
DELTA, BC.

DRAWING TITLE:

**TREE
MANAGEMENT
PLAN**

DATE: 10 MAY 19
SCALE: 1:200
DRAWN: EB
DESIGN: -
CHK'D: MM

DRAWING NUMBER:
L2arb
OF 2

M2LA PROJECT NUMBER: 19-032

M2 JOB #19032-06.zip