KLIMO & ASSOCIATES

CERTIFIED ARBORIST REPORT

PROJECT LOCATION:
1675 Pitt Rd, Port Coquitlam

PREPARED FOR:
Inderjit Khangura

PREPARED BY:
Klimo & Associates Ltd.
5565 15B Ave
Delta BC, V4M 2H2

Metro West IMBL **#20020981**
Fraser Valley IMBL **#20020982**

August 29, 2022
1st revision done on May 26, 2023
2nd revision done on July 25, 2023

Francis Klimo
ISA Certified Arborist
ISA Certified Tree Risk Assessor
BC Wildlife Danger Tree Assessor

1.0 SCOPE OF WORK

Klimo & Associates Ltd. was contracted by Inderjit Khangura to prepare an Arborist report along with a Tree assessment and Tree management plan in order to support a two (2) lot subdivision application for the project address located at 1675 Pitt River Rd, Port Coquitlam.

The objective of this assessment and report is to identify all on/off-site trees that could be impacted by the construction project and to ensure that the management of trees are following the City of Port Coquitlam "Tree Bylaw, 2019, No. 4108" and "Best Management Practices". We conducted our field inspections on August 29, 2022, at around 12:30pm. Our scope of work was to identify all key trees located within the proposed working limits and off-site areas of the construction project, assess & document their condition, and recommend measures to either protect the retained trees or to prescribe their removals.

1.1 Limits of assignment

- Our investigation is based solely on visual inspection of the trees on August 29, 2022, and the analysis of photos taken, and tree diagnosis gathered during the inspection.
- Our inspection was conducted from ground level. We did not conduct soil tests or below grade root examination to assess the condition of the root system of the trees.
- We conducted a level 2 assessment.
- Overcast, no adverse weather conditions.

1.2 Purpose and use of the report

- Meet municipal criteria for Arborist report submissions and to provide documentation pertaining to the management of on/off-site trees in order to supplement the proposed two (2) lot subdivision application being submitted to the City of Port Coquitlam for the project address located at 1675 Pitt River Rd.

2.0 SITE ANALYSIS / PROPOSAL

The project site encompasses over one (1) individual lot with an overall area measuring over 840 (approx.) square meters and located within its site limits, an existing single-family dwelling had been examined to be occupying within the limits of the site. Observing the overall property, the lot was examined to be bounded by residential lots spanning along its northern and southern site boundary lines, along with the rear laneway spanning along its southern (rear) P/L, and along with Pitt River observed to be fronting the property. A proposal has been set forward to create two (2) new parcels along with a single-family dwelling being constructed within the limits of each lot.

The identified trees were examined to be populating within the on-site areas of the property and were observed to have consisted of mature coniferous species dominating towards the rear section of the property. Within the remaining areas of the lot, an open and clear topography had been examined towards its rear section. Towards the frontage of the property, two (2) mature coniferous species had been identified as part of the existing landscape.

Figure 1 - Location of subject site - 1675 Pitt River Rd, Port Coquitlam

3.0 TREE ASSESMENT PROCESS

Our tree inspection process is a systematic procedure for accurately identifying and cataloging trees. Using the site survey as a reference to their locations and the proposed site plans provided by the project planners detailing the proposed development, the specifications to our Tree Protection Requirements were able to be accurately completed. In using the information of the proposed construction requirements, we have produced accurate findings to our recommendations to ensure the use of proper tree protection during the construction phase and as applicable, prescribing tree removal recommendations.

Our assessment of the on-site and off-site trees consists of gathering and documenting sizes (*DBH, Height, and Crown spread*), condition, species, location, growth form, and other site factors. The data collected has been documented into the inventory in order to convey the identified trees into a simple format. In addition, accurate tree preservation measures could be implemented for the optimal retention and protection of trees throughout the duration and up to the completion of the construction project.

3.1 Health and structure rating

Basic definitions of the general tree health in regard to the documented trees within the report has been separated based upon the total amount of trees broken up into five (5) defined categories as outlined in the table below:

Table 1 - Health and structure rating summary table

Rating	Retention Suitability	Definition	Total Trees
Good	Suitable	A healthy, vigorous tree, reasonably free of disease, with good structure and form typical of the species.	**4**
Fair / Good	Suitable	Tree is growing well for its species. No overt or identifiable significant defects, and is well suited for retention.	
Fair	Marginal	Subject tree that has an average vigour for its species. Small amount of twig dieback, minor structural defects that could be corrected.	**2**

4.0 SUMMARY OF FINDINGS

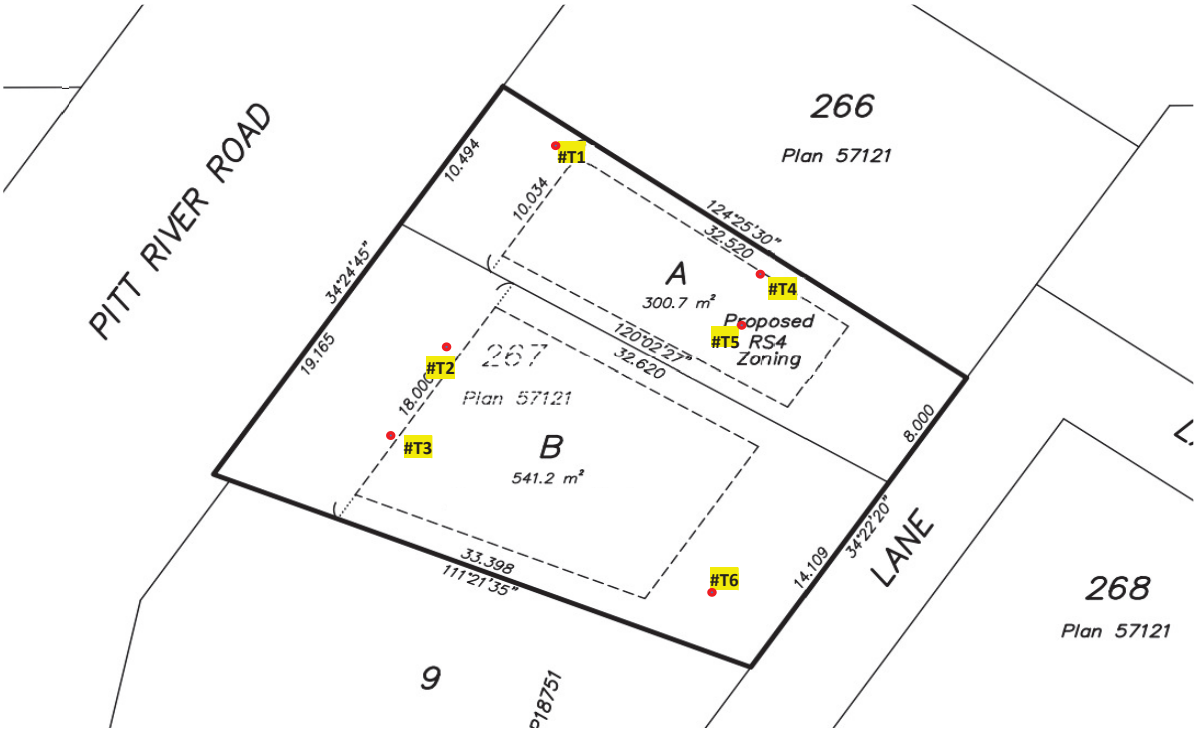
On August 29, 2022, Klimo & Associates Ltd. had conducted a site visit & visual inspection of all trees located on and off-site. A total of six (6) trees were identified and had consisted of five (5) types of species. The identified trees were measured to have an average DBH of 40cm to 180cm and overall, the subject trees had ranged from being in fair to good in condition.

The majority of the identified trees along with the hedge were examined to be in conflict with the proposed development as they had fallen within the limits of the proposed construction and of its high disturbance requirement areas pertaining to the lot grading, building footprint, & of the site servicing related works.

On-site (*Development site*)	City (*Trees on City lot*)	Off-site (*Privately owned trees*)	Total Tree(s)	Total Hedge(s)	
6			**6**		
4			**4**		**Remove**
2			**2**		**Retain**

Deciduous Tree(s)				Coniferous Tree(s)				Hedge(s)	
Maple	1			Western redcedar	2	Giant redwood	1		
				Sawara cypress	1	Norway spruce	1		
Total	**1**			**Total**	**5**			**Total**	

5.0 SITE MAP


PITT RIVER ROAD
266
Plan 57121
#T1
10.494
10.034
124°25'30"
32.520
A
300.7 m²
#T4
Proposed
#T5 RS4
Zoning
34°24'45"
19.165
120°02'27"
32.620
#T2
267
Plan 57121
18.000
#T3
B
541.2 m²
8.000
33.398
111°21'35"
#T6
14.109
34°22'20"
LANE
268
Plan 57121
9
P18751

6.0 ON-SITE TREE INVENTORY

Table 1 - Off-site Tree Inventory
Klimo & Associates Ltd.
August 29, 2022
1675 Pitt River Rd, Port Coquitlam

ID#	Surveyed Y/N	On-site (ON) Off-site (OF) City (C)	Common name	Botanical name	DBH (cm)	LCR (%)	Canopy (Dia. M)	Condition	Comments	Retention Suitability	Retain / Remove	TPZ (m)
T1	No	On-site	Sawara cypress	Chamaecyparis	71	75	8	Subject tree was examined to have developed a co dominant stemmed structured overall growth form along with having a deeply. imbedded union. Crown growth was observed. to have developed in common with its species. No other major defects and or signs of stress were to be examined. Subject tree is in fair to good condition.	Subject tree falls towards the edge of the proposed construction works occurring along the frontage of the lot and will be within the zone of the heaviest site disturbance & excavation related activities.	Marginal	Remove	4.2
T2	No	On-site	Western redcedar	*Thuja plicata*	110	80	8	Mature coniferous tree situated along the frontage of the lot. The overall growth of the subject tree was examined to have developed an overall growth in common with its species. The subject tree was observed to have a single stemmed structured growth form. Subject tree is in good condition.	Place Tree Protection barriers to protect its trunk, roots, and structure. Arborist supervision will be required during the excavation of the main dwelling, the placement of the walkway and the services connection.	Suitable	Retain	6.6
T3	No	On-site	Western redcedar	*Thuja plicata*	116	80	9	Mature coniferous tree situated along the frontage of the lot. The overall growth of the subject tree was examined to have developed an overall growth in common with its species. The subject tree was observed to have a single stemmed structured growth form. Subject tree is in good condition.	Place Tree Protection barriers to protect its trunk, roots, and structure. Arborist supervision will be required during the excavation of the main dwelling, the placement of the walkway and the services connection.	Suitable	Retain	7.0
T4	No	On-site	Norway spruce	*Picea abies*	60	75	6	Situated alongside an existing retaining wall. The overall growth of the subject tree was examined to have developed an overall crown spread towards the north. No other major defects and or signs of stress were to be examined. Subject tree is in fair condition.	Subject tree falls towards the edge of the proposed building footprint and will be within the zone of the heaviest construction & excavation related activities.	Marginal	Remove	3.6
T5	No	On-site	Giant redwood	*Sequoiadendron giganteum*	78/71	85	6	Mature coniferous tree developing along the existing retaining wall. The overall growth of the subject tree was examined to have developed a co dominant structured base along with both stems having.	Subject tree falls towards the edge of the proposed building footprint and will be within the zone of the	Suitable / Marginal	Remove	8.9

								phototropic influenced growth form. The growth of the canopy was observed to be healthy. Subject tree is in fair to good condition.	heaviest construction & excavation related activities.			
T6	No	On-site	Maple	*Acer*	11/13 /23	75	6	The overall growth of the subject tree was examined to have developed in common with its species. The overall crown was observed to have developed an overall crown spread in a symmetrical growth form. Subject tree is in good condition.	Subject tree falls towards the edge of the proposed garage envelope and will be within the zone of the heaviest construction & excavation related activities.	Suitable	Remove	2.8

7.0 TREE RETENTION / REMOVAL RECOMMENDATIONS

A total of **six (6) trees** have been found within the limits of the construction project. Based on the factors that include the pre-existing condition of the subject trees as detailed in the Tree inventory, and of the proposed building footprint, the subject trees are proposed to be treated as follows.

TREE RETENTION

Pursuant to the City of Port Coquitlam "*Tree Bylaw, 2019, No. 4108*", the following tree(s) are recommended for Retention as detailed in the Tree Inventory and recommendations as noted below. Information regarding specific recommendations can be found below each of the categorized point and further referenced within the attached Tree Management Plan and within the body of the Arborist report.

On-site Tree(s) Selected for Retention,

- **Retained tree(s)**

  For the duration of the construction project, **on-site tree #T2 and T#3** has been recommended to be retained throughout the construction process. As the protected trees were examined to be situated near the limits of the proposed construction, the subject trees will require the placement of Tree Protection Barriers in order to protect their trunks, roots, and structures.

  The placement of Tree Protection Barriers would be required to be placed along their drip lines or to their specified measurements as outlined within the Tree Inventory (*TPZ Column*) or as per the attached Tree Management Plan and left throughout the duration of the construction project.

Arborist Supervision Requirements - Placement of the Walkway

- **Placement of the new walkway (*perimeter*)**

  The proposed walkway required to be installed as part of the perimeter pathway for the main dwelling would encroach into the **TPZ of tree T#2 and T#3**. In order to limit the amount of grade disturbances occurring within the TPZ, the installation of the walkway is required to be performed under Arborist supervision and constructed on undisturbed grade.

  - **Walkway placement methodology,**

    The walkways installation would require to be constructed on undisturbed grade and has been proposed to be constructed of interlocking pavers along with a geogrid textile placed as its base. In order to limit the amount potential disturbance occurring within the TPZ(s) of the subject trees, no major excavation/grading would be allowed when encroaching into the TPZ or near the TPB enclosure of the protected tree. No major compaction of the subgrade is to occur and no heavy equipment would be allowed to encroach into the TPZ throughout the construction/landscaping process.

Arborist Supervision Requirements - Excavation & Construction Requirements

- **Excavation requirements for the accessory building**

  Minor encroachment of the excavation process for the accessory building is expected to encroach into the **TPZ of tree #2 and tree #3**. Due to the encroachment, Arborist supervision will be required during the excavation process. In order to limit the amount of disturbance occurring within the TPZ of the subject tree, the line of excavation to be remediated in order to avoid the desiccation of roots (*If roots are exposed & by following further remedial measures as outlined by the project post excavation*).

- **Excavation & construction requirements for the main dwelling,**

  Encroachment of the excavation process for the main dwelling is expected to encroach into the **TPZ of tree #2 and tree #3**. Due to the encroachment, Arborist supervision will be required during the excavation process and in order to limit the amount of disturbance occurring within the TPZ(s) of the subject trees, the foundation lines located along their TPZ(s) would be required to have **"*L - Shaped Footings*"** along with **"*vertical shoring*"** being implemented in order to limit the extent of the excavation requirements.

Arborist Supervision Requirements - Service/Utility connections

- **Service connections**
  The proposed service connections will have to be connected by using a common trench and as the trenching path would fall within the **TPZ of tree #2 and tree #3**, the site servicing work is required to be performed under the project Arborists supervision with approvable methods that are the least invasive towards the protected tree. (*Methods such as using a Hydro vac or manual excavation when trenching through the TPZ would be required - while following root pruning & remedial measures*)

  - **Service connection (*trenching path*) near tree(s)**
    Depending upon the trenching path, encroachment into the TPB enclosures of the subject trees would be expected. Trenching through the TPZ(s) is recommended to be performed by hand or hydro vac and if roots are exposed during the trenching work, Root pruning performed by the project Arborist while using sharp, appropriate tools, namely bypass pruners (*loppers*) or a saw and pruning cuts must be made at 90 degrees to the direction of the root. This minimizes the surface area exposed to pathogens and encourages healthy new root growth from the end of the cut root.

TREE REMOVAL

Pursuant to the City of Port Coquitlam "Tree Bylaw, 2019, No. 4108", the following tree(s) are recommended for removal as per the following sections or as detailed in the report.

On-site Tree(s) Selected for Removal,

- **Proposed Lot grading & building envelope conflicts,**
  On-site trees #T4 and #T5 will be in direct conflict with the proposed development as the subject tree would fall within the footprint of the proposed building footprint (*proposed building envelope*) and would be in direct conflict with the site preparation & its excavation related requirements occurring within the limits of the site. The subject tree would fall within an area of high disturbance requirements related to the subdivision project that would result in root loss & stability impacts.

- **Conflicts with the proposed garage envelopes,**
  On-site tree #T6 will be in direct conflict with the proposed development as the subject trees would fall towards the edge of the proposed garage envelopes and would be located within an area requiring the heaviest excavation & grading related requirements. The subject trees would be impacted and become structurally destabilized during the construction works as they would fall within an area requiring the heaviest grade disturbances related to the construction of the new garage.

- **Conflicts with the proposed building footprint & frontage construction works,**
  On-site trees #T1, will be in direct conflict with the proposed development as the subject trees would fall towards the edge of the proposed building footprint and would be located within an area requiring the heaviest excavation & grading related requirements. The subject trees would also be impacted and become structurally destabilized during the construction works as they would fall within an area requiring the heaviest grade disturbances related to the dwellings and of its site servicing requirements occurring along the frontage of the property.

8.0 SITE PHOTOS

Photo 1 - Facing towards the frontage of the lot and of on-site trees #T1, #T2, and #T3

Photo 2 Facing towards the lower trunks of on-site trees #T2 and #T3

Northern Section of the Property - Photos

Photo 3 - Facing towards the on-site tree #T1.

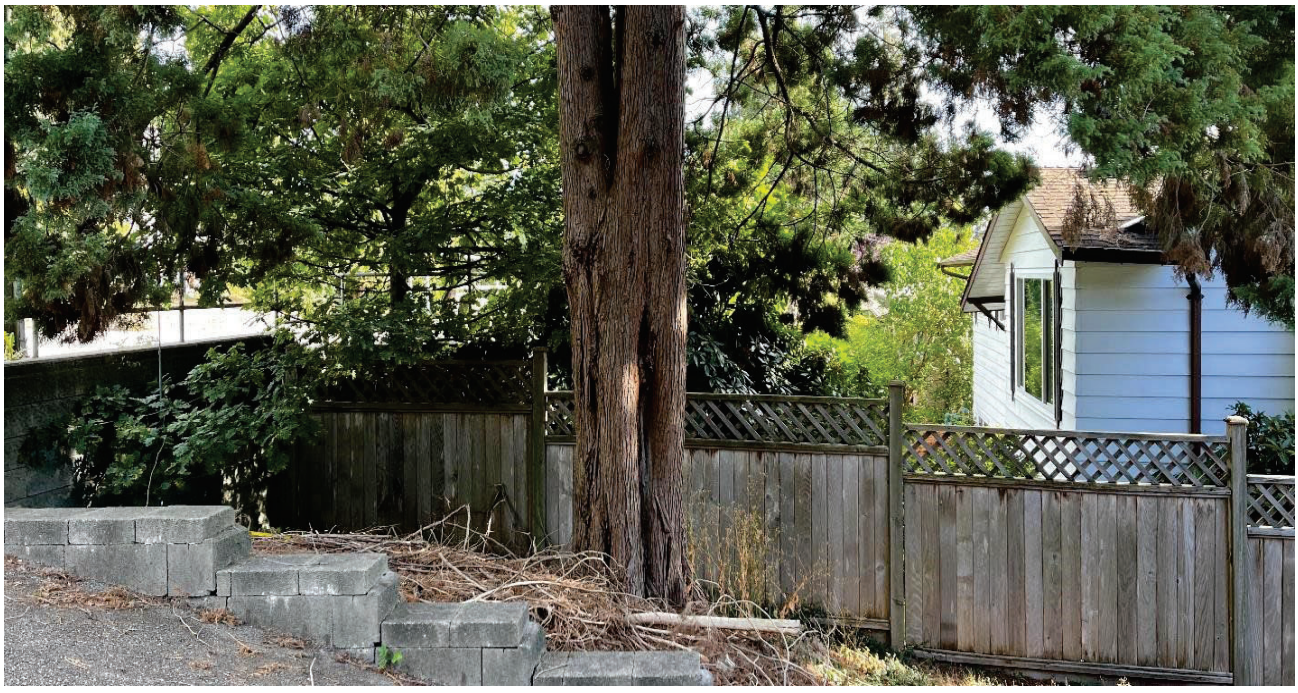


Photo 4 Facing towards the lower trunk of on-site tree #T1.

Rear Section of the Property - Photos

Photo 5 - Facing towards on-site trees #T4 and # T5.

Photo 6 Facing towards on-site tree #6.

9.0 TREE PROTECTION BARRIER

Tree Protection Barrier Summary						
Tree number (*species*)	DBH (cm)	Minimum tree protection barrier Radial span (m)		Tree number (*species*)	DBH (cm)	Minimum tree protection barrier Radial span (m)
T2	110	6.6		T3	116	7.0

All trees identified above will require tree protection barriers to protect and prevent the tree trunk, branches and roots being damaged by any construction and of its related activities/operations. Prior to any construction activity on site, tree protection fences must be constructed at the specified distance from the tree trunks. The protection barrier or temporary fencing must be at least 1.2 m in height and constructed of 2 by 4 lumber with orange plastic mesh screening. Structure must be sturdy with vertical posts driven firmly into the ground. This must be constructed prior to excavation or construction and remain intact throughout the entire period of construction. Further standards for fencing construction can be found at: "*Delta Tree Protection and Regulation Bylaw No. 7969"*

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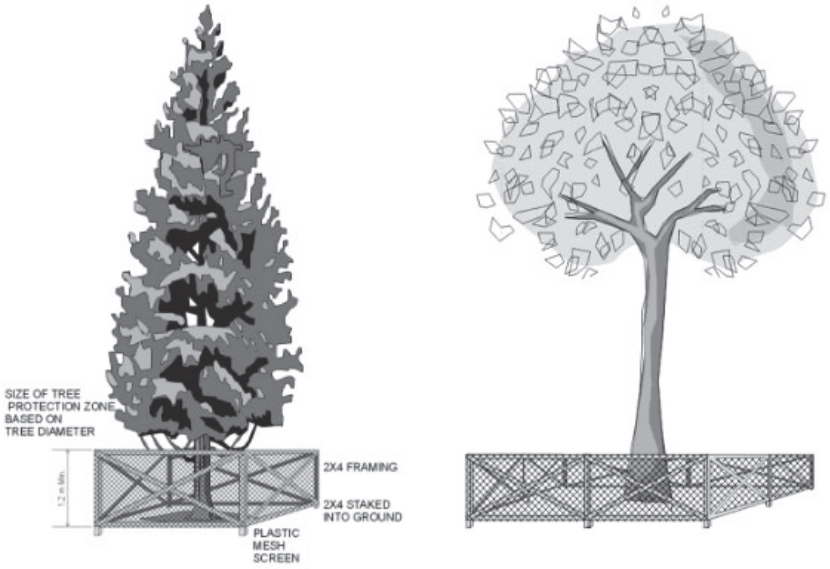


10.0 TREE REPLACEMENT PLAN

Outlined in the City of Port Coquitlam "*Tree Bylaw, 2019, No. 4108* ", replacement tree(s) will be needed for every protected tree(s) being removed and any tree(s) with a diameter of 60cm or greater, excluding Black cottonwood (*Populus balsamifera ssp. Trichocarpa*), Balsam poplar (*Populus balsamifera ssp. Balsamifera*), and Trembling aspen (*Populus tremuloides*) will require two (2) replacement trees.

On-Site Trees	**Number of Trees**
Protected Trees Identified	**6**
Protected Trees to be Removed	**4**
Protected Trees to be Retained	**2**
Total Replacement Trees Required: Significant Trees Requiring 2 to 1 Replacement Ratio 3 X two (2) = 6 Other Trees Requiring 1 to 1 Replacement Ratio 1 X one (1) = 1	**6** **1**
Total Replacement Trees required	**7**
Replacement Trees Proposed	**4**
Replacement Trees for Cash in leu	**3**

Tree Replacement Species		
Planting(s) should be scheduled for the late winter/ early spring or early fall		
Quantity	Name	Species
2	Gingko 'Princeton Sentry'	*Gingko Biloba* 'Princeton Sentry'
2	Common hornbeam	*Carpinus betulus* 'Frans Fontaine'

Please see map for location Note: Planting cannot be within 3 meters of another significant tree.

General Tree Planting Methodology

Replacement trees must meet plant condition and structure requirements as stated in "BC Landscape Standard" of the BCSLA/BCLNA and "Canadian Standards for Nursery Stock" of the CNTA. Also, the Replacement trees must be planted and maintained according to the requirements as stated in the "BC Landscape Standard" of the BCSLA.

It is important to locate your new plantings in accordance with the species' growing habits or tendencies. It is crucial to avoid planting your trees alongside buildings in which root ingress into drainage systems can occur and this can result in costly remedial work, also it is good practice not to plant your tall growing trees under power lines or utility lines as this can lead to pruning that may grossly adulterate the overall form or shape of the tree. Planting trees in the right location is the key to sustaining a balanced urban forest.

The proposed replacement Trees are to be a minimum size of 6cm caliper if deciduous, which is measured at 15 cm above the ground, or 3 m tall if coniferous at the time of planting (*trunk width measured at 15 centimetres above the ground*) At least 1.0 metre away from any site boundary line, at least 3.0 metres away from any principle building or any accessory building or any other structure on or adjacent to the site that may adversely affect the tree and; at least 2.5 metres away from any other tree on or adjacent to the site including driveway or any other hardscape or underground service/utility line

11.0 CONCLUSIONS

Based on our findings, a total of six (6) trees have been identified within the limits of the property. A total of four (4) on-site trees have been recommended for removal due to conflicts with the proposed development as the subject trees had fallen within the high disturbance requirement areas relating to the excavation, perimeter construction works, and other related activities occurring within the limits of the site.

A total of two (2) on-site trees have been recommended for retention having the requirement of erecting Tree Protection Barriers due to their close proximity towards the proposed construction working limits. Also, in order to ensure the retained trees and of their protection through out the duration of the construction project, Trigger points have been identified on the Tree Management Plan requiring, Arborist supervision when working inside of their TPZ(s) during a few of the construction milestones.

Thank you for choosing Klimo & Associates Ltd. Any further questions can be forwarded to Francis Klimo at (604)358-5562 or by email at klimofrancis@gmail.com

Regards,

Francis Klimo
ISA Certified Arborist #PN-8149A
ISA Certified Tree Risk Assessor (TRAQ)
BC Wildlife Danger Tree Assessor #7193

Revisions

No.	Date	May 26, 2023

Consultants

Scale 1:200

Project Title

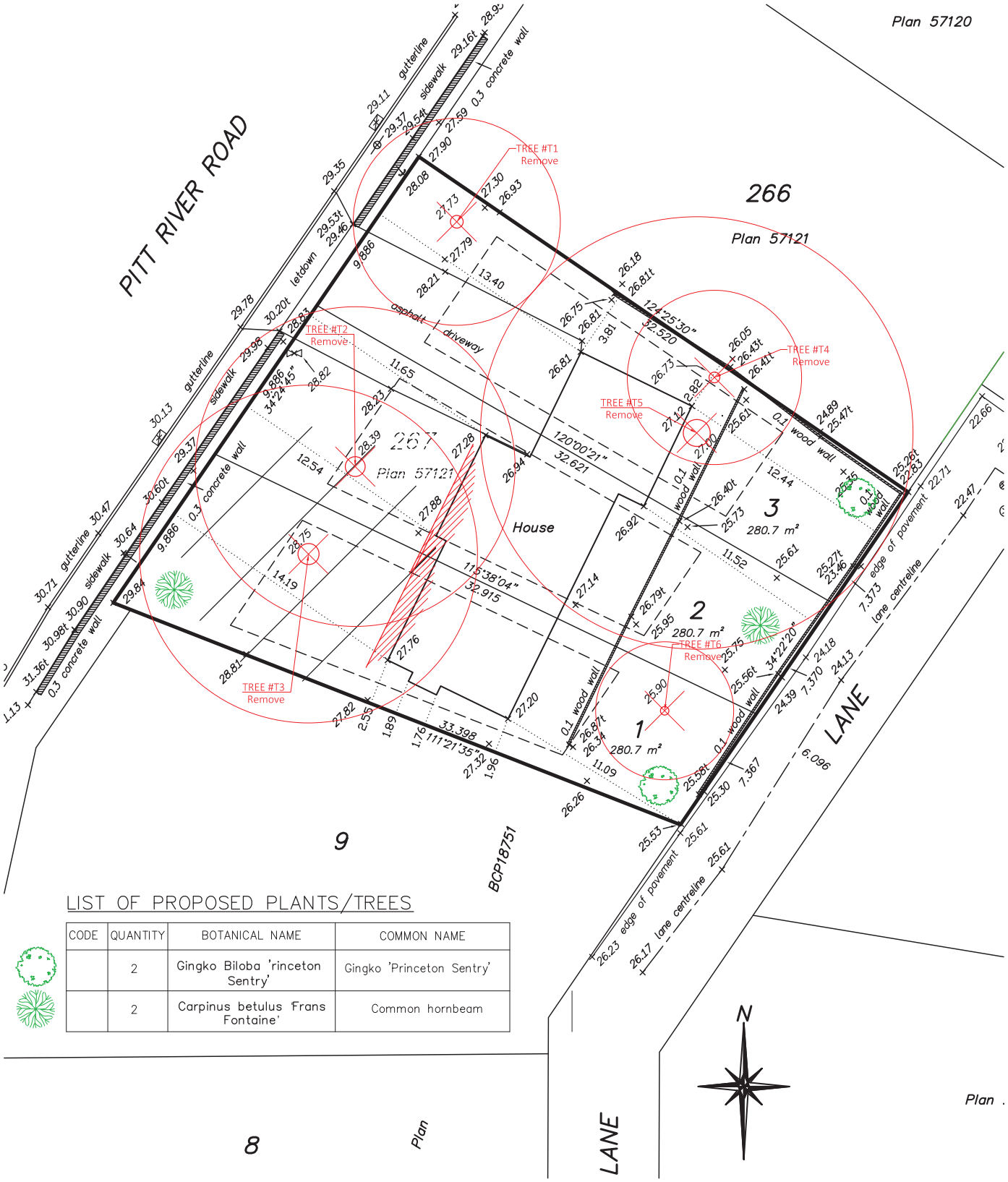
TREE MANAGEMENT PLAN

Project Number

1675 Pitt River Rd, Port Coquitlam

Francis R. Klimo
ISA Certified Arborist #PN-8149A
ISA Certified Tree Risk Assessor (TRAQ)
BC Wildlife Danger Tree Assessor #7193

Klimo & Associates



LIST OF PROPOSED PLANTS/TREES

CODE	QUANTITY	BOTANICAL NAME	COMMON NAME
	2	Gingko Biloba 'rinceton Sentry'	Gingko 'Princeton Sentry'
	2	Carpinus betulus 'Frans Fontaine'	Common hornbeam

A TOTAL OF SIX (6) TREES HAVE BEEN IDENTIFIED WITHIN THE LIMITS OF THE PROPERTY. A TOTAL OF SIX (6) ON-SITE TREES HAVE BEEN RECOMMENDED FOR REMOVAL DUE TO CONFLICTS WITH THE PROPOSED DEVELOPMENT AS THEY HAD FALLEN WITHIN THE HIGH DISTURBANCE REQUIREMENT AREAS RELATING TO THE EXCAVATION, PERIMETER CONSTRUCTION WORKS, AND OTHER CONSTRUCTION RELATED ACTIVITIES OCCURRING WITHIN THE LIMITS OF THE PROPERTY.